Modelling employee turnover

This item was submitted to Loughborough University's Institutional Repository by the/an author.

Additional Information:

- A Doctoral Thesis. Submitted in partial fulfillment of the requirements for the award of Doctor of Philosophy of Loughborough University.

Metadata Record: https://dspace.lboro.ac.uk/2134/6794

Publisher: © K.M. Morrell

Please cite the published version.
This item is held in Loughborough University’s Institutional Repository (https://dspace.lboro.ac.uk/) and was harvested from the British Library’s EThOS service (http://www.ethos.bl.uk/). It is made available under the following Creative Commons Licence conditions.

For the full text of this licence, please go to: http://creativecommons.org/licenses/by-nc-nd/2.5/
Modelling Employee Turnover

by

Kevin Martin Morrell

A Doctoral Thesis Submitted in fulfilment of the requirements for the award of Doctor of Philosophy of Loughborough University

May 2002

© K. M. Morrell 2002
Abstract

This thesis reports the first independent test of an influential model of employee turnover (Lee, Mitchell, Holtom, McDaniel and Hill 1999). The context for this test is the case of nurse turnover in the National Health Service (NHS). There have been many hundreds of turnover studies in the last fifty years, and many ways of understanding the turnover phenomenon. The thesis organises this literature, by selectively analysing and discussing the more influential of these studies. This selective, critical review allows for the model tested here to be placed in a theoretical and historical context.

A critique of the model signalled the need for theoretical development prior to operationalisation. However, the relative paucity of empirical evidence in support of the model suggested that replicating the basic findings of the authors would also be desirable. Accordingly, the case for a critical test was clear, and an outline of the role of this type of replication facilitated this.

The research involved eight NHS trusts, in three regions. In total, 352 full-time nurse leavers participated. Data relating to their decision to leave was collected via an eight page survey, which comprised both closed and open items. Analysis and interpretation of these data challenge the current formulation of the model tested, as well as contributing to the understanding of employee turnover and nursing turnover.

Note: The term model is defined here as ‘conceptual framework’.

KEYWORDS: Employee Turnover, Human Resource Planning, Unfolding Model, Modelling, Decision Making, NHS, Nurses, Replication
Acknowledgements

I would like to thank Loughborough University Business School, and the Social Sciences and Humanities faculty at Loughborough University for funding me throughout this research.

I am very grateful to my supervisors Professor Adrian Wilkinson and John Loan-Clarke, who were generous with their time, and who let me make this thesis my own. I would also like to thank them both for their thoughtfulness, and encouragement. Thanks are also due to Professor John Arnold and Dr David Coates, the other members of my supervisory panel, and to Dr David Johnson, each of whom offered timely, helpful advice.

Thank you to all those respondents who replied to the survey, and thank you to the staff at each of the eight participating Trusts who helped to facilitate the research.

Finally, and most importantly, I would like to thank Sarah for her limitless patience, her wisdom and her interest. I would also like to thank my mother for her support and encouragement.

Unless referenced, the work here is mine. An earlier version of the literature review has been presented, in part, in the following article:

Contents

TITLE PAGE .............................................. i
ABSTRACT ............................................. ii
ACKNOWLEDGEMENTS ............................... iii
LIST OF TABLES ........................................ viii
LIST OF FIGURES ....................................... xi
CHAPTER ONE: OVERVIEW ......................... 1
   Introduction ..................................... 1
   The Research Question ......................... 1
   Theoretical Justification For Turnover Research 1
   Empirical Justification For Turnover Research 2
   Thesis Outline .................................. 2

CHAPTER TWO: LABOUR TURNOVER ............... 4
   Introduction ..................................... 4
   Meaning .......................................... 4
   Measurement .................................... 8
   Prediction ...................................... 11
   The Search For A Model Of Employee Turnover 16
   Two Traditions Of Turnover Research .......... 18
   The Economic School ............................ 19
   The Psychological School ...................... 26
   The Need For New Theory ...................... 39
   Conclusion ..................................... 41

CHAPTER THREE: LEE AND MITCHELL’S ‘UNFOLDING MODEL’ ........................................ 43
   OF EMPLOYEE TURNOVER – A THEORETICAL CRITIQUE
   Introduction ..................................... 43
   Description Of The Unfolding Model .......... 43
   Support For And Development Of The Model To Date 47
   Critique: Scripts ................................ 49
   Critique: Shocks ................................ 57
   Critique: Context Specificity ................. 62
   Overall Theoretical Assessment ............... 64
   Conclusion ..................................... 69
CHAPTER TEN: INTEGRATION OF QUANTITATIVE AND QUALITATIVE ANALYSES

- Introduction 222
- Logistic Regression 223
- Potential Explanations Of Outstanding Classification Failure 235
- Profiling Of All Leavers Who Remained Unclassified 236
- Improvements As A Result Of Combining Answers To Open And Closed Items 239
  - Leavers In Null Pathways 6 and 13 – No Offer 239
  - Leavers In Null Pathways 4 and 11 – No Image Violation, No Job Dissatisfaction 240
  - Leavers In Null Pathway 12 – No Job Dissatisfaction 241
- Discussion 243
- Leavers In The Other Null Pathways 244
- Conclusion 245

CHAPTER ELEVEN: CONCLUSION

- Introduction 247
- Section One: Theoretical Background 247
- Section Two: Design Of The Test 250
- Section Three: General Implications For Modelling Turnover 255
- Section Four: Implications For The Turnover Of NHS Nurses 256
- Section Five: Summary Of Areas Of Contribution 260
- Section Six: Overall Theoretical Assessment Of The Unfolding Model 261

REFERENCES 271

APPENDIX 1: Lee et al’s (1999) Survey 302
APPENDIX 2: The Survey Used In This Study 311
APPENDIX 3: Covering Letter To Trust Key Personnel 320
APPENDIX 4: Identification Of Unreported Constructs Via Analysis Of The Open Responses 324
APPENDIX 5: Feedback To Participating Respondents 329
APPENDIX 6: Feedback To Participating NHS Trusts 334
List Of Tables

2.1 A Crude Measure Of Turnover 8
2.2 Three Levels Of Measurement 9
6.1 Catalogue Of Changes To Incorporate Context Specificity 109
6.2 Catalogue Of Changes To Incorporate Critique Of The Model And Survey 115
6.3 Catalogue Of Changes To Incorporate Points From The Pretest 118
6.4 Response Data By Trust 122
7.1 Sample Characteristics Comparing This Study And The Lee et al (1999) Study 125
7.2 Summary Statistics Comparing This Study And The (1999) Study 127
7.3 Comparison Of Classification Outcomes After Analysis Of Quantitative Data 130
7.4 Drivers Of Unclassifiable Cases - Comparison With (1999) Study 131
7.5 Impact Of Missing Data On Classification 132
7.6 Changes From 1994 to 1999 Models And Effect On Classification 136
7.7 Significance Of Logistic Regression Equation Testing Relationship Between Decision Time And Leaving Pathway 141
7.8 Significance Of Both Regression Coefficients For Measures Of Decision Time 141
7.9 Logistic Regression Testing Relationship Between Decision Time And Leaving Pathway (Deselecting Certain Leavers To Try To Control For Statutory Notice Period) 142
7.10 Variables For Logistic Regression Model Testing Relationship Between Decision Time And Leaving Pathway (Deselecting Certain Leavers To Try To Control For Statutory Notice Period) 143
8.1 Bivariate Correlations Testing ‘Dimension Of Shock’ Hypotheses 153
8.2 Direction Of Scaling For Each Variable In The Correlation Analysis 153
8.3 Summary Statistics For The Variables Of Interest 156
8.4 Model Summary For The Multiple Regression Model With Shock Expectancy As The Dependent Variable 158
# List Of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>‘Avoidability’ Matrix</td>
<td>8</td>
</tr>
<tr>
<td>2.2</td>
<td>Simplified version of March and Simon’s Model (1958)</td>
<td>28</td>
</tr>
<tr>
<td>2.3</td>
<td>Price and Mueller’s Causal Model (1986)</td>
<td>31</td>
</tr>
<tr>
<td>2.4</td>
<td>Mobley et al’s Expanded Model (1979)</td>
<td>33</td>
</tr>
<tr>
<td>2.5</td>
<td>Sheridan and Abelson’s ‘Cusp-Catastrophe’ Model (1983)</td>
<td>38</td>
</tr>
<tr>
<td>3.1</td>
<td>Lee et al’s (1999) Unfolding Model</td>
<td>45</td>
</tr>
<tr>
<td>5.1</td>
<td>Tsang and Kwan’s (1999) Typology of Replication</td>
<td>92</td>
</tr>
<tr>
<td>5.2</td>
<td>Illustration of the Interplay between Replication and Ontology</td>
<td>95</td>
</tr>
<tr>
<td>7.1</td>
<td>The Original Unfolding Model (Lee and Mitchell 1994: 62-3)</td>
<td>137</td>
</tr>
<tr>
<td>8.1</td>
<td>Histograms For Some Of The Variables Of Interest</td>
<td>156</td>
</tr>
<tr>
<td>8.2</td>
<td>Partial Regression Plots For The Three Multiple Regression Models</td>
<td>162</td>
</tr>
<tr>
<td>8.3</td>
<td>Normal Probability Plots Of The Residuals For The Bivariate Regression Model</td>
<td>165</td>
</tr>
<tr>
<td>8.4</td>
<td>Dendrogram: Clustering Leavers Using Shock Dimensions And Avoidability</td>
<td>174</td>
</tr>
<tr>
<td>8.5</td>
<td>Separation Between Leavers As A Function Of Scores On Discriminating Items</td>
<td>179</td>
</tr>
<tr>
<td>8.6</td>
<td>Scree Plot Showing Single Factor Structure Of Professional Attitude Items</td>
<td>186</td>
</tr>
<tr>
<td>9.1</td>
<td>Image Violation Items And Hypothesised Profiles Of Responses</td>
<td>199</td>
</tr>
<tr>
<td>9.2</td>
<td>Frequency Profiles Of Primary And Other Reasons Items</td>
<td>215</td>
</tr>
<tr>
<td>9.3</td>
<td>Total Frequencies Of Primary And Other Reasons</td>
<td>217</td>
</tr>
<tr>
<td>11.1</td>
<td>A ‘Fuzzy Path’ Model Of The Decision To Quit</td>
<td>267</td>
</tr>
</tbody>
</table>
Chapter One: Overview

Introduction

This chapter describes the thesis, and summarises the justification for this research. An outline for the thesis is presented.

The Thesis

This thesis presents a replication and extension of Lee et al’s (1999) unfolding model of voluntary employee turnover. The context for this test is nurse turnover in the National Health Service (NHS). This contributes to our understanding of how and why people choose to leave organizations.

Theoretical Justification For Turnover Research

Any business needs a source of labour to function. This axiom applies equally whether we rely on a basic economic model of the firm, with labour as one of the four factors of production (Bannock, Baxter and Davis 1988), or a Marxist account, which emphasises ‘labour power’ (Marx 1867 / 1946: 169), or more contemporary accounts that place importance on human capital (James 2002), or social capital (Dess and Shaw 2001), or the importance of knowledge management (Harrison 1999: 409-412). To establish the need to manage resourcing, we do not have to refer to any given context; it follows a priori from any view of an organization. Even if organizations of the future have ‘virtual’ employees, they will need to manage them as a resource.

When an employee leaves, this can have a variety of effects that not only impact on the organization, but also the individual employee and wider society (Mobley 1982: 15-31). These effects can be positive or negative (Hom and Griffeth 1995: 13-33), functional or dysfunctional (Dalton, Krackhardt and Porter 1981; Williams 1999), and a greater understanding of the process of labour turnover can increase the degree to which organizations and employees within organizations can influence these effects (Dalton, Todor and Krackhardt 1982).
Empirical Justification For Turnover Research

The management of turnover is of a priori interest. There is also a posteriori justification for studying turnover. Current explanations of employee turnover can be criticized for failing to offer either predictive or explanatory power (Aquino, Griffeth, Allen and Hom 1997). There have been over 1,500 studies on the subject, (Shaw, Delery, Jenkins and Gupta 1998: 511) and a recent meta-analysis (Hom and Griffeth 1995) reviewed over 800 such studies (Iverson 1999). However, there is as yet no universally accepted account or framework for why people choose to leave (Lee and Mitchell 1994). This prohibits understanding the phenomenon after the event. Neither is there an accepted means of assessing the likelihood of an individual’s deciding to leave in the future (Terborg and Lee 1984), which prohibits prediction of turnover.

Thesis Outline

The following chapter (chapter two) discusses the literature on labour turnover, and critiques some influential approaches to understanding turnover. This chapter identifies two traditions, or schools of turnover research, concluding that there is a need for new theory, and identifying Lee et al’s (1999) ‘unfolding model’ as a suitable candidate for theory development. Chapter three presents an extensive critique of this model.

In chapter four, the context for this study, the National Health Service, is described and themes relevant to an understanding of nursing turnover are identified and discussed. This discussion is informed by analysis of the literature presented in chapter two.

Chapter five outlines the theoretical basis for the empirical part of this study, presenting the research methodology. In this chapter, the role of replication in organizational science is outlined and this is supplemented with discussion of more general epistemological issues.

Chapter six details the particular changes made in this study to Lee et al’s (1999) survey. This incorporates criticisms raised in chapter three (the critique), and is informed by the discussion in chapter five (the role of replication). The chapter concludes with an outline of the particular procedure used to collect data and some summary data about the sample.
The next four chapters present and discuss the data analysis. Chapters seven and eight present quantitative analysis of responses to the numbered items in the survey, chapter nine presents qualitative analysis of responses to the open items. Chapter seven comprises the replication test of Lee et al's unfolding model. Chapters eight and nine each develop and extend understanding of the model. They also develop understanding of turnover, and nursing turnover. In chapter ten, the results of the quantitative and qualitative analyses are brought together, to inform discussion of the limitations of the unfolding model.

The final chapter concludes with an assessment of this study, and an assessment of the unfolding model. The implications for understanding turnover, and nurse turnover are drawn out, and suggestions for future research are offered.
Chapter Two: Labour Turnover

Introduction

This chapter presents an overview of the literature on labour turnover. It begins by discussing the key themes of meaning, measurement and prediction, relating these to a key organizational goal: the effective management of turnover. The chapter argues that despite contextual, relational and epistemological complexities surrounding the phenomenon, the economic and psychological dimensions to turnover, as well as its organizational significance, justifies the use of models in turnover research.

A dichotomy is introduced to describe two traditions of turnover research: the economic or labour market school, and the psychological school. A critique of the labour market account of turnover is offered, and then four key models from within the psychological school are presented and critiqued. The chapter concludes that the inability of both schools of turnover research to explain and predict turnover adequately restricts the scope for organizations to manage turnover effectively, and that there is a need for new theory.

Meaning

Voluntariness

In this study, turnover is understood as meaning, ‘voluntary cessation of membership of an organization by an employee of that organization’. This definition refers to ‘cessation of membership’, drawing on Mobley (1982: 10), but it should also be acknowledged that from a different (institutional or organizational) perspective, definitions of turnover could also include accession or entry. This definition also answers Price’s (1977) call to make voluntariness explicit. This is important because it is in instances where the employee controls the leaving process that organizations and theorists have an interest in turnover. The scope that a voluntary / involuntary dichotomy offers for classifying the phenomenon enables directed, systematic research (Price 1977). Particularly where turnover is thought to be associated with a factor (such as organizational commitment), or to be preceded by a psychological state (such as intent to leave), drawing the distinction between voluntary and
involuntary turnover is important, else assessment of such a relationship in terms of all 'organization leavers' will be flawed.

Involuntary turnover may occur for reasons that are independent of the affected employee(s), such as the (real or perceived) need to cut costs, restructure or downsize. Inclusion of these cases in a study of 'organization leavers' will mean any relationship between turnover and a personal characteristic will be significantly diluted. Even where involuntary turnover occurs for reasons associated with an individual employee (such as poor performance), it is likely these cases are more representative of the wider sample of organizational members in relation to the processual dimension of a decision to leave than any sub-sample of organizational leavers would be. Where an instance of turnover is genuinely voluntary, this instance represents the exercise of choice and is the result of a decision process. To this degree, the set of instances of involuntary turnover (where employees have been forced to leave) is likely to be more representative of the totality of organizational members than the set of instances of voluntary turnover (where employees have chosen to leave).

To the extent that turnover involves leaving, instances of voluntary turnover are a purer social phenomenon, because these are where individuals have chosen to terminate a significant relationship. By way of contrast, in cases of involuntary turnover, because these are in some sense owned by an abstract entity (the organization), the relational aspect to turnover (cessation of membership) is diluted. Instead other more impersonal considerations such as (remotely defined) utility prevail. Research into involuntary turnover as a social phenomenon, is likely to focus on consequential and extrinsic aspects, rather than on the volitional, or intrinsic characteristics that define voluntary turnover.

In reality the apparently straightforward dichotomy between voluntary and involuntary turnover has limitations (Vandenberg and Nelson 1999). For example, records of instances of turnover may misrepresent the extent to which a turnover decision was voluntary. Where exit interviews are conducted, interviewers may not wish to press too hard when questioning an employee. It is also possible that they will not wish to record details that would cast the organization or the employee in a bad light (Campion 1991). The employee may have similar motives for being reticent about their reasons for leaving, and added to this they may have concerns about the extent to which full and frank disclosure could harm
their prospects of receiving a favourable reference. All of these factors may muddy the putatively categorical voluntary / involuntary distinction. As long ago as 1969, Samuel called for organizations to have in place their own definitions of turnover and voluntariness in order to help them plan resource-related issues.

A further problem with labelling turnover ‘voluntary’, is that this confuses or conflates two different things: 1) the extent to which the decision is owned by a leaver, and 2) the extent to which the decision results from the exercise of unhindered choice. For instance, relocation could occur in instances where the main wage earner (not the leaver) in the family has been offered a better job. This is still voluntary turnover, in the first, technical sense of voluntary, because the decision is not owned by the organization. Whether the decision itself is truly ‘voluntary’, in the everyday sense of the term, is moot, and this implies that a more appropriate measure of voluntariness would be continuous (Maertz and Campion 2001: 345), rather than dichotomous. It may be more accurate to describe ‘employee owned’ and ‘organizationally owned’ turnover, to avoid this confusion, but in this study, the conventional terminology, sense 1 above, is used.

Avoidability

In addition to the structural significance of employee turnover, which can be expressed in terms of its relationship to organizational effectiveness, the content of the phenomenon itself is also of interest. One feature of a decision to quit that is important to establish, is the extent to which the decision can be described as ‘avoidable’ (Abelson 1987; Campion 1991). In other words, is it a case of employee instigated turnover that could have otherwise been prevented by action from the organization? This classification is useful irrespective of other features of the turnover decision, as it can indicate the global scope for future planned intervention. For example, where an organization is able to identify that the bulk of voluntary turnover is beyond their control e.g. where voluntary turnover is typically the result of relocation by a spouse or partner, they may profit better from employing initiatives that seek to manage turnover post hoc, rather than spend on theorised preventative measures (e.g. increasing salary levels).

It is important to emphasise that the degree to which it is actually possible for organizations or managers to influence turnover should be assessed alongside other measures of turnover,
such as voluntariness, cost and functionality (below). If all instances of turnover appear to be unavoidable, this could redirect the focus of resource spending, so that managers look to minimise the disruption and inconvenience of an inevitable phenomenon (a control model). If however each instance of turnover appears to be avoidable this offers the potential for directed intervention (a prevention model).

Although such a simple split is unlikely, the need to assess avoidability would be to prevent situations where managers assume the problem to be predominantly of one type, when it is the other. If managers assume turnover is an inevitable fact of organizational life (but really in their particular context it is largely ‘avoidable’), they may fail to recognise instances of turnover as symptomatic of underlying problems. Additionally the associated costs of turnover may be needlessly tolerated, when investment in preventative measures might save money, as well as produce a range of other direct and indirect benefits. Conversely, where organizations see turnover as something that they should control, but really in their particular context it is largely ‘unavoidable’, they may instigate needless, potentially wasteful change and spend resources on futile ‘prevention’ measures. It is important to acknowledge that how leavers, organizations, or researchers assess avoidability is likely to be at least partly a matter of perspective (Maertz and Campion 2001: 347). Here, it is sufficient to introduce the topic of avoidability, and show the potential perils of wrongly assuming that turnover is avoidable, or unavoidable. The diagram below (Morrell, Wilkinson and Loan-Clarke 2001: 222) illustrates this further:
Measurement

Turnover is often not measured in a sophisticated enough manner to enable discrimination between cases where employees have chosen to leave, and cases where they have had to leave for reasons out of their control. Often organizations use a relatively crude measure of turnover such as below (Marchington and Wilkinson 2000: 97):

\[
\text{Table 2.1: A Crude Measure Of Turnover}
\]

<table>
<thead>
<tr>
<th>Leavers in year</th>
<th>Average Number of staff in post during year</th>
<th>x 100</th>
</tr>
</thead>
</table>

This does not distinguish the cases where people left because they were dissatisfied from cases where people left because of ill health or where they retired. Nor does it take account of cases where people were made redundant. However, measurement of turnover needs to be sophisticated enough to enable those responsible for resource planning to identify various categories of leavers (Worthington 1992: 278; Forbes and McGill 1985: 11-12). Guest and Peccei (1994: 219) indicate that measures of turnover are difficult to interpret. This is partly because any single-figure measure of turnover will be inadequate in so far as
it treats all those who leave as a homogenous group. It is also worth noting that turnover of any kind can disturb organizational memory or social capital (Dess and Shaw 2001).

Although a relatively clear cut behaviour (Porter and Steers 1973), and one which apparently readily lends itself to simple cumulative measurement, attempts to meaningfully record the incidents of turnover can result in ambiguity. Yet the need for organizations to measure employee turnover is substantive (Campion 1991). Turnover is commonly seen as an index of organizational effectiveness (Vandenberg and Nelson 1999), and as such it warrants attention and some understanding per se. Additionally, however information on turnover can help the planning, prediction, and control of employee resourcing (Marchington and Wilkinson 2000: 96-100).

If we consider that the goal for organizations should be to manage turnover effectively, we need to move beyond even this traditional ‘Fayol-type’ framework. A table outlining progressively sophisticated measurement schema is shown below (Morrell et al 2001: 223).

This generic table gives a shorthand heuristic for diagnosing existing turnover measures within an organization. It could also be used to monitor the effectiveness of broader HRM or business strategy – for example alongside implementation of high-involvement work practices, which have been linked to improved retention and favourable organizational outcomes (Guthrie 2001). More generally, it could be used to frame a broad-brush picture of the management of turnover within a particular industry.

**Table 2.2: Three Levels Of Measurement**

<table>
<thead>
<tr>
<th>Focus</th>
<th>Measures</th>
<th>Characterised as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor</td>
<td>Base Rate; some context-sensitivity (national labour market, industry norm)</td>
<td>Basic Awareness</td>
</tr>
<tr>
<td>Plan, Predict, Control</td>
<td>Above + departmental / unit rates and targets + use of voluntariness; exit interviews identifying typical ‘reasons’; greater context-sensitivity (local labour market, competitor-aware, annual plan)</td>
<td>Efficiency</td>
</tr>
<tr>
<td>Manage</td>
<td>Above + leaver profiling of functionality, avoidability; high context-sensitivity (recruit / retention measures developed in ongoing dialogue with data on leavers and current employees)</td>
<td>Effectiveness</td>
</tr>
</tbody>
</table>
Whereas basic models showing 'turnover rates' influencing 'staffing levels' or 'headcount' may provide organizations with sufficient numbers (an efficiency measure), the attraction of more sophisticated and comprehensive measures of turnover lies in the scope this gives to manage turnover effectively. However, there are considerable logistical and theoretical difficulties implicit in improving measurement. Even setting aside the notion of voluntariness, confusion can still surround the determinants of decisions to quit or 'reasons' (Campion 1991) and other relationally defined aspects such as avoidability (Abelson 1987).

It should be noted that even from a non-relational perspective, that is to say at an organizational level of analysis, measurement of turnover is still problematic. To illustrate, if we rely on turnover rates we can avoid the epistemic complexities inherent in assessing bi-partite constructs such as 'avoidability', though these measures will be of little use in directing interventions aimed at better managing turnover. There is evidence that industry base rates of turnover correlate with aggregate economic data such as underlying labour market trends and unemployment rates (Greenhalgh and Mavrotas 1996; Hulin, Roznowski and Hachiya et al 1985), or rates for turnover in organizations (Kirschenbaum and Mano-Negrin 1999), but these offer little to the organization or manager seeking to improve turnover in a particular department, or to retain selected staff (Terborg and Lee 1984). This severely limits the utility of such aggregated measures as they fail to offer information in sufficient detail to manage turnover effectively. Apart from the lack of detail which such aggregated measures provide, care should also be taken as to the choice of unit of analysis in the measurement and study of turnover to avoid committing the ecological fallacy, i.e. where the characteristics of a group are taken as applying to individuals (ibid: 808).

**Functional And Dysfunctional Turnover**

In addition to these epistemological considerations, care over the choice of unit of analysis is warranted given the considerable empirical and theoretical support for the need to differentiate between types of leavers, in terms of their productivity and the extent to which they are an asset to the organization (Dalton, Todor and Krackhardt 1982; Williams 1999). Again, this illustrates that aggregated measures alone are of limited use. Turnover may have organizational benefits as well as negative effects (Mobley 1982: 22-26), and this means a blanket reduction in the level of employee turnover (an efficiency measure) may only offer part of a solution, which overlooks the potential for turnover to be functional as
well as dysfunctional. Management of turnover may have the greatest organizational benefit (an effectiveness measure) where it is targeted at encouraging the retention of valued employees (Koys 2001; Mitchell, Holtom and Lee 2001), boosting social capital (Dess and Shaw 2001), or where the opportunity for change in personnel is capitalised upon, and ineffective employees can be replaced with more effective employees (Price 1977: 113). The first part of this ‘functionality equation’ describes preventing organizationally dysfunctional turnover (by keeping productive employees), and the second half describes engendering organizationally functional turnover (by replacing unproductive employees with productive ones). Awareness of the potential functionality of instances of employee turnover is no more than awareness that such change brings with it the opportunity to recruit more productive employees, or to reorganise current work practices.

It is also worth noting that the distinction between functional and dysfunctional leavers may be absolutely spurious, or illusory in instances when turnover is already an acute problem. In this instance developing targeted retention initiatives will not be as much of a priority as the need to control aggregate levels of turnover until there is an element of workforce consistency, or sufficient ‘labour power’. This is likely to be a particularly significant point in the context for this study, the National Health Service, where there is a history of recruitment and retention ‘crises’ (Dickson 1987, Hancock 1986 in Barry, Soothill and Williams 1992: 261), and where being short-staffed is a frequent source of dissatisfaction for staff (IES 1999). Coping with high levels of turnover can rob any managers of the time and space necessary to plan (Samuel 1969).

Prediction

Labour turnover also attracts interest given that instances of turnover are the result of decisions to leave. These decisions are often characterised as momentous (Sheridan and Abelson 1983), representing a defining point in a person’s career and life history (Krau 1981; Heatherton and Nichols 1994: 666-7). Some theorists have challenged this assumption, pointing to decisions to turnover that are governed by non-work considerations (Cohen 1999: 61), or impulsive (Mobley 1977) and others have identified groups of employees who have a more casual attitude to employment; ‘drifters’ (Hulin et al 1985) or ‘job-hoppers’ (Khatri, Fern and Budhwar 2001: 56). Within the wider organizational literature, this could be challenged as an assumption given the changing relationship people
have with their employers (Sennet 1998: 9), the decline of traditional organizational forms (Arnold 1997), and changes in traditional patterns of employment (Templar and Cawsey 1999: 71), all of which mean that individuals face greater uncertainty both in managing their careers, and in making sense of their career choices (Cohen 2001: 264).

Nonetheless, there is good reason to believe that for most leavers, the decision to quit is significant. It means the end of the contractual relationship with the organization, but also a break with existing social networks (Zedeck and Mosier 1990). Leavers may incur a variety of costs (Becker 1960), or stresses (Mobley 1982: 28-9) and other losses (Hom and Griffeth 1995: 32). Additionally, for many the decision to leave will not simply be a cause of stress and uncertainty, it may also have been precipitated by feelings of stress or dissatisfaction (Kemery, Bedeian, Mossholder and Touliatos 1985: 372).

These decisions can be thought of as evolutionary (Lee and Mitchell 1991), in other words as the end part of a process. This perspective has encouraged research from organizational theorists because of the apparent opportunity it provides to identify determinants or precipitators of turnover, thus offering potential to predict and perhaps then control employee turnover. One potential outcome of prediction-type research could be the identification of traits or characteristics that influence the likelihood of future decisions to quit (Bartol 1979; Renn and Vandenberg 1991; Tang, Kim and Tang 2000). If this were possible, and if valid, reliable measures for these characteristics could be used by organizations, then employee resourcing could be greatly simplified, as identification of these characteristics could influence selection criteria (Pettman 1975: 49) and create a virtuous resource circle (Shaw et al 1998: 523).

However, turnover has so far not proved amenable to prediction. Although much research has focused on potential predictors of turnover behaviour, such as job tenure (Taylor, Audia and Gupta 1996), locus of control (Renn and Vandenberg 1991) and demographic correlates (Pfeffer 1997: 83-5; Clark-Rayner and Harcourt 1998), these accounts have proved insufficiently complex to capture the phenomenon. The likelihood that a simple bivariate or trait account (Renn and Vandenberg 1991) will provide a comprehensive theory of turnover is low, given the intrinsic complexity of the phenomenon, and its resistance to accurate prediction across a range of multivariate studies. Although most of the current dominant models of turnover do not rely on a bivariate account, they typically simplify the
phenomenon in other ways, for example by restricting analysis and theory to work-related variables. These variables are generally hypothesised as determined solely by interactions between the employee and their work environment, rather than 'random events... unexpected circumstances... and luck' (Lee and Mitchell 1994: 71) or 'nonwork domain variables' (Cohen 1999: 61), even though there is evidence that both these play a part in determining turnover decisions (Mobley, Griffeth, Hand and Meglino 1979).

An additional complication for the measurement – prediction agenda relates to the utility of any predictions. For a great many 'predictor' measures such as satisfaction, commitment, intent to leave etc., the ability of these to predict turnover in individuals is likely to be greater the closer it is to the time an employee decides to quit. If data are gathered shortly before an individual decides to quit, it is likely inferences based on such data will be more reliable. This is not simply a function of there being less intervening time for chance events to influence the process, but a consequence of the 'cusp' nature of the turnover phenomenon (Sheridan and Abelson 1983). From an organizational perspective, this can mean that where basis for prediction is sound, this indicates the individual is so close to quitting that there is little the organization can do either to influence the decision, or manage the aftermath. In other words, the degree of success with which these measures operate is counterbalanced by the amount of warning they can afford organizations, and also by the limited scope there is then for directed, purposeful intervention.

This does not mean that research into potential determinants of turnover is futile however. If we relinquish the goal of an accurate measurement – prediction model for individual employees, identification of influencing or precipitant causes of turnover in a particular context can help improve management, particularly if we see turnover behaviour as one of several forms of 'withdrawal behaviour' (Griffeth, Gaertner and Sager 1999; Hulin et al 1985). If interventions to improve or pre-empt job dissatisfaction (for example) can also positively influence absenteeism or lateness, this should be of interest to managers and employees alike.

There is some evidence of predictive success in most turnover studies. Factors such as 'intent to leave' (Krausz, Koslowsky, Shalom and Elyakim 1995; Steel and Ovalle 1984), 'organizational commitment' (Tett and Meyer 1993) and 'withdrawal cognitions' (Hom, Caranikas-Walker, Prussia and Griffeth 1992) have been shown to predict turnover to some
degree. Even in these cases however, there is less emphasis placed on explaining actual
decisions to quit, and the variable of interest is frequently a predictor or proxy variable,
rather than turnover itself, which immediately detracts from the significance of any effects
(Dalton, Johnson and Daily 1999).

A large range of other antecedents have been proposed and tested in the turnover literature.
Examples of studies which explore the relationship between forms of commitment and
turnover abound: affective, continuance and normative commitment (Allen and Meyer
1990; Jaros 1997; Meyer and Allen 1991; Meyer, Allen and Smith 1993; Somers 1995);
affective, continuance and career commitment (Chang 1999); affective, continuance and
moral commitment (Jaros, Jermier Koehler and Sincich 1993); attitudinal and calculative
organizational commitment (Mathieu and Zajac 1990); behavioural commitment (Pfeffer
and Lawler 1980); career commitment (Bedeian, Kemery and Pizzolatto 1991; Blau
1989); commitment propensity (Lee, Ashford, Walsh and Mowday 1992); job
commitment (Rusbult and Farrell 1983); organizational commitment (Bartol 1979;
DeCottis and Summers 1987; Taylor, Audia and Gupta 1996; Tett and Meyer 1993);
organizational, job, professional and supervisor commitment (Boshof and Mels 2000);
psychological commitment (Gaertner and Nollen 1989).

No single study has integrated all these hypothesised relationships. Not all studies use the
same scales for assessing equivalently named components of commitment (c.f. Jaros et al
(1993) and Allen and Meyer (1990)), and measures for organizational commitment are not
always the same as the organizational commitment questionnaire (OCQ) developed by
Porter, Steers, Mowday and Boulian (1974) (e.g. DeCottis and Summers 1987).

Bozeman and Perrewe (2001: 161) undermine many of the organizational commitment –
turnover intentions studies in assessing Mathieu and Zajac’s (1990) influential meta-
analysis:

103 of the samples in Mathieu and Zajac’s (1990) metaanalysis used the OCQ or a
subset of its items. However... relatively little evidence for its construct validity exists.

They argue that six items in the OCQ scale overlap with the intent to turnover construct,
thus undermining the strength of any relationship between organizational commitment and
turnover in studies using the OCQ. They cite three sources of evidence that indicate this construct redundancy:

...judgmental data collected from 25 subject matter experts suggested that 6 OCQ items reflected a desire or an intent to retain membership in one’s organization...

Confirmatory factor analyses of survey data... showed that the 6 OCQ retention items shared overlapping content with turnover cognitions...

Hierarchical multiple regression analyses of survey data [in a separate study]... showed that... removing the 6 OCQ retention items caused a significant decrease in the variance explained in a measure of turnover cognitions ((ibid)

This is by no means the first time the issue of construct redundancy in the relationship between commitment as measured by the OCQ and turnover intentions has been raised (Meyer 2001: 322-3; Reichers 1985 in Chen and Francesco 2000). What is new about the Bozeman and Perrewé paper is that they offer such a strong empirical case for construct redundancy in the OCQ scale. They also point out how another popular means of measuring commitment (Meyer and Allen's 1991, 1997 continuance and normative commitment scales) is vulnerable to charges of redundancy.

Bozeman and Perrewé's contribution to the debate over the validity of the OCQ scale is interesting for several reasons. Most worryingly in terms of our understanding of turnover, it suggests that thousands of hours of research have been invested in examining a relationship of less theoretical value or importance than has routinely been claimed. In turn this is an indictment of a prevailing pattern of research. Despite little evidence of its construct validity, the OCQ scale was adopted by a huge number of researchers, seemingly at face value without reflective, critical testing of its validity. More generally, and even if we reject the idea that the OCQ – turnover intention agenda is fundamentally flawed, this is a lesson in the potential dangers of tribalism and even the development of consensus in organizational theory (McKinley, Mone and Moon 1999). Finally, this underlines the value of critical testing, and more will be said on this in chapter five.

The prevailing pattern of turnover research is one of development and testing of a model that proposes a theoretical ordering of variables, or nomological network. Operationalisation (typically on existing employees, rather than leavers) precedes assessment via statistical analysis of the validity of the model. For example, one might
investigate the overall utility of a particular variable by measuring how much of the variance in turnover can be accounted for by the inclusion of this variable in a statistical model such as a regression equation (Fang 2001). One could also assess whether the role or ordering of this variable was correctly hypothesised in the original model, i.e. whether it moderates (Tang et al 2000), mediates (Mobley 1977) or interacts in a more complex way (Steel and Griffeth 1989) to influence turnover. Alternatively one could assess the overall validity of the model structure, testing competing formulations and orderings of the variables to see which provides the best fit for the data (Hom and Griffeth 1991). This testing process can then form the basis for a repeated operationalisation of a revised model, which incorporates change to instrument design arising from issues raised during analysis (Price and Mueller 1986). Despite this methodological consensus, and over 1,500 studies (Shaw et al 1998: 511) there is still doubt as to fundamental relationships between key variables of interest, such as the causal ordering of satisfaction and commitment, as shown in a recent metaanalysis by Currivan (1999).

Most current theories of labour turnover fail to describe a sizable proportion of voluntary turnover decisions, and thus have low ecological validity (Lee and Mitchell 1991). There is also little evidence that our understanding of turnover is being improved by current research. Aquino, Griffeth, Allen and Hom (1997: 1208) agree with O’ Reilly’s (1991) assessment that turnover research is in a ‘fallow period’, as indicated by common design, incremental gains in knowledge and paucity of theory (Lee et al 1999: 450), with researchers seeking to address methodological issues (e.g. Vandenberg and Nelson 1999) or test slight modifications of existing theories focusing on affect-induced decisions to quit (e.g. Chang 1999).

The Search For A Model Of Employee Turnover

Recalling the organizational goal: ‘effective management of turnover’; this dictates that a high level of sophistication, and thereby particularity, needs to be achieved by organizations in order to selectively influence the turnover process. Voluntariness may need to be defined differently for each organization (Samuel 1969) and measurement of turnover may need to be at a level of detail far greater than that currently employed by many organizations (Campion 1991). Additionally, even where problems in costing turnover (Cheng and Brown 1998; Dess and Shaw 2001; Hom 1992) can be resolved, there remain inescapably
problematic aspects to determining relationally defined aspects such as avoidability (Abelson 1987; Maertz and Campion 2001) and functionality (Dalton et al 1982). In the light of these contingent complications, the aim of a comprehensive theory of turnover can seem unrealistic. This aim seems further complicated if an attempt to predict turnover behaviour is our goal, though as Lee and Mowday (1987: 738) point out:

...researchers tend to emphasize prediction as a criterion in judging models, we should not lose sight of the importance of understanding as a goal of scientific enquiry.

The Appeal of Modelling Turnover

The phenomenon of turnover is of interest to organizations and theorists because it is significant (Price 1977), potentially costly (Mobley 1982) and relatively clear cut (Porter and Steers 1973). It also describes the end result of a decision process (Lee and Mitchell 1991). All these characteristics also indicate that the phenomenon is likely to attract interest from 'modellers'. More fundamentally, the phenomenon attracts interest because of its psychological dimension, its organizational significance, and its economic dimension. Within each of the related disciplines of psychology, organizational behaviour and economics there are well established traditions of using models in research and dissemination of theory.

A related legitimating factor is that there is a rich body of research into turnover that routinely uses models. Even where there is debate as to the validity of a particular account of turnover, it is seldom the case that the underlying methodology is called into question. Instead, research is often directed toward refining or clarifying interrelations between established constructs such as job satisfaction, withdrawal cognitions, intent to leave etc. To this extent, the presence of a well established paradigm (March and Simon's 'equilibrium' account) may have actually hindered research (Lee, Mitchell, Wise and Fireman 1996), restricting development to incremental or insignificant change (Aquino et al 1997).

All these aspects explain the attractions of using models in turnover research. However, the contextual, relational and epistemological complexities surrounding the phenomenon present a challenge that makes such modelling far from straightforward. The discussion so
far has simultaneously stressed the significance and elusiveness of such key concepts as voluntariness, avoidability, and functionality. Each of these is important in considering the effective management of turnover, yet assessment of each embraces epistemological and logistical difficulties which seem to threaten the possibility of any comprehensive account of turnover. The inability for any current model to ‘fit’ empirical data on turnover perfectly, implies that no such account has yet been found. If this were understood as a consequence of the inherent complexity of social phenomena (Checkland 1981: 66-71), this would pose problems for any universal account.

Two Traditions of Turnover Research

It should initially be said that any classification or attempted taxonomy of turnover literature is wont to be arbitrary, given the vast amount of research to date (see reviews in Price 1977; Maertz and Campion 2001; Mobley 1982; Hom and Griffeth 1995), the eclectic nature of management research (Johnson and Gill 1997; Tranfield and Starkey 1997) and the degree to which there is overlap and dialogue between different ‘schools’ of turnover research. Additionally, it is important that such classification needs to explicitly recognise its arbitrary nature, to prevent any elements of parochialism that theorists such as Price (1977) and Pettman (1979) suggest has previously hindered research into turnover.

Taking these initial considerations into account, the framework offered here is intended to provide a meaningful differentiation between two dominant perspectives or traditions of turnover research, which are labelled the economic (labour market) school and the psychological school. This division provides a way of organising the literature on turnover, and related models or theoretical accounts, but also demarcates a difference in emphasis within each tradition of turnover research (Morrell et al 2001).

Summarily speaking the economic school as defined here deals with issues such as: labour supply and demand, job search, subjective expected utility and rational economic choice, availability of job opportunities or perceived alternatives, reward and investment or ‘sunk’ costs. It is outlined in detail below, but a summary of key studies includes investigation of the following: perceived alternatives (Griffeth and Hom 1988), alternative opportunities (Gerhart 1990; Hulin et al 1985), unemployment (Carsten and Spector 1987), labour market opportunities (Kirschenbaum and Mano-Negrin 1999), job search (Bretz, Boudreau and

The psychological school as defined here concerns itself with issues principally related to affect, although another significant difference between psychological accounts and economic accounts is that the former place more emphasis on the decision dimension to turnover. Economic or labour market accounts, analyse turnover with more emphasis on the interplay between externally determined variables such as opportunity. Key studies within the psychological school have included investigation of: job satisfaction (Hom and Kinicki 2001; Lee 1988; March and Simon 1958; Mobley 1977), organizational commitment (Porter, Steers, Mowday and Boulian 1974), and other forms of commitment (see above); job involvement (Blau and Boal 1987; Huselid and Day 1991), career development (Krau 1981), role stress (Kemery et al 1985), organizational climate (DeCottis and Summers 1987), equity (Aquino et al 1997), psychological contract (Morrison and Robinson 1997; Robinson 1996) and professionalism (Bartol 1979; Price and Mueller 1981).

The Economic School

According to Bosworth, Dawkins and Stromback (1996: 175), a labour market can be said to exist when:

... buyers and sellers of labour meet or communicate to agree on a price (a wage) at which they are willing to exchange a given volume of labour services.

They then qualify this by saying:

... the employment relationship...is often complex and rarely characterized by the kind of 'spot market' transactions that occur in the case of the market for other kinds of goods.
This initial definition and its understated qualification neatly serve to highlight the intrinsic conceptual advantages of an economic explanation of turnover, and the limitations of unqualified operationalisation of such a theory. Lazear (1995: 2), writes that:

The strength of economic theory is that it is rigorous and analytic...But the weakness of economics is that to be rigorous, simplifying assumptions must be made that constrain the analysis and narrow the focus of the researcher.

The advantages of an economic explanation of labour turnover predicated on the idea of a labour market, such as defined above, are that (in the abstract) it is possible to build theories and models, based on quantifiable variables that are knowable, or directly result from other knowable variables. However this can only be done after some assumptions, or simplifications have been made. Buyers and sellers of labour have to be able to, 'meet or communicate to agree'. The significance of this, is that each party needs to be aware of the other, and be aware of their circumstances (requiring labour / seeking employment). This is intuitively problematic, because it should be seen that in complex industrial or post-industrial societies, individuals, (and even institutions) are unlikely to have perfect knowledge of the labour market.

*Search Theory*

One attempt to account for actors' imperfect knowledge of the state of the labour market has given rise to a branch of economics known as 'search theory' (Bosworth et al 1996: 35). Within this branch of economics, to account for individuals having imperfect knowledge of labour market variables (number and constitution of actors, volume of work available etc.), Holt and David (1966) developed the notion of individuals using a 'reservation price' in their search for employment. This price is defined as being the lowest salary or wage at which a person will consider accepting a job and can be thought of as a short-hand heuristic which people use to decide whether to accept / reject a job offer in the face of little other information from the labour market. Holt and David's theory conceptualises a reservation price as being 'endogenously determined'. That is to say it depends on opportunities received from the labour market. This is because search theory deals exclusively with the unemployed, yet as Lazear (1995: 74) points out, "... much worker turnover occurs without an intervening spell of unemployment." For the modelling of voluntary turnover, it is no use restricting analysis to those who are out of work.
Implicit in the economic account of job search is the idea that search generates a series of alternatives, which are then compared in terms of their ‘expected utility’ (Mobley et al 1979). Thus, job search is seen as a separate precursor to quitting. Yet there is evidence to suggest that conceptualising job search as a discrete stage in a process of rational-economic choice is misrepresentative. Bretz et al (1994: 276) suggest that job search, “…serves many purposes”. It may convince oneself and others of one’s self worth, or convince one of the value of staying in one’s current position (Blau 1964). Job search may not be a discrete stage in the quitting process, but instead search and quitting may, “…reflect different aspects of a broader construct of expected utility of withdrawal (Hom and Griffeth 1995: 110).”

Carsten and Spector (1987: 374), in a test of Muchinsky and Morrow’s (1980) ‘multidisciplinary model’ have found evidence that the underlying rate of unemployment may affect the relationship between job satisfaction and turnover, suggesting that:

...the economy acts as a releaser, allowing satisfaction to best predict turnover during periods of high economic opportunity.

Although this lends some support to the theory that opportunity plays a part in determining turnover, overall there is a lack of empirical evidence for the link between perceived employment opportunities and turnover which renders a simplistic account of job search problematic (Griffeth and Hom 1988). Steel and Griffeth (1989) suggest this process may differ in different industries or occupations, and that the relationship between employment opportunity and turnover may be attenuated by the overall or ‘base’ turnover rate (Steel, Shane and Griffeth 1989).

Kirschenbaum and Weisberg (1994) suggest there may be two stages to job search, a passive stage (typified by normal ‘no cost’ exposure to labour market opportunities), then, following the crystallisation of intent to turnover, an active stage (typified by investment in search and associated cost). This distinction between passive and active search may be valuable, if we use passive search to describe situations in which employees periodically assess alternative opportunities to establish their own market value, without ever intending to leave. Such ‘no cost’ exposure to opportunity in these cases may actually be of benefit, in terms of negotiating with their current employer, and as a source of satisfaction. Neither
benefit depends on a turnover outcome. Yet this refinement does not answer Bretz et al’s question, as to why, “...currently employed, ‘successful’ people engage in costly (from both personal and organizational perspectives) job search activity (1994: 296)”, nor does it explain the failure of meta-analytic research into turnover to find any significant relationship between search intention and turnover (Hom et al 1992). Setting aside the epistemological and methodological problems associated with ‘intent to’ variables (Dalton, Johnson and Daily 1999; Vandenberg and Nelson 1999), it should be seen that the refinement of job search into passive and active search does nothing to strengthen the case for a relationship between search intention and turnover, because expression of ‘intent to search’ automatically excludes passive search.

The search account also discounts the influence of other potential determinants of individuals’ choice of work. Describing an individual’s setting of a ‘reservation price’ may be too simplistic an explanation to account for the complex heuristics people employ in career and job choice, and Kanfer, Wanberg and Katrowitz (2001: 849) call for studies into job search to move beyond ‘the reservation wage’. It may be that notwithstanding the importance of pay, a pure economic account does not pay sufficient attention to situations where people derive intrinsic satisfaction (Tang, Kim and Tang 2000). In short, job search and job opportunity may be too complex to be described using impersonal variables and a rational-economic model of decision making.

Job Opportunities
Although there is support at the macro level, in terms of base rates of turnover and unemployment, to suggest a relationship between employment opportunity and turnover (Carsten and Spector 1987; Hulin et al 1985; Terborg and Lee 1988), these data are not useful when it comes to explaining or predicting individual decisions to quit (Dreher 1980), which is important given the focus of effective management of turnover (Mobley 1982).

Kirschenbaum and Mano-Negrin (1999: 1239) make the case that instead of using ‘perceived job opportunity’, it would be better to use an objective measure of opportunities based on a model of interaction between the local labour market, occupational opportunity (by labour market sector) and organizational size. They argue that the problems with using
Macro data such as base rates of turnover to manage turnover effectively may be mitigated by applying more sophisticated models of the labour market:

...the structural constraints of organizational and occupational internal labour markets may be crucial for the accurate prediction of actual turnover behaviour.

Although they make a case for objective measurement of opportunities in general, in their particular study of workers at seven hospitals, Kirschenbaum and Mano-Negrin place little weight on the role of normative commitment or a professional ethic, relying instead on a view of the 'occupational labour market'. Kirschenbaum and Mano-Negrin equate the leaving decisions of all the respondents in their sample. This is potentially problematic because nearly one sixth of their respondents are clerical workers, who may have a number of different exit strategies to nurses or doctors. Even within a rational economic account, there is evidence to suggest that people with longer periods of training may be unwilling or feel unable to look for opportunities outside the health care sector, as they have invested in their training and have 'sunk costs' (Becker 1960; Mercer 1979; Rusbult and Farrell 1983). This interpretation also undermines Kirschenbaum et al's (1999) construction of 'objective opportunities'.

Hulin et al (1985) suggest three ways in which employment opportunity might influence quitting directly, without the need for an interaction with 'perceived opportunity', or 'job search'. They suggest that different economic conditions can produce different workforces and therefore different patterns of turnover (such as higher turnover among 'drifters'). Alternatively, job opportunities may influence job satisfaction directly, perhaps because of the 'insufficient justification paradigm' (Salancik and Pfeffer 1978; Pfeffer and Lawler 1980), namely where the absence of any alternative job leads to dissatisfied employees' cognitively restructuring or redefining their current state to reduce ongoing cognitive dissonance. There may be a direct influence of economic activity on satisfaction (Hulin et al 1985: 243), where job opportunities directly influence turnover and employees quit on the basis of actual, concrete opportunities.

The benefits of Hulin et al's account are various. It portrays leavers as heterogeneous rather than identical as is the case in the traditional economic account. 'Drifters' may leave via a non-conventional route, which is less restrictive than views postulating linkages from
satisfaction to turnover (Mobley 1977). Hulin et al’s account is also more sophisticated than the pure labour market account of turnover in including the possibility of people leaving for non-work alternatives, which are not captured in any previous definitions of ‘perceived opportunity’.

Pay

The definition of a labour market outlined above refers to the ‘price’ of exchange, and this is equated with pay (a wage). Yet there is a well-established body of literature, in addition to the literature on commitment, concerning motivation (McGregor 1960; Herzberg 1968) to suggest that for at least some individuals, pay is not the sole motivating factor (Tang et al 2000). If it is allowed that motivation has some link with job choice then pay will not be the sole criterion used when people decide on selecting a job, or when they decide to continue within an existing job. Thus a labour market explanation may be inadequate to account for decisions to quit. It should be noted that Lazear (1995: 4) believes that reward need not be expressed solely in the form of a wage. However his approach remains faithful to a pure economic account of turnover in that he believes that ‘nonpecuniary components’ can be, “… converted into their monetary equivalents in the course of the [economic] analysis”. These ‘nonpecuniary components’ (giving the examples of status, working conditions) he refers to as ‘psychic income’.

If we accept this, all the ‘humanist’ challenges to a pure economic account of turnover would collapse, as the remodelling of such concepts as ‘status’ would allow for us still to use the initial definition of a labour market to account for turnover. All that we would need to do is to incorporate a notion of ‘psychic income’ within our notion of a price for labour. There are however, epistemological and ontological problems with this type of reductionist explanation which make it unpalatable. Briefly, there are problems of knowledge i.e. with how we identify and measure these concepts, and there are problems with the precise status we accord these ‘nonpecuniary components’, i.e. how do we translate and cross-validate them.
Labour Market Scope

There is also a problem with defining scope in the labour market account. Although buyers and sellers of labour need to ‘meet or communicate’, there seems to be no easy way of universally defining the size of, or demarcating ‘the labour market’. It may be possible to set aside rigorous definition of a labour market, or define it on an ad hoc basis, if all what is needed is to decide on the scale of a recruitment campaign. Unfortunately, this approach is not adequate if we wish to use the economic model to look at labour turnover within a particular context. Nor will this approach facilitate the prediction of levels of labour demand and supply, or price. It thus becomes necessary to define the scope of the labour market differently, in order to understand conditions within a geographical area, or industry sector, or at a site level. In each instance, to use an economic model of turnover, we have to first delimit the scope of the labour market, otherwise it is impossible to identify the number of actors and their (individual or collective) bargaining power. Equally, it is not possible to assess the volume of work available. Only by defining the scope of the labour market can we identify these key variables. One way in which this problem of scope has been approached, has been through the use of the term ‘local labour market’. Flowerdew and Green (1993) offer a definition of a local labour market, defined principally in terms of ‘travel to work areas’, which are in turn defined by the Department of Education and Employment in these terms.

75% of journeys to work start and finish in them
Minimum resident population is 3.5 K
Should be mutually exclusive
Should cover the whole country (Source: Bosworth et al: 176)

It should be seen that this definition of the scope of a local labour market could be challenged if concern is turnover in a particular context. Indeed one might make the case that rather than local labour markets being defined in geographical terms, they could be defined in industry terms. Kirschenbaum and Mano-Negrin (1999) develop the idea of an occupational labour market, and as well as other theorists (Pfeffer and Cohen 1984), stress the significance of an internal, or organizational labour market for the retention of staff. One problem with extending this idea is that to have a comprehensive account of local
labour markets, one would need one for virtually every firm, (or even each job) which
would be far more cumbersome than the DofEE's framework.

The labour market approach does have enormous potential in the modelling of turnover. If
certain assumptions are allowed, then this account can allow for the conceptualisation of a
wide variety of situations, based on the variation of labour demand, supply and volume of
work. However, the inability of this approach to allow for imperfect awareness and
heterogeneity, as well as problems in defining scope, and the role of non-monetary
determinants makes operationalisation of this account problematic. It will be seen that
some of these generic threats to the utility of the labour market account also serve to
challenge aspects of the psychological school's account of labour turnover, which is
outlined below.

The Psychological School

Within the psychological school, analysis of labour turnover is geared towards explaining
or predicting individuals' behaviour. Psychological accounts thus concern themselves more
with individual choice, and although they offer mainly unitary models that assume
homogeneity amongst leavers, they are more readily suited to assisting the development of
policies or strategies to enable the effective management of turnover than economic
accounts. Economic accounts often cast employees as actors equally subject to external
forces, and thus may preclude the development of focused human resource strategies.
Psychological accounts focus on employees, and are therefore more readily suited to
enabling the effective management of turnover, by offering potential to concentrate efforts
or resources on a key group of employees, or even on an individual employee. This is
important if we bear in mind the need for assessing functionality and also avoidability.
Broadly speaking, these accounts can be classed as voluntarist, because they emphasise the
role of individual choice. Economic accounts are more typically determinist because they
emphasise the formative role of external influences.

The power of the psychological school, as we shall see, lies partly in its ability to describe
turnover again in a unitary fashion, albeit from a different perspective. Although the
dimension of choice is explicitly recognised within psychological accounts of turnover,
these accounts often assume that decisions about leaving an organization only involve
consideration of work issues (Lee and Mitchell 1991). Intuitively this should be seen as problematic as often the reasons people have for leaving an organization have nothing to do with their life at work (Lee et al 1996). Yet this is not a necessary limitation of a psychological account of turnover, which could easily include non-work factors as reasons for leaving.

One criticism of the pure economic account can be that it fails to capture the complexity of the process of turnover within an individual firm. Pure economic analyses of turnover may also generate solutions that are inoperable, for example a firm may not have the ability to vary pay, or to influence the labour market variables. Psychological accounts can be seen to address this, in so far as they incorporate a range of nonpecuniary variables, and thereby increase scope for intervention.

March and Simon's (1958) Model Of Organizational Equilibrium

March and Simon (1958: 99) indicate in their model of determinants of labour turnover that job satisfaction is the principal lever affecting 'employee perceptions of the desirability of movement'. We can judge the extent to which their model has been influential by the frequency with which it is cited by contemporary turnover theorists (Allen and Griffeth 1999; Fang 2001; Gaertner 1999; Kirschenbaum and Mano-Negrin 1999; Tang et al 2000; Trevor 2001). Indeed Lee and Mitchell (1994: 69-70) indicate that the success of this model may have hampered research:

March and Simon's (1958) landmark chapter on the decision to participate may have overly influenced the subsequent conceptual models of employee turnover.

March and Simon's model (below) has limitations, as does any attempt to capture and code a complex process. Such models provide ways of seeing a given situation, with a view to better understanding it, but Morgan's caveat on metaphor also applies here, "in creating ways of seeing they tend to create ways of not seeing. (Morgan 1997: 348)"
The importance of this model can be assessed in terms of the number of ideas that it introduces that still attract the attention of researchers into turnover. An economic account of turnover can be incorporated within this model in terms of the internal and extra-organizational opportunities, with expected utility being assessed in terms of 'perceived desirability' and 'perceived ease'. The conformity, predictability and compatibility components of job satisfaction resonate with ideas in the psychological school, such as image violation (Beach 1990), routinization (Price 1986) and role stress (Kemery et al 1985).

March and Simon's account of motivation is based on the theory of 'organizational equilibrium', which can be traced back to Barnard (1938). This describes how a balance is struck both for the organization and its employees in terms of inducements and contributions that ensures continued survival of the organization. The organization offers inducements (i.e. pay) to encourage employees to participate, and contribute (i.e. work). Where these inducements are increased, this reduces the propensity of the employee to
leave and vice versa. Leaving is ultimately determined by two factors, namely ‘perceived desirability of movement’ which is influenced by job satisfaction and ‘perceived ease of movement’ which is influenced by assessing perceived alternatives or opportunity (Hom and Griffeth 1995: 51-53).

**Critique**

The model over stresses the importance of pay as a motivator, at the expense of other intrinsic sources of satisfaction. Although pay can be conceptualised as motivating (Lawler 1981), and although the model refers more generally to job satisfaction, an underlying construction of equilibrium assumes the commensurability of variables. This is possible where we see the organization and its employees in a utility relationship, characterised by exchange of inducement and contributions (an economic construction), but far harder if we include elements such as professionalism (Bartol 1979), image violation (Beach 1990) or role stress (Kemery et al 1985) which are identifiable as relating to the components of job satisfaction. Assumptions of equilibrium and balance ultimately limit research to variables that are commensurable, which is deeply problematic if we wish to include both economic and psychological elements in analysis of turnover.

A further limitation in March and Simon’s model is that it only partially helps us address the idea that different forms of commitment may influence turnover, yet there has been consistently strong support for the idea that commitment (in various guises) is important to the assessment of turnover (Allen and Meyer 1990; Boshoff and Mels 2000; Chang 1999; Porter et al 1974). Although the dimensions of calculative, (exchange or continuance) commitment (Becker 1960; Somers 1995, 2001) can be captured by an emphasis on pay, research indicates there are other ‘non-instrumental’ components of commitment (Gaertner and Nollen 1989: 975) such as normative or moral commitment (Jaros et al 1993), or career commitment (Bedeian et al 1991) that influence turnover.

March and Simon’s model presents a static view of the decision to leave. Firstly, as a content model, it offers little sense of the processual dimension to turnover. Secondly, although there is included within this framework an expected utility element, this does not lend enough weight to the possibility that turnover decisions may be influenced by aspirations of longer term development, and may be predicted not only by career type, but
also by career stage and by an employee’s assessment of a particular organization’s career
development opportunities (Krau 1981). This goes beyond a labour market view of
‘alternative opportunities’, but includes the notion that:

a company is not only the place of a technical-economic activity providing jobs, but
also a means for implementation of aspirations and need fulfilment (ibid: 789).

Subsequent development of theory within the psychological school of turnover research can
be outlined with reference to three further models, namely Price and Mueller’s (1986)
causal model, Mobley et al’s (1979) ‘expanded’ model and Sheridan and Abelson’s (1983)
catastrophe model. As has already been indicated, classification of the literature on
turnover is wont to be arbitrary. The rationale for choosing to assess these three models is
that they represent a broad range of approaches to analysing the turnover phenomenon, as
well as each representing a departure from March and Simon’s account. In this way it
should be possible to cover the literature within the psychological school comprehensively
and also offer analysis in sufficient detail, though it is acknowledged this omits discussion
of other significant accounts of turnover in equal detail (Hom and Griffeth 1991; Porter and

Price and Mueller’s (1986) Causal Model

This places emphasis on analysing the causal determinants of turnover, and outlining the
causal pathways between antecedent variables such as ‘routinization’ and the ultimate
dependent variable ‘turnover’. This stress on a comprehensive list of determinants is in
contrast to other models (such as March and Simon’s), which seek a more generic account
of factors such as job satisfaction, and can be traced back to Price’s goal of codification
which is to provide researchers with, “...a list of mutually exclusive and exhaustive
determinants to conduct the study efficiently (Price 1977: 3).”

The advantages of his approach are that it offers a methodical and comprehensive review of
the literature and empirical data on turnover. The benefits of this comprehensive review
can be seen in terms of the model below, where selection of hypothetical determinants has
empirical as well as intuitive or theoretical support. There is also substantial research

*Figure 2.3: Price and Mueller’s Causal Model (1986)*

Notes:
- Unless signed all causal relationships (shown by arrows) are positive.
- * negatively causally related
- ** included as an interacting (moderating) variable for analysis of routinization

*Critique*

Although this model represents a second generation refinement and extension of the (1977) ‘structural’ model of turnover, the support for it in Price and Mueller’s research was weak (1986: 203), and the causal claims of their model are further undermined by their having found significant relationships between null pathways (Hom and Griffeth 1995: 62).

Additionally, although it was hypothesised that turnover and absence were each dimensions of a withdrawal construct (Price and Mueller 1986: 2), the model was even less good at explaining employee absence (ibid: 205).
A further limitation is that testing of this model has been restricted to hospital staff (Hom and Griffeth 1995: 63). Other researchers emphasise the need for occupational heterogeneity in turnover studies (Mathieu and Zajac 1990: 191), particularly in replication studies (Hom and Kinicki 2001: 975-6) although there is also evidence to suggest that there are few differences between the study of nurses and other occupations in terms of turnover and theory testing (Hom et al 1992: 904).

Price and Mueller’s model has been included in this review of the psychological school of turnover research because it represents one tradition or perspective that researchers on turnover may take. Supplementing the account of March and Simon’s equilibrium model (March and Simon 1958), the analysis of a more explicitly causal or structural account is helpful because it highlights an alternative, dynamic account of turnover. Such a perspective has its advantages, in that it is processual, and thus formally reflects that turnover is the result of a decision process. Nonetheless, it is also limited particularly where the causal relationships postulated are as prescriptive and rigorous as in the model above. Price and Mueller’s model outlines a series of unidirectional causal relationships with turnover as the dependent variable, yet despite (discrete) empirical support for the existence of these relationships, so far there is inadequate support for the model as a whole. The failure of Price and Mueller’s account to explain turnover (Price and Mueller 1986: 203) may be evidence that a comprehensive theory requires more than just the ordered summation of empirical findings, and rigorous testing of causal pathways. It may be that the lack of an underlying theory of behaviour or action such as is offered in March and Simon’s account, limits the potential for this model to offer explanation.

Mobley et al’s (1979) Expanded Model

The next model discussed is Mobley et al’s (1979) expanded model of employee turnover. This is shown below; description, then critique of this model follows.
Figure 2.4: Mobley et al's Expanded Model (1979)

ORGANIZATIONAL
- Goals-Values
- Policies
- Practices
- Rewards
- Job Content
- Supervision
- Work Group
- Conditions
- Climate
- Size

INDIVIDUAL
- OCCUPATIONAL
  - Hierarchical level
  - Skill level
  - Status
  - Professionalism
- PERSONAL
  - Age
  - Tenure
  - Education
  - Interests
  - Personality
  - Socio-Economic
  - Family responsibility
  - Aptitude

ECONOMIC - LABOR MARKET
- Unemployment
- Vacancy Rates
- Advertising Levels
- Recruiting Levels
- Word of Mouth
- Communication

JOB-RELATED PERCEPTIONS

INDIVIDUAL VALUES

EXPECTATIONS RE PRESENT JOB
1. Expectancies re future job outcomes
2. Expectancy re keeping job

EXPECTATIONS RE ALTERNATIVE JOBS
1. Expectancies re future job outcomes
2. Expectancy re attaining alternative

SATISFACTION

ATTRACTION-EXPECTED UTILITY: PRESENT JOB

ATTRACTION-EXPECTED UTILITY: ALTERNATIVES

INTENTIONS TO SEARCH: INTENTIONS TO QUIT

TURNOVER

Centrality of non-work values / roles
Beliefs re:
Non-work consequences of quitting
Contractual restraints

Alternate forms of withdrawal behaviour

Immediate vs. delayed gratification

Impulsive behaviour;
Specificity and time between measures
Mobley et al (1979) offer an account that portrays 'search and quit intentions' as the precursor to turnover. Incorporating ideas from expectancy theory, and from earlier turnover models, their model offers a more detailed and comprehensive account than either Price and Mueller (1986) or March and Simon (1958), and includes economic, environmental, organizational and individual variables. The model suggests there are four principal determinants of the decision to quit, namely job satisfaction, expected utility of alternate roles within the organization, expected utility of alternate roles outside the organization, and non-work values and roles.

Critique

The theoretical basis for Mobley et al's construct of job satisfaction is Locke's (1975) idea that satisfaction arises from individualized evaluation of the job and comparison with one's personal values (Mobley 1982). This has advantages over Price and Mueller's account because it emphasizes individual difference. For example, whereas Price and Mueller see routinization as a global construct (which they hypothesize is negatively correlated with satisfaction), Mobley et al's account allows for the possibility that a factor such as this might influence different employees in different ways. So, whereas one individual might find routine dissatisfying, or demotivating, another may value the same level of routine in their work, perhaps because it affords them stability, or suits their non-work roles.

That the model allows scope for individual difference can be taken as evidence that it is a more useful heuristic device in the effective management of turnover than Price and Mueller's model. Whereas Price and Mueller's model offers an account of once and for all causal relationships which for the most part are theorized to apply equally to all organizational members, Mobley et al's account allows us to see how certain initiatives can selectively influence satisfaction. It also stresses the importance of employee perceptions, which undermines a straightforward translation of the labour market account of turnover, such as the 'opportunity' variable in Price and Mueller's model would suggest. Equally this emphasis on perceptions makes explicit the problems with rendering variables such as 'distributive justice' (from Price and Mueller) commensurable and quantifiable. Although the emphasis on individualized perception may mean that a precise ordering of relationships between (say) distributive justice and turnover is ultimately unrealisable because of
epistemological and logistical constraints, it may increase the scope to use the 'expanded' model as a basis for understanding rather than prediction.

A further advantage this model offers over Price and Mueller's account is that it emphasises expectancy, in other words, the anticipation of future outcomes. Whereas it is clear that satisfaction is a present-oriented evaluation (Mobley 1982), by itself this does not address the expectancy of future satisfaction. Price and Mueller's model posits a direct link from satisfaction to turnover, but there is no explicit recognition that expectancy is a key factor in determining turnover decisions. The inclusion of expected utility in the assessment of both internal and external job options means that the 'expanded' model is more rigorous in its assessment of the satisfaction construct. It should be intuitively obvious that it is possible for individuals to be dissatisfied at work, yet to remain in the hope or expectation that things will improve, particularly in occupations where a period of apprenticeship or basic training is mandatory. For example, junior doctors may work very long hours whilst qualifying, yet tolerate this knowing that it is only to be for a relatively short period of their career. Equally, it may well be that satisfied employees leave, either because they are aware the situation is about to change for the worse, or in the expectation that they may increase their levels of satisfaction. None of these three scenarios is accounted for adequately in Price and Mueller's model, yet the inclusion of an expectancy dimension, and an emphasis on individualized evaluation allows for these leaving scenarios to be explained and modelled within the 'expanded' model.

One limitation of this model is a function of its complexity and comprehensiveness. Because it addresses economic, environmental, organizational and individual variables as well as emphasising values, and expectancy, empirical assessment of the model as a whole is difficult (Mobley 1982: 125). Such an assessment would need to be detailed enough to capture individual assessments of particular variables, as well as find a means of translating measures of expected utility for internal and external work options. As a result research to date (Griffeth and Hom 1988; Youngblood, Mobley and Meglino 1983) has only validated, or partly validated portions of the model (Hom and Griffeth 1995: 66).

Another limitation that this model shares with that of Price and Mueller (1986) is that it sees search or quit intention as an immediate precursor to turnover behaviour. Recent research (Dalton et al 1999; Vandenberg and Nelson 1999) has undermined the validity of
assessment of ‘intent to’ variables, and it may be that given method and epistemic constraints, inclusion of an intent variable as a turnover proxy would limit the operationalising of both the ‘expanded’ model and other, similar models (e.g. Boshoff and Mels 2000; Lum et al 1998).

*Sheridan and Abelson’s (1983) Cusp-Catastrophe Model*

The final model included to represent the range of accounts of turnover within the psychological school has been developed by Sheridan and Abelson (1983), and offers a far more complex account of the intrinsic properties of the turnover phenomenon than the earlier models. It further undermines the notion of a measurement-prediction agenda in turnover research. Although less a model about the decision process, and more about the phenomenon of turnover per se, its inclusion within this school of turnover research is warranted as it includes psychological rather than economic factors.

Sheridan and Abelson’s model is based on a branch of mathematics known as catastrophe theory (Sheridan 1985: 88), which is formally suited to describing turnover behaviour, as it has been used in the physical, biological and social sciences in the modelling of a range of discontinuous events. The advantages of using this particular epistemological basis are that it enables their model to reflect the threshold nature of turnover behaviour, which can be understood as, “...a dichotomization of the continuous variable called tenure (McEvoy and Cascio 1987: 750).”

The catastrophe model has been applied more generally to ‘employee withdrawal’ (Sheridan 1985), where turnover is seen as one of a range of withdrawal responses (including absenteeism and lower job performance) resulting from reduced sociopsychological attraction or interest in the organization (following Bluedorn 1982). This view is advocated by some (Griffeth, Gaertner and Sager 1999; Martin et al 1981) although the empirical support to date has been modest. Nonetheless, the implications of a catastrophe account can be examined without accepting this as yet unsubstantiated theory.

In the catastrophe model:
... job termination represents a qualitatively different behavioural state than does employee retention and may not be associated with large changes in the variables influencing withdrawal. Instead, the presumed causes of withdrawal may have been changing slowly and smoothly until some threshold is reached that results in an abrupt change from job retention to termination (Sheridan and Abelson 1983: 419).

Such an account is seen to address several limitations in turnover research to date. Firstly, previous research mainly deals with heterogeneous cross-sectional samples of employees from the same organization and does not control for differences in career stage or other demographic variables which may influence the turnover process (Sheridan 1985: 89). Secondly, the time interval between conducting the study and instances of turnover is likely to affect predictive validity (Sheridan and Abelson 1983: 419). Thirdly, research has relied mainly on cross-sectional studies, which are used to predict quits within a given period. These studies may predict turnover moderately well, but they offer no account of the successive or processual dynamic (ibid). A final, and crucial limitation is that these studies on the whole assume linear and continuous relationships between antecedent factors and turnover which does not reflect the threshold nature of the phenomenon.

The model has three main characteristics (Sheridan and Abelson 420-422):

1. Turnover is presented as a discontinuous variable characterised by abrupt change, and a ‘delay rule’ which reflects the idea that employees try to stay in employment for as long as possible. Once employees feel they can no longer stay, they abruptly change from retention to termination (voluntary turnover).

2. There is a ‘hysteresis zone’ representing a state of disequilibrium for employees about to change from retention to termination. This is described as ‘a fold in the behaviour surface’, the shadow of which is projected onto the control surface as the bifurcation plane. Either side of the bifurcation plane there is more stable behaviour, in the retention plane or termination plane.

3. Divergent behaviours may occur on opposite sides of the bifurcation plane. The implications of this are that as employees near this bifurcation plane, very small changes in the control variables (here ‘job tension’, ‘job dissatisfaction’ and ‘job stress’) may cause discontinuous change from retention to termination.
Critique

The inability to represent more control variables means this account is restricted to a partial account of the various motives for turnover. Other more comprehensive accounts can address these (Price and Mueller 1986; Mobley et al 1979). Nevertheless, the catastrophe model does make two significant contributions to turnover research. Firstly, there is an explicit recognition that turnover is a discontinuous dynamic phenomenon. This calls into
question the predominant (and still prevalent) methodology in turnover research of cross-sectional measurement then prediction. The implications of a hysteresis zone of behaviour, and the possibility of divergent behaviours either side of this zone, mean that predictive power is ultimately limited in research which relies on cross-sectional sampling of employees, and the catastrophe model provides a coherent alternative way of capturing the processual element to this phenomenon. The second, more abstract contribution that this model makes is in demonstrating the possibility of alternate conceptualisations of the turnover phenomenon, and in indicating possible directions for future research outside the dominant paradigm. It is still influencing the development of turnover theory (Hom and Kinicki 2001) and represents a, “…provocative divergence from traditional linear thinking [and] a significant theoretical milestone” (Hom and Griffeth 1995: 78). As such, it merits discussion here.

It is worth noting that some theorists (Sokal and Bricmont 1998: 127) express reservations about the validity of transferring ideas such as catastrophe theory from mathematics to the social sciences. It may be more consistent to see Sheridan and Abelson's model as using catastrophe theory in a metaphorical sense, given there are no meaningful equations to model constructs such as job tension, and it is problematic to talk of behaviour as having a 'surface'. Nonetheless, this does not undermine the theoretical contribution of this account to turnover research as outlined above.

The Need for New Theory

There is indication in the poor explanatory and predictive power of most models of turnover that the ecological validity of such models is weak. A variety of reasons have been presented for the inability of these models to explain or predict turnover adequately. The prevailing pattern of research into turnover results in incremental or insignificant theory development. Much present day research still focuses on the role of variables that moderate relatively well established (in the sense of frequently studied) relationships. Within the psychological school examples of this are the satisfaction – turnover (Hom and Kinicki 2001; Tang et al 2000) or commitment – turnover (Chang 1999; Rhoades, Eisenberger and Armelli 2001) relationships; examples in the economic school include analysis between opportunity – turnover (Kirschenbaum and Mano-Negrin 1999) and pay – turnover (Lum et al 1998). In addition, some of these studies (Chang 1999; Lum et al 1998) overlook or
sidestep a serious problem common to much earlier studies, namely the use of proxy or surrogate variables such as ‘intent to turnover’ or ‘withdrawal cognitions’ (Dalton et al 1999).

Research is also still dominated by the thinking of March and Simon and although this was groundbreaking, their approach may have acted as a brake on subsequent theory development, because of their conceptualisation of the decision making process. March and Simon do offer a refinement of the economic model. They do not assume decision makers have complete information and can unproblematically select an option to increase utility. Nonetheless, Langley, Mintzberg, Pitcher, Posada and Saint-Macary’s (1995: 262) review of the literature in decision making casts March and Simon’s account as archetypically rational, in holding that:

...decision making is a cognitive process that can be decomposed into a sequence of simple, programmed steps

Instead, Langley et al (1995: 261) argue this account is overly simplistic, and more akin to a model of how theorists would like people to make decisions. They point to three ways in which March and Simon’s account falls short (ibid):

1. The decision itself, “...decisions cannot easily be pinned down, in time or in place...” (we might describe this as ontological complexity).

2. The decision maker, “...decision making processes are driven by the emotion, imagination, and memories of the decision makers...” (we might describe this as social complexity, or more prosaically, ‘the human factor’).

3. The decision making process, “…even when a decision can be isolated, rarely can the process leading up to it [be]...” (we might describe this as dynamic, or causal complexity).

This critique is even more fundamentally damaging to traditional turnover research than Bozeman and Perrewé’s (2001) assault on the validity of the OCQ - turnover intention relationship. Bozeman and Perrewé challenge the claims of an easily identifiable, if
(perhaps disconcertingly) large body of literature. Langley et al (1995) and others who advocate a more complex account of the decision making process (Beach 1990; Zey 1992) call into question the way we think about people as decision makers. This in turn has implications for how we model turnover.

Conclusion

Lee et al (1996) have echoed the comments of O'Reilly (1991), in suggesting that turnover research is 'in a fallow period' and in need of rejuvenation. Of course the existence of a research paradigm and a subsequent focus on incremental improvement may not be problematic, in so far as where adequate accounts of phenomena exist, there may be little need to change these accounts, if they satisfy certain criteria, for example, predictive power.

If we adopt a managerialist perspective in considering the effective management of turnover, then the motivation for use and development of theory will not be (to some extent aesthetic) considerations of theoretical merit, but more pragmatic notions of what 'gets the job done'. Although a pragmatic perspective may not lead to the most effective management actions (where for example it prevents pursuit of other, more effective strategies), if it allows for a degree of effectiveness, then any incremental improvements will represent progress. Even more basically, if any theory can be described as having 'practical adequacy' (Sayer 1992), it can be 'used' without refinement indefinitely.

If there were a powerful, or practically adequate theory of employee turnover, then the lack of 'new' research would be of little concern. However, the review in this first chapter suggests that there are several problems with the current pattern of turnover research:

1. Labour market accounts incorporate assumptions about leavers that prohibit sufficiently sophisticated models of turnover. These are insufficiently sophisticated because they do allow us to model turnover selectively, and therefore prevent the possibility of managing turnover effectively.

2. Theories within both the economic and psychological schools have modest predictive power and the measurement - prediction agenda may limit our ability to explain
3. Research within the psychological school is restricted by dominant ideas that focus mainly on relationships between an affective state and turnover.

4. There are two threats to validity in research in the psychological school. These concern:
   a) the use of proxy variables; b) construct redundancy in research into the organizational commitment – turnover intentions relationship.

5. Both schools cast the leaver qua decision maker as rational.

Whilst it is accepted that there are likely to be limitations to any generic explanation of this complex phenomenon, the scope to identify universal elements of the turnover process should not be ignored. A contemporary example of an account that represents a break from the established pattern of research is the ‘unfolding’ model of Lee and Mitchell (1991, 1994), and the latest version of this (Lee et al 1999) forms the theoretical focus for this study. The unfolding model is a process model of employee turnover, based on ‘image theory’, a theory of decision making (Beach 1990; Beach and Strom 1989; Mitchell and Beach 1987). This review of the literature provides a basis for the idea that such innovation as the unfolding model represents is much needed within the field of turnover research. The following chapter introduces the unfolding model, and offers an in depth critique of it.
Chapter Three: Lee And Mitchell’s ‘Unfolding Model’ Of Employee Turnover – A Theoretical Critique

Introduction

This chapter offers a critique of the ‘unfolding’ model of employee turnover (Lee and Mitchell 1991; Lee and Mitchell 1994; Lee et al 1996; Lee and Maurer 1997; Lee et al 1999). Taking as a basis for discussion the revised and extended model published in the Academy of Management Journal (1999 42[4]), the chapter first briefly describes the model and the psychological theory of decision-making - ‘image theory’ which underpins it. This is followed by description of how the model has been operationalised, and by a summary of empirical support to date. The second part of the chapter supplements this description with a critical assessment of the model. This assessment explores the model’s conceptual framework and theoretical contribution to understanding employee turnover, as well as developing more specific points relating to logistical and operational issues.

This critique contributes to the theoretical development of the unfolding model in its own right, but it also lays a foundation for the empirical test of the model.

Description Of The Unfolding Model

Many of the ideas relevant to an understanding of the unfolding model are first expressed in Lee and Mitchell’s (1991) paper entitled, “The Unfolding Effects of Organizational Commitment and Anticipated Job Satisfaction on Voluntary Employee Turnover”. This contains four key elements that remain central to later versions of the model;

1. Dissatisfaction with current turnover theory and call for new theory “...existing theory and research on voluntary turnover were judged to apply validly to only a very small number of situations. That is their ecological validities appear weak...new theory, rather than more data and analyses, is sorely needed to produce large gains in understanding (99-100).” This is echoed in: Lee and Mitchell (1994: 56); Lee et al (1996: 5); Lee et al (1999: 450).
2. **Emphasis on the decisional aspect to turnover and use of 'image theory'** “...image theory can be extended and applied explicitly to the decision to leave an organization (103).” This point is repeated or implicit in: Lee and Mitchell (1994: 57); Lee et al (1996: 6); Lee et al (1999).

3. **Introduction of two concepts 'shock' and 'scripts'** A shock is, “...theorized to be a very distinguishable event that jars the employee towards mental deliberations (103).” A script is, “... a routinized behavioral response that is similar to a “habit,” [or] “standard operating procedure (106).” These are explicitly built into all subsequent versions of the model.

4. **Assertion that people leave organizations in different and distinct ways** “...specific decision paths... lead to the decision to stay with or leave an organization (103).” This is echoed in Lee and Mitchell (1994: 60-9), and empirically corroborated in Lee et al (1996: 5); Lee et al (1999: 458).

The latest published version of the unfolding model is shown below (see figure 3.1):
Figure 3.1: Lee et al’s (1999) Unfolding Model

Notes:
Only classifies leavers
* = Non-classifiable route which indicates theory falsification
In line with elements 2-4 of the description above, the core characteristics of the unfolding model are that:

1. It is based on image theory (Beach 1990), an alternative to more traditional accounts of decision-making that emphasise the role of rational choice - such as March and Simon’s seminal ‘inducements-contributions’ balance and equilibrium account of turnover (1958: 93). Image theory incorporates rational choice theory, but places more emphasis on intuitive elements within decision making (Mitchell and Beach 1990) as well as the need for decisions to ‘fit’ with internal values, goals and strategies (Beach 1990: 3-4). Decision-making involves ‘screening’ (Beach and Strom 1989) of options to test ‘compatibility’. On the rare occasions that more than one option fits (i.e. survives screening), then a test of ‘profitability’ establishes the best alternative. Although including a notion of profitability and weighing up of alternatives constitutes an explicit acknowledgement that some decisions are ‘rational’, image theory stresses first and foremost the non-rational character of most decisions.

2. The unfolding model introduces two new constructs that potentially contribute to turnover theory. The inclusion of script enactment may help to describe how certain decisions to turnover can bypass a stage of job search or the evaluation of alternatives (Hulin et al 1985: 247-8), thus developing Mobley’s notion of impulsive quitting (Mobley et al 1979). The inclusion of an element of shock as needed to, “... shake employees from their lethargy... (Lee and Mitchell 1991: 118)” neatly captures Becker’s (1960) notion of sunk costs, Rusbult and Farrell’s (1983) investment dimension and Mercer’s (1979) idea that inertia inhibits turnover. It also develops Sheridan and Abelson’s (1983) notion that employees fundamentally wish to retain employment.

3. The model is processual or evolutionary - hence ‘unfolding’ (Lee and Mitchell 1991), and outlines five different ways in which people may choose to leave organizations, thus accounting for different types of leavers (Hulin et al 1985) as well as acknowledging different reasons for leaving (Abelson 1987) better than expectancy or utility accounts can. Many accounts of turnover (Mobley 1977; Price and Mueller 1986; Rusbult and Farrell 1983) are restricted to analysing work factors, and fail to
adequately assess employees’ values.

**Description Of The Five Paths**

Paths 1 to 3 describe decision pathways that begin with an initial shock. In path 1 this leads to enactment of a pre-existing plan of behaviour or script, which precludes search or evaluation and leads directly to leaving.

Paths 2 and 3 describe how a shock leads to image violation that causes an employee to consider their attachment to the organization. In the absence of a script, path 2 describes where the violation is so great that it triggers termination without consideration of job satisfaction, or search.

Path 3 describes how image violation leads to an evaluation of one’s job and alternatives in the light of low satisfaction, which leads to termination after positive assessment of a (likely) job offer.

In paths 4a and 4b there is no initial shock. In path 4a, over time, lower levels of job satisfaction cause an employee to quit without considering alternatives.

Path 4b outlines the traditional account of turnover, where low job satisfaction leads to quitting after search and consideration of alternatives.

**Support For And Development Of The Model To Date**

The 1999 version of Lee and Mitchell’s model is a result of revision and expansion of the earlier (Lee and Mitchell 1991, 1994; Lee et al 1996) model. In the 1996 study, it was tested on a sample of 44 nurse leavers, using qualitative techniques. In terms of existing accounts of turnover, the significance of the empirical findings, is that they found that 45% of the sample quit without an alternative job offer in hand. This is problematic for a traditional account, which describes the causal path: dissatisfaction > search > generates alternative(s) > weighing up alternative(s) > turnover. They also found support for the role of a hitherto untested concept, namely shock, as 58% of leavers reported the existence of such an event. Additionally, their data undermined traditional accounts further as it showed
in some instances of leaving, there was no antecedent affective factor (such as low commitment or job dissatisfaction).

Following this initial support for their theory, Lee et al (1999) tested the unfolding model on a sample of 229 leavers of accountancy firms, this time using a structured questionnaire. Again the results revealed support for the underlying hypothesis that people leave organizations in different ways. Modifications to the 1994 model resulted in an impressive ability to classify 212 of 229 leavers, or 92.6%. Four of the remaining seventeen were a result of missing data (1999: 457), and the others were not able to be classified because they did not report image violation. Lee et al did not consider these cases to be falsifying.

The main changes from the 1994 model prompted in the 1999 study related to the following (Lee et al 1999: 452-3):

1. **Scripts.** In the 1994 model these were only explicitly present in path 1, and by implication absent in the other paths. This has been refined thus, "...a script may exist in [other] paths... that script must not be engaged or carried out in those paths."

2. **Alternatives.** The definition of an alternative was expanded to include other non-work options (e.g. early retirement). It was also refined so that instead of subjects needing a replacement job offer in hand (i.e. 100% certainty of an alternate job), they need only perceive getting an alternative as 'highly likely'.

3. **Job offers as shocks.** An unsolicited job offer can count as the shock in a path 1 quit. Previously it would only have been possible to count it as the shock in a path 3 quit.

4. **Search and evaluation.** Rather than employees having to search for and evaluate alternatives to be classified into paths 3 and 4b, they can be counted as path 3 or 4b leavers if they can be identified as having done at least one of these.
Critique: Scripts

*Two Established Senses Of Script*

Broadly speaking, there are two senses of the term ‘script’ in psychology. Initially used in clinical psychology (transactional analysis, Berne 1961), in this field there is an explicit link to the aesthetic or everyday sense of a script as being something that is acted out (Steiner 1974). The ‘script’ in transactional analysis represents, “…the blueprint for a life course (ibid: 51)…” and is a plan that is, “… formed in early childhood under parental pressure (Berne 1975: 32).” The term ‘script’ is apt, given the emphasis within transactional analysis on the similarities between Greek tragedy and the more prosaic tragedies of modern life courses (Steiner 1974: 52). The classical elements of predictability and blind submission to fate are recognized by the therapist versed in the notion of scripts and scripted behaviour. The salient difference is that whereas the Greek heroes are subject to the will of the gods; “…human beings are deeply affected by and submissive to the will of the specific divinities of their household – their parents…” (ibid: 54). Schank and Abelson, who are perhaps most famously associated with the term script within mainstream (cognitive or social) psychology summarise this notion of script as unconscious and personal (1977: 63).

The historical evolution of the term ‘script’ in mainstream psychology can be traced back to Bartlett’s (1932) use of the term schema and its role in memory (in Neisser 1967: 287). Indeed many writers equate the two terms, or see scripts as being a particular form of schema, namely *event schema* (Arnold, Cooper and Robertson 1995: 417; Fiske and Taylor 1984: 167; Hayes 1998: 367; Smyth, Morris, Levy and Ellis 1987: 188). In this sense, the schema is seen as a basic building block of more complex psychological structures. Piaget (1952) similarly used the term schema to refer to abstract characteristics of thinking and problem solving (in Mandler 1984: 3).

Schank and Abelson (1977: 41) define a script as:

...a structure that describes appropriate sequences of events in a particular context... Scripts handle stylized everyday situations... Thus a script is a predetermined, stereotyped sequence of actions that defines a well known situation.
Hudson writes:

Scripts are mental structures which organise information about the sequence of predictable actions, locations, roles and props that constitute events (in Bennett 1993: 142).

Gioia and Poole (1984: 449) define a script as:

...a schematic knowledge structure held in memory that specifies behavior or event sequences that are appropriate for specific situations.

Other, similar definitions can be found in: Abelson (1981: 717); Fiske and Taylor (1984: 169); Graesser, Woll, Kowalski and Smith (1980: 504); Lord and Kernan (1987: 266); Louis (1980: 240); Hayes (1998: 367); Mandler (1984: 14). The key elements of all these definitions can be synthesised thus, scripts are: (1) context specific, (2) event based (3) structures for organizing knowledge about (4) well-known situations. The sense of ‘well-known situations’ is impersonal, or social, so scripts deal with (5) cultural knowledge.

In work on the unfolding model, the concept of script is defined as:

...a routinized behavioral response that is similar to a ‘habit’ … or ‘standard operating procedure’… (Lee and Mitchell 1991: 106)

...a relevant past experience… (Lee et al 1996: 6)

...a pre-existing plan of action… (Lee et al 1999: 451)

Scripts are allied with 'habits' and 'schemas' (Lee and Mitchell 1994: 71), and these are in turn defined as, ‘psychological mechanisms that result in routinized behaviors’ (ibid).

Scripted behaviour refers to:

...preplanned courses of actions…where no extensive cognitive deliberations that evaluate the current or alternative jobs take place… (Lee and Mitchell 1991: 77-85 passim)
The most formal definition offered is that 'matching scripts' (i.e. enacted or initiated scripts) or 'pre-existing plans' are:

devoted specifically to the retention of context-specific knowledge about events and event-sequences and to the guidance of action on the basis of that knowledge (Gioia 1986: 57 in Lee et al 1996: 7)

In the 1996 paper it is theorised that scripts may be present without directly affecting quitting, instead acting in a 'catalytic role' i.e. assisting deliberation in pathways 3 and 4. The role of scripts is again refined in the 1999 paper where it is suggested that scripts may be present in other pathways, but they must not be carried out, except in pathway 1 (where a shock leads to the enactment of a pre-existing plan of action, namely to quit without search or consideration of alternatives).

A synthesis of this construction reveals a somewhat different version to the concept of script as outlined above. The essential differences appear to be that a script is a (1) life-based (i.e. relating to personal dimensions rather than a common or shared scenario) (2) pre-existing plan based on (3) personal experience (though this could come via learning from others' experiences) which prompts (4) an habitual or automatic decision to quit. It can also be inferred that given the context of an individual making the (rare) decision to quit, this sense of scripted behaviour applies to a (5) novel situation. Any or each of these differences may be significant and thus would need to be explicitly addressed before the construct of script can be addressed in operationalisation of the unfolding model. The importance of establishing construct validity has been well documented by turnover theorists (Mobley et al 1971; Price and Mueller 1986; Hom and Griffeth 1995). Whilst applauding the innovation of Lee and Mitchell, and whilst there may be a need to account for scripted behaviour within any comprehensive theory of decision-making, it is possible that there are problems with the current account of scripts in the unfolding model. These may not be restricted to differences in definition or usage, such as are outlined above, but could also extend to other theoretical issues, as well as causing problems during analysis and interpretation of any test of the unfolding model.

Scripts As Social Schemata
Whilst there is evidence that some decisions relating to individuals' quitting are likely to draw on a store of personal memories or schema (Lee and Mitchell 1996), to refer to this as
script driven ignores the important sense in which scripted knowledge or behaviours are
social schemata. Mitchell and Beach (1990: 7) address this when they distinguish between
different types of schema:

...the term 'schema' has come to be the umbrella term, and more specific terms are
used to identify schemata that serve particular functions. Thus for example, for
social behavior, the schemata are called scripts...

Any imprecision in use of the term script may also prove problematic given the underlying
theoretical basis of the unfolding model, namely Beach's image theory of decision making
(1990). Within image theory, images are explicitly defined as a type of schema:

Images are schemata that are specific to decision behavior and represent the
decision makers guiding principles relevant to some sphere of action. They also
represent the decision maker's goals in that sphere, what he or she is doing to reach
those goals, and his or her view of how well those efforts are succeeding (Beach and

To include scripts as an additional, separate construct describing schematic behaviour may
prove problematic in operationalisation of the unfolding model, as this may threaten
construct differentiation. Images as 'guiding principles relevant to some sphere of action'
may overlap with the script construct, which Lee et al describe as, 'a pre-existing plan of
action' (1999: 451). Developing this point, Mitchell and Beach describe the 'strategic
image' (one of the three decision making schemata within image theory) in these terms:

The collective terms used for the constituents of the strategic image is plans. Plans
are defined as abstract schemata that are composed of specific acts, called tactics
and forecasts, which are the decision maker's judgments about what will happen if
he or she implements a particular plan (1990: 9)

An additional concern is that restricting the sense of script to quit behaviour neglects the
possibility that other related behaviours may be scripted. It may be that a script, in the
sense of a pre-existing plan, could also exist for search behaviour. In this case, an
employee might know (s)he would start looking for a job, if a particular shock happened.
This behaviour would be scripted, but not counted as such within the unfolding model,
which sees scripts and search behaviour as mutually exclusive.
Scripts As Routine

It also seems incongruous to talk of scripts where the situation is a novel one, as rare or problematic situations are more likely to provoke thought and query (Abelson 1976 in Louis 1980; Feldman 1981: 127; Gersick and Hackman 1990: 83; Langer 1978 in Louis 1980; Lanzetta 1978 in Weiss and Ilgen 1985). Louis and Sutton (1991) see novelty as precluding or heavily restricting automaticity. They portray individuals as switching between two states of mind, ‘automatic processing’ and ‘conscious engagement’, the prime reason for individuals switching being entering a novel situation. Gioia and Poole write that;

Novel situations (e.g. appointment to a newly created position) require intensive conscious processing to decide appropriate behavior and action. Such action involves little or no script processing – no script for behavior exists (1984: 453).

‘Appointment to a newly created position’, as an instance of a novel situation, would presumably occur with a frequency similar to other rare organizational events such as shocks. Yet scripted behaviour is necessarily rarer than shock in the unfolding model. Shocks are a necessary precursor to scripted behaviour but they can also be present in paths 2 and 3, which paths exclude script enactment.

It is also important to note that scripts are not typically seen as merely habitual or automatic. Instead, they organise comprehension when activated “... a script is a knowledge structure, not just a response program...(Abelson 1981: 722)” . This raises further issues for any construction of script as ‘pre-existing plan’.

'Rehearsing' Scripts

It is possible to see how individuals can exhibit scripted behaviour in relatively infrequent situations, where those situations have previously been imagined and behaviours in such situations have been mentally 'rehearsed'. Anderson (1983: 293) has shown that:

...imagining oneself performing (or not performing) a target behavior produces corresponding changes in intentions towards that behavior...
Similar support can be gained from other research streams, where prediction or rehearsal can be shown to influence future behaviours (Greenwald, Carnot, Beach and Young 1987).

Sherman (1980: 217) has shown that:

...people mispredict in a socially desirable direction [and] one's predictions for behavior, although wrong from the perspective of an overt behavior group, serve as a determinant of actual behavior once the situation arises.

This in turn implies that:

...prediction of a behavioral sequence involves evoking some cognitive representation of the situation...(ibid: 218)

Merton's notion of the self-fulfilling prophecy (1957: 421-422) also suggests future behaviours may be conditioned by prior schematic representation:

...men respond not only to the objective features of a situation, but also, and at times primarily, to the meaning the situation has for them. And once they have assigned some meaning to the situation, their consequent behavior, and some of the consequences of that behavior are determined by the ascribed meaning.

Lord and Kernan (1987: 265) show that the notion of scripted behaviour should not be limited to well structured or programmable situations, since the “...degree of structure may depend as much on the development of worker's cognitive systems as on characteristics of the situation.”

Finally, research in clinical psychology (Tomkins 1980 in Abelson 1981) suggests that where there is a strong emotional reaction to a situation and this reaction is repeated in similar situations, even though these situations are non-identical, the emotional aspect may become amplified and capable of being connected to other situations via analogy rather than strict repetition. We could see this translate into Lee and Mitchell's path 1, where a shock produces a strong emotional response and because of similarity to a previous, analogous emotional response, what Lee et al (1996: 7) call a 'matching script' is evoked. This interpretation would show Lee and Mitchell as having more in common with the sense of script within transactional psychology, with the analogous situation being an example of
what Berne (1964) calls ‘games’. This is in clear contrast to the sense of script in cognitive psychology, where scripts are understood as everyday, event based, social schemata.

Scripts and Recall

There are also some methodological problems with incorporating the notion of scripted behaviour in research into the unfolding model. Research to date has relied on retrospective self-reports of turnover (Lee et al 1996; Lee et al 1999). We should not overlook the significant empirical contribution to turnover research of these studies (historically this has been dominated by cross-sectional, prospective, survey-type research, conducted on current employees). Neither however, should the methodological limitations of retrospective reporting be ignored. Lee et al (1999: 459) point to three different research streams which offer support for their method: research on the accuracy of episodic memory structures (Wheeler, Stuss and Tulving 1997); research on self-based referencing structures (Symons and Johnson 1997) and research on retrospective reporting in organizational research (Miller, Cardinal and Glick 1997). Nonetheless, there are generic issues related to the validity of both self-reporting and retrospection. Miller et al (1999: 189-90) offer a concise summary:

As Golden (1992), Huber and Power (1985), Wolfe and Jackson (1987), and many others have suggested, inaccurate recall in retrospective reporting can result from inappropriate rationalizations, oversimplifications, faulty post hoc attributions, and simple lapses of memory. A secondary problem is that key informants may try to present a socially desirable image of themselves or their firms.

It is important to note that Miller et al support the use of retrospective reporting as a method, “…if the measure used to generate the reports is adequately reliable and valid (p 189 emphasis in the original).” However, the ‘secondary problem’ of leavers presenting themselves in a socially desirable light may be one that Lee et al have not comprehensively addressed. For example, although voluntariness was assessed using both organizational and leaver data, studies using the unfolding model to date have relied only on leavers’ assessment of avoidability, which is an intrinsically bipartite construction (Abelson 1987; Campion 1991; Maertz and Campion 2001).
A more particular problem with reliance on self-reporting relates to the literature on recall and behavioural scripts. Although unusual events can be recalled more clearly when associated with a script (Hudson 1993; Hudson and Nelson 1984), and be more readily ‘tagged’ (Graesser et al 1980), the nature of a script as a ‘gap-filling phenomenon’ (Abelson 1981) is such that recall may well be less accurate in scripted situations than in non-scripted situations (Graesser et al 1980). Prototypical aspects of the script are likely to be recalled even where they did not happen, given that scripts assist inference (Fiske and Taylor 1984: 141). Additionally, automaticity may result in miscoding of information at source (Gersick et al 1990). Each of these will affect the reliability and validity of retrospective reports.

This review of the literature on scripts suggests there are significant differences between the use of the term script by the architects of the unfolding model and its traditional senses within both mainstream and clinical psychology. This has implications for the operationalising of the unfolding model, and for the assessment of construct validity. There is a need to clarify the relationship between image theory (as a psychological theory of decision making which invokes schemata) and the unfolding model (which represents a particular application of this theory to decisions relating to turnover, and which incorporates another type of schema). Additionally, as well as a priori, theoretical and definitional concerns, there are concerns with the application of this concept. It remains contentious to use the term ‘script’ with reference to decisions to leave, as these decisions are personal and infrequent, although this is perhaps mitigated owing to the possibilities of ‘rehearsal’ and the role of analogy. Restricting scripted behaviour solely to quit behaviour is problematic as other related behaviours (to search) may be legitimately described as scripted. A posteriori, use of the script concept also has particular methodological implications, relating to the prevailing method of retrospective reporting used in tests of the unfolding model.

The simplest solution would be to abandon the use of the term script in favour of another. The concept of plans within image theory clearly describes elements of particular decision processes that are inherently personal. It may be that for clarification of the role of script all that is needed is a change in terminology, and that this construct may be accounted for already within image theory. Alternatively, it may be that another type of schema could be invoked to account for this type of quitting, which for example considers role (Berger 1991: 112-9) or self schema.
Outside both image theory, and mainstream schema theory, an alternative solution might be to apply the concept of 'auras' (Sloan T. S. 1983) to represent this type of quit behaviour. These represent, "...characterologically determined, thematic trends in both the images and the narratives produced by a subject reflecting on personal possible futures... (559)". They operate during major life decisions and account for how, "...decision processes are mediated by personality (ibid.)".

Choice of an alternative construct, or more rigorous definition of the existing construct might still prove insufficient if there are unresolved issues surrounding operationalisation or the psychological status of script in the unfolding model. More will be said on scripts later in this chapter, for now we will move on to discuss shocks.

**Critique: Shocks**

**Shocks And 'Stimulus Events'**

Lee and Mitchell ask in their 1991 article, 'what might shake employees from their lethargy?' As has been mentioned, their answer to this question – an initial shock precipitating change in employment circumstances - is in sympathy with other related ideas within turnover research. It may also offer a way of seeing how organizational change prompts decisions to quit (Morrell, Loan-Clarke and Wilkinson 2002). Lee and Mitchell (1994: 72) explicitly compare and contrast their concept of 'shock' with Rosse and Miller's (1984: 208) notion of a 'stimulus event'. In Rosse and Miller's model of individual action, a stimulus event initiates a cycle of behaviour-adaptation. The stimulus, "...brings relative dissatisfaction into the person's awareness [that] prompts thoughts on what the person can do about the source of dissatisfaction (207)." The behaviour-adaptation model outlines a cyclical process, which continues until 'successful adaptation'.

Successful adaptation results when cycles of interaction between the individual and the environment cease with respect to the stimulus producing relative dissatisfaction (Rosse and Miller 1984: 207).

Lee and Mitchell’s idea of a shock is contrasted with the stimulus event in two ways (1994: 72). Firstly, whereas a stimulus event may range from being just noticeable, to highly significant, a shock is, "...a jarring, and undeniable, or clear and present entity (ibid.)"
Secondly, whereas the stimulus event for Rosse and Miller prompts a subjective utility type comparison, and recognition by the subject that they could be better off (Rosse and Miller 1984: 208), the shock is aligned more closely with image theory, and prompts a process of matching, and image judgments (Lee and Mitchell 1994: 72).

The first of these differences is consistent with existing ideas relating to the importance of inertia, investment and sunk cost in influencing turnover decisions. A shock needs to be 'jarring' to overcome these checks on employee mobility. The second difference (character of decision process) reflects the underlying role of image theory in the unfolding model. It is also worth noting one more major difference between the notion of shocks in the unfolding model and the 'stimulus event' construct used by Rosse and Miller. Whereas Rosse and Miller's model posits a cycle of behaviour adaptation, in its current formulation, the unfolding model does not allow the possibility of feedback. Rosse and Miller claim as a distinct theoretical benefit the allowance for such recursiveness, "...this framework explicitly includes consideration of a feedback loop between adaptive behaviors and the environment (207)."

Including a recursive element can be seen as a benefit for any model that purports to code complex behaviours. This is because it potentially allows the modelling of iterative processes, reciprocal causality and feedback. If some decisions to turnover are best described by reciprocal causal relationships between the constructs employed in the unfolding model, then reflecting this would require significant changes in the structure of the model. It is worth keeping in mind that incorporating recursiveness could jeopardize two current theoretical benefits, namely parsimony and comprehensibility, as well as making operationalisation far more problematic.

To date little empirical work has been done that considers the role of an initial precipitating event in turnover, though contemporary research has incorporated Lee et al's notion of shock into (as yet untested) models of turnover (Allen and Griffeth 1999; Griffeth et al 1999), or as an explanatory / heuristic device (Hom and Kinicki 2001). It might be thought that existing research that asks leavers to provide the reasons they have left could offer support for this construct, over and above the support found from the existing studies using the unfolding model. However, research into reasons for leaving often fails to record a wide enough range of possible causes in sufficient detail (Campion 1991). This could well
prohibit the identification of any such precipitators, although one area in which there can be retrospective support for the unfolding model may be the identification of 'shocks' by another name. One example can be found in Armstrong-Sassen's (1997: 835), study of organizations that were downsizing. Managers who had been designated as 'surplus' (i.e. destined to be downsized) showed reduced perceived organizational support, which Rhoades et al (2001) cite as influencing voluntary turnover. To further substantiate the 'shock' construct, there are some additional theoretical considerations worth addressing relating to analysis and operationalisation.

**Shocks And Reasons For Leaving**

The 1999 questionnaire by Lee and Mitchell does not explicitly ask the leaver to list the reason(s) he/she left. Although there is a section related to identifying the existence and nature of shocks, "was there an initial event that first caused you to think about leaving", and a subsequent open ended question asking respondents to describe the shock (if there was one), there are no questions asking respondents to say why they left.

Notwithstanding that the unfolding model is a model of the decision process, it still seems curious that no data on the underlying reasons for leaving is sought, given that this could potentially throw further light on the nature of any shocks, for example in contrasting cases where the shock could be identified as the sole reason or as one of a raft of reasons, or whether it might prove to be 'the last straw'. Additionally, assessment of why people left could help identify the nature of image violations.

A further reason for asking 'why' would be to see if the relative importance of constructs differs between leavers who pursue the same pathway. For example, although a shock may prompt search and evaluation of alternatives prior to leaving, it may be more meaningful to address the end stage of this decision pathway, (search and evaluation) rather than the initial shock. Two contrasting thought experiments can help to illustrate this.

If the elements shock and search are present (path 3), but the reason given for leaving was, 'a dream offer came up, and I couldn't refuse it', then although a shock has prompted search (and thereby turnover), the most influential aspect on the turnover decision is the outcome of the search. It may be that in different circumstances, (unsuccessful search) the
employee would have remained in employment, even though a single event prompted them to first think about leaving.

This represents a very different scenario from a situation where a shock prompts the decision to quit, but the would be leaver's financial circumstances hold him or her ransom until the first viable alternative comes. In this second case, the reason given might be along the lines of, 'as soon as Joe was fired, I knew I was going to quit as soon as I could.'

In both instances, the shock is a necessary condition of turnover. In the first instance, the shock prompts search, but it might not be described as influential, as it is only after a 'hyper-successful' search that the employee leaves. In the second instance, the shock also prompts search and though it is not a sufficient condition of turnover, the employee's 'mind is made up', and arguably in one sense they are lost to their host organization.

Even though both cases would be represented or classified as 'path 3' quits, the implications for organizational action may prove very different in each scenario. In the first instance, there might be little need for an organization or department to change, if it is accepted one cannot avoid an employee leaving in such exceptional circumstances (notwithstanding that improvements might reduce propensity for employees to search). In the second instance, investigating the nature of the shock may be far more important given that this is the 'real' reason for the employee leaving.

The relational aspect of the turnover decision would suggest that the first instance represents a substantively different phenomenon to the second, and this in turn suggests there may be a need to further differentiate between organization leavers, over and above the existing pathways. Including analysis of reasons for leaving may be one way to aid such differentiation.

Shocks And Dichotomous Questions
Most of the questions relating to shocks in the 1999 survey are dichotomous. This limits the scope for analysis. One substantial benefit of retrospective research into turnover is the ability to dispense with a dichotomous dependent variable. As the sample are unanimously
voluntary leavers, this would seem a rare opportunity to conduct turnover research where
the dependent variable(s) is(are) non-dichotomous (Hesketh 1993: 135; Jaros et al 1993).

More seriously, having dichotomous questions could encourage somewhat flattering results.
For example, Lee et al (1999: 456) cite one, ‘theoretically meaningful and statistically
significant’ correlation, where responses to the item, “was the event expected” had a
correlation coefficient of -.91 with the item, “was the event unexpected”. Given that the
possible answers to each item were either yes or no, and that these items directly followed
one another, it is unsurprising such a high correlation was found.

The restriction to dichotomous categories also seems to deny the possibility of a more
comprehensive and complex picture of the role of shocks in turnover. In the 1994 article,
Lee and Mitchell give us a rich picture of shocks:

The affect can be positive, neutral or negative. For instance, some shocks can be
entirely neutral. Others may involve some positive, neutral and negative aspects,
but when combined however, their composite may be neutral. Thus, a shock can
have a mean and variance (61).

Notwithstanding the theoretical richness of the shock construct, the restriction to yes / no
questions in the 1999 survey makes it difficult to see how to examine this empirically – for
example how could a mean and variance be assessed? Future tests could instead adopt
scaled, semantic differentials, so for example the question above could be re-phrased as,
“To what extent would you say that the event was expected” with a scale of (1) totally
expected… (5) totally unexpected.

Shocks And Scripts

One further consideration raises a problem for the current formulation of the unfolding
model. To what extent is it meaningful to talk of a shock actually causing scripted
behaviour, as distinct from a shock precipitating enactment of a pre-existing script? There
is a difference between path 1 as currently hypothesised:

shock > ‘probe’ > ‘matching script’ > quit
And this formulation:

shock > forms script > carry out script > quit

In the second case, no script existed before the shock, yet scripted behaviour occurred because the shock actually formed a script. A hypothetical example might be:

departure of a colleague > "if (s)he can do it, so can I" > quit

Although this hypothetical example is not explicitly ruled out in the current formulation of the unfolding model, it is informative for two reasons. Firstly, it raises the issue of how scripts may be formed, which is at present incompletely addressed. Secondly, it raises the possibility of a formative connection between two of the elements, which transcends the current temporal sequencing.

**Critique: Context Specificity**

Before concluding with an overall assessment of the unfolding model, it is worth reflecting on some issues relating to particularity of context. Although such a model purportedly applies to all types of leavers, like any model of complex organizational phenomena, the extent to which there are contingent effects on key variables is a matter open to question. For example, the 1999 survey (which was of 229 accountants) includes a section (section X) related to the effects of legal liability on the accounting profession, which would obviously not translate to all other fields.

In addition, there are questions relating to 'generating new client business', 'professional values / ethics' and 'professional goals', which could similarly be restricted to particular industries or workers. Using the classification rules as a guideline, it is possible to see that these questions relate to key variables in the following way: Shock (1 of 4 items is context specific) Image violation (2 of 8 items); Job Satisfaction (1 of 13 items).

It seems clear, then that the survey operationalising the model should be tailored for particular contexts. This prompts two questions. Firstly, how much does the need to reflect context specificity detract from the claims of the model to be a comprehensive account of
turnover? The greater the need to reflect or capture a particular context, the less it seems clear that the model represents all leavers in all situations. Even where it is argued that it is only the instrument that changes (i.e. survey questions), there may still be problems in cross validating the concepts within the model, or conducting meta-analysis. The second question is, can there be an algorithm or method for generating these context specific questions? Without a universal, axiomatic method, attempts to incorporate the necessary context specificity will inevitably result in the model applying with different rates of success across different occupations. This in turn would undermine or qualify the universality of the unfolding model.

Part of the answer to the first question is outlined in chapter five, where the role of critical testing is detailed, and a construction of replication as more than repeat testing is offered. In response to the second question, chapter six, which details changes to the 1999 survey describes one such algorithm for translating job specific sources of dissatisfaction, where a recent study (IES 1999) is used to identify frequently reported sources of dissatisfaction.

**Context And Scripts**

One factor which is not explicitly considered within the literature on the unfolding model, is the possibility of a given industrial climate or culture influencing the formation of behavioural scripts. Inclusion of this could provide explanation for how scripts are formed, over and above the current picture presented by Lee and Mitchell, which is that they are principally a result of personal experience. Establishing a linkage between the formation of individual scripts, and the prevailing pattern of turnover within an industry might offer one way in which the unfolding model could be used more in a prospective, predictive mode, rather than the current, predominantly retrospective and classificatory mode. It should be recognised that establishing such a link would most likely necessitate redefinition or refinement of the current notion of script, as this is currently restricted primarily to personal experience in the literature on the unfolding model.

To give an example, if there is a substantial proportion of workers in a firm or industry who are temporary workers, or 'drifters' (Hulin et al 1985), then this might influence quit and / or search behaviour in the manner of a 'script'. Alternatively, research which suggests some turnover decisions are clustered in time and networks of social interaction
(Krackhardt and Porter 1986) points to ways in which scripts may be formed in even more specific contexts, such as work teams, or groups of workers in similar roles. Even more generally, there may be prevailing labour market characteristics within an industry sector that influence patterns of turnover. In the health sector, for example, nurses may consider finding alternative employment to be straightforward and decisions to leave could take into account the high probability of finding another job soon (Lee et al 1999: 453). Nurses may also experience and report common sources of image violation that can be understood in terms of professionalism (Bartol 1979), role stress (Kemery et al 1985) or emotional labour (Korczynski 2002: 139) / emotional overload (Wright and Cropanzo 1998).

It is worth noting that any search for linkages between social settings and the psychological process of a personal decision, is in danger of running aground on the ecological fallacy (as defined in chapter 2: 10). Nonetheless, seeing scripts predominantly as social schemata might militate against this, because this provides a means of understanding the interplay between social and cultural milieu and the actions of individuals in those settings (Mallon and Cohen 2000: 14); in other words, informing understanding of the interaction between structure and agency.

**Context And Shocks**

It also seems clear that particular shocks could be specific to industry or organizational sectors. Though the questions on shock are fairly broad ranging, or open ended, it may be necessary when using the model in a different context to include questions that refer to industry-specific likely precipitators of turnover. This could be informed by the literature on turnover that relates to that particular industry sector, for example, where it indicates common, yet context specific reasons for leaving. An example of this is Lee et al’s (1999) identification of the theme of legal liability in the accounting sector.

**Overall Theoretical Assessment**

In assessing the value of the unfolding model, it is appropriate to address the five criteria for successful theory identified by Lee et al (1999: 451). These are as follows: a theory's statements can be judged for internal consistency and parsimony; a theory should be falsifiable; a theory should result in enhanced scholarly understanding; a theory should help
in control and management of behaviour; a theory should help in predicting when and where theorized behaviours might occur. The prior discussion is relevant in considering the first three of these five criteria, but in addition, and to conclude, this chapter will address the contribution of the unfolding model in two of the other identified areas: a theory should be falsifiable, and a theory should help in predicting when and where theorized behaviours might occur. This will also cover discussion of the related topics of recursiveness and the absence of competing frameworks.

A Theory Should Be Falsifiable

As is argued in chapter five, falsification can be considered an inappropriate criterion for the assessment of organizational theory because social science is rarely carried out in conditions of closure (Tsang and Kwan 1999). In this section, falsifiability will be taken to mean the scope there is for null pathways to be represented in a test. As it stands, the unfolding model can be formally described as a (1) process model, which shows a (2) temporally ordered, (3) causal map of (4) mutually exclusive (5) potential end states. The process modelled is the decision to quit, temporal order and causality is implied and represented by the unidirectional arrows. Five mutually exclusive end states reflect the different types of leaving decision represented by each decision pathway.

In mapping the results of a survey onto this model, a classification rule ultimately decides whether to count the constructs tested in the survey, (shock, script, image violation, search, evaluation, job offers), as present or absent. This raises a question relating to the extent to which it is legitimate to impose a dichotomy on potentially non-dichotomous variables. The formal similarity between this type of dichotomisation and the mutual exclusivity of the branches in the path model may leave the unfolding model open to criticism on the grounds that the instrument and application rules in some way 'force' the data.

On a related point, the 1999 survey simplifies the nature of precipitating shocks. It is possible to imagine a scenario where, for example, two or more shocks combine to influence a decision to leave (spouse falling ill + unexpected job offer). Although this case would not necessarily falsify any of the pathways, a person responding to the questionnaire would not be able to represent such a situation, or to put it another way, application of the
survey instrument could result in potentially contradictory or falsifying data not being accurately represented.

In other words, it may be that the absence of falsification does not necessarily reflect an empirical reality, but is instead a function of the way in which a theory or instrument represents that reality. The inclusion of discrete, mutually exclusive elements in a survey whose end product is a map of discrete, mutually exclusive elements may undermine the case for that theory's being falsifiable. This may be compounded by the classification rules, which can only result in mutually exclusive states, for example 'shock' or 'no shock', 'script' or 'no script', 'search' or 'no search' etc. This point can be illustrated with reference to Judd, McClelland and Calhan (1995: 434-5):

The model or the argument is not the same thing as the data. Rather it is a construction that the researcher derives from theoretical considerations and imposes on the data, recognizing that the goal of efficient communications requires that the model be a simplification of the data.

This can be expressed in the formula DATA = MODEL + ERROR (ibid), or perhaps even more appositely in Tukey's (1991) formula DATA = FIT + RESIDUAL (ibid). The implication of taking into consideration residual elements in the data set with respect to operationalisation of the unfolding model may be that potentially falsifying cases go unrecognised, wherever there is a suggestion of 'forcing' data into one of the paths, or wherever it appears impossible to represent alternate scenarios. This point is perhaps significant in the historical context of research into turnover, which has revealed that seemingly straightforward dichotomies, between for example, voluntary and involuntary turnover, or avoidable and unavoidable turnover in reality mask complex relational constructs (Abelson 1987; Campion 1991; Hom and Griffeth 1995; Mobley 1982; Price 1977; Price and Mueller 1986; Samuel 1969).

This point can be further illustrated by looking at two other potential limitations within the unfolding model, namely its non-recursive nature (causation is one way), and the absence of competing models.
Recursiveness

There is no scope to represent reciprocal causation in this model. Yet conceptual similarities between the script construct as schema, and the images constructs as schemata suggest one potential way in which there might be a feedback loop. For example, as well as the global decision to quit involving decision-making schemata, there may be further schematic or scripted themes at different stages of this decision. Firstly, the job search may reveal an option that triggers enactment of something akin to what Lee et al (1996: 7) call a 'matching script'. This would then represent an example where search had been conducted and a script was carried out. Indeed one could make the case that scripted behaviour might in fact be more likely when alternatives have been sought, because a job offer in this instance might be less of a novel, or unexpected situation. Instead search may prompt the very kind of deliberation and mental rehearsal that is likely to encourage near automatic or scripted behavioural response. Secondly, schematic or scripted themes might come into play where the evaluation of an offer involves consideration of 'fit' with one's images. Thirdly, it is possible to see how the advent of a shock during otherwise gradual withdrawal may prompt quitting without deliberation, as Lee and Mitchell indicate (1996: 30).

The first two of these thought experiments may represent reciprocal causation, while the third may represent what Lee et al (1996: 30) prior to the 1999 model identified as 'path switching'. It is important to draw the distinction between this notion of reciprocal causation and 'path switching'. In reciprocal causation, more potential causal interactions and alternative pathways are possible, because of the possibility of causal 'loops'. The possibility of path switching is less of a threat to the model's assumption of non-recursiveness, because causation is still one way. It is anticipated that including a greater number of open items (chapter six) will allow for exploration of scripts.

Absence Of Competing Frameworks

To date, the only research using the unfolding model has been led by one or both of the principal authors. In the course of empirical work using this model two versions have been developed, the second version being a close refinement of the first. Alternative competing frameworks could explore the possibility of there being scripted behaviour in other pathways, or refine the notion of shocks so that correlations between types of shock and pathway could be tested. They might seek to see if parsimony could be improved, by for
example integrating the concept of scripts (as one form of schema) with images (as another type of schema). They might test for evidence of reciprocal causation or path-switching. Support for developing alternative frameworks can be found within the literature on employee turnover (Hom et al 1992; Jaros et al 1993) and also in James and James’ (1989: 398). At this stage of the model’s development, there is a need for the existing formulation to be tested, and so exploring alternative frameworks may be presumptuous.

A Theory Should Help In Predicting When And Where Theorized Behaviours Might Occur

There are two principal limitations with using Lee and Mitchell’s model in a predictive sense. Firstly, research to date has relied on retrospective reports for operationalisation of the model, and there is no evidence to date of predictive power, although a series of preventative turnover interventions have been developed in a particular industry (Lee and Maurer 1997). Secondly, the model is principally classificatory, and the conditions for applying the model are restricted to leavers.

Additional considerations relating to predictability are as follows. Elements of the model may apply in cases where people leave, or where people remain in the organization. For example, an unsuccessful search could actually reinforce an individual’s commitment to their organization. In cases of negative shock (such as a merger), managers or researchers may readily identify it as such, but may not be able to forecast how it will affect any given individual, or even a base rate measure of turnover. The model does not provide any indications of how to assess interim or precursory behaviours that might indicate an employee were about to leave. The closest to a contribution in this area is perhaps the identification of path 1 quitting, where a shock leads to a near automatic quit. Although this aspect of the unfolding model may be the easiest to identify as a distinct theoretical contribution to turnover research, this advance seems unlikely to warrant an improvement in predictive power, given that this type of quitting behaviour happens over a short time period.

The claims of predictive power relating to use of the unfolding model would seem to relate principally to the benefits of increased understanding of the phenomenon of turnover, although Lee et al suggest there are, “…multiple and independent ways in which a researcher can assess which path a person takes, and when that path will be initiated and
completed..." (1999: 460, emphasis in original). Whilst increasing understanding of
turnover is a worthy goal, it may be premature to hope for predictive validity in application
of the model. Nonetheless, synthesis with some form of content model may provide an
element of predictability, where for example a range of shocks can be identified and
characterised, and possibly, where these can be correlated with reasons for staying or
quitting. It might also be worthwhile assessing the relative frequency of shock instigated
turnover decisions across various industries.

Also, as Lee et al (1999) point out, greater understanding of the relative speed of these
decision pathways may improve managerial effectiveness. For example, there may be
recognition that a particular type of turnover will allow managers more time to deal with it
(if it can be identified). Identification of the threat of external shocks could enable
organizations to improve internal labour market opportunities, or encourage them to make
HR systems more responsive to employee concerns.

If we accept that part of the goal of turnover research should be to predict turnover
behaviour, it seems strange not to take up the possibility of finding out the reason(s) for
people's decision to quit. A commonsense, managerial approach to turnover might well
start with the premise, "I want to find out why people are leaving so I can stop it." Though
this may appear naive, and the search for reasons is only part of the 'answer' to predicting
turnover, inclusion of a series of questions relating to why people left could make it easier
to ally application of the model with prediction of turnover behaviour.

Conclusion
This chapter has described and critiqued the unfolding model of turnover as formulated by
Lee et al (1999), in four main sections: scripts, shocks, context specificity and the model as
a whole. Some recommendations for change have been offered, with the principal aim
being to structure questions prompted by preparation for a repeated empirical test of the
model. Before moving on to discuss the context for this study, and to conclude this chapter
it is worthwhile balancing these criticisms of the model with a summary of its strengths,
which the earlier critique of four influential psychological models throws into relief. In
doing this we can reflect on the advice of Gracián (1647 / 1994: 78), a seventeenth century
scholar who cautions:
Some people’s temperaments are so unfortunate that among a thousand perfections they will find a single defect and censure it and blow it out of proportion. They are the garbage collectors of the will and the intellect, burdened down with blemishes and defects: punishment for their poor discernment rather than proof of their subtlety. They are unhappy for they batten on bitterness and graze on imperfections.

As Price (1999: 392) rightly says:

It is easy to reject, it is more difficult, and productive, to reconcile.

Although the in depth critique is a necessary starting point for an adequate empirical test of the unfolding model, a brief reminder of the model’s contribution (which gives us a slightly different focus) makes an appropriate end to this chapter of the thesis. It is also worth reflecting on why a test of the model is warranted. In doing this, it is important to bear in mind two things: (i) no conceptual framework (or model) will be able to represent everything we know about turnover (as the review of the literature in chapter two indicates); (ii) any model of social phenomena is necessarily a simplification of reality.

1. Lee et al’s work moves us beyond traditional, rational theories of decision making, which is important in the context of research in organizational studies generally (Langley et al 1995), but more particularly in turnover research, which has been hindered by the legacy of March and Simon (Morrell et al 2001: 232-3).

2. Their work represents a break from the traditional way of studying turnover. This is warranted given the poor predictive and explanatory power of many existing models (Hom and Griffeth 1995), and the incremental or insubstantial contribution to theory development within the field, where debate often concerns methodological improvements (Bozeman and Perrewé 2001; Dalton et al 1999; Vandenberq and Nelson 1999), a problem that was highlighted over a decade ago (O’Reilly 1991).

3. Lee et al focus more explicitly on the decisional aspect to turnover, and on the leaver. Both of these translate into methodological improvements, as the variable of interest is employee turnover, not a proxy variable, and the population of leavers is assessed directly rather than by inference (such as in a two wave cross-sectional study).
However:

4. The empirical success of the latest study has not been corroborated, and both tests of the model to date have been led by Lee and Mitchell.

More will be said on the role of replication in chapter five, in the next chapter, the context for this study is discussed.
Chapter Four: The National Health Service

Introduction: Justification For Choice Of Context

The case of nursing turnover in the NHS presents a formidable test bed for the development of any theory of labour turnover. *A fortiori*, it is an appropriate empirical setting for this test of the unfolding model. This can be demonstrated by briefly sketching three features of nursing turnover in the NHS. These in turn problematise basic assumptions in popular accounts of turnover, restricting the ability of such accounts to help in the selective development of effective human resource strategies. The first point relates to the labour market, the second point relates to the complexity of the NHS, the third relates to the complexity of the occupational group.

1. The shortage of nurses across virtually all NHS Trusts means there are widespread alternative opportunities. As Hulin et al show (1985: 242-3), alternative opportunities can influence job satisfaction directly, and so can indirectly influence turnover. Alternative opportunities can also influence turnover directly (ibid: 244). This makes it harder for economic or psychological accounts to model, explain or predict leaving decisions than in other contexts where there are fewer opportunities. Economic accounts would suffer in defining labour market scope, which would be defined differently for different leavers, whose only restriction may be how much they are willing to travel. Psychological accounts that rely on detecting relationships between affect (typically satisfaction) and turnover could be harder to substantiate as the labour market attenuates, mediates or moderates these effects.

2. The NHS is a vastly complicated organization. Although it has a discrete identity as a national institution, many of its employees will have been employed at more than one Trust. Even though the NHS comprises over 200 Trusts, which function as separate organizations, many nurses are just as likely (more likely) to think of themselves as belonging to the NHS, or working in nursing rather than to a particular Trust (Francis, Peelo and Soothill 1992: 64-6). Nurses may also feel committed to different constituencies, such as their profession, their work, their colleagues or their patients. Both the organizational complexity of the NHS, and the possibility of nurses having
multiple constituencies of commitment pose problems for many of the theories belonging to the ‘psychological school’. Previous research (Jaros 1997) has problematised Meyer and Allen’s (1991) highly influential three-component (affective, continuance, normative) model of commitment, and even supposing we are able to build such a model for [NHS nurse] commitment, it still remains problematic to make sense of organizational commitment in this setting. If we simply construe the organization as the NHS, then we would lose sight of the vast, costly problem of intra-NHS nursing turnover, because these ‘leavers’ would count as remaining within their organization.

3. The nature of public sector work is such that it is less well paid than comparable private sector work, and there is a tradition of nursing being seen as vocational, or even charitable (Leeson and Gray 1978 in Francis, Peelo and Soothill 1992: 57). However nurses are not a homogeneous group (ibid), and wide-ranging empirical studies have consistently shown concerns with pay are paramount among nurses (IES 1997, 1998, 1999). Taking each of these factors into account means that representing the leaving decisions of nurses requires a complex and multi-faceted account of the turnover process.

It can be argued that the unfolding model is better suited to address each of these problems than other models of turnover.

Initially it should be noted that being able to account for different leavers in different ways is an important first step. The model applies to all leavers, attempting to explains their decision processes, rather than modelling the content of their decision. This partly resolves point one, because fundamentally we are not asking why people leave, but how. It should be said that this is only a partial resolution, as three of the model’s five pathways do involve leavers reporting dissatisfaction. In terms of point 2 above, the current formulation of the model does not rely on any construction of commitment. For point 3, the theory of decision making underpinning the model (image theory) incorporates elements of rational choice, but is also able to articulate ideas describing the relationship between social settings and individual’s actions. The role of context is incorporated via the notion of a decision ‘frame’ (Beach 1990: 50-1) and by the use of scripts / schema, shock and image fit / violation.
Finally, it should be noted that the choice of context was not guided by purely theoretical considerations. There is a pressing problem in the UK with nursing shortages, and these are exacerbated by high turnover. Whether this is construed as an ‘HRM’, ‘management’, or ‘social’ problem, research which contributes to greater understanding of nursing turnover can be considered theoretically worthwhile, insofar as it relates to a real-word, organizational problem.

Context

Johns (2001: 31) writing ‘in praise of context’, argues that, ‘properly conveying context contributes to the manuscript telling a story’. More specifically, and with particular relevance to this study, Rousseau and Fried (2001: 1) argue that researchers in organizational studies need to take context into account in part because of the problem of, ‘transporting social science models from one society to another’, but also because the present day industrial world is so complex. In terms of this study, explicit reference to context is important to try to take into account the special character of the NHS, which is a uniquely complex, massive entity, with an almost mythical historical beginning (below). In terms of the architecture of the unfolding model, we can employ a greater understanding of the historical organizational context, and the occupational or professional context to inform understanding of the role that particular social scripts may play - in other words, to try to reach an understanding of a generic decision frame.

The NHS: Compromise and Complexity

Timmins’ ‘biography of the welfare state’ (1995) recounts how the 1942 Beveridge report pointed to five ‘giants’ on the road to destruction: Want, Disease, Ignorance, Squalor and Idleness. In some ways the NHS can be seen as a reification of the antonym to ‘Disease’, and hence as a ‘giant-slayer’. Provision for a National Health Service formed the cornerstone of Beveridge’s paper of 1941 which was the basis for the later seminal report (ibid: 20). Klein (1983: 1) referred to the NHS at the time of its inception as, “…a unique example of the collectivist provision of health care in a market society.” Although this description captures the key ideological attraction of the NHS, what it does not address is the extent to which existing provision of health care was controlled by the medical profession particularly in the form of the British Medical Association (BMA), but also the
three main Royal colleges of surgeons, physicians and obstetricians. These bodies did function within ‘a market society’ but free from many of the balances and checks associated with the ideal competition of Adam Smith’s (1961) ‘invisible hand’. Indeed the power of the BMA forced concessions to doctors from Aneurin Bevan that he himself categorised as bribes in his famous remark, ‘I stuffed their mouths with gold.’

Dopson (1997: 5) points to the beginning of the NHS as characterized by ‘bargaining and negotiation’. The then Labour government made compromises with the medical profession which relinquished the idea of local government control, maintained the independent status of General Practitioners, accepted the principle of private care within NHS hospitals and allowed consultants to be eligible for distinction awards which meant large increases in salary. That such widespread reform resulted in ‘bargaining and negotiation’ is something that can be explained from a sociological perspective as arising from the medical profession’s perceiving a threat to their functional integrity and collective power base. It can also be seen from a more explicitly structural perspective as being an unavoidable consequence of the fragmented nature of the pre NHS health care system.

Support for this latter view can be found in Baggott (1994: 74). Citing Webster (1988) and Abel-Smith (1964) he writes:

Before the creation of the NHS, Britain’s health care system was a rather disorganised and complex mixture of private and public services... The private sector consisted of voluntary hospitals, private practitioners, and other voluntary and commercial organizations. The public sector comprised municipal hospitals and community health services run by local government.

Joseph (1994: 97) suggests that at the time of the establishment of the NHS, transactions with the wider social context were more straightforward than at present. Since then, he argues, there is now less conviction about the aims of the NHS, “...Britain seems to have lost much of the reforming zeal of wartime.” In tandem with a change in the Zeitgeist there is clear and tangible evidence of the impact of wide-ranging changes, such as the establishment of NHS Trusts, and the internal market. Increasing autonomy for NHS Trusts within this market model together with a variety of associated changes has undermined the teleological justification of the NHS as an instrument of social justice and ‘giant-slayer’.
Periodic changes within the service have meant that the complexity of power relationships has increased dramatically, and the politicisation of various aspects of the NHS (such as the introduction of local authority members to health authorities, Timmins 1995: 297) has led to a change in the government - health-service dynamic. There have also been changes with respect to the nature of employee representation with the creation of Unison, the largest Trade Union in Britain, which was formed after a tripartite merger. Terry (1996: 109) describes Unison as having a broader agenda than the unions it replaced. It is 'not just an agent for collective bargaining', "...but rather [an agent] of a wider range of coalition interests, some of them not even relating to employment issues." With this increased complexity of structure has come greater scope for democratic representation, insofar as Unison is able to represent a wide range of members' interests, but this may be at the cost of greater uncertainty in terms of union governance.

The Griffiths Report

Although the NHS has changed throughout its fifty-year history, the changes of most recent note have occurred with the advent of legislation that created the internal market via the NHS and Community care act of 1990. The logic driving this legislation was that the management of the NHS could be improved by imitating private sector management. The ground for the 1990 act was prepared by the Griffiths report of 1983 in which four leading businessmen were asked to appraise and comment on the quality and effectiveness of existing management practice in the NHS. The recommendations they made resulted in changes in the organization and structure of the NHS and the creation of the post of district general manager. The report pointed to five main areas of weakness in the NHS (Hunter, Harrison, Marnoch and Pollitt 1988: 1 in Dopson: 60):

1. Absence of a centre of strategic direction (Griffiths: 12)
2. Lack of responsibility at the level of individual managers (ibid)
3. Failure to manage by objectives (ibid)
4. Neglect of performance (ibid: 10)
5. Neglect of the customer (ibid: 10)

As Dopson (1997: 71-3) has shown, however, this report made a number of assumptions, among them:
Private industry is managed more effectively than the public sector. As Dopson points out, this is contentious. At the time of the report, NHS efficiency compared favourably with other nations’ health care systems, whereas British private sector industry was performing comparatively poorly.

The democratic nature of decision-making in the NHS leads to poor management. Accepting this ignores the importance of the defining ethic and values of the NHS, where consultation is important given the need to represent and include different groups’ opinions.

It is possible to transfer management techniques from the private sector to the public sector. This again ignores a special feature of the NHS, namely the role of professionalism amongst doctors and other health workers, the power of these groups, and the extent to which personal and professional ethics dictate that patient needs are paramount.

These last two assumptions ignore the special character of the NHS, and what has surprised and outraged many commentators was the way in which this report was presented, and recommendations from it were adopted, without ever being debated in the public arena. An example of the kind of disparaging comments heaped on this report can be found in Ackroyd (1992: 328). He writes:

...as nurses know well, and their actual practice clearly shows, nursing is not a tin of beans, and the retailing of beans¹ and the provision of health care are by no means the same thing.

The lack of any input (Davidman 1984: 3) from representatives of the health service into the Griffiths report can in part explain the hostility and distrust with which the final report was received. It is possible that with such representation two key weaknesses of the report could have been avoided. What Griffiths fails to take account of is: firstly, the special nature of the health care sector; and secondly, the special nature of health care workers.

¹ Roy Griffiths, the leader of the enquiry was managing director of Sainsbury’s
The NHS And Community Care Act of 1990

The introduction of the NHS and Community care act, and the establishment of the internal market can be seen as another example of the Conservative government attempting to reform and improve the efficiency of the NHS with recourse to the logic of private sector management (Bach 1998: 566). The Conservative government explicitly invoked the model of the multi-divisional company with a central locus of monitoring and control to change the structure of the NHS. The Trusts can be seen in this model as operating like ‘business units’.

The legitimacy of this explicitly private sector model can be challenged, on the same grounds the Griffith report was, that is with reference to the particular character of the health care sector. It is incontestable (insofar as statements about value can ever be incontestable) that it is less meaningful to talk of ‘products’ when referring to health care than when referring to extracted, manufactured or sold goods or services.

The Griffiths report can be critiqued in a fundamental way by reflecting on the structure of the NHS. This critique addresses the multi-divisional model, as well as looking at performance measures. Both dimensions have implications for how we think about the turnover of NHS nurses. Additionally, this analysis helps to show the way such change has been received within the NHS. This should serve as a salutary warning for the introduction and management of future interventions. With reference to this particular study, this analysis informs the recommendations for change (chapter eleven) arising from the empirical work on the unfolding model.

Structure

The appropriateness of re-organization based on an ideal model of a multi-divisional private sector company can be called into question given the distinctive organizational character of the NHS, and the nature of health sector work. In many ways, this criticism goes to the heart of the Griffiths report and the NHS and Community Health Care act of 1990.

Friedman (1962: 158) as an advocate for the free market in health care has suggested that “…licensure should be eliminated as a requirement for the practice of medicine…” in other words that professionalism be abolished. Though Friedman gives a naked, unadulterated free market account, it is perhaps still more realistic than the model underlying the Griffiths
report, because it explicitly acknowledges the dominance of the medical profession (Friedson 1988), which is a form of monopoly (Hill and Bramley 1986).

The strength of the medical profession has also been seen as an ongoing source of pressure on nurses (Abbott and Wallace 1990; Joseph 1994; Katz 1969; Traynor 1999), who can be seen as members of a minor profession (Glazer 1974), or ‘semi-professionals’ (Etzioni 1969). The drive to professionalisation for nurses (Broadbent 1998) can thus be seen as a struggle for power.

Any reductionist, free market account of the NHS cannot fully articulate the existing power and dominance of the professions (Illich 1977; Johnson 1972), partly because the basis for this power is expert knowledge (Baldwin 1995; Goode 1969; Mashaw 1983; Ruzeck 1986; Schein 1973; Schön 1983, 1988; Wilensky 1964), but also because this power is a by-product of these workers having to exercise discretion in the face of complexity (Aiken and Sloane 1997; Feinstein 1967; Fox 1957; Hudson 1989; Katz 1984; Lipsky 1980; Thompson 1967; Walker and Waddington 1991).

This in turn places these workers in a position of power, enabling them to shape and perpetuate ideology (Nettleton 1995), and to reinforce social inequality (Foster 1989; Hagan 1986). Thus they have a role to play not just in the health service, but in wider society (Althusser 1969; Dunleavy and O’Leary 1987; Durkheim 1957; Halmos 1970; Offe 1984; Parsons 1954; Poulantzas 1978).

A pure free market model lacks the ability to explain such themes, and this has implications for any programme of reorganization that is based on such a model. This is exacerbated if the conceptual model of the organization is insufficiently complex. Construing the NHS as a multi-divisional private sector firm is a poor basis for action because it can overlook the influence of the wider context and existing structures of dominance (Degeling and Colebatch 1984; Habermas 1971). This view of the NHS also overlooks its special character as a ‘professionalised bureaucracy’ (Mintzberg 1990), and thus as the interface for two very different sources for power, which can interact in complex ways to influence the roles of individual workers (Elworthy and Halford 1999; Halford and Leonard 1999).
We can also call into question the ability of a free market model to explain the actual resultant structural change post Griffiths. In two quite different ways, this model of the NHS as having multiple divisions is misleading and invalid: firstly, because it overstates the degree of difference between Trusts, with respect to individuals’ shared values and commonality of purpose; secondly, because it can understate the degree to which there is compatibility of systems across Trusts. Both these have implications for understanding nursing turnover.

Overstating Workforce Heterogeneity

A large, multi-site private sector company can be represented by a formal, structured model (such as an organizational chart) of quasi-independent units, linked via shared systems, structure and strategy with a central headquarters. It is quite possible in practice for each of these sites (and/or divisions) to have a particular subculture, and particular set of values and interests. These need not necessarily be in conflict with the overall organization’s interests, but it is likely that they will not wholly overlap. This does not undermine the validity of an ideal model, and may be a source of strength to the organization in so far as diversity can be beneficial. In the NHS, however, one can argue there is less likelihood of distinctiveness in terms of shared values at a ‘divisional’ level given: (i) the nature of the work and (ii) commonality of professional ethics and shared ideology.

NHS Trust managers may find themselves in competition with other Trusts for centrally allocated resources or labour. This may influence operational effectiveness in the same way that pursuit of particular interests at a unit level might affect the success of a multi-divisional company. This could be taken as evidence for (albeit dysfunctional) autonomy resulting from a plurality of interests. The crucial difference in the NHS though, is the strength of professional identity in the workforce. This operates within a framework that to a great extent remains constant irrespective of worldly pressures. So, a pure ‘business’ model is inadequate because it does not take into account medical professionals’ ethos and

---

2 This was mentioned as being part of the rationale for mergers at two of the Trusts in this study, namely University Hospitals of Leicester (previously Leicester General NHS Trust, Leicester Royal Infirmary NHS Trust and Glenfield NHS Trust), and Leicestershire and Rutland (previously Leicestershire Mental Health Service NHS Trust and Fosse Health NHS Trust).
shared values. Trusts may come into conflict at the behest of management, and as a result of the workings of an artificial market, but the cultural glue within the NHS is a function of the distinctive character of the work, and the professional training and ethics of the workers.

Understating Compatibility

On the other hand, a limitation of the business unit model is that it actually understates the extent to which Trusts function independently. Within a business unit of a multi-divisional company there are shared business metrics and normally shared information systems. Yet in the NHS the absence of agreed, service-wide measures is highly problematic given the need to offer quality of service across the board. As the stated purpose of the NHS is to provide free healthcare at the point of need, there would seem to be a strong case for making any such metrics and systems compatible across the service to ensure both quality and fairness. Yet the lack of adequate (i.e. systematic, continuing, comparable) standards (NHS Plan 2000: 10) and measures in the NHS for (for example) labour turnover, serves as an example for the ineffectiveness of a range of other performance measurement systems (Mannion, Goddard and Smith 1998: 381). Lack of clarity about the use of business measures can also influence the degree to which strategies are judged to be effective. Guest and Peccei (1994: 219) in a study of senior NHS managers found, "...little or no association between the qualitative and quantitative measures of HRM effectiveness."

...there is no correlation between the qualitative judgements of key stakeholders, whether they are the most senior personnel specialists or the most informed senior line managers, and quantitative indicators such as the labour turnover gap, unit labour costs and productivity (ibid: 233).

There has also been suspicion regarding the introduction of private sector management in its entirety. Duncan illustrates the potential political advantage to be gained from ceding more control, in return for government devolving responsibility (1999: 565-566). The nature of such 'devolved responsibility' may prove illusory given the overall necessary constraints for an NHS wage bill for nurses. Any significant local pay variations could cause problems locally for Trusts in retaining staff, whereas across the board payments are likely to prove very costly, given there are approximately half a million nurses employed in the NHS. Thus 'devolved responsibility' may really be abrogation of responsibility, with no change in the real locus of control (government), but a rhetoric of freedom at Trust level.
Some researchers have argued that managers may have greater freedom in terms of altering the employment relationship (Bach 1998; Kessler and Purcell 1996), but as others have pointed out, the nature of this flexibility does not extend to more tangible factors such as pay (Thornley 1998).

Pay

The advent of local pay determination and decentralization of collective bargaining could be seen as offering the potential for Trust managers to use one of the most powerful levers to attract, retain and motivate staff. However, Thornley (1998: 413) has argued that this has not improved industrial relations, nor has it brought about greater pay equity. Of the 103 Trusts she surveyed, 96% used ‘[lack of] ability to pay’ as their top bargaining criterion according to the lead Unison negotiators. This would seem to indicate:

…stress on ‘ability to pay’ criterion means that little weight is given to notions of ‘fairness’ (ibid: 422).

It should be noted perhaps, that the sample used by Thornley does not include negotiators from Trusts, so there is potentially a problem with the validity of these responses. Unison negotiators are asked to recount the responses of Trust negotiators so the account from management is indirectly reported, but we hear the response from Staff Side direct. Nonetheless, it may be that there are significant problems with a model of NHS managers as people who are running their own business units, because their ability to influence key financial levers such as pay is limited. A recent report into nurse’s careers by the Institute of Employment Studies (Robinson, Buchan and Hayday 1999: 13) states that, “…only two per cent of nurses report that they are on their own employer’s own grading structure…” which implies that there has been no significant uptake of local pay flexibility. Indeed the report infers that some NHS employers who initially introduced local pay systems are reverting to clinical grading, as this figure has declined since 1997 (Seccombe and Smith 1999).

Another constraint on the flexibility of Trust managers arises from the continuing influence of the professional ethics of nurses and doctors, Kitchener (2000) points to doctors joining the managerial cadre of clinical directors, and assuming ‘hybrid roles’. A potential

82
limitation on managers exercising budgetary control may be the increased lobbying power of medical professionals. It is also possible that the significance and influence of these professionals will increase as and when power is devolved to Trust level in line with the NHS plan (2000: 11). In this case the ability to lobby individuals, rather than government is manifestly greater. This may be damaging even if no real reconstitution of power takes place, but where the widespread perception of Trust managers is that they are people in power.

Although the reality may be that Trust managers have little discretion over influencing pay levels, the perception that they are in control may lead to greater discontent than in a system where control is deemed to be exercised by central government. This discontent may be exacerbated in the current political climate, when a government traditionally more committed to the public sector is in power. The implications of this in terms of nursing turnover are that nurses may construe unfavourable working conditions as the fault of ‘management’ rather than seeing it as a result of system wide resource constraints. This could precipitate discontent, or lack of Trust level organizational commitment, and thereby turnover (Porter et al 1974). This also has implications for how we assess avoidability of turnover (Maertz and Campion 2001: 347-8).

**Professionalised Bureaucracy**

Mintzberg (1990) characterises health organizations as ‘professionalized bureaucracies’. Pettigrew et al (1992: 14) using this as an axiom for the NHS describe it as an organization where, “...a plurality of interest groups operate in decision making areas...” One reason for the organizational complexity of the NHS is the dynamic between the ideologies of varying professions on the one hand, and structure of centralised decision making and budgetary constraints on the other. Although it may be the case that there is continuity in the principal espoused values of the NHS i.e. ‘a universal service for all based on clinical need, not ability to pay’ (Department of Health 2001: 2), it is possible that changes in the number and constituency of these ‘interest groups’ have meant that the dynamic is now even more complex.

Locock and Dopson (1999) offer evidence of the structural complexity of the NHS and undermine the idea that it is meaningful to think of the NHS as having a centre. Forbes and
Prime (1999) give an illustration of how these complex dynamics can lead to role ambiguity. Writing on the cumulative combined impacts of the Griffiths report (1983) and the NHS and Community Care Act of 1990, they show how this has meant nurses and other health professionals more frequently assume managerial posts, moving out of their ‘professional domain’. Whilst this has obvious potential benefits, as these ‘hybrid managers’ have a blend of skills to offer, Forbes and Prime indicate that these ‘hybrid managers’ are neither wholly within a professional or managerial domain. This adds a further layer of complexity in terms of the constituency of ‘interest groups’ in those Trusts where nurses and other health professionals assume management roles. Change in constituency of the manager group may also create complexities in interpersonal dynamics and increase role ambiguity, as well as undermining the traditional model of the health service as a professionalized bureaucracy.

The NHS Plan

The NHS plan was presented to parliament in July 2000. The plan is a ‘Ten year plan for reform’ (NHS Plan 2000: 16) and has not yet fully come into effect. Nor will it have had any real impact on the empirical aspect of this study (April 2000 – April 2001). Nonetheless, it is worth discussing it here. As well as proposed changes in the way nurses work, and an expansion in their clinical roles (ibid: 10, 12), the plan emphasises the centrality of the patient (ibid: 4, 10, 15, 17, 26: 2.9) a greater role for performance incentives (ibid: 15), a long list of targets (e.g. p13) and the executive summary ends with the claim that:

These are the most fundamental and far-reaching reforms the NHS has seen since 1948 (ibid: 11).

The full impacts of this programme of reform will not be felt for many years, but it is worth noting that there is perhaps a greater level of consistency with core values of medical professionals within the plan, than in earlier models such as the Griffiths report. Evidence for this is the emphasis on the nature of the clinical role, praise of current staff and by the involvement of health employees in drafting the report. However, there is likely to be conflict given the call for wide-ranging reform and the emphasis on empowering patients (ibid: 2000), both of which may erode the power base of the professions.
Conclusion

This outline of the context of the NHS is relevant for three main reasons:

1. Appreciation of context is important for all organizational research (Johns 2001) and particularly where models are being 'transported from one society to another' — for example from the US to the UK (Rousseau and Fried 2001).

2. The impact of previous reforms and the way they have been received can inform the development of proposals and recommendations.

3. Description of the organizational structure, professional ethos and the idiosyncracies of the NHS labour market serve to highlight the challenges this particular context poses for any account of turnover. This also illustrates the theoretical advantages the unfolding model has over other accounts of turnover.

Having thus outlined the context for this study and offered a critical review of the relevant literature, the next chapter develops the broader theoretical basis for the study.
Chapter Five: Methodology

Introduction

This chapter discusses different types of replication study, using a framework developed by Tsang and Kwan (1999). The chapter argues that pursuing a particular form of replication, namely generalization and extension can address methodological limitations of the original study being replicated, as well as allow for development of key theoretical constructs. Given that the theoretical locus for this study is Lee et al's (1999) 'unfolding model' of voluntary employee turnover, discussion of the role of replication is warranted. Chapter three identified some limitations in the current formulation of the model, and this suggests that some development would be beneficial prior to a test. Simultaneously however, the limited number of empirical tests of the model to date indicates that replicating the basic findings of Lee et al is desirable. Reconciliation of the twin goals of replication and development in this particular context is informed by more general discussion of the value and role of replication in organizational theory building. The chapter concludes with a broad outline of the methodology informing this study.

Falsification

One standard by which theory in the natural sciences is judged is that it needs to be falsifiable (Hospers 1973; Magee 1971). The basic argument for this is that no amount of confirmatory data is ever sufficient to prove a theory holds true for all time, because any proof by induction is open to question. The most spectacular instance of this is given by Popper's (1959, 1969) example of how countless instances of 'proof' of Newton's theory of gravity were all invalidated by Einstein's theory of gravitation. A falsifiability criterion holds out the promise of epistemological clarity, because we are more easily able to compare certain competing explanations of phenomena according to whether they are testable, or not testable. However, the ontological muddiness of social science research precludes the possibility of such epistemological clarity. Adoption of falsifiability as a necessary criterion for theory would make it difficult for social scientists to 'do' science
because the absence of immutable laws implies the impossibility of rigorous standards of falsification. Tsang and Kwan express this thus:

...since organizational studies are rarely conducted under conditions of closure, it is difficult to ascertain the nature of contingencies in which structures and mechanisms are located (1999: 769).

Nonetheless, falsifiability is often held up as a desirable characteristic of 'good' theory:

... the two primary criteria upon which any theory may be evaluated are (a) falsifiability and (b) utility (Bacharach 1989: 500).

One way to resolve this is to revisit the role of replication in organizational studies. If we accept that replication can be a valid technique, then this offers us some of the advantages of a falsifiability criterion, because it allows us to accumulate empirical knowledge. We can also develop organizational theory, because we are able to acknowledge the importance of observation and testing.

The claim that studies in the social sciences can be replicated at all is open to challenge in the same sense in which correspondence and coherence accounts of truth are open to challenge. Replication studies rely on a correspondence account of truth, insofar as they assume the researcher is able to accurately discriminate between and compare two different contexts in which a theory is tested. If a correspondence account of truth can be undermined, then a replication study can also be undermined. Even where research relies on rich description, or directly examines contextual effects, or is in essence comparative (Rousseau and Fried 2001), any challenge to a correspondence account of truth would render replication invalid. The force of this challenge is that social phenomena are irreducibly complex and constructed in the acts of observation and interpretation.

Replication is also undermined by attacks on any coherence account of truth. To incorporate replication as a tool of inquiry, we have to see it as part of a wider framework which describes the way we make sense of things. Accepting the validity of replication as a legitimate tool of inquiry would also commit us to some notion that there are regularities and consistencies 'out there', which allow us to infer causal mechanisms. If we view reality as purely socially constructed, this would seem to deny the possibility of any replication, because no two situations could be the same.
Setting aside such scepticism for the moment, the case for allowing some elements of both accounts of truth is compelling. As McGrath (1982: 84) puts it:

...any two observations are really alike in some respects and different in others, and it is up to the investigator to decide which of these 'respects' are to be focused on.

This is echoed by Tsang and Kwan (1999: 764):

It is implausible to deny that two studies can sometimes be conducted under similar conditions: although no two social situations are exactly identical, no two social conditions are entirely dissimilar either. The claim that replication is always impossible is as implausible as the claim that replication is always possible.

Interesting though the similarity between these two extracts is, the contrast between them is more informative, as it gives an insight into Tsang and Kwan's epistemology - critical realism. Whereas McGrath writes about observations, Tsang and Kwan write at the level of 'structures and mechanisms' – 'no two social conditions are dissimilar'. Adopting the critical realist's criterion of 'practical adequacy' (Sayer 1992), we could argue that if we deny the possibility of replication in its wider sense of 'aggregation of observations' (McGrath 1982: 82), we also deny the potential to accumulate knowledge. This would leave us with no sense of what could count as good theory, or what makes for evidence. Intuitively it seems pointless to abandon hope of assessing either. Whetten (1989: 493) argues that:

...theoretical critiques should marshal compelling evidence. This evidence can be logical (e.g. the theory is not internally consistent), empirical (its predictions are inconsistent with the data accumulated from several studies), or epistemological (its assumptions are invalid given information from another field).

The critique of Lee et al's model (in chapter three) is primarily logical. If we accept there should also be scope to develop theory empirically, then we must allow for the possibility of meaningful testing. Additionally, if we wish to address theoretical limitations identified via logical criticism, then we need to move beyond a simple account of replication. We need a form of replication which is flexible enough to allow for the development of theory (in this case, Lee et al's model), but rigorous enough to preserve the logic of a repeated test. Otherwise, we are forced to choose between developing and testing. This chapter argues
that a more sophisticated view of what counts as replication can allow this. By 'more sophisticated', is meant a move beyond seeing replication as uncritical repetition. In turn, that can allow for the accumulation of knowledge in different contexts with different methods of inquiry.

**Replication, Consensus And Criticism**

Chimezie and Osigweh (1989: 580) write, "...imprecise concepts make it difficult to produce knowledge that is cumulative...", and this point is made even more strongly by Cole (1983: 134 in Pfeffer 1993: 611):

> Without agreement on fundamentals, scientists will not be able to build on the work of others and will spend all their time debating assumptions and first principles.

Cole's writing follows closely the Kuhnian notion that 'normal science' allows the accumulation of knowledge because of a shared paradigm. Endless debate is avoided because there are clearly defined limits as to which questions are meaningful. The difficulty for organizational theory is that the end result of 'agreement on fundamentals' may be monologue, if one of the agreed fundamentals is consensus over what constitutes the nature of reality. Perhaps reconceptualizing replication may also resolve this. Accepting the value of replication as a method does not commit one to a naïve form of realism. If we accept that the validity of a particular replication study depends on repeating core elements in the logical structure of the original study, then we can have, as Weick (1999: 800) says, "...surrogates or substitutes or equivalents of replication within the assumption structure of other approaches to inquiry." These 'assumption structures' include differing perceptions of what constitutes reality.

Pfeffer (1995: 684) advocates the importance of replication, in a way that he claims is independent of any arguments of the relative merits of different assumption structures. The value of being able to extend, replicate and adapt others' work he argues:

---

3 A notable attempt to define such limits can be seen in Ryle's (1949) *The Concept of Mind*, where dualism is not a true or false theory of mind, but a 'category mistake'. According to Ryle, to speak of 'mind and body', is to invent a false dichotomy. If an agreed fundamental were that such a dichotomy was meaningless, then this would offer a clear agenda for research.
... is simply an ecological argument; the ability to readily reproduce gives ideas (just as it does other forms) survival value.

Writers such as Dawkins (1991) and Blackmore (1999) offer explanations for various phenomena ranging from the success of best-sellers (Dawkins 1998: 302), to explanations of language and consciousness (Dennett 1993), to the origins of life (Dawkins 1997: 254-271) in similar, ecological terms, using the notions of replication and selection. Indeed, Pfeffer’s summary comes remarkably close to Dawkin’s (1998: 302) construction of the ‘meme’, or ‘unit of cultural inheritance’, which was originally coined (as an analogy for, and homophone of gene) to explain the evolution of culture (Pinker 1998: 208). Seeing replication in this wider sense can underline the importance of the role of replication in building social science theory. It can also reinforce the importance of understanding the role of political and social structures in influencing the development of theory and the direction of research.

The fragmentation in organizational studies (Zald 1996) may allow us more insight into the nature and role of research, which incorporates ideas of power and realpolitik. In this context, we can employ a sociological account of the development of tribalism within organizational science (Campbell 1979 in Weick 1996) to understand one potential benefit of replication. Where replication can retain the emphasis on critical testing and the accumulation of knowledge, but still allow for experiment and improvisation, it can be a source of development, rather than merely a vehicle for reinforcement and ultimately ‘groupthink’ (Janis 1982). These points are perhaps particularly significant in the context of turnover research, which has been held back by dominant accounts such as March and Simon (Morrell et al 2001) and where certain relationships and measures, such as turnover intentions – organizational commitment (using the OCQ) have become quickly established and widely propagated, with insufficient initial investigation of construct validity (Bozeman and Perrewé 2001).

Tsang and Kwan’s (1999) Construction of Replication

Tsang and Kwan (1999: 761) challenge a conventional, uncritical understanding of replication:
The case for the epistemic significance of replication can be made from the perspective of a post-positivist philosophy of science: critical-realism.

They cite Sayer (1992) in laying down the three basic contentions of critical realism, as follows (1999: 762):

1. ‘the reality to which scientific theories primarily aim to refer is the structures and mechanisms of the world, rather than empirical events.’

2. These ‘underlying structures and mechanisms are only contingently related to observable empirical events.’

3. Scientific knowledge of reality, particularly social reality is not infallible, but, ‘it is still possible to acquire such knowledge through creative construction and critical testing of theories.’

The role of ‘critical testing’ may offer some of the advantages associated with a falsifiability criterion, without committing organizational theorists to a rigid construction of what constitutes ‘the real’ in social research. Tsang and Kwan offer a typology of replication, reproduced below:
In order to apply this meaningfully, we need to do more than map a given study onto their framework, and assume that this will unproblematically constitute replication. One way to facilitate this is to use thought experiment or what Folger and Turillo call 'thin abstraction'. This enables:

...the isolation and manipulation of important variables -- a process that parallels the design features of actual experiments, and thus also casts such empirical methodologies in a new light as modelling input to (rather than their data as output from) theorizing (1999: 742).

Insofar as such thought experiments allow us to recreate features of an experiment, they also afford some of the epistemological advantages of both falsification and replication. In addition to this, thought experiments are powerful theory building tools, because they reflect how the process of inquiry can develop theory. As such, thought experiments offer a potent instance of how we can have dialogue between theory and observations, without being restricted to Kuhn's 'normal science'. In the second chapter, thought experiments played a significant part in guiding the critique of the model. Applying thought experiments to the problem of what constitutes replication will lead us directly to consider the importance of context in organizational research, and serve as an instance of 'critical testing'.

In seeking to apply Tsang and Kwan's framework, it is not clear-cut where the boundaries between groups or types of replication lie. This should give some clue that a restrictive
The notion of what constitutes replication is likely to be inadequate. In terms of their column headings (same measurement and analysis / different measurement and analysis), it will to some extent be a matter of interpretation whether the 'same measurement' is being used, where for example a survey is used which is translated, or slightly modified. The difference between same measurement and different measurement may not be categorical, but continuous. It is possible to imagine a series of intermediate steps, ranging from 'testing the same theory using an exact copy of the original survey and duplicating the research procedures', which obviously comes under the same measurement category, to 'testing the same theory using "...different construct labelling and measurement"', which clearly comes under Tsang and Kwan's different measurement category. In between could fall an infinite number of potential changes.

To illustrate, we could introduce 'trivial' changes to a survey that do not alter any of the items. For example the colour of the ink or paper on the survey could be altered. The layout could be improved to give respondents more space, so that an eight-page survey becomes a ten-page survey. The next stage might be where the original survey has been 'translated' from US English to UK English, or minor changes have been introduced to reflect the context – for example where job specific components of a job satisfaction scale have to be altered. This could be simply be seen as another form of translation, or it could mean that the survey has to be greatly altered if the difference between occupational groups is germane to the construction of job satisfaction. In terms of changes to the items, we need to be clear that any revisions still give the opportunity for 'multiple observations' of the same constructs, to preserve the logic of a replication. We can even broaden Tsang and Kwan's definition of replication to include ethnographic research, if we see replication as consisting of multiple observations.

A single observation is not science. *All* research requires multiple observations, though not necessarily multiple 'cases'. Case studies use only one population unit... but they involve extensive observation of that one case (McGrath 1982: 82 emphasis in original).

So, what Tsang and Kwan call exact replication could be possible in case-study type research, where researchers use the same method to investigate the same 'population unit'. It could of course be argued that a different observer undertaking, for example, participant observation, would not translate as 'same analysis', because different observers will
experience the same phenomena differently. Although this might be considered a methodological benefit, in allowing for triangulation (Denzin 1970: 297), an extreme version of this would hold that different observers necessarily experience, or more accurately, construct, different realities. This challenge to the possibility of replication is based on a particular way of seeing reality (interpretivist or constructionist). In an absolute sense, our view of when we can apply replication depends on our ontology, rather than on the method itself, or a given situation. For a 'naïve' realist, replication in participant observer type research is unproblematic. For an anti-positivist, replication in any type of research is impossible.

Ontological positions influence the perceived epistemological validity of replication in correspondingly different ways; ranging from impossible in any mode of inquiry, to possible in some modes of inquiry, to possible in all modes of inquiry. The ontological standpoint also influences the perceived method validity of replication; ranging from applicable to no methods, to applicable in some methods, to applicable in all methods. We suggest that in addition to ontology, the determining factor in whether replication constitutes a valid means of theory building is the ability to take adequate account of context. This is represented in diagram form, below.
So for the naïve realist, replication is always possible, regardless of context, or method. For the anti-positivist (the sceptical position we outlined earlier in our account of challenges to correspondence and coherence accounts of truth), replication is impossible, again regardless of context or method. For the critical realist, replication is possible for any method of inquiry, but it remains a matter of judgment, and the prime criterion to consider is the ability to take account of context.

We can illustrate issues requiring such judgment by recalling Tsang and Kwan's matrix. As mentioned previously, it can be problematic to state without qualification that the same measurement is being used. In terms of the row headings (Same Data Set / Same Population / Different Population), the difference between whether one had the same population or a different one, is also a matter requiring interpretation and judgement. For example, studies of an occupational group which were conducted many years apart might result in a different population being sampled, where intermediary changes in technology or the political context had changed the defining characteristics of that occupational group.
Alternatively, one's initial idea of what constitutes the same population could be open to challenge. For example, it could be argued that a series of studies contrasting 'blue collar workers' with 'professionals' which used the same measurement and analysis might not amount to exact replication, if the boundaries of each group were fuzzy and open to interpretation. The counter argument could be that where only the relevant structural similarities between occupations are being tested and compared, this could mean that definition of the same population could include an extremely broad range of occupations. We can even problematise the seemingly straightforward category, 'same data set'. This could be open to question if different researchers had different perceptions of that data. In terms of changes to the population, we need to be clear that the choice of sample in a further test allows for 'multiple observations'.

Making sense of these challenges to the typology requires appreciation of the role of context (Rousseau and Fried 2001). What can appear to be a conventional, straightforward 'replication study', may fall down if it lacks the internal logical structure of replication. Changes in context which would invalidate the logic of a 'replication', might go unnoticed if we rely on a simplistic construction of what constitutes the same measurement, the same analysis, or the same population, or if we downplay the role of context in research (Johns 2001).

Replication Of A Model Of Employee Turnover

So far we have discussed general issues relating to the validity and utility of replication as a tool in organizational science. To better illustrate some of these points it is appropriate to consider an instance of replication in practice, namely this test of the unfolding model, and the field of turnover research.

There has been continuing interest in research into employee turnover in recent years, (Boshoff and Mels 2000; Cheng and Brown 1998; Cohen 1999; Fang 2001; Khatri et al 2001; Lee et al 1999; Lum et al 1998; Tang et al 2000). Despite such widespread interest, as we have seen, the history of turnover research, and recent studies, reveal a field dominated by a few themes and constructs, with acknowledged limitations in methodology (Dalton et al 1999; Vandenberg and Nelson 1999) seemingly no barrier to a prevailing pattern of research, which focuses largely on current employees to draw inferences about
organizational leavers. Lee and Mitchell’s research stands out as offering a new way of thinking about leaving, by focusing more explicitly on the leaver’s decision process, and introducing new constructs to turnover research, drawing on image theory (Beach 1990). As well as offering a theoretical contribution, their research has methodological advantages in that they test actual leavers, rather than relying on (potentially suspect) proxy variables for turnover, such as intent to leave, or withdrawal cognitions. However, their research has not been tested independently, the two reported empirical studies both having been led by Lee and Mitchell.

It is in this light, and mindful of the way in which organizational knowledge is developed (McKinley et al 1999), that a replication study is warranted.

Replication is important, because it is the only way that scientific inquiry can progress (ibid: 644).

We can establish the sense in which further testing of Lee et al’s model is replication, if we identify core structural similarities between Lee et al’s tests of the model to date and this proposed test. The internal logic of a replication study holds where it can be demonstrated that multiple observations are gathered and compared. Testing with a different population is not a threat to replication per se as the model claims to apply to all voluntary leavers, and subsequent study of a different occupational group constitutes multiple observations insofar as these groups all comprise ‘voluntary leavers’. Indeed, we can argue that the change in context and sample is a necessary hurdle for the model to navigate if we are to seek a critical test, as Price argues:

If general causal models are to be developed, and this is the goal of scientific research, then diverse samples and sites must be studied (1999: 388).

Changes to their survey instrument need to retain the core structure of the original constructs, though sufficient changes need to be incorporated to reflect criticisms raised in a theoretical critique. These allow for multiple observations, in the sense that they offer the chance for repeated (though more refined) observation of the same phenomena.

Principally what will make this a repeated, critical test of the unfolding model, is that Lee et al’s (1996: 5) underlying premise, ‘people use different and distinct psychological
processes when leaving an organization’ remains the same. After reflection, in terms of Tsang and Kwan’s (1999) typology, a test of this premise which incorporates criticisms and changes in method and context, will constitute a generalization and extension of Lee and Mitchell’s model.

Philosophy Of Method

The principal research method used is a questionnaire, based on the one used by Lee and Mitchell (1999). As described in earlier chapters, their work is notable for seeking to model the decision process of leavers, rather than identifying organizational or individual characteristics which effect instances of turnover, thus placing more emphasis on understanding turnover as a decision process, than on predicting particular instances of turnover.

Awareness of methodological issues is important when conducting research to establish both the value and the validity of research undertaken. It is important to outline the method undertaken because if this is not done rigorously enough, those assessing the research findings will be unable to assess the merits / demerits of the particular approach undertaken, and consequently, any research findings will be undermined. Additionally, if the method used is not adequately outlined, this will make it impossible for others to accurately replicate it, or test the results. This in turn calls the long term validity of any such findings into question (Popper 1972; Checkland 1981: 51) and undermines perhaps the central aim of academic study, which is to make ‘a contribution to knowledge’ (Phillips and Pugh 1987). In turn however, following another’s work so closely has limitations. Lack of awareness by the researcher about the constraints of a chosen method can lead him or her to overestimate both the value and validity of his / her research findings, because every method has its limitations. As Eilon (1974: 9) writes:

> Each [method] has a contribution to make, but each suffers from certain limitations and weaknesses...with implications for the ability to generate and advance our knowledge (in Gill and Johnson 1997: 9).

An important part of being able to assess the method used in this study is recognising the limitations of a positivist approach.
**Positivist Epistemology**

Positivism is the belief that, "...all genuine knowledge is contained within the boundaries of science, that is the systematic study of phenomena and the laws therein..." (A Dictionary of Philosophy 1979: 283). A positivist epistemology, as Gill and Johnson indicate (Gill and Johnson 1997: 139) is predicated on a correspondence theory of truth (Arbnor and Bjerke 1997: 130); that is, a belief that what is true is determined by an assessment of what exists independently (objectively) of an observer. Truth is seen to be agreement of a statement of 'the way things are' in reality. This in turn presupposes the existence of a 'theory-neutral observational language' (Gill and Johnson 1997: 139).

There are several threats to such an epistemology, which postmodernist writers such as Lyotard (1979) have identified and seized on as part of a discourse to undermine meta-narratives such as objectivity and independence (Morrell 2002).

It is beyond the scope of this thesis to outline and discuss these issues in depth, but even within physics, the archetypal positivist pursuit, the last century has seen challenges to the validity of the notion of an independent observer in the 'double-slit experiment' (Gribbin 1984: 164-176), and Heisenberg’s uncertainty principle (McEvoy 1997: 158). Though interpretations of these events are open to abuse (Sokal and Brikmont 1998), they both show how we are inextricably involved (if only at a quantum level) in any phenomena we observe. There are no 'Archimedean points' where the observer is independent, consequently the subject / object duality on which positivism is predicated is a false dichotomy. Additionally, Kuhn's work on scientific paradigms has undermined the idea that there can be 'theory-neutral' i.e. objective language (Kuhn 1970: 126; O'Hear 1985: 129-130).

**Ideographic Epistemology**

By way of contrast, an ideographic research methodology emphasises the context in which research is carried out, and consequently places importance on interpretation and the "...explanation of subjective meaning systems..." (Gill and Johnson 1997: 37). It offers advantages, as it relies on generating qualitative data (Easterby-Smith 1991: 171), and it could be argued that certain complex phenomena cannot be reduced to numbers. Such an
epistemic approach also offers advantages because it locates situations firmly in their given context. As such, a researcher may be better able to make allowances in three areas where there may be threats to validity. These are 'indexicality', 'experimenter effects' and 'subjects' mediation through interpretation' (Gill and Johnson 1997: 51-2). Although one cannot fully control for these, one strength of an interpretivist method is the explicit acceptance of these effects, consistent with the view that it is in the nature of social sciences research that meaning is constructed to some degree.

None of these three threats to validity are addressed in an exclusively positivistic epistemology, yet as we have seen, the ideal of an independent observer is open to question and therefore each area may pose a threat, thereby threatening the value of any findings and conclusions. An exclusively ideographic approach is also not without problems. Analysis of qualitative data is complex (Hussey and Hussey: 272), though this 'problem' may be part of the appeal of qualitative approaches (Hammersley and Atkinson 1995) – what Miles (1979) has called an 'attractive nuisance'. Additionally, it is likely such research will generate a vast amount of data, which means that only a small sample is manageable. There will therefore be little scope to demonstrate the statistical generalisability or representativeness (typicality) of a sample.

One way to overcome the limitations of an exclusively positivist, or nomothetic method, is to try to incorporate qualitative elements into the questionnaire. This may also offer the opportunity to test and develop theory independently of statistical analysis. Yin's writing on case studies (1994: 10) also applies here:

Case studies, like experiments, are generalisable to theoretical propositions and not to populations or universes. In this sense the case study, like the experiment, does not represent a 'sample' and the investigator's goal is to expand and generalise theories (analytical generalisation) and not to enumerate frequencies (statistical generalisation).

Another way of expressing this is that incorporating an ideographic element can overcome demands of generalisability (external / statistical validity) where analysis is internally valid, and subsequent inference is logically sound. Indeed, Lee and Mitchell advocate using a multi-method approach:
It is worth reiterating that every method of data collection has its strengths and weaknesses. Rather than relying on a single method, researchers are encouraged to collect data on the unfolding model with multiple methods. Through complementing methods, various weaknesses might be minimized and various strengths may be maximized (1994: 81).

Although the research undertaken here is based on a single method, it is anticipated that including more open items will allow greater scope for exploring the unfolding model, than the use of closed items alone.

It is worth noting that because it is necessary at some stage to code and categorise qualitative data in order to analyse it, exclusively ideographic research is internally inconsistent, because this implies a type of interpretative constraint. Such coding and analysis leaves researchers open to charges of ‘ontological oscillation’ because, when a researcher analyses or edits the qualitative data they have gathered, they are employing a form of reductionism. This reductionist method cannot itself be justified from an ideographic perspective, because it is divorced from the context in which the research takes place. Gibson and Burrell, the inventors of the term ‘ontological oscillation’ feel this is a problem for all interpretivist researchers, where:

...the attempt to operationalise their ideas within an empirical context frequently leads them to admit a more realist form of ontology through the back door (Burrell and Morgan 1979: 266).

The challenge of ontological oscillation is also a potential problem for this particular study whose intent is to test a generic model. This falls squarely into Burrell and Morgan’s category of ‘ontological oscillators’, namely:

...all forms of phenomenological sociology which attempt to illustrate its basic propositions through the empirical study of situations drawn from everyday life (ibid).

These ‘basic propositions of sociology’ consist in belief in, ‘the ontological status of typifications or ‘ideal types’ which comprise the ‘core of social reality’, and which in turn contradict the belief that meaning is socially constructed.
The basic premise of Lee and Mitchell's model represents just such a belief in ideal types, namely that individuals follow one of a limited number of paths when quitting. Such reification is abhorrent to many social scientists, but it is worth reflecting that Burrell and Morgan emphasise just how easy it is to critique any study, using their analytical framework of four, mutually exclusive paradigms, from a 'rival paradigm'. In other words, at this most basic level, our assumptions about the nature of reality, and of society are vulnerable and open to challenge in the same way as any other system of belief or faith. More optimistically, they also note that:

In order to understand alternative points of view it is important that a theorist be fully aware of the assumptions upon which his own perspective is based... it requires that he become aware of the boundaries which define his perspective (ibid 395).

This emphasises the importance of being aware of one's basic assumptions. Assumptions held by the writer, consistent with this study, are as follows:

1. Meaning is constructed within social structures where exchange and interaction are mediated by language.

2. There are social facts whose necessity resides not in the definitive once-and-for-all status of these structures, but in the determinate nature of the interaction between individuals and groups.

So:

3. There are fundamental similarities in types of interaction, and in resulting behaviours, given the nature of organizations as social structures.

Therefore:

4. It is not problematic to seek generic explanations of (turnover) behaviour
**Logic Of The Experiment**

There would be considerable difficulty in adopting a ‘true’ or ‘classical’ experiment approach to the problem of nurse turnover in the NHS. Establishing control and experimental groups, and manipulating a hypothetically independent variable in the experimental group (for example ‘pay’), in order to measure changes in the dependent variable (labour turnover) is unrealisable. Also, apart from other logistical and ethical problems, it would be highly problematic to control for the effects of extraneous variables. Even so, this research incorporates some of the logic of the classical experiment. The sample, should form a basis for comparison, to try to identify the existence and meaning of correlation, difference or uniformity. More simply perhaps, the focus of this study is to test via replication Lee and Mitchell’s work, and if possible, to build on it. Accepting the value of their method also means accepting some basic principles of the classical experiment.

**Conclusion**

This chapter has outlined a view of what constitutes replication, and also outlined the role of replication in organizational studies. This forms a key part of the epistemological justification for this study.

The critique in chapter three identified two main areas of concern. The first relates to limitations with the theoretical structure of the model, specifically, the concepts script and shock. The second relates to operationalisation of the model, specifically the current structure of the survey. This chapter has emphasised once again the importance of taking context into account. Having thus outlined various limitations in the current theoretical structure of the unfolding model, and having detailed in general proposed changes to the method of investigation, the discussion above makes a theoretical contribution to organizational science, and serves as a concrete example of how it is possible to simultaneously refine theory and to test it. The chapter also outlined a philosophy of method, which supplements the above outline of the validity of replication in organizational science.

The next chapter outlines in detail the changes to Lee et al’s 1999 survey.
Chapter Six: Development of the Survey

Introduction

The survey used in this project differs somewhat from the survey used by Lee and Mitchell in their 1999 study of turnover among accountants. Some changes were felt to be inevitable, to reflect the difference in context. In addition to these, however, there were two further sources of change. Firstly, the theoretical critique of the unfolding model, and associated criticisms of the survey (discussed in chapter three) suggested some changes. Secondly, there were a number of points arising as a result of pre-testing of the amended survey on a small number of nurses and midwives.

This chapter will describe all the changes from the original survey as well as outline the reasons for these changes in three sections. Each section ends with a catalogue of the changes relevant to that section made from the 1999 survey. The original survey and the revised version used in this study are included as appendices 1 and 2 respectively. The chapter concludes with an outline of the procedure undertaken here, as well as presenting some summary data regarding the sample.

Changes to Reflect Context

Level Of Analysis

In the original version of the survey, reference is made to respondents' 'firm'. In the revised version of the survey, this is replaced throughout with 'Trust'. Although it is apparent that the use of 'firm' to describe nurses' previous employer is inappropriate, choice of 'Trust' as the level of analysis needs to be justified. It may be argued that the 'real' employer of nurses is instead the NHS as a whole, or more specifically the hospital or even the ward. Alternatively, the decision to leave could represent a desire to leave the nursing profession, rather than a particular workplace or the NHS. Each of these different scenarios could describe significant differences in nurses' turnover decisions. There is some evidence to suggest that decisions to turnover among nurses can be seen as being stages in an overall process of progressive withdrawal from the nursing profession (Krausz
et al 1995), the arch example of this being where a nurse first decides to leave the ward, then the hospital, and, finally, the profession. Accepting the validity of this model would imply that there are differences between those instances of turnover where nurses remain in the NHS, and those where they leave the profession altogether, the latter representing a more severe form of withdrawal. Their paper is worth exploring, as it outlines an interesting hypothesis that is directly relevant to the choice of unit of analysis.

Krausz et al (1995) identify three forms of behaviour associated with withdrawal: lateness, absence and turnover. Though there is some support for models of progressive withdrawal in the literature they cite (Wolpin, Burke, Krausz and Freibach 1988), and also in Hulin (1991), evidence is sparse, and as Hom and Griffeth (1995: 122) point out, such tests are ‘plagued by methodological weaknesses’. There are a number of such limitations with the Krausz et al study. Firstly, they use intent to leave as a proxy variable for turnover, which is problematic as this may represent a discrete, different phenomenon from actual turnover (Dalton et al 1999). The design of the study (two surveys carried out on hospital employees spaced apart by a year) may compound this, as it prevents data from any nurse leavers being counted. They also only examine matched surveys, i.e. cases where respondents answered both surveys as current employees. The Krausz et al study is also limited to nurses at one hospital in Israel where the base rate of turnover is rather low. Successive reports by the Institute for Employment Studies (1997, 1998, 1999) show there is a consistently high rate of internal nurse turnover (where nurses leave one NHS Trust for another). Consequently there may be problems applying a progressive withdrawal model as formulated by Krausz et al (1995: 278):

...withdrawal from an organization is a much more radical change than is a within-organization move from one unit to another... withdrawal manifestations progress from milder forms – within-organizational moves, to more severe ones – turnover from the organization.

The term organization does not have the same sense in the NHS context as it does in the Israeli health sector. This in turn suggests that definition of ‘within-organizational moves’ is less straightforward. A revised progressive withdrawal model might add extra stages to the Krausz et al model, to the extent that it may become unwieldy, viz. a nurse decides first to leave the ward, then the hospital, then the Trust, then the NHS, then the profession. This added complexity reflects the difficulty in making sense of the term ‘organization’ when...
applied to the NHS. Operationalising a revised five stage model would, needless to say, be very difficult, given the number of potential exit routes and corresponding types of turnover (ward, hospital, Trust, NHS, profession) which would need to be counted as separate. There is therefore, some justification for seeking to retain a tripartite typology of turnover. Criteria for choosing the turnover types to be studied might reflect wider social concerns about the state of public sector nursing, and shortage of NHS nurses. This could suggest a need to be able to discriminate between those who stayed within the NHS, those who left the NHS, and those who left the nursing profession. If we were more particularly concerned with the needs of managers at Trust level, this could suggest the need to discriminate between those nurses who stayed within the Trust, those who left the Trust, but stayed as NHS nurses and those who left the Trust and the NHS.

The difficulty of defining ‘organization’ within the NHS context also has implications for understanding the relational aspect to the turnover decision, and consequently on the wording of survey items which assess factors such as job satisfaction and leavers’ ‘images’ (sections VI and VII in the original survey). Each of these sections asks respondents to characterise their relationship with their ‘organization’, but as we have noted, using the label ‘organization’ in this context is problematic. The issue thus becomes more than one of accounting for structural complexities in the NHS, but instead relates to the meaning individual nurses ascribe to their relationship with their employer.

Taking all these issues into consideration, there is good reason to support the choice of the Trust as the level of analysis. Initially, it should be stated that a definite choice does need to be made. Being clear about the choice of level of analysis should help to define the research population more precisely, which has multiple benefits. Furthermore, it should allow for consistency both in the design of the survey and analysis of resulting data. Also it is important to be clear about this to try to ensure consistency in the respondents’ answers. Were people to have different constructions of ‘organization’ (if such a generic label were used), this could mean some respondents answering with conditions at their particular, local hospital in mind, while others might have in mind the NHS as a whole. Stating the level of analysis explicitly should also enable a clearer assessment of the limitations of the study, as well as indicate the potential for future research. There are three, further, principal justifications for choosing the Trust as the level of analysis.
Firstly, the current structure of the NHS suggests that researching employee relations issues at the level of the Trust is appropriate. Decentralization and the decline of centralized bargaining have changed the pattern of industrial relations within the NHS (Lloyd 1997) in such a way that Trusts are an appropriate focus of study for human resource issues (Guest and Peccei 1994). Also, it is ostensibly at the Trust level that differentials in pay are decided (Mannion, Goddard and Smith 1998). Though there is doubt as to the amount of genuine control managers have over pay levels (Thornley 1998), there is evidence that the scope given to NHS managers to make changes in softer areas of employee relations has influenced the diversity of culture at the Trust level (Bach 1998).

Secondly, it can be seen that the choice of different levels of analysis (the ward, the NHS, the profession) would result in different research populations, and different working definitions of turnover. If we consider the case where nurses leave a particular Trust, but stay within the NHS, it is to a degree arbitrary as to whether this is counted as turnover. From an institutional (NHS) perspective, it could be argued that, notwithstanding the costs of transfer, re-location etc., it is not turnover, merely relocation and ‘flow’ of nursing labour (Worthington 1992). From a unit (Trust) perspective however this is clearly nurse turnover. Also, from an employee (nurse) perspective, and bearing in mind the significance of the phenomenon of turnover as the end result of a decision process, this case is again clearly turnover. The implication of accepting this case as a bona fide example of turnover is that we must reject the NHS as a level of analysis, otherwise we would discount a large number of instances of turnover.

Finally, it should be noted that investigation at other levels, such as ward or hospital would mean having to be able to identify differences between leavers at a level of detail beyond that at which some Trusts were capable. Some Trusts did not measure turnover in a sophisticated enough fashion to enable them to identify those who had left a particular post, but remained within the Trust. This made it impossible to identify these leavers and systematically include them in the survey. The working definition of turnover in this study excludes leavers who choose to stay within the same hospital or Trust. Again this definition is somewhat arbitrary. From an institutional and unit perspective these cases are not counted as turnover, but from an employee perspective they may be. Alternative means of reaching this population such as ‘snowball’ sampling would be feasible, though it would not be possible to use the same survey with this population, because references to turnover
would have to be to a particular job. Setting aside the practical difficulties of identifying this population, there is reason to believe that many people in this category would not be genuine 'leavers'. Even though incidences of internal promotion and horizontal relocation contribute to the flow of labour, and could therefore be considered as turnover, these types of transfer are less typically decisions to quit.

**Factors Specific To Nursing**

As well as choosing the Trust as the level of analysis for the survey, other changes needed to be made to reflect differences between the population of leavers in this study (nurses) and in the 1999 study (accountants). Section IXc of the 1999 study contains five occupation-specific items of job satisfaction. These have been changed in the revised version of the survey. The source of occupation-specific items of satisfaction is the five most common themes (after pay) cited as the single most important factor reducing the likelihood of leaving nursing (in the 1999 IES study for the Royal College of Nursing). Pay is not included as one of these items as it is already included in the global scale of job satisfaction - section IXb. The RCN study also mentions 'better career structure', which is not included as the global scale includes an item assessing 'career opportunities' (IXc).

Section X of the 1999 survey, which was principally related to the effects of liability on the accounting profession, has been omitted, and not replaced. This is partly because the items in this section do not tap any of the key constructs in the unfolding model. Also from a practical standpoint, it is desirable to keep the survey as short as possible to encourage a reasonable response rate. Some context specific items have been added to the final section of the survey, relating to grade when left, specialism when left, grade now (where still a nurse) etc. These should help identify patterns of changes among leavers at the time they left, and at the time of responding to the survey.
Table 6.1: Catalogue Of Changes To Incorporate Context Specificity

<table>
<thead>
<tr>
<th>Number*</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>II: a</td>
<td>&quot;...the firm.&quot; To &quot;...leave voluntarily.&quot;</td>
</tr>
</tbody>
</table>
| VI: a-d & | "...former firm." to "former Trust"
| VII: c, d | "...former firm" to "the Trust" |
| IX: c 1-5 | "client business" to "your workload"
|           | "competitive pressures" to "resources you had to do your job"
|           | "autonomy of the work" to "opportunities for developing skills"
|           | "pressures of the work" to "opportunities for developing skills"
|           | "time flexibility" to "flexibility of working hours" |
| X: 1-10 | Liability section omitted |
| XI: a   | "accounting" to "nursing" |
| XIII: b-f, h | Demographic items added |

* Question numbers refer to the original version of the survey (appendix 1).

Changes to Incorporate Points From Critique of the Model and Survey

Measurement Of The Shock Construct

The first section of the survey has been changed in line with recommendations made in the section critiquing the 1999 survey, in the hope that a richer picture of the shock construct may emerge. Whereas questions b to i of section I are dichotomous in the 1999 survey, in the revised version used in this study these items have been replaced with scaled, semantic differentials. The same dimensions of shock: expected / unexpected, positive / negative, personal / work are tested, though these are now construed as scalar rather than dichotomous (appendix 2).

Potentially, this allows for more meaningful assessment of the mean and variance of shocks (Lee et al 1992), as well as creating scope for more sophisticated analysis than dichotomous variables would otherwise afford. These scales are designed to elicit interval data, in other words the difference between a response of 1 and 2 (e.g. 'strongly disagree' – 'disagree') is assumed to be equivalent to the distance between a response of 3 and 4 ('neither' – 'agree'),
or 4 and 5 ('agree' – 'strongly agree'). Although this is an assumption, it is one shared by a range of other researchers into turnover (see e.g. Sager and Griffeth 1998: 259), and even where new scales are used the issue of whether these elicit interval or ordinal data is rarely broached (Adams and Beehr 1998), although reliability ratings are frequently cited (Allen and Griffeth 2001).

An ambiguity was removed as follows. For the item, “Did the event involve personal issues (i.e. unrelated or external to your job itself) or work issues?” the section in brackets was removed. This compounds different levels of analysis, because someone’s ‘job’ and their ‘work’ can be two different things. Two additional items test further aspects of the shock construct: firstly, the relative weighting of the shock in terms of the final decision to leave is assessed via item le, “How much did the event influence your final decision to leave”; secondly, the extent to which the event was private or shared with colleagues is assessed via item If, “Who else at work did the event affect”. These items are also scaled.

The first of these two items is included to investigate whether decision paths to leaving can be further classified according to the relative weight of the constructs in the decision pathways. For example, the leaving pathway 3 (shock > image violation > low satisfaction > search > likely offer > quit), may be used to describe two quite different decision pathways. In one case, a shock may prompt a casual search, which turns up a ‘golden opportunity’, and the employee is thereby encouraged to leave, though they would have been willing to remain in the event of an unremarkable outcome to their job search. In a quite different example of a path 3 quit, the shock may prompt an immediate decision to quit, though the employee may be constrained by their financial circumstances, and need to conduct a search looking for the first viable alternative, which they then immediately accept. These would both be classified as path 3 quits, but some thought should suggest they are different phenomena, and the managerial implications for both cases are likely to be different also. One way of investigating whether it is possible to further classify leaving pathways is to assess the relative weight of the shock construct in terms of the overall decision to leave. In the first, ‘golden opportunity’, instance we would expect to see a relatively low score. We would expect responses in cases of the second kind to show a higher score, indicating the shock was ‘the reason’ for leaving.
The second item, "Who else at work did the event affect", is included to add a further dimension of measurement to the shock construct, and can be seen as similar to the item which assesses the extent to which a shock was personal or work-related. In this case the dimension assessed is the extent to which the shock is specific (i.e. not affecting work colleagues), or global (affecting all work colleagues). Although personal shocks are almost universally likely to be specific it is by no means necessary that work-related shocks are global. For example, employees might experience particular difficulties with their work, their colleagues, or their supervisor, which in turn influence decisions to turnover. This also potentially adds a new, theoretically meaningful facet to the shock construct.

In addition to these changes, ordering in the first section was altered, so that the open-ended question came first. This was in the hope of encouraging a fuller response, and to reduce the likelihood of responses being primed.

*Measurement Of The Evaluation of Alternatives Construct*

For similar reasons to those outlined above, this section was revised in order to allow for scaled variables, rather than dichotomous ones. Items a, d and e in the 1999 survey were rephrased as statements with a five-point disagree-agree Likert scale response. Items b and g were conflated into a single item measure of general job availability, "I was confident of finding a suitable job when I left, though I didn't have a specific job to go to". One further item is added to tap the evaluation of alternatives construct, "I weighed up a range of work and / or non-work alternatives before leaving." This is again scaled on a Likert disagree-agree scale.

For item IVc, a three-part question in the 1999 survey was moved to the final section in the revised survey, and an identified ambiguity was removed, as follows. The first part of IVc is, "in making your final decision did you seriously consider a non-work option". This is followed with, "if you responded yes, please indicate the type of non-work option you actually pursued." The problem with this is that people may well have 'seriously considered' a non-work option, but then rejected it, and in fact still be working. In the revised version, the first of these questions is replaced with, "did you pursue a non-work option". These items are included in the final section to make sequencing easier. Additionally the third part of IVc, "If you responded yes were you financially
independent?” was removed. This was not included in the classification rules in the 1999 survey, neither does it give any information about those who are still working, although it could provide information about mobility for those who chose a non-work option. A related item is added to the demographic section as XIIIq, “In your household, what is the occupation of the chief wage earner?” Although it might be desirable to get information in more detail than this (for example with a tick-box item asking to state the chief wage earner’s salary range), discussion at the pre-test stage (below) indicated that some would be unwilling to provide this, and inclusion of such an item could even harm the response rate. Information about the leaver’s salary at the time of quitting can be inferred from the stated grade (XIIIb).

Finally, the instruction “if you pursued a non-work option, go directly to section VI” (thereby bypassing the section to tap search and evaluation) was removed. The reasoning for altering this sequencing instruction was that people could ultimately pursue a non-work option, yet still have conducted a comprehensive job search and even have evaluated other alternatives. These cases would represent different phenomena from where someone left immediately for a non-work option, without any job search or evaluation. Failure to be able to identify cases where leavers chose a non-work option after search and evaluation, and cases where leavers went straight to a non-work option without deliberation could result in misclassification. The sequencing instruction also prevents identification of one potentially falsifying pathway, namely where someone leaves for a non-work option without conducting a search, or experiencing a shock.

One change was made to the evaluation of search. The original item, “Before you left, how comprehensive was your search for another job (e.g. did you gather lots of information on other job opportunities or search on a daily basis)”, was changed so that the section in brackets was removed. This was because comprehensiveness of search is not necessarily related to frequency. For example, someone could search thoroughly through professional journals for alternatives, but could not do this every day, as they are published periodically.

**Measurement Of The Script Construct**

In addition to including a section on reasons for leaving, which potentially informs the understanding of the script construct, one item (VIIIc) was added specifically to see if
evidence could be found for a social element in the formation of scripts, namely, "My decision to leave was influenced by a colleague (or colleagues) leaving". This was similarly scaled on a five-point Likert disagree-agree scale. The reasoning for this was that there remains a deal of confusion about the formation of 'scripts' within the unfolding model, as well as ambiguity regarding the extent to which these scripts are to be seen as personal or social schema. This item potentially addresses both points. It also draws on work by Krackhardt and Porter (1986) who identify the 'snowball' nature of the turnover phenomenon, namely where instances of turnover should not be seen as isolated phenomena, but instead as clustered in networks of time and social interaction.

Expansion Of The 'Avoidability' Item And A 'Reasons' Section

Sections X and XII have been added to investigate the avoidability of the turnover decision and the underlying reason(s) for turnover. Item IXa in the 1999 survey, "There are things the firm could have done that might have persuaded me to stay", has been retained, but included as a separate section, with an additional open ended question to gain more information about turnover avoidability.

The rationale for placing more emphasis on the assessment of avoidability is twofold. Firstly there is evidence from a number of turnover theorists (Abelson 1987; Dalton et al 1981; Horn and Griffeth 1995; Maertz and Campion 2001) to suggest that assessment of avoidability is an important part of understanding turnover. As has been noted above, the implications for managers and organizations when employee turnover is predominantly unavoidable are very different from those cases when employee turnover is predominantly avoidable. Secondly, and more specifically, there is good reason to suspect that assessment of avoidability may lead to a richer picture of the shock construct, as well as enhance understanding of the various turnover decision paths. For example, if we are able to characterise a shock as 'personal' and 'specific', we might use the avoidability items to further develop our understanding of this shock. A high avoidability score, alongside a 'personal, specific' shock would indicate that the shock played a part in the decision to leave, but was not the reason (i.e. not a sufficient condition). On the other hand a 'personal, specific' shock alongside a low avoidability score would indicate the relative weighting of the shock in this decision pathway was higher. Using the avoidability construct in this way may address one limitation of the model as currently formulated, which is that constructs
are deemed either present or absent, with no potential to assess their relative importance in the final decision to turnover.

Originally it was proposed to include a seven item avoidability scale (Abelson 1987). However, written feedback from respondents during the pretest indicated that this section was seen as very repetitive. Those respondents who were asked about it felt the scale could be replaced by a single question. Although there could well be advantages in having a sum of facet measure of avoidability (it could be easier to demonstrate reliability with a seven item scale), the global measure that Lee and Mitchell used was retained to try to prevent respondent fatigue. However, an open ended item was added to encourage additional information. Avoidability might also be used to investigate the role of shocks. Where there is evidence for a shock, and this were allied with a high avoidability score, this could be seen as an indication that something has gone drastically wrong, and could point the way to specific management intervention. Conversely, if this type of quit were allied to a low avoidability score (and a personal shock), it could be inferred that intervention would be pointless. The current formulation of the unfolding model does not allow for discrimination in this dimension, and as such, the scope to use the model as a guide for intervention is limited.

Unsurprisingly, there is an even greater body of evidence to suggest that investigating the reason(s) for turnover is important (Horn and Griffeth 1995; Mobley 1982; Price 1981, 2000). Although the 1999 survey potentially does this when the shock is the reason for leaving, there is no scope to identify the reason for leaving in paths 4a and 4b. Furthermore, it may be misleading to assume that where a shock is present, it is also the reason for an employee's leaving. As has been mentioned, there may be instances where a shock prompts search, and this leads to leaving, but the reason for leaving is actually a successful search. Finally, the revised section acknowledges there may be more than one reason for leaving, yet the 1999 survey doesn’t offer scope to capture this.

The revised survey follows Campion’s (1991) rationale for having two open-ended questions, “What was the primary reason...” and “Were there any other important reasons...” to assess the reason(s) for turnover, rather than categories which could artificially limit responses.
Layout

There were some superficial changes to the layout of the 1999 survey. Instead of tick-boxes, the revised version uses numbers to be circled. This is to make coding easier, and thereby reduce error. The initial instructive paragraph was simplified to avoid confusion. Sections were numbered rather than described to prevent any suggestion of prompting, and to improve presentation. The boxes around each section were removed to make the survey appear less crowded. The amount of space given for open ended questions was more generous. Section XI “Demographic and Personal opinion questions” was split in two, to improve the layout as well as to make coding more straightforward and less susceptible to error.

Table 6.2: Catalogue Of Changes To Incorporate Critique Of The Model And Survey

<table>
<thead>
<tr>
<th>Number*</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Tick boxes changed to numbers to be circled</td>
</tr>
<tr>
<td></td>
<td>First instructive paragraph simplified</td>
</tr>
<tr>
<td></td>
<td>Sections numbered rather than described</td>
</tr>
<tr>
<td></td>
<td>Boxed outlines removed</td>
</tr>
<tr>
<td></td>
<td>Space for open ended questions more generous</td>
</tr>
<tr>
<td>I: b - i</td>
<td>Dichotomous items, replaced with I: b, c, d scaled semantic differentials</td>
</tr>
<tr>
<td>I: e, f added</td>
<td>I: e tests relative influence of shock; I: f tests nature of shock (global / specific)</td>
</tr>
<tr>
<td>IV: a - e g</td>
<td>Changed to Likert scale type questions; IV: c included in demographic section as XIII: j</td>
</tr>
<tr>
<td>IV</td>
<td>Instruction “…if non-work option, go directly to section VI” removed</td>
</tr>
<tr>
<td>VIII: c</td>
<td>Item to test script formation, and ‘snowball’ hypothesis added</td>
</tr>
<tr>
<td>IX: a</td>
<td>Single item on avoidability moved to X</td>
</tr>
<tr>
<td>X</td>
<td>Avoidability item IX: a retained, open ended item on avoidability added</td>
</tr>
<tr>
<td>XI: a - m</td>
<td>Split into two sections</td>
</tr>
<tr>
<td>XII</td>
<td>Reason(s) section added</td>
</tr>
</tbody>
</table>

* Question numbers in bold refer to the final revised version of the survey.
Changes To Incorporate Points From The Pretest Stage

Prior to sending out the survey, it was tested with 13 nurses / midwives who either were currently, or had up until recently been, working in the NHS. The survey was briefly explained to them, and they were asked to put themselves in the place of likely recipients and comment on how the survey could be improved. Respondents were asked to complete the survey keeping in mind the last occasion on which they chose to move jobs within the NHS. Where this was not possible (i.e. they had not changed jobs), their comments on the survey were invited. Respondents were asked to comment - via writing on the survey document - on general issues to do with the survey design and layout, the extent to which it was repetitive etc. They were also asked to comment on any particular items which they felt were ambiguous, difficult to understand or irrelevant. Of the thirteen surveys distributed, all were returned, though one was blank. Of the remaining twelve, three surveys were not fully completed. Many of the remaining surveys had some missing data (between one and four items). Four respondents were asked about the survey one-to-one in more detail.

The most frequent comment was that the survey was too long, taking between 15 minutes and half an hour to complete. There was some confusion caused by: Ih, section IV (particularly item f) and VIIIa. Some people felt section X (avoidability) was repetitive, and as has been discussed above, this was subsequently changed from a seven item scale, to a single item. Section II was often missed, as were items in section IV. The sequencing in the final section wasn’t always followed, and people answered some questions unnecessarily.

As a result of this written feedback, some changes were made to the survey, prior to these changes being discussed in more detail with four of the respondents. The survey was made double sided, to try to make it seem shorter. Question Ih, “Was an unexpected job offer or inquiry the event that first led you to think seriously about leaving?” was omitted because it caused widespread confusion. Lee et al (1999: 453) originally included this item to make explicit the possibility that a job offer could also be a shock, and that this could be a shock which may prompt scripted quitting (path 1), or initiate a quitting process involving comparison and evaluation (path 3). Though this is not challenged, it was not felt necessary to include this item as the open ended question could provide information about the content.
of the shock, and there is scope to infer the nature of the shock from other elements in the survey.

Three items in section IV were reworded slightly in the hope of making them easier to understand. Item IVa, “I left without evaluating any specific alternatives”, was changed to, “I left without evaluating any alternatives.” Item IVb, “I had at least one job offer in hand before finally leaving”, was changed to “I had at least one definite job offer before I finally left.” Item IVe, “I ultimately accepted a job offer that I had in hand”, was changed to, “I didn’t leave until I had a definite job to go to”. The original item this was based on in the 1999 survey was not included in the list of classification rules for the unfolding model, and it had caused confusion among many respondents. Nonetheless, it was included after revision as this item could present an opportunity to assess the relative weighting of the evaluation factor in a given decision pathway. It could also provide a test of inertia (Mercer 1979).

Item IVf, “If you accepted a job offer that you had in hand, was it originally an unsolicited job offer or inquiry? (Please answer only if you had a job offer in hand.)” was omitted. This item caused the greatest confusion among respondents. In the 1999 survey classification rules, a response of yes to this is automatically counted as scripted (path 1) quitting, the reasoning being that the job offer constitutes a shock, and that because a response of ‘yes’ indicates acceptance of this unexpected job offer, the leaver will not have conducted a search, or evaluation. This is not necessarily the case however. Respondents could accept an unsolicited job, whilst having conducted evaluation or search.

In Section VIII, item VIIIa, “At the time I left my job, the circumstances seemed clear that I had to make a decision about leaving (i.e., the circumstances were a turning point)...” was changed to, “At the time I left, it seemed clear to me that I had to decide there and then whether to stay or go.”

To try to avoid there being missing data, section II was realigned so that the numbered yes / no responses were in line with the numbers for the section above. Item Ia was similarly realigned to ensure consistency, and the sequencing instruction (“If NO go to section II”) was placed after the response, to avoid candidates who did not experience a shock skipping this section, but failing to indicate ‘no’. Item IIa, “If you voluntarily left, did you leave to
avoid an immediate or near immediate lay off (e.g. from a merger, reorganization etc.)? (Please answer only if you left voluntarily), was shortened to “If you voluntarily left, did you leave to avoid an immediate or near immediate lay off?” This was partly because discussion with nurses indicated that compulsory redundancy was very rare. The sequencing instructions in the final, demographic section were made bold.

Table 6.3: Catalogue Of Changes To Incorporate Points from the Pretest

<table>
<thead>
<tr>
<th>Number*</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>The questionnaire was made double sided</td>
</tr>
<tr>
<td>I: h</td>
<td>Omitted</td>
</tr>
<tr>
<td>II</td>
<td>Realigned to try to avoid missing data</td>
</tr>
<tr>
<td>IV: a, b, e</td>
<td>Reworded to avoid confusion</td>
</tr>
<tr>
<td>IV: f</td>
<td>Omitted</td>
</tr>
<tr>
<td>VIII: a</td>
<td>Reworded to avoid confusion</td>
</tr>
<tr>
<td>XIII</td>
<td>Sequencing instructions made bold</td>
</tr>
</tbody>
</table>

*Refers to the first revised draft of the questionnaire.

Data Collection

Eight NHS Trusts were contacted and agreed to participate in the research. Six of the eight trusts are in the NHS Trent region, namely: Chesterfield Royal Hospital NHS Trust, Leicestershire and Rutland NHS Trust, Northern Lincolnshire and Goole NHS Trust, Queen’s Medical Centre Nottingham, Sheffield Teaching Hospitals NHS Trust and University Hospitals of Leicester NHS Trust.

Of the remaining two trusts, South Buckinghamshire NHS Trust is in the Anglia region (outside the London weighting zone) and King’s College Hospital NHS Trust is in central London (South Thames Region).

These Trusts agreed to take part on the understanding that they would each receive a report summarising information from the returned questionnaires. The relevant gatekeeper (either HR Director or Nursing Director) at each Trust was contacted by telephone first, then after expressing interest, they were provided with a copy of the proposed survey, and a covering
letter outlining the benefits of participating in the research (appendix 3). This letter also indicated the research had been passed by the multi-regional ethics committee (MREC) for the Trent region.

The letter outlined the costs in time and resources that would be involved in participating. Trusts were required to indicate the number of contactable, full-time, qualified, voluntary nurse leavers they had had in the tax year 2000-2001. They would then be sent the requisite number of pre-sealed envelopes that simply required a mailing label affixing, and could then be sent to the leavers they had identified.

The envelopes contained the surveys and a stamped addressed envelope for respondents. These were addressed directly to me at Loughborough, so that Trusts had no more resource implications, and so respondents could feel able to express themselves freely.

Only one Trust (which was based outside the Trent region) declined to take part. This was owing to time pressures on staff in preparation for a merger, and not (as far as it was possible to tell) owing to lack of willingness. At one of the Trusts in the Trent region, the HR director was initially not interested in taking part because they felt they had already adequately investigated the problem of nurse turnover. In this instance however, the person with specific responsibility for nurse turnover was interested in participating in the project, and so that Trust was included in the sample.

The Trusts were selected so as to allow access to a large body of leavers, (comparable to Lee et al's initial target sample). Those selected represent a diverse range in terms of location, size and type. There are four medium sized Trusts, which are each 'rural' – in the sense they are not based exclusively in a large city, and four large acute Trusts, each of which comprises a teaching hospital or hospitals. The four smaller Trusts are: Leicestershire and Rutland (community), Chesterfield (acute), Northern Lincolnshire and Goole (acute) and South Buckinghamshire (both acute and community). The large Trusts are based in Sheffield, Nottingham, Leicester and London.

The selection of Trusts in the Trent region was also influenced by practical considerations (all these Trusts are within reasonable travelling distance), and access to several of the
Trent region Trusts was facilitated by the then regional nurse for recruitment and retention for the Trent region, with whom I met personally.

Two Trusts from outside the Trent region were included in the sample. Access to King's was partly facilitated by a personal contact. At South Buckinghamshire NHS Trust, access was made easier because of (MSc) research previously carried out there, and so it was possible to make use of existing contacts in the HR department. Although it would not be necessary to demonstrate statistical representativeness in order to test Lee et al’s model, it was felt prudent to try to widen the scope of the survey. This is partly in the recognition that limiting the Trusts to one region (even though this is a large area) would lay the study open to an obvious criticism, and potentially diminish the capability to later communicate the findings to a wider policy audience.

Sample

Overall a total of 1,190 surveys were sent out via the eight Trusts. Of these, 368 were returned during the period from the last week in April, to the first week in September. 24 surveys were returned as undelivered because the mailing details held by Trusts were incorrect. Eight surveys were excluded from the analysis initially, because the respondent was either not a nurse (two cases), or because the turnover was readily identifiable as involuntary (five cases). One survey was returned by a nurse who was still in post - an unfortunate administrative error that hopefully did not translate into a shock!

More detailed inspection of the surveys (during data entry) resulted in eight more surveys being excluded, either because there was too much missing data (three cases), or because turnover was identifiable as involuntary (five cases). The final sample size is thus 352. This represents an overall response rate of 31%, which is significantly higher than the response rate from Lee et al (1999) ($\chi^2 = 7.57, p < 0.01, 1$ d.f) and high for this type of survey (Owen and Jones 1994: 313). As well as the response rate comparing favourably with Lee et al, there is some justification for regarding this as a good rate of return, given: a) the personal nature of the survey, b) the length, c) it was unsolicited, d) non-returns were not followed up and finally, e) mailing details held by some Trusts were out of date or otherwise inaccurate. Although following up non-returns is a common way to boost
response rates (Henry 1990; Fink 1995), this was not thought advisable for this study for several reasons.

1. Early indications were that rates of response were likely to be higher than Lee et al.

2. Follow up letters could not have been sent only to non-returners because (i) it was not possible for me to have access to the Trust’s mailing database, and (ii) the cover letter to the survey respondents guaranteed confidentiality (to try to boost the response rate), so it would have been unethical to disclose who had responded.

3. Sending follow-up letters to the whole sample would mean contacting some people unwilling to participate again, and this could have been upsetting for them. It may also have inspired disaffect with the Trust or the NHS, which would have been highly counterproductive.

4. Some Trusts would have been unwilling to incur extra costs involved in this, and it was felt better to hold the procedure relatively constant where possible.

It is not possible to say how many more surveys were wrongly delivered and simply thrown away, though it can be inferred that mailing details for some Trusts were out of date, given that in some cases the original mailing address (identifiable from the return) was Trust owned accommodation for nursing staff.

Response rate data by Trust is shown in tabular form below:
Table 6.4: Response Data By Trust

<table>
<thead>
<tr>
<th>Trust Name and number</th>
<th>No Sent</th>
<th>Valid Returns</th>
<th>Void: Undelivered</th>
<th>Void: Missing data / Invol.</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Buckinghamshire: 1</td>
<td>98</td>
<td>32</td>
<td>1</td>
<td>0</td>
<td>33%</td>
</tr>
<tr>
<td>Buckinghamshire: 1</td>
<td>91</td>
<td>25</td>
<td>1</td>
<td>0</td>
<td>28%</td>
</tr>
<tr>
<td>Leicestershire and Rutland: 2</td>
<td>249</td>
<td>95</td>
<td>10</td>
<td>1</td>
<td>40%</td>
</tr>
<tr>
<td>University Hospitals of Leicester: 3</td>
<td>51</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>47%</td>
</tr>
<tr>
<td>Chesterfield Royal Hospital: 4</td>
<td>45</td>
<td>13</td>
<td>1</td>
<td>4</td>
<td>33%</td>
</tr>
<tr>
<td>Northern Lincolnshire and Goole: 5</td>
<td>108</td>
<td>24</td>
<td>3</td>
<td>2</td>
<td>23%</td>
</tr>
<tr>
<td>Sheffield Teaching Hospitals: 6</td>
<td>348</td>
<td>85</td>
<td>6</td>
<td>0</td>
<td>25%</td>
</tr>
<tr>
<td>King’s College Hospital: 7</td>
<td>200</td>
<td>54</td>
<td>2</td>
<td>1</td>
<td>27%</td>
</tr>
</tbody>
</table>

Each Trust was numbered (as above) and returned surveys were given a unique four-digit identification number to assist analysis. This identification number was calculated from the Trust number (first digit), and the order in which the surveys were returned (next three digits), so for example the first survey from South Buckinghamshire was labelled ‘1001’, and the fiftieth survey from King’s was labelled ‘7050’.

Sampling And Representativeness

15 surveys were returned by leavers whose specialism was midwifery. Although there is some argument to be made for excluding these altogether from the analysis, because they represent a different occupational group, these were nonetheless included. This was primarily because these employees would be subject to many of the same organizational or institutional pressures as nurses. There were indications from responses to the open items that in terms of substantive issues relating to the nature of their work, nurses and midwives form a similar if not exactly identical occupational group. Both groups reported similar areas of dissatisfaction, shocks and reasons for leaving. In addition, data from respondents highlighted several cases where nurses had left to become midwives, and vice versa, indicating a substantial degree of overlap. Finally, evidence from the pilot study, which
contained several respondents who were midwives suggested this group had no difficulty understanding, interpreting and applying items from the survey to their own professional and personal experiences.

Restricting the study to just a few target Trusts could be seen as undermining the statistical significance of any results, insofar as the overall number of Trusts in the NHS is over 200. Though this does not threaten the ability to test the turnover model, it may well undermine the widespread applicability of any recommendations. Data will be unlikely to be generalisable to the NHS as a whole with great confidence, as the sample size is small (Easterby-Smith M. et al. 1991: 123-125). These disadvantages are outweighed by two key advantages:

1. Having a clearly defined and manageable target sample.
2. Potential within such a defined sample for both scope and depth of analysis.

Both these potential advantages address what Gummesson (1991: 14) identifies as the main challenge to business research - that is the challenge of a researcher's gaining 'Access to Reality', and statistical significance may not be the sole consideration, where criteria of internal validity are satisfied. In addition, given that the unit of analysis is the individual leaver, one could argue that it is more relevant to assess generalisability in terms of the profile of the sample of respondents, rather than Trusts.

Although an element of stratified sampling (across age / tenure etc.) would have been more likely to ensure that the sample were more representative of the wider population (Henry 1990), this would have been difficult to achieve, given that it would have placed more of a burden on Trust personnel to select the data. In any case, given that the goal of the research is to contribute to the theoretical understanding of turnover via a test of Lee et al.'s model (1999), rather than to describe nursing turnover per se, perfection in design of the sample was not as high a priority as successfully negotiating access. The first goal was to reach a large enough sample to provide a robust test of the unfolding model. Given this model claims to apply to all voluntary leavers, any large enough sample of leavers will offer the opportunity for a replication test of Lee et al's findings, which forms the theoretical core of this thesis.
Conclusion

This chapter has outlined the development of the survey, showing the changes made in this study to the (1999) instrument. These changes were necessary to reflect contextual changes, to incorporate points from the theoretical critique, and to incorporate points raised in the pretest. Preliminary data presented in table 6.4 indicates that the rate of response and sample size compare favourably with Lee et al (1999).

The following chapter provides more evidence to suggest that the design and implementation of this study offers the potential for a robust test of the unfolding model. This chapter reports the first stage of this test, which is an attempt to replicate Lee et al’s (1999) findings.
Chapter Seven: Replication Element Of The Study

Introduction

This chapter reports the results of the replication of Lee and Mitchell’s unfolding model, using their 1999 paper as a framework for analysis and interpretation. In this paper, itself an extension of an earlier, qualitative study into turnover, they report their findings in a study of voluntary leavers in the accountancy profession. The table below offers some summary data comparing the study reported here, and the 1999 study, in terms of sample size, response rate and time between leavers exit and their being contacted.

Table 7.1: Sample Characteristics Comparing This Study And The Lee et al (1999) Study

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Population</td>
<td>Accountants</td>
<td>Nurses</td>
</tr>
<tr>
<td>Sample Size</td>
<td>229</td>
<td>352</td>
</tr>
<tr>
<td>Response Rate (Two s.f.)</td>
<td>20%</td>
<td>31%</td>
</tr>
<tr>
<td>Time between respondents leaving and survey</td>
<td>3-5 Years</td>
<td>2-14 Months</td>
</tr>
</tbody>
</table>

These summary data offer an initial basis for comparison between the two studies. The populations are different, though this should not be a threat to the validity of this replication study, given that the model purports to apply to all leavers. As can be seen the sample size here is considerably larger, and the response rate also compares favourably. Both characteristics suggest that, other things being equal, this study should offer a robust test of their findings. In addition, the time between respondents having left and their receiving a survey is far shorter in the present study. Lee et al cite three sources of psychological literature to support the legitimacy of targeting a sample a long time after the event. These relate to the accuracy of episodic memory (Wheeler, Stuss and Tulving 1997), the integrity of self-based referencing structures (Symons and Johnson 1997) and retrospective reporting in experiments testing recall (Miller et al 1997). Each of these can also be offered in
support of the current study’s response frame. However, there are other, more generic considerations relating to the validity of both self-reporting and retrospection which suggest that a 2-14 month frame for responses is more desirable (Miller et al 1997).

This threat is compounded given that the basis for the unfolding model is image theory. If we accept that decisions to leave are but one example of how we make any decision, and we believe that the best way to describe how we make decisions is image theory (Beach 1990), we are committed to a theory which transcends rational choice theory and includes elements of irrationality, impulse and automaticity. Any test of this theory should therefore allow as little scope for, “...inappropriate rationalizations, oversimplifications, faulty post hoc attributions...(Miller et al 1997: 189-90)” as possible. Integrity in recall and self-referencing is not evidence of consistently accurate description of a decision process. Instead it may be evidence of internal consistency. It may well be that over time decisions are retrospectively rationalized (Pfeffer and Lawler 1980), oversimplified, or otherwise altered. All the above suggests that a shorter window between respondents’ leaving and their receiving a survey represents an improvement in operationalisation.

As has been indicated, the principal theoretical contribution of this study is a particular form of replication, namely generalization and extension. For the sake of clarity, the following chapters will focus more on the ways in which Lee et al’s work has been refined and developed. This chapter will offer an account of the repeated testing element of the study. This in itself forms an important contribution. The unfolding model offers a new and innovative way of modelling employee turnover and although it is cited by other turnover theorists (e.g. Cohen 1999; Khatri et al 2001; Price 2000; Trevor 2001), as noted earlier, there have only been two empirical tests of the model to date (Lee et al 1996; Lee et al 1999), and no independent corroboration of the authors’ main findings. This part of the thesis directly answers theorists’ call for more replication studies in the field of employee turnover generally (Maertz and Campion 1998: 369) and with respect to Lee and Mitchell’s model in particular (Hom and Griffeth 1995: 86).

Lee and Mitchell (1999: 453-455) proposed and tested eight hypotheses, which are cited below. Additionally, various summary statistics offer a further basis for comparison between the two studies. These include: reliability coefficients for the image violation and job satisfaction scales (sections VI & VII and section IX respectively); correlations between
job satisfaction and image violation; measures of distribution of times between first thoughts of quitting to actual quitting; measures of job satisfaction; relevant demographic comparisons.

Table 7.2: Summary Statistics Comparing This Study And The (1999) Study

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha Coefficient: Image violation</td>
<td>0.82</td>
<td>0.89</td>
</tr>
<tr>
<td>Alpha coefficient: Job satisfaction</td>
<td>0.76</td>
<td>0.84</td>
</tr>
<tr>
<td>Correlation between Image Violation items and Mean Job Satisfaction</td>
<td>All significant p&lt;0.001 Range -.42 to -.24</td>
<td>All significant p&lt;0.001 Range -.59 to -.47</td>
</tr>
<tr>
<td>Adjusted coefficient for multiple correlation (R²) between mean job satisfaction and eight image violation items</td>
<td>0.27 p&lt;0.001</td>
<td>0.46 p&lt;0.001</td>
</tr>
<tr>
<td>Distribution of Time between first thoughts and decision to leave</td>
<td>KS=4.40 p&lt;0.01</td>
<td>KS=4.22 p&lt;0.01</td>
</tr>
<tr>
<td>Distribution of Time between decision to leave and leaving</td>
<td>KS=4.52 p&lt;0.01</td>
<td>KS=4.8 p&lt;0.01</td>
</tr>
<tr>
<td>Mean Job satisfaction</td>
<td>3.39</td>
<td>2.84</td>
</tr>
<tr>
<td>S.D. Job Satisfaction</td>
<td>0.51</td>
<td>0.7</td>
</tr>
<tr>
<td>Demographic Means:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>40</td>
<td>35</td>
</tr>
<tr>
<td>Tenure</td>
<td>8.1 years</td>
<td>4.1 years</td>
</tr>
<tr>
<td>Sex</td>
<td>69% Male</td>
<td>91% Female</td>
</tr>
</tbody>
</table>

Classification Schema

Lee et al (1999: 455) offer a “...tentative set of decision rules...” for testing the main constructs of the unfolding model. These were closely adhered to, however minor revision to some items in their original survey (as previously outlined), and response to some theoretical concerns, necessitated a new set of rules, which are listed below in bold. Following each rule is a brief outline of how (if at all) it differs from Lee et al’s study.
Shock: a response of 1 to item Ia, or description of this event in Ib.
As well as the first two of these items, Lee et al had an additional item, “if you accepted a job offer you had in hand, was it originally an unsolicited offer or inquiry”, response to which indicated shock.

Script: a response of 4 or 5 to items VIIIb, c or d.
As well as the first two of these items, Lee et al had two additional items, “if you accepted a job offer you had in hand, was it originally an unsolicited offer or inquiry” and “was there a particular event or series of particular events related to litigation that influenced your decision to leave”, response to which indicated script. Item IVd, “my decision to leave was influenced by a colleague (or colleagues) leaving”, was added to test the idea that scripts may be formed as a result of the immediate social context (Lee and Mitchell 1991: 105).

Image violation: a response of 1 or 2 in sections VI and VII.
This is identical to Lee et al.

Job satisfaction: A response of 1 or 2 in section IX.
This is identical to Lee et al, notwithstanding necessary changes in the job specific section of this scale.

Search: a response of 2, 3, 4 or 5 in response to Va.
As well as this item, Lee et al had two additional items to tap search, “did you have at least one job offer in hand when you decided to leave?” and “if you didn’t have a job offer in hand when you actually left, did you believe that getting an offer was very likely”. Neither of these necessarily indicate search. In respect of the first item, an offer may be unexpected and be received without a search. In respect of the second item, this relates to the ‘job offer’ construct, not the search construct. Accordingly, the rule has been revised and simplified.

Evaluation: a response of 1 or 2 to item IVa or a response of 4 or 5 to item IVd.
Proviso: If respondents agreed (4) or strongly agreed (5) to item IVa, “I left without evaluating any alternatives”, then this was classified as no evaluation, irrespective of responses to IVc and d.
This is intended to be equivalent to Lee and Mitchell's assessment of evaluation, though their items were reworded and scaled (as outlined in chapter six).

**Job Offers: a response of 4 or 5 to items IVb, c or e, or an answer of 1 or more for items Vb or c.**

Lee et al's items were reworded and scaled to tap this same construct, however they had two additional items relating to unsolicited job offers: "was an unsolicited job offer or inquiry the event that first led you to think seriously about leaving", and "if you accepted a job offer you had in hand, was it originally an unsolicited offer or inquiry". These were excluded in the revised questionnaire, as has been outlined. They also used a third item, "did you ultimately accept a job offer that you had in hand" to tap offers. This too was excluded following a pilot of the survey. It is not believed that excluding these items influenced classification decisions, as in only 13 cases was the job offers construct absent. In these 13 cases, in no case was there missing data for any of the items IVb, IVe, Vb or Ve.

**Discussion**

An assessment of the differences between the two sets of decision rules reveals that two of the seven constructs are assessed in exactly the same way. The revisions result in a more parsimonious set of decision rules, and also, in no case is any item used to tap for more than one construct. This has benefits in terms of repeated tests of the model, and should enable easier assessment of the validity of the core theoretical constructs. One change, namely removing the item regarding litigation (included in Lee et al's study of accountants), was owing to the difference in context. Revision to the rule for classifying search was to remove conceptual ambiguity in the existing schema.

The biggest source of change is removal of the item, "if you accepted a job offer you had in hand, was it originally an unsolicited offer or inquiry", which Lee et al use in classifying three of the constructs in the model. As noted, this item, and the item, "was an unsolicited job offer or inquiry the event that first led you to think seriously about leaving" were removed after pilot testing indicated both caused confusion among respondents. Even so, there is scope to infer the information for both these items in the survey as it stands. Information relating to an unexpected job offer can be derived from three sources. Firstly,
where respondents indicate they have not conducted a search, yet receive a job offer, secondly, where an unexpected offer is described as being the shock, and thirdly in response to any of the open items.

**Classification Into Paths**

In terms of the model's five pathways, and in line with Lee et al's guidelines, decisions on how to classify leavers were made as follows (for economy of space image violation is shortened to IV):

Path 1 = Shock + Script + No Search + No Evaluation + No Likely Offer
Path 2 = Shock + IV + No Search + No Evaluation + No Likely Offer
Path 3 = Shock + IV + Dissatisfaction + Either Search or Evaluation + Likely Offer
Path 4a = No Shock + IV + Dissatisfaction + No Search + No Evaluation + No Likely Offer
Path 4b = No Shock + IV + Dissatisfaction + Either Search or Evaluation + Likely Offer

Applying these classification rules led to the following results. Again, these are compared alongside Lee et al’s 1999 study, with percentages quoted in parentheses.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Path 1</td>
<td>6 (2.6%)</td>
<td>2 (0.6%)</td>
</tr>
<tr>
<td>Path 2</td>
<td>7 (3.1%)</td>
<td>0</td>
</tr>
<tr>
<td>Path 3</td>
<td>55 (24%)</td>
<td>115 (32.7%)</td>
</tr>
<tr>
<td>Path 4a</td>
<td>8 (3.5%)</td>
<td>1 (0.3%)</td>
</tr>
<tr>
<td>Path 4b</td>
<td>136 (59.4%)</td>
<td>153 (43.5%)</td>
</tr>
<tr>
<td>Number of Unclassifieds</td>
<td>17 (7.4%)</td>
<td>81 (23%)</td>
</tr>
</tbody>
</table>

Lee et al (1999: 457) also reported that of the 17 cases that could not be classified, “...only a single theoretical inconsistency in each case precluded classification.” This was either due to failure to report image violation (in 13 cases), or missing data (4 cases). None of the
12 null pathways, which would constitute a falsification, were present in their data. In this study, both these themes were investigated to provide comparison and further test the validity of the model. Inspection of the data revealed that a substantial number of cases would likely be classifiable, were respondents to have reported image violation, and still more cases were respondents to have reported both image violation and job satisfaction.

To identify the number of cases that were unclassifiable solely owing to failure to report image violation, the data set was temporarily, artificially changed (using an EXCEL spreadsheet) so that image violation was deemed as always present in those cases that were initially unclassified, and the number of additionally classifiable cases was counted. In addition to following this step, which Lee et al identified as the main reason for leavers being unclassifiable in their study, inspection of the data set had revealed a further potential source of unclassifiable cases was failure to report job satisfaction, this was also investigated and the table below summarises this.

| Table 7.4: Drivers Of Unclassifiable Cases - Comparison With (1999) Study |
|-------------------------------------------------------------|----------------|----------------|
|                                                            | 13 (5.7%)        | 37 (10.5%)     |
| Unclassifiable: Fail to report Job Dissatisfaction          | 0               | 9 (2.5%)       |
| Unclassifiable: Fail to report both Image Violation and Job Dissatisfaction | 0               | 16 (4.5%)      |

**Missing Data**

The next stage was to assess the potential impact of missing data on classification decisions. Although some respondents had missed out items in the survey, by and large these related to the demographic section of the survey, which was not used in classification. In order to see if missing data meant that some constructs were incompletely assessed, each questionnaire was visually inspected, and cases with missing data were examined. It should be noted that missing data need not affect classification decisions given the current structure and classification schema of the unfolding model, as constructs are assessed merely as ‘present’ or ‘absent’. Accordingly, where there is sufficient data to assess that a construct is
'present', missing data beyond this does not affect classification. However in cases where a construct is deemed absent, and there is missing data in the section relevant to the assessment of that construct, this could potentially influence classification. The table below reveals the results of this investigation, showing the scale (number) and scope (implications for classification) of missing data, in terms of sections affected.

Table 7.5: Impact Of Missing Data On Classification

<table>
<thead>
<tr>
<th>Section Description</th>
<th>Number</th>
<th>Implications for Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall number of surveys with at least one missing item</td>
<td>141</td>
<td></td>
</tr>
<tr>
<td>Solely Demographic Data Missing</td>
<td>91</td>
<td>Nil</td>
</tr>
<tr>
<td>Solely Evaluation Data Missing</td>
<td>17</td>
<td>Evaluation construct identifiable in each case</td>
</tr>
<tr>
<td>Solely Job Offer Data Missing</td>
<td>15</td>
<td>Offers construct identifiable in each case</td>
</tr>
<tr>
<td>Both Evaluation and Job Offer Data Missing</td>
<td>5</td>
<td>Evaluation construct unknown in one case, though this doesn’t affect classification</td>
</tr>
<tr>
<td>Evaluation, Job Offer and One ‘Script’ item missing</td>
<td>1</td>
<td>Evaluation and Offers Constructs identifiable, so no effect on classification</td>
</tr>
<tr>
<td>Missing data relating to Job Satisfaction and / or Image Violation</td>
<td>4</td>
<td>Image Violation and / or job dissatisfaction identifiable in each case</td>
</tr>
<tr>
<td>Missing data in other sections which have no bearing on classification</td>
<td>8</td>
<td>Nil</td>
</tr>
</tbody>
</table>

In no case did missing data potentially influence classification of cases that were not successfully classified initially. It is also worth stressing that the two biggest identifiable
reasons for leavers being unclassifiable (failure to report image violation or job dissatisfaction) were in no way attributable to incomplete responses.

Falsifying Cases

The next stage was to identify and describe cases that were falsifying, that is, which constituted null pathways. The following null pathways were identified as being present. The number in parentheses represents the number of cases in this null pathway. For economy of space, Image Violation is shortened to IV, and Evaluation is shortened to Eval.

1. Shock + No Script + No IV + No Dissatisfaction + No Search + No Eval + Offer (1)
2. Shock + No IV + Dissatisfaction + Search or Eval + No Offer (3)
3. Shock + No IV + Dissatisfaction + Search or Eval + Offer (11)
4. Shock + No IV + No Dissatisfaction + Search or Eval + Offer (7)
5. Shock + No IV + Dissatisfaction + No Search + No Eval + Offer (2)
6. Shock + IV + Dissatisfaction + Search or Eval + No Offer (6)
7. Shock + IV + Dissatisfaction + No Search + No Eval + Offer (4)
8. Shock + IV + No Dissatisfaction + No Search + No Eval + Offer (1)
9. Shock + IV + No Dissatisfaction + Search or Eval + Offer (4)
10. No Shock + No IV + Dissatisfaction + Search or Eval + Offer (26)
11. No Shock + No IV + No Dissatisfaction + Search or Eval + Offer (9)
12. No Shock + IV + No Dissatisfaction + Search or Eval + Offer (5)
13. No Shock + IV + Dissatisfaction + Search or Eval + No Offer (1)
14. No Shock + IV + Dissatisfaction + No Search + No Eval + Offer (1)

Of these 14 null pathways, nine describe a greater number of leavers than paths 1, 2, or 4a. The null pathways numbered 3 and 10 describe the number of leavers who would have been classifiable if they reported image violation, null pathways 9 and 12 describe those who would have been classifiable if they reported job dissatisfaction, and null pathways 4 and 11 describe those leavers who would have been classified if they had reported both image violation and job dissatisfaction.
Discussion

Before testing the hypotheses of Lee et al (1999), it is worth reflecting on these initial findings. To begin it must be acknowledged that these results pose a severe challenge to the validity of the unfolding model as a classification schema. 81 cases were unclassified, and the data indicated the presence of 14 null pathways, which null pathways Lee et al themselves putatively cite as sufficient evidence of falsification (1999: 459). No previously reported findings on the unfolding model have challenged the structure of the model as severely. However, it should also be noted that the number of cases able to be accurately described by the unfolding model is higher than would be expected in other accounts of turnover, which do not incorporate the idea of ‘shock’. Specifically, 156 leavers (44.3%) reported, “a single, particular event that caused [them] to think about leaving.” This is once again strong empirical support for the existence of a precipitating event in leavers’ decision processes.

There is also reason to believe that alternative accounts of turnover would struggle to describe many of the 81 unclassified cases. It would be problematic for many traditional accounts of turnover (Mobley et al 1981 being a notable exception) that 27 leavers did not report job dissatisfaction Σ (1, 4, 8, 9, 11, 12 above). Over and above these cases, 7 leavers did not search for alternatives Σ (5, 7, 14), and an additional 10 leavers Σ (2, 6, 13) did not have a job offer on leaving. Failure to report job dissatisfaction is almost universally damaging to the psychological school’s account of turnover, and failure to report search or job offers is damaging to the economic / labour market school’s account of turnover. In 11 of the remaining cases (null pathway 3), leavers reported a shock, which traditional accounts of turnover do not incorporate. In sum, of the 81 misclassified cases in this study, 55 (68%) would present problems for existing accounts of turnover.

Replication Of Lee et al’s (1999: 453-5) Hypotheses

Hypothesis 1: A higher proportion of individuals leaving jobs will be classified into the theorized paths using the revised unfolding model of voluntary turnover than the original model.
Lee et al (1999) reported being able to classify an additional 69 cases (30.1%) with their revised model (moving from 143 to 212). This was mainly as a result of changes to the classification rule for scripts, but also to the job alternatives, search and evaluation constructs. In the 1994 model (figure 7.1 below), script is limited to path 1. This has been changed so that in the revised model, a script can exist in other pathways. Also, the notion of job alternatives has been expanded to include non-work options and revised so that an alternative offer need only be perceived as highly likely. The 1999 model also decoupled the search and evaluation constructs, with either being sufficient to count leavers as paths 3 and 4b. Finally, the revised unfolding model makes it explicit that an unexpected job offer can constitute a shock. In terms of the study reported here, a comparison of numbers classified by the original and revised models reveals that using the original unfolding model, 112 (31.8%) leavers were classifiable and 240 (68.2%) unclassifiable. With the revised model however, 271 (77%) leavers were classifiable and 81 (23%) unclassifiable. This represents an increase of 159 classifiable cases (45.1%, $\chi^2=144.76^4$, p<0.001, 1 d.f.).

Lee et al also report that the change to the script construct alone produced a statistically significant (p<0.001) effect in terms of the number able to be classified. For this study too, this was so, with this change alone resulting in an increase of 73 classifiable cases (21%, $\chi^2=31.04$, p<0.001, 1 d.f.). They found that the majority of additionally classifiable cases (18 of 22 outstanding) were classifiable after revision of the alternatives construct, though this was not statistically significant (p<0.07). For this study, this revision resulted in 29 (8.2% of the overall sample) additionally classifiable cases, which was just significant ($\chi^2=4.87$, p<0.05, 1 d.f.). Revision to both the script and alternatives constructs enabled Lee et al to classify the 4 cases outstanding. They were thus able to explain all the differences in classification between their original and revised models. For this study, 5 cases were classifiable after revisions to both the scripts and alternatives constructs (1.4%, ns) and the remaining 52 cases were classifiable after the search and evaluation constructs were ‘decoupled’, that is to say when only one of the ‘search’ or ‘evaluation’ constructs needed to be counted as present for a leaver to be classifiable as path 3 or path 4b (in the original formulation, these were both necessary features of path 3 and 4b quits).

---

4 In line with Lee et al (1999: 457), this and subsequent $\chi^2$ statistics do not take into account Yates’ correction for continuity.
This significantly improved classification success for the model (14.8%, $\chi^2=18.15$, p<0.001, 1 d.f.). This is summarised in the table below.

<table>
<thead>
<tr>
<th>Model Stage</th>
<th>No Of Additionally Classifiable Cases</th>
<th>Total Number Of Classifiable Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original (1994) Formulation</td>
<td></td>
<td>112</td>
</tr>
<tr>
<td>Revision to Script rule</td>
<td>73</td>
<td>185</td>
</tr>
<tr>
<td>Revision of Alternatives Construct</td>
<td>29</td>
<td>214</td>
</tr>
<tr>
<td>Revision to Both Scripts and Alternatives</td>
<td>5</td>
<td>219</td>
</tr>
<tr>
<td>Search and Evaluation 'decoupled'</td>
<td>52</td>
<td>271</td>
</tr>
<tr>
<td>Current (1999) Formulation</td>
<td></td>
<td>271</td>
</tr>
</tbody>
</table>

In addition to overall comparisons with their earlier model, Lee et al reported differences in the profiles of leaving pathways between the two samples. The 1996 sample comprised 44 nurses whilst the 1999 sample comprised 229 accountants. Lee et al found no significant differences in the proportions classified as 4b quits (the traditional account of turnover), but they found path 3 occurring significantly more often among accountants than nurses. The other paths (1, 2 and 4a) occurred significantly more often among nurses. In this study, small sample sizes in these pathways preclude us inferring meaningful effects, however it is possible to compare the proportionate profile of leavers in paths 3 and 4b.

In the 1996 study, 14 (31.8%) nurses were classified as path 3, and in the 1999 study, 136 (59.4%) accountants were classified as path 3, which is significantly different (Lee et al 1999: 457). In this study, 115 nurse leavers (32.7%) were classified as path 3. This also represents a significantly different leaving profile when compared with the accountant leavers ($\chi^2=32.9$, p<0.001). Also, in terms of comparison with the 1996 sample of nurse leavers, we find no significant difference ($\chi^2=0.01$). Indeed, this is strong support for the hypothesis that, “...different occupational groups have different patterns of... leaving their jobs” (Lee et al 1999: 457).
Figure 7.1: The Original Unfolding Model (Lee and Mitchell 1994: 62-3)

Key:
Path 1 = Shock (a) Decision Frame (b) Probe (c) Match (d) Scripted Quit (e)
Path 2 = Shock (a) Decision Frame (b) Probe (c) No Match (d) Image Violation (f, g) Quit (i)
Path 3 = Shock (a) Decision Frame (b) Probe (c) No Match (d) Focus on evaluating alternatives (j) Test Image Fit (k) Leave after weighing up benefits of alternatives (n, o, q), potentially identified through search (m) against current job (r, v)
Path 4 = No Shock, but quitting prompted by gradually waning dissatisfaction (z)
Hypothesis 2a: The duration between the first thoughts of quitting and a decision to leave and the duration between a decision to leave and actual quitting will be shorter in paths 1 and 2 than in paths 3, 4a and 4b, and these durations will be shorter in path 3 than in path 4b.

Hypothesis 2b: The duration between a decision to leave and actual quitting will be shorter in path 4a than in path 4b. No difference is expected between paths 1 and 2 for both durations and between paths 4a and 4b on the first duration.

As has been stated, the number of leavers in paths 1, 2 and 4a is small. This means it is not meaningful to seek to infer significance in terms of the differences between these paths and other pathways. Consequently, it is not possible to adequately test any but one of these hypotheses, namely: “The duration between the first thoughts of quitting and a decision to leave and the duration between a decision to leave and actual quitting will be shorter in path 3 than for path 4b.”

Lee et al (1999: 457) suggest that parametric methods are inappropriate for the analysis of their data, given that a Kolmogorov-Smirnov test suggests these data are not normally distributed. Accordingly, they use a non-parametric method (logistic regression) to analyse the interaction between decision time and pathway, and use the $\chi^2$ statistic to test whether allocation to path 3 or 4b using the predicted relationship (shorter decision times are an indicator of path 3) is significantly better than allocation by chance.

Logistic regression is used at length in chapters eight and ten. Although this technique forms only a small part of the replication element of this thesis, it is outlined in detail below.

**Logistic Regression**

Logistic regression (sometimes called logit analysis) is a form of regression where the dependent variable is categorical (usually dichotomous) (Hosmer and Lemeshow 1989: 216). It is similar to multiple regression insofar as the final model is expressed as an
equation, where one or more independent variables are used to predict a single dependent variable. In logistic regression however, the dependent variable is categorical, and hence there is a need to transform the relationship between the dependent and independent variables so that we can model it – in other words, to make the ‘inherently nonlinear’ linear (Hair, Anderson, Tatham and Black 1998: 277). Logistic regression achieves this transformation by modelling the log odds of belonging to a group.

Log Odds

To use an example, we might be interested in exploring whether someone voted at the last election. We could define the dependent variable as having two values: either they did not vote (‘no’, or ‘0’), or they voted (‘yes’, or ‘1’). This way of framing the problem leaves little scope to explore the relationship between antecedent factors and circumstances and the outcome – someone either did, or did not vote. A step forward would be to think of the dependent variable in terms of a probability, in other words as lying in the range 0 to 1. Alternatively we could talk in terms of the odds – for example it is ‘5 to 1 on’ that they voted. By calculating the odds of group membership, we extend the range of the dependent variable beyond 1 (and up to infinity).

By taking the natural logarithm (here ‘log’) of these odds we remove the lower boundary of zero and make modelling easier and symmetric. The log of any number above one is positive, the log of one is zero, the log of any number below one is negative. In other words, via this log odds transformation we can express a probability in the range of 0-1 as a number between minus infinity and plus infinity. For example: a probability of 0.5 is 1:1 or ‘evens’, log 1 is 0; a probability of 0.1 is 0.111:1 or ‘9 to 1 against’, log 0.111 is –2.2; a probability of 0.9 is 9:1 or ‘9 to 1 on’, log 9 is 2.2. Note that the modelled values of ‘9 to 1 against’ and ‘9 to 1 on’ are the same (2.2), except for a change of sign.

The basic form for a logistic regression function can be expressed as:

\[
\text{Prob (event) / Prob (no event)} = a + b_1 x_1 + b_2 x_2 + \ldots + b_n x_n + e
\]

Where \(\text{Prob (event) / Prob (no event)}\) is the odds ratio, \(a\) is a constant, \(X_1, X_2, X_n\) are independent variables, \(b_1, b_2, b_n\) are coefficients estimating the change in the odds ratio and
e is an error term. The odds ratio (probability of group membership) can be used to define the cut-off value between the two groups. In groups of equal size, this value will be 0.5, to reflect the equal probability of group membership being correctly predicted by chance. To illustrate, if we have a hundred people and half of them are smokers, if we try to predict 'group membership' (whether someone is a smoker), then it is appropriate to use a 'cut-off value' of 0.5. If however (again in a sample of 100) the ratio of non-smokers (coded as 1) to smokers (coded as 0) is different — say only 20% are non-smokers, it is appropriate to use a revised cut-off value that reflects the difference in sizes between the two groups. In this example the revised cut-off value would be 0.8 (80 non-smokers / [80 + 20 smokers]).

**Model Fit And Generation**

Assessment of the model's fit can be expressed in terms of the change in log likelihood (sometimes also called a pseudo $R^2$), which shows the difference in how well the model fits the data. This change can either be expressed in terms of a difference from a baseline value (where no variables are included in the equation), or (to assess progressively more complex models) in terms of the difference as a result of adding extra variables (Pampel 2000: 49). Less frequently, classification success (percentage of cases whose group membership is correctly predicted) is used as a criterion to assess model fit (Menard 2001: 24).

In a similar fashion to multiple regression, methods for generating logistic regression models are various, from straightforward entry of identified variables of interest, to methods which start with no variables and include in a stepwise fashion those variables that survive specified criteria (typically a level of significance for the logistic coefficient — i.e. a measure of predictive power). Alternatively one can start with all potential variables of interest in the model and remove in a stepwise fashion variables that do not survive specified criteria. For the bulk of the logistic regression analysis in this thesis, the method used will be forward, step-wise, because this allows for more detailed inspection of competing models. However, this chapter presents a replication test of Lee et al's findings. Accordingly, their method will be adhered to as closely as possible.
Logistic Regression In Lee et al (1999)

Lee et al (1999: 457-8) found that, "...the first duration (between first thoughts of quitting and the decision to leave) was significantly shorter in... path 3 than in path 4b ($\chi^2=4.00$, $p<0.05$) [and] the second duration (between the decision to leave and actual leaving) was significantly shorter than it was in path 4b ($\chi^2=2.94$, $p<0.05$)." The method used to test these findings, following Lee et al (1999: 457-8) was enter (both variables were included as the first and only step of the model), and the cut-off value used to reflect the difference in group proportions was 0.57 (150 leavers in path 4b / [150 + 112 leavers in path 3]).

In terms of comparisons between the two paths, logistic regression for the first duration (between first thoughts of quitting and the decision to leave) revealed there was a significant difference for this population of leavers in terms of the first duration. The logistic regression model indicates that decision time significantly improves the ability to predict path membership ($\chi^2=6.24$, $p<0.05$ in table 7.7 below). However, in terms of the two variables used in this model, the measure of decision time for the second duration (between the decision to leave and actual leaving) was not significant (table 7.8).

Table 7.7: Significance Of Logistic Regression Equation Testing Relationship Between Decision Time And Leaving Pathway

<table>
<thead>
<tr>
<th>Omnibus Tests of Model Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Step 1</td>
</tr>
</tbody>
</table>

Table 7.8: Significance Of Both Regression Coefficients For Measures Of Decision Time

<table>
<thead>
<tr>
<th>Variables In the Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Step 1</td>
</tr>
<tr>
<td>Step 1</td>
</tr>
<tr>
<td>Constant</td>
</tr>
</tbody>
</table>

* Variable(s) entered on step 1: Decision Time for First Duration, Decision Time for Second Duration.
Inspection of the data revealed that some respondents had indicated they had worked a minimum notice period, and so it was felt to be important to try to account for the effect that statutory notice had on responses to the item measuring length of the second duration. Where people indicated they had worked for one month after having finally decided to leave, these cases were excluded from the analysis. Although the notice period could vary across different specialisms, and for different grades, 30 days represents a reasonable approximation for most nurses covered by Whitley, or shadow Whitley contracts, as is the case with this sample. Where nurses indicated they had worked four weeks after deciding to leave before finally leaving, this was taken as equivalent to 30 days.

This adjustment improved the predictive power of the model overall (see table 7.9), and resulted in a marginally higher (though still insignificant) value for the second decision time variable (see table 7.10). These results should be interpreted with some caution however, as it entailed excluding 67 leavers from this analysis, and it might also mean excluding other unidentifiable factors. With hindsight, a methodological improvement (which may also have been applicable to Lee et al’s study) would be to include an item to ascertain when someone gave in their notice.

*Table 7.9: Logistic Regression Testing Relationship Between Decision Time And Leaving Pathway (Deselecting Certain Leavers To Try To Control For Statutory Notice Period)*

<table>
<thead>
<tr>
<th>Omnibus Tests of Model Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Step 1</td>
</tr>
<tr>
<td>Chi-square</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Table 7.10: Variables For Logistic Regression Model Testing Relationship Between Decision Time And Leaving Pathway (Deselecting Certain Leavers To Try To Control For Statutory Notice Period)

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DECN</td>
<td>.003</td>
<td>.001</td>
<td>4.245</td>
<td>1</td>
<td>.039</td>
<td>1.003</td>
</tr>
<tr>
<td></td>
<td>DECADJ</td>
<td>.002</td>
<td>.002</td>
<td>1.076</td>
<td>1</td>
<td>.299</td>
<td>1.002</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>-.394</td>
<td>.257</td>
<td>2.348</td>
<td>1</td>
<td>.125</td>
<td>.674</td>
</tr>
</tbody>
</table>

a. Variable(s) entered on step 1: DECN, DECADJ.

Discussion

The relationship between decision time and pathway could be moderated by the particular characteristics of this labour market. In general, we might expect a meaningful relationship between decision time and leaving pathway to emerge where some types of decision to leave are precipitated by single events, or 'shocks'. Where the hypothesised relationship emerges (i.e. the time between deciding to quit and leaving is shorter for pathways where there is a shock) this offers support for the idea that certain types of decisions to leave are less amenable to a traditional account of turnover: dissatisfaction – search – weighing up of alternatives.

In the NHS however, nurses are able to leave and find similar work quickly via a nursing agency, sometimes even returning to work at the same Trust. It is likely they will be able to find a similar alternative to their current job within the four-week statutory minimum notice period. These contextual factors may mean it is harder to discriminate between decisions to quit that are adequately described by a dissatisfaction – search – weighing up of alternatives account, and decisions where the decision to quit precedes search. Further evidence for labour market characteristics influencing classification of these leaving decisions, can be inferred from the low number of nurses identified as not having an offer (only 13 of 352). One result of the revisions to the original unfolding model by Lee et al (1999), is that in the current classification schema the 'job offers' construct can be tapped where respondents report they believe getting an offer is likely (1999: 453). Given the shortage of nurses, the
reliance of the majority of Trusts on agency staff, and the opportunity of changing to private sector nursing, there is good reason to believe that most nurses would feel confident about getting an alternative job, or likely offer somewhere.

**Hypothesis 3a:** Path 1 will be positively related to the occurrence of personal shocks.

**Hypothesis 3b:** Path 2 will be positively related to negative shocks.

**Hypothesis 3c:** Path 3 is positively related to organizational and unsolicited offer shocks.

It was not possible to meaningfully test 3a or 3b as the numbers in each pathway were too small (2 in path 1, 0 in path 2). To test 3c, a one-tailed independent samples t-test was run, comparing mean scores on the work-related shock item for path 3 shocks with other shocks. The scores for path 3 shocks were significantly lower i.e. more work-related ($t = 2.62$, $p<0.005$). Thus the first part of this hypothesis was corroborated. Changes to the survey (chapter six) meant closed responses could not indicate whether offers were unsolicited, so it was impossible to test the second half of 3c. Content analysis (chapter nine, table 9.3) suggests that unsolicited offers were not a major theme for this sample. This may simply reflect occupational differences (nurses have fewer unexpected offers than accountants).

**Hypothesis 4a:** Job satisfaction will be higher in path 3 than in path 2, 4a, or 4b.

**Hypothesis 4b:** Job satisfaction is negatively correlated with image violation.

As has been shown above, hypothesis 4b was corroborated.

In respect of hypothesis 4a, mean job satisfaction was indeed higher in path 3 ($\bar{x} = 2.71$, s.d. = 0.62) than in path 4b ($\bar{x} = 2.64$, s.d. = 0.62). The sample size in each case is large (115 path 3, 153 path 4b) so it is appropriate to compare the difference in means using a t-test. As each of the variables was known for every case, it was possible to run a one-tailed independent samples t-test, where the two groups compared were path 3 leavers and path 4b leavers. This revealed there was no significant difference in job satisfaction between leavers in path 3 and path 4b for this study, ($t = 0.94$).
Discussion

The failure to detect a significant relationship between job satisfaction and path outcome may be a consequence of the overall lower levels of satisfaction in this sample.

It may also be that the labour market, and/or overall base turnover rates moderate(s) the interaction between job satisfaction and decision path. Where there is less employee mobility, it could be easier to detect this hypothesised relationship, because a shock might be needed to overcome employee inertia. If overall turnover rates are lower, this could throw into relief any contrasting patterns or profiles of turnover. Employee mobility could also be affected by demographic factors, such as the proportion of leavers who are not the chief wage earners, or the proportion of leavers who are women. When a t-test was run which only included analysis of those leavers who reported being the chief wage earners (n = 129), this indicated a stronger relationship between job satisfaction and leaving pathway, that was statistically significant at the 5% level on a one-tailed test (t = 1.77, p<0.05).

Comparing leavers who were male would not be meaningful given there are very few male leavers in the sample.

To try to simply model inertia, it is possible to only analyse leavers with more than a given length of tenure. Controlling for tenure resulted in increased t-scores in comparisons of mean job satisfaction for path 3 with path 4b leavers as follows: tenure > 1yr, t = 0.773, ns; tenure > 2yrs, t = 1.36, ns; tenure > 3yrs, t = 1.34, ns; tenure > 4yrs, t = 1.4, ns; tenure > 5yrs, t = 1.89, p<0.05). Only the last result was statistically significant at the 5% level, though in this instance there were only 29 cases in path 3 (31 in path 4b). Although it is more difficult to find a significant effect with fewer cases, it is also questionable whether such a small sub-sample meets the assumptions of normality implicit in the t-test.

To summarise, there is a possibility that this relationship was not detected owing to lower base levels of satisfaction. It may also be that lower satisfaction, and the lack of a significant relationship between satisfaction and decision path could reflect other underlying differences in the two samples. This will be examined further in the next chapter.
Comparison Of Differences Between This Sample And The 1999 Sample

Compared with Lee et al’s accountants, mean job satisfaction was significantly lower among these nurse leavers ($t = -14.84$, $p < 0.001^5$). It was not possible to compare means of the image violation score, as descriptive statistics were not reported for this scale, though it is almost certain this would also be significantly different. In both this study and the 1999 study, the job satisfaction and image violation scales yielded high reliability scores, and there were also high correlation scores between the image violation items and mean job satisfaction. Other demographic differences found to be significantly different (all $p<0.001$) were age ($t = -10.5$), tenure ($t = -14.09$) sex ($Z = 15.04^6$) and educational level ($\chi^2 = 73.52$, $p<0.001$, 2 d.f.), which was found to be higher for accountants.

It should be noted that the measure for educational level uses a rather crude distinction between three categories (no degree, first degree or Masters). This offers some basis for comparison with Lee et al’s study (they also cite these categories), but it is only used here to illustrate another statistically significant dimension of difference, and does not necessarily indicate the extent to which nurses undertake additional, structured development that is professionally relevant. The effects of these differences will be explored in the following chapter, here it is sufficient to say these comparisons point to marked differences between this population and that studied by Lee et al. This is one important sense in which a straightforward replication study can represent a robust test of a generic model.

Conclusion

This element of the replication of the unfolding model has found some support for some of the hypotheses proposed in Lee et al 1999. However, the hypotheses proposed in 2b, 3a and 3b were not testable owing to small or nonexistent samples in paths 1, 2 and 4a. Given that these pathways are sparsely populated, and given that a large proportion of the sample was unclassifiable or, more accurately speaking, could be classified in null (falsifying) pathways, there is strong evidence to suggest that the current model and its

5 Because this section reports differences between two samples, as opposed to predicted relationships, all tests of significance are two-tailed.

6 This Z score calculated as: difference in the two population proportions / the standard error (Owen and Jones 1994: 413-4; Harris 2000: 83-4).
operationalisation do not offer a universal, comprehensive account of turnover. Nonetheless it is worth reiterating that there is no superior rival account, and this study has again found support for the idea that a precipitating event, or shock is frequently an element of people’s decision to leave.

Hypothesis 2a was partially testable and this study corroborated Lee et al’s finding that the first duration (time between initial thoughts of quitting and making a final decision) was significantly shorter in path 3 than in path 4b. No support was found for the hypothesis that the second duration (after final deciding to quit, how long before finally leaving) was also shorter in path 3 than in 4b. Additionally, the role that a statutory minimum notice period plays was investigated. After including an estimate for this, the association between decision time and pathway attenuated for the first duration. Contextual factors affecting this relationship were identified and discussed.

Hypothesis 4a was also partially testable and inadequate support was found for the hypothesis that job satisfaction was significantly higher in path 3 than in path 4b, though as has been mentioned, this may be a result of overall lower levels of satisfaction for nurses in this sample. Hypothesis 4b was corroborated. The high reliability coefficients for these scales found in this study indicate that we can have a reasonable degree of confidence in the intra-respondent reliability of the image violation and job satisfaction scales. That all the image violation items are significantly negatively correlated with mean job satisfaction is in turn consistent with the theoretical framework of the unfolding model. However it is appropriate to note here that (as discussed in chapter nine), high alpha coefficient scores for the image violation items do not necessarily indicate high reliability.

The next chapter moves beyond Lee et al’s (1999) hypotheses, in an attempt to uncover more about the value of the unfolding model, but also to learn more about employee turnover.
Chapter Eight: Extension Part One – Quantitative Analyses

Introduction

The preceding chapter reported results for this study’s application of the unfolding model, using Lee et al’s paper (1999) as a basis for analysis and interpretation. This chapter also explores the validity and utility of the unfolding model as an explanatory and classificatory tool, using logistic regression to explore classification failure. Firstly though, the chapter addresses this study’s additions to Lee et al’s survey relating to measurement of the shock construct. Using bivariate correlation, multiple regression analysis and cluster analysis the validity and meaningfulness of this new scale is explored, and the implications of this analysis are drawn out in terms of this context, and in terms of this test of the unfolding model. Analysis of responses to the open items forms the focus for the next chapter.

Analysis Of Shock Items

One of the main ways in which the survey in this study differed from that of Lee et al (1999) was in its more detailed assessment of the nature of the shock. Specifically, five dimensions of the shock construct were assessed via scaled items (Ic through g). In the order these appeared on the survey, these tested the extent to which the shock was: expected, positive, personal, influential (in terms of the final decision to leave) and specific (the extent to which the shock only affected the respondent). It was originally proposed to use these dimensions to further explore and describe differences between pathways 1, 2 and 3. As has been noted, the small sample sizes in paths 1 and 2 make it impossible to meaningfully explore the relationship between types of shock and different leaving paths. However it is possible to test other hypotheses relating to these items and thereby explore the nature of shocks further. Given that the shock measures are new, the need to do this from a theoretical standpoint is substantive, as there are no other tests of this scale. Also, because this study found further evidence that shocks play an important role in turnover decisions (reported in 156 out of 352 cases), there is strong empirical justification for exploring these new, more complex measures of shock.
One way in which it is possible to investigate the utility of the shock measures is to develop and test hypotheses regarding the interrelationships between these measures. This will offer clues as to the stability of the construct, and also indicate whether there is an initial basis for believing that certain shocks may be typical. Conventional reliability measures, such as an alpha score are inappropriate for this scale, given that it is hypothesised that different types of shock will have different characteristics. For example descriptions of expected, positive shocks (promotion) could be as valid and reliable as description of unexpected, negative shocks (ill health), or unexpected, positive shocks (unsolicited job offer), or expected, negative shocks (imposed reorganization of work). This would be consistent with the existing literature on turnover relating to avoidability (Abelson 1987; Dalton et al 1981) and reasons (Campion 1991). Assessment of avoidability and of reasons for leaving both illustrate how different groups of leavers can have different motivations for leaving.

**Support For The Idea That There May Be Kinds Of Shock**

Both Campion (1991) and Abelson (1987) describe typical instances of turnover (relocation) where the organization is not able to influence the decision to leave. Cohen (1999) has also found evidence that actual turnover decisions (as opposed to turnover intentions) frequently involve matters not related to work, or what he calls 'non-work domain variables'. In terms of the measures used for shock items, we might generally describe this type of exit as personal (not work-related), specific (i.e. it would not affect the leaver's colleagues) and influential. We might also expect this type of event to be positive (or there would be less willingness to leave at all) and expected (such an important, personal change is less likely to be a complete surprise).

However, there is a substantial amount of evidence linking job dissatisfaction (Mobley 1977; Lee 1988), lack of commitment to the organization (Porter et al 1974; Somers 1995) or a range of other work-related variables to turnover (Aquino et al 1997). More recently, Allen and Griffeth (1999) incorporate the idea of shocks in a model of job performance and turnover. In terms of the measures for the shock items used here, we would anticipate that events triggering these types of quit decisions would be work-related, negative and influential. Different kinds of work-related shocks could potentially be either expected (impact of being short staffed) or unexpected (not receiving a promotion). They could also be global (consequences of a merger) or specific (clash with a manager or patient).
As well as predicting interrelationships between the five shock items, there is a theoretical basis for predicting relationships with other items. For example, and again drawing on Abelson (1987), Campion (1991) and Dalton et al (1981), it is likely that avoidability will be higher for work-related shocks, than for personal shocks. There is support for believing that job search is also likely to be more extensive in shocks that are work-related, because this is consistent with accounts of turnover that treat search as an intermediate step between job dissatisfaction and turnover (Mobley 1977).

One would also anticipate some correlation between decision time length and type of shock. Shocks that are specific (i.e. affect only the leaver) are more likely to result in shorter decision times, because the consequences and impact of the shock will be more immediate. Equally, these shocks are likely to result in the decision being more salient. Negative shocks are hypothesised to be predominantly work-related, and are thus also likely to correlate with lower reported levels of job satisfaction.

**Hypotheses Relating To Shock**

The following hypotheses relating to the shock dimensions were tested. Preceding each hypothesis is a less precisely formulated, though more natural sounding theory about the nature of each dimension of shock. This makes it easier to trace development of the hypotheses back to the existing literature (above).

**Shock Expectancy**

Unexpected shocks are typically work-related and negative. They provoke decisions to quit which are by and large avoidable.

*Hypothesis 1a: Expectancy of shock will be negatively correlated with shock work-relatedness and with shock negativity. It will also be negatively correlated with avoidability.*
**Shock Negativity**

Negative shocks are typically work-related and more global (i.e. affect more than just the leaver). Negative shocks are associated with lower levels of job satisfaction, and with leaving decisions that are by and large avoidable.

*Hypothesis 1b*: Negativity of shock will be positively correlated with work-relatedness and negatively correlated with shock specificity. It will be negatively correlated with degree of satisfaction and negatively correlated with degree of avoidability.

**Shock Work-relatedness**

Non-work related shocks typically provoke decisions to quit that are more salient. Work-related shocks are associated with job dissatisfaction, and are more avoidable. They typically result in more extensive search than personal shocks.

*Hypothesis 1c*: Work-relatedness of shock will be negatively correlated with saliency and degree of satisfaction. It will be positively correlated with degree of avoidability and extent of search.

**Shock Influence**

Shocks that have an overwhelming influence on the final decision to leave will typically result in decisions to quit that are more salient, and that take less time to make.

*Hypothesis 1d*: Influence of shock will be positively correlated with degree of saliency and negatively correlated with decision time duration.

**Shock Specificity**

Shocks that affect only the leaver will typically result in decisions to quit that are more salient, and less avoidable.
Hypothesis 1e: Specificity of shock will be positively correlated with saliency and negatively correlated with avoidability.

Measures

The basis for assessing the dimension of shock was respondents’ answers to the relevant five-point semantic differential scale in items Ic through g. Decision time was assessed using respondents’ answer in days to item IIIa (as in chapter seven). Item Va, ‘Before you left how comprehensive was your search for another job’ was used to assess search. Saliency was assessed using item VIIIa, ‘At the time I left, it seemed clear to me that I had to decide there and then whether to stay or go’. A mean score of the thirteen items tapping job satisfaction was used as a measure of satisfaction, and item Xa, ‘There are things the Trust could have done that might have caused me to stay’ was used to measure avoidability.

Methods

Each hypothesis tests several assumptions relating to bivariate correlation. Although the distribution of these variables was found to be non-normal, Pearson’s correlation was used as this is a familiar and reasonably robust means of assessing correlation. In each test, the number of observations was in excess of 150. The table of correlations for each measured variable is shown below. As the direction of correlation was specified in each case, table 8.1 reports one-tailed tests of significance.
Table 8.1: Bivariate Correlations Testing ‘Dimension Of Shock’ Hypotheses

<table>
<thead>
<tr>
<th>Correlations</th>
<th>EXP</th>
<th>POS</th>
<th>PER</th>
<th>INFL</th>
<th>GLOB</th>
<th>SRCH</th>
<th>SALNT</th>
<th>SAT</th>
<th>AV</th>
</tr>
</thead>
<tbody>
<tr>
<td>POS Pearson</td>
<td>.361**</td>
<td>.000</td>
<td>.000</td>
<td>.155</td>
<td>.248**</td>
<td>.489**</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>153</td>
</tr>
<tr>
<td>PER Pearson</td>
<td>.248**</td>
<td>.489**</td>
<td>.000</td>
<td>.155</td>
<td>.000</td>
<td>.155</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>153</td>
</tr>
<tr>
<td>INFL Pearson</td>
<td>-.031</td>
<td>.108</td>
<td>.000</td>
<td>.155</td>
<td>.155</td>
<td>.155</td>
<td>.155</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>153</td>
</tr>
<tr>
<td>GLOB Pearson</td>
<td>-.002</td>
<td>-.254**</td>
<td>-.268**</td>
<td>.078</td>
<td>.000</td>
<td>.155</td>
<td>.000</td>
<td>.155</td>
<td>.155</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>153</td>
</tr>
<tr>
<td>SRCH Pearson</td>
<td>.072</td>
<td>-.103**</td>
<td>-.202**</td>
<td>.115</td>
<td>.168</td>
<td>.008</td>
<td>.006</td>
<td>.271</td>
<td>.077</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>154</td>
<td>153</td>
<td>153</td>
<td></td>
<td>154</td>
<td>153</td>
<td>153</td>
<td></td>
<td>153</td>
</tr>
<tr>
<td>SALNT Pearson</td>
<td>-.001</td>
<td>-.120</td>
<td>-.217**</td>
<td>.175*</td>
<td>.150*</td>
<td>.425</td>
<td>.068</td>
<td>.004</td>
<td>.015</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td>155</td>
<td>155</td>
<td></td>
<td>155</td>
<td>155</td>
<td>155</td>
<td></td>
<td>155</td>
</tr>
<tr>
<td>SAT Pearson</td>
<td>.103</td>
<td>.280**</td>
<td>.275**</td>
<td>.080</td>
<td>.100</td>
<td>.000</td>
<td>.000</td>
<td>.160</td>
<td>.077</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.150</td>
<td>.150</td>
<td>.150</td>
<td></td>
<td>.150</td>
<td>.150</td>
<td>.150</td>
<td></td>
<td>.150</td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>155</td>
</tr>
<tr>
<td>AV Pearson</td>
<td>-.255**</td>
<td>-.472**</td>
<td>-.515**</td>
<td>.233**</td>
<td>.233**</td>
<td>.337</td>
<td>.002</td>
<td>.326</td>
<td>.277</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>155</td>
<td>153</td>
<td>153</td>
<td></td>
<td>155</td>
</tr>
<tr>
<td>DECN Pearson</td>
<td>.160*</td>
<td>.026</td>
<td>.085</td>
<td>.173*</td>
<td>.218**</td>
<td>.000</td>
<td>.005</td>
<td>.005</td>
<td>.015</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>.024</td>
<td>.375</td>
<td>.138</td>
<td>.166</td>
<td>.166</td>
<td>.166</td>
<td>.166</td>
<td>.166</td>
<td>.166</td>
</tr>
<tr>
<td>N</td>
<td>153</td>
<td>153</td>
<td>153</td>
<td></td>
<td>153</td>
<td>153</td>
<td>153</td>
<td></td>
<td>153</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (1-tailed).
** Correlation is significant at the 0.01 level (1-tailed).

To assist interpretation, table 8.2 below shows each variable together with the direction of scaling, and abbreviated code for that variable.

Table 8.2: Direction Of Scaling For Each Variable In The Correlation Analysis

<table>
<thead>
<tr>
<th>Likert Scale</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construct</strong></td>
<td><strong>1</strong></td>
</tr>
<tr>
<td><strong>Shock Dimensions</strong></td>
<td>Unexpected</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td>Work-related</td>
</tr>
<tr>
<td></td>
<td>No Influence</td>
</tr>
<tr>
<td></td>
<td>Specific</td>
</tr>
<tr>
<td><strong>Search</strong></td>
<td>No Search</td>
</tr>
<tr>
<td><strong>Decision Saliency</strong></td>
<td>Low Salience</td>
</tr>
<tr>
<td><strong>Mean Satisfaction</strong></td>
<td>Low Satisfaction</td>
</tr>
<tr>
<td><strong>Avoidability</strong></td>
<td>Low Avoidability</td>
</tr>
<tr>
<td><strong>Decision Time (not scaled)</strong></td>
<td>Shorter</td>
</tr>
</tbody>
</table>

153
Results

Each hypothesis is repeated below and results are quoted in parentheses for each sub-hypothesis. The first number cited is the absolute (i.e. not signed) correlation coefficient, because in each case, the direction of correlation was correctly predicted. The second is the level of significance.

Hypothesis 1a: Expectancy of shock will be negatively correlated with shock work-relatedness (0.248, p<0.01) and with shock negativity (0.361, p<0.001). It will also be negatively correlated with avoidability (0.255, p<0.01).

Hypothesis 1b: Negativity of shock will be negatively correlated with shock specificity (0.489, p<0.001). It will be negatively correlated with degree of satisfaction (0.280, p<0.001) and negatively correlated with degree of avoidability (0.472, p<0.001).

Hypothesis 1c: Work-relatedness of shock will be negatively correlated with saliency (0.217, p<0.01) and degree of satisfaction (0.273, p<0.001). It will be positively correlated with degree of avoidability (0.515, p<0.001) and extent of search (0.202, p<0.01).

Hypothesis 1d: Influence of shock will be positively correlated with degree of saliency (0.205, p<0.01) and negatively correlated with decision time duration (0.173, p<0.05).

Hypothesis 1e: Specificity of shock will be positively correlated with saliency (0.175, p<0.05) and negatively correlated with avoidability (0.228, p<0.01).

Summary

For each hypothesis, the expected relationships were detected, and found to be statistically significant. This is an indication that this scale for measuring shock elicits responses that are consistent with the existing body of turnover literature relating to avoidability and reasons. Theoretically meaningful, and statistically significant relationships were detected between the shock items and job satisfaction, as well as constructs assessing the leavers’ decision, namely avoidability, saliency, and decision time duration. This indicates that these items also elicit responses that are theoretically consistent with the underlying
approach of Lee et al, which focuses on the exit as the outcome of a decision process, which is different for different groups of leavers.

Using these results as a basis for further investigation of the shock construct, it is now possible to develop and test a regression equation, to explore the interrelationships between these variables. The need for an initial bivariate analysis, is demonstrable, given that the items relating to shock dimensionality have not previously been tested, and there was no guarantee that any statistically significant or theoretically meaningful findings would be detected. The strong support for these initial hypotheses relating to shock dimensions suggest that a further, more elaborate exploration has a sound empirical basis.

Modelling Shocks

For each of the five dimensions of shock, it is possible to try to explain more fully the extent and character of the interrelationship this dimension has with other items in the survey, as assessed in the bivariate correlation matrix. In this case we are seeking to predict or explain values of a single, metric (dependent) variable, using several metric (predictor, independent) variables, and the appropriate means of doing this is to use multiple regression (Mendenhall and Sincich 1996: 174-175). Histograms for some of the variables of interest together with some summary statistics are given below (see figure 8.1).
These variables are shown because each exhibited skewness. Shock specificity is negatively skewed (most shocks were specific); influence and avoidability of shock are positively skewed (most shocks were influential, most were avoidable). The artificial, 'best-fit' normal curve on each shows how the distributions of these variables have different means and the shock influence responses have a noticeably lower variance (see table 8.3).

Table 8.3: Summary Statistics For The Variables Of Interest

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Absolute</th>
<th>Positive</th>
<th>Negative</th>
<th>Kolmogorov-Smirnov Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXP</td>
<td>155</td>
<td>2.74</td>
<td>1.55</td>
<td>.217</td>
<td>.217</td>
<td>-.179</td>
<td>2.707</td>
<td>.000</td>
</tr>
<tr>
<td>POS</td>
<td>155</td>
<td>2.34</td>
<td>1.64</td>
<td>.289</td>
<td>.289</td>
<td>-.208</td>
<td>3.597</td>
<td>.000</td>
</tr>
<tr>
<td>PER</td>
<td>153</td>
<td>2.67</td>
<td>1.44</td>
<td>.185</td>
<td>.185</td>
<td>-.130</td>
<td>2.390</td>
<td>.000</td>
</tr>
<tr>
<td>INFL</td>
<td>155</td>
<td>4.17</td>
<td>.97</td>
<td>.204</td>
<td>.194</td>
<td>-.264</td>
<td>3.282</td>
<td>.000</td>
</tr>
<tr>
<td>GLOB</td>
<td>154</td>
<td>2.29</td>
<td>1.45</td>
<td>.268</td>
<td>.268</td>
<td>-.186</td>
<td>3.327</td>
<td>.000</td>
</tr>
<tr>
<td>DECN</td>
<td>153</td>
<td>98.09</td>
<td>113.27</td>
<td>.248</td>
<td>.248</td>
<td>-.216</td>
<td>3.073</td>
<td>.000</td>
</tr>
<tr>
<td>SRCH</td>
<td>156</td>
<td>3.17</td>
<td>1.45</td>
<td>.173</td>
<td>.149</td>
<td>-.173</td>
<td>2.101</td>
<td>.000</td>
</tr>
<tr>
<td>SALNT</td>
<td>156</td>
<td>3.86</td>
<td>1.25</td>
<td>.210</td>
<td>.141</td>
<td>-.210</td>
<td>2.622</td>
<td>.000</td>
</tr>
<tr>
<td>AV</td>
<td>156</td>
<td>3.67</td>
<td>1.43</td>
<td>.271</td>
<td>.176</td>
<td>-.271</td>
<td>3.300</td>
<td>.000</td>
</tr>
</tbody>
</table>

- **a.** Test distribution is Normal.
- **b.** Calculated from data.
Multiple Regression

Multiple regression assigns each independent variable a weight (the regression coefficient) to estimate a function that maximises predictive accuracy for the dependent variable. The optimal solution for this function will be one where the sum of the squared errors in prediction is minimised. The regression coefficient is an expression of the degree to which each independent variable affects the dependent variable. The basic formulation for a multiple regression equation can be expressed as:

\[ Y = a + b_1 x_1 + b_2 x_2 + ... + b_n x_n + e \]

Where \( Y \) is a metric dependent variable, \( a \) is the intercept (the value on the dependent variable axis \( Y \), where the line defined by the equation crosses this axis), \( X_1, X_2, X_n \) are independent variables, \( b_1, b_2, b_n \) are the regression coefficients, and \( e \) is an error term (Mendenhall and Sincich 1996: 173). Multiple regression only assesses linear relationships (Hair et al 1998: 172-4). Whether the relationships tested are linear can be assessed after a model has been developed.

Measures

The variables assessed were measured in the same way as in the correlation table above.

Method

The method of multiple regression used was stepwise estimation (stepwise), using forward addition of predictor variables. The initial model is a baseline and predictor variables are entered sequentially, only if they meet specified criteria (Aaker et al 2001: 522-3). In this test, the criterion for deciding whether to include a variable in the regression equation was the statistical significance of its F value (at the 5% level). This is a test statistic for measuring whether the extra explanatory contribution of an additional variable significantly improves the model. The criterion used for deciding whether to remove a variable from the equation was also the F value (at the 10% level). Stepwise regression ends when no more variables can be added to, or deleted from the model. Although there are a range of other procedures available (Mendenhall and Sincich 1996: 252-256), stepwise regression is a
common method (Hair et al 1998: 178), that generates output that is easy to understand and interpret.

Results

Shock Expectancy

Only negativity was useful in predicting whether the shock was unexpected, explaining 12% of the variance (adjusted R square statistic in table 8.4 below):

Table 8.4: Model Summary For The Multiple Regression Model With Shock Expectancy As The Dependent Variable

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.349a</td>
<td>.122</td>
<td>.116</td>
<td>1.46</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Negativity

Shock Negativity

Work-relatedness, avoidability, expectancy and search were all useful explanatory variables accounting for 36% of the variability in the dependent variable of shock negativity. Using work-relatedness alone (at step 1) explained 25% of the variance of shock negativity (see table 8.5).
Table 8.5: Model Summary For The Multiple Regression Model With Shock Negativity As The Dependent Variable

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.504a</td>
<td>.254</td>
<td>.249</td>
<td>1.43</td>
</tr>
<tr>
<td>2</td>
<td>.561b</td>
<td>.315</td>
<td>.305</td>
<td>1.38</td>
</tr>
<tr>
<td>3</td>
<td>.592c</td>
<td>.351</td>
<td>.338</td>
<td>1.34</td>
</tr>
<tr>
<td>4</td>
<td>.612d</td>
<td>.374</td>
<td>.357</td>
<td>1.32</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Work-relatedness
b. Predictors: (Constant), Work-relatedness, Avoidability
c. Predictors: (Constant), Work-relatedness, Avoidability, Expectancy
d. Predictors: (Constant), Work-relatedness, Avoidability, Expectancy, Search

Shock Work-relatedness

Using avoidability and negativity, it was possible to explain 36% of the variance in reporting of work-related or personal shocks. Using avoidability alone (at step 1) explained 28% of the variance (see table 8.6).

Table 8.6: Model Summary For The Multiple Regression Model With Work-Relatedness As The Dependent Variable

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.535a</td>
<td>.286</td>
<td>.281</td>
<td>1.22</td>
</tr>
<tr>
<td>2</td>
<td>.605b</td>
<td>.366</td>
<td>.358</td>
<td>1.15</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Avoidability
b. Predictors: (Constant), Avoidability, Negativity

Shock Specificity

Work-relatedness and decision time were the only predictors of shock specificity, and together only explained 12% of the variance (see table 8.7).
Table 8.7: Model Summary For The Multiple Regression Model With Specificity As The Dependent Variable

Model Summary - Dependent Variable Is Specificity

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.268a</td>
<td>.072</td>
<td>.065</td>
<td>1.41</td>
</tr>
<tr>
<td>2</td>
<td>.359b</td>
<td>.129</td>
<td>.117</td>
<td>1.37</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Work-relatedness
b. Predictors: (Constant), Work-relatedness, Decision Time

Discussion

The series of regression analyses indicate that shock influence was not useful as an explanatory variable. Also, it could not be predicted by the other variables. This can partly be explained by the low incidence of shocks that were reported as having little or no influence on the decision to quit (14). It is also an indication that leavers reporting uninfluential shocks are not identifiable by the type of shock, or the extent to which their decision to leave was avoidable. This could partly be inferred from the standard deviation score for this item, which was lower than for the other variables (see table 8.8).

Table 8.8: Descriptive Statistics For The Five Shock Items And The Avoidability Item

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>Expectancy</td>
</tr>
<tr>
<td>Negativity</td>
</tr>
<tr>
<td>Work-relatedness</td>
</tr>
<tr>
<td>Influence</td>
</tr>
<tr>
<td>Specificity</td>
</tr>
<tr>
<td>Avoidability</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
</tr>
</tbody>
</table>

Testing Assumptions: Linearity Of The Relationships

In simple regression, we can test for the appropriateness of a linear model by inspecting a plot of the residuals, or errors in prediction (Aaker et al 2001: 523-524). For a linear model, the regression coefficient (the power of a particular explanatory variable) is the
same for all values of the dependent variable. Non-linearity will diminish the predictive accuracy of the model, and undermine the validity of the regression coefficients. In multiple regression, because we use more than one predictor variable, examination of partial regression plots gives a better indication of the extent to which there is a linear relationship between each of the predictor variables and the dependent variables (Hair 1998: 172-6). In this analysis, testing for linearity will need to be done in each of the four models. Partial regression plots can be inspected for the three models (work-relatedness, negativity and specificity) where there was more than one predictor variable (see figure 8.2). For the model where there is only a single predictor variable, we can rely on plots of the residuals (see figure 8.3).
Figure 8.2: Partial Regression Plots For The Three Multiple Regression Models

N.b. The gradient of the line is calculated from the regression coefficient.

a) Shock Negativity

![Graphs showing partial regression plots for Shock Negativity with different predictor variables: Work-relatedness, Avoidability, Expectancy, and Search.](image-url)
For the first two models (figure 8.2a negativity and figure 8.2b work-relatedness) in each plot, the residuals appear to be falling randomly. The dispersion either side of the line representing the regression coefficient is fairly equal, and there are no obvious signs of curvilinearity (where we might expect a semi-circular pattern in the distribution of residuals), or heteroscedasticity (a diamond, or triangular pattern in the distribution of residuals). Neither do there appear to be identifiable patterns, or clusters among these
residuals which would indicate the prediction of the independent variable was additionally
influenced by some other factor.

In figure 8.2c (shock specificity), the plot against decision time indicates two outliers (as
circled), which could influence the regression equation. Inspection of these cases (3012,
3037) suggested that both exits were atypical. Leaver 3037 (whose decision to longer to
enact) left in order to emigrate, "...a lot of saving was required..." It was less easy to
understand why leaver 3012 took so long to leave after deciding to quit, though they
reported a long period of illness. When the analysis was repeated, excluding these cases
improved the power of the model, as well as enabling the identification of another
predictive variable. The improved model is shown below (see table 8.9).

Table 8.9: Model Summary For The Multiple Regression Model With Work-Relatedness As
The Dependent Variable (After Exclusion Of Two Influential Observations)

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.265a</td>
<td>.070</td>
<td>.064</td>
<td>1.40</td>
</tr>
<tr>
<td>2</td>
<td>.360b</td>
<td>.130</td>
<td>.118</td>
<td>1.36</td>
</tr>
<tr>
<td>3</td>
<td>.392c</td>
<td>.154</td>
<td>.136</td>
<td>1.34</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Work-relatedness
b. Predictors: (Constant), Work-relatedness, Decision
c. Predictors: (Constant), Work-relatedness, Decision, Saliency

The Bivariate Regression Model
Figure 8.3 below shows the actual cumulative probability distribution of the residuals,
compared to a hypothetical normal cumulative probability distribution (the straight line) for
the bivariate regression model (expectancy).
This graph suggests evidence of non-normality. Specifically, there is evidence of negative skew in the residuals, as indicated by the oval on the graphs. However, the graph does not show strong evidence of a departure from the assumption of normally distributed errors.

Testing Assumptions: Multicollinearity

Collinearity is the relationship between two variables. If they are completely collinear, their correlation coefficient will be 1. If there is complete absence of collinearity, their correlation coefficient will be 0. Multicollinearity describes this same relationship, but between two or more variables (Mendenhall and Sincich 1996: 355). In an ideal model designed to explain a dependent variable, there would be no evidence of multicollinearity across the range of predictor variables. In this case, we could be confident that each predictor variable uniquely explained some of the variance in the dependent variable.
Almost invariably multicollinearity will have some impact in any multivariate social science model, and consequently the predictor variables are likely to share some of their predictive power (Hair et al 1998: 189). The effects can alter interpretation of a multivariate model if accounts of the model's explanatory power overlook the potential for some of the shared predictive power to be counted twice. Multicollinearity can also produce misleading or counterintuitive results if regression coefficients are wrongly estimated (ibid).

One indication that multicollinearity is unlikely to have had a sizable impact on the explanatory power of these multiple regression models is the correlation matrix at the start of this chapter. The highest correlation in this matrix is 0.515 and it is mainly at higher correlations (above 0.9) that multicollinearity can be readily identified (Aaker et al 2001: 522). In the bivariate model, the relevant correlation coefficient was 0.361 (between expectancy and negativity). This is not high enough to suggest collinearity is an issue here.

There are a number of ways to test for multicollinearity (Hair et al 1998: 236). One common method is to calculate the partial correlation coefficient, which is a measure of the unique amount of variance explained in the relationship between one independent variable \( X_1 \) and the dependent variable \( Y \). This is calculated by removing the effects of other independent variables \( (X_2, X_3 \text{ etc.}) \), on a single independent variable on the correlation (Mendenhall and Sincich 1996: 190-191). In three cases, a dimension of shock was predicted by more than one independent variable. The table below shows the partial correlation coefficient for each independent variable, controlling for the effects of the other variables. The significance test is two tailed, and as can be seen, each of the relationships is still statistically significant, suggesting that multicollinearity is not a substantial threat to the validity of the multiple regression analysis (see table 8.10).
Table 8.10: Partial Correlation Coefficients For The Multivariate Regression Analyses

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Predictor Variables</th>
<th>Partial Correlation Coefficient (controlling for effects of other predictor variables)*</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negativity</td>
<td>Work-relatedness</td>
<td>0.262</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>Avoidability</td>
<td>0.279</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>Expectancy</td>
<td>0.265</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>Search</td>
<td>0.182</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Work-relatedness</td>
<td>Avoidability</td>
<td>0.370</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Negativity</td>
<td>0.326</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Specificity</td>
<td>Work-relatedness</td>
<td>0.263</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>Decision Time</td>
<td>0.276</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>Saliency</td>
<td>0.167</td>
<td>p&lt;0.05</td>
</tr>
</tbody>
</table>

*Not signed

Summary

This analysis suggests there are meaningful relationships between one or more of the hypothesised predictor variables and a given dimension of shock in four cases. Expectancy can be predicted to some degree using negativity. Negativity can be predicted using work-relatedness, avoidability, expectancy and search. Work-relatedness can be predicted using avoidability and negativity. Specificity can be predicted using work-relatedness, decision time and saliency.

Discussion

Despite the number of significant bivariate correlations shown in the correlation table (see table 8.1), multiple regression examining the interrelationships between these variables suggests that only a limited number are useful in predicting the kind of shock leavers report. Nonetheless, these findings suggest that we can have a substantial degree of confidence in the theoretical importance of some of the earlier findings where the direction of correlation
was specified and found to be statistically significant. This is summarised below (see table 8.11):

**Table 8.11: Integration Of Regression And Correlation Analyses**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Regression Variables</th>
<th>Correlation* and Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectancy</td>
<td>Negativity</td>
<td>0.361, p&lt;0.001</td>
</tr>
<tr>
<td>Negativity</td>
<td>Work-relatedness</td>
<td>0.489, p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Avoidability</td>
<td>0.472, p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Expectedness</td>
<td>0.361, p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Search</td>
<td>0.193, p&lt;0.05</td>
</tr>
<tr>
<td>Work-relatedness</td>
<td>Avoidability</td>
<td>0.515, p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Negativity</td>
<td>0.489, p&lt;0.001</td>
</tr>
<tr>
<td>Influence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specificity</td>
<td>Work-relatedness</td>
<td>0.268, p&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>Decision Time</td>
<td>0.218, p&lt;0.01</td>
</tr>
<tr>
<td></td>
<td>Saliency</td>
<td>0.175, p&lt;0.05</td>
</tr>
</tbody>
</table>

*Not signed

**Causality**

Although the emphasis in the regression analysis has been on prediction, this is in a narrow, technical sense of the word, as we cannot draw inferences about causal processes from the above analysis. This is because we have been using a model to predict values of a dependent variable based on the interrelationships between the various shock items. In this sense, use of the term prediction is valid, in as much as it refers to classification success. However in no sense does this type of predictive power indicate potential to correctly order causal processes.

For example, shock negativity was a useful predictor of shock expectancy, insofar as we could justify classifying shocks into expected, or unexpected groups on the basis of respondents' scores on the negativity item. This tells us something about the interrelation between responses to the items tapping shock negativity, and shock expectancy in this data set. In terms of making sense of a real world phenomenon, i.e. the meaning of events that
precipitate a decision to quit, it is more sensible to interpret this 'predictive' success, as a
sign that unexpected shocks typically provoke a negative affect because the nature of the
shock will precede any consequences.

Validation

In both discriminant analysis and multiple regression, a commonly accepted procedure for
validating the model is to divide groups randomly into analysis and holdout samples. A
function can then be estimated using the analysis sample and tested (validated) on the
holdout sample. This is used to avoid sample or data specific conclusions, which would
mean results are not generalisable (Aaker et al 2001: 540), in other words, where external
validity is a particular concern (Hair et al 1998: 275).

There is no definitive method for doing this, and not all research using regression uses this
means of validation (Clark-Rayner and Harcourt 1998; Elvira and Cohen 2001). This
procedure will not be used to validate the models developed here. In this aspect of the
study, the primary focus is on exploring shock content. It is more important to allow for
elaborate development of these initial models, than to establish the generalisability of these
results to the wider population of leavers or NHS nurse leavers. Given the relatively small
sample size (c150 leavers who reported shocks), it would be difficult to subdivide the
sample and still have a generous ratio of observations to predictor variables.

As an alternative means of validation, a cluster analysis will explore the power of five of
these variables to meaningfully group the sample. Cluster analysis is itself principally used
to explore data, and is a relatively weak basis for validation because there is little statistical
theory to support use and interpretation of clustering techniques. However, the need to
explore data relating to shock content is substantive. This study has corroborated Lee et
al's (1996; 1999) findings that shock plays a significant role in many leaving decisions, and
no other study has offered a means of assessing shocks. Developing an understanding of
the nature of different kinds of shocks would therefore represent a substantial contribution.
First, though, it is appropriate to review the analysis to date.
Multiple Regression Models

Below are the regression equations for each of the four dimensions of shock. These each show the model at the final step, namely when no more variables could be added or deleted. The regression coefficients, in bold, show the relative predictive power of each regression coefficient. They are not standardised, as only one variable (decision-time) is not measured on a five-point scale. For each equation, the (absolute) t-score for each regression coefficient is shown. This gives an indication of the relative importance of each variable. As can be seen from the t scores, the two variables that have the least predictive power are search, and decision saliency. These were each only included in one model, and at the final step.

\[
\text{Expectancy} = 2.00 + 0.33 \times \text{Negativity} \ [t = 4.55]
\]

\[
\text{Negativity} = 2.63 + 0.31 \times \text{Work-relatedness} \ [t = 3.37] - 0.316 \times \text{Avoidability} \ [t = 3.46] + 0.230 \times \text{Expectancy} \ [t = 3.14] - 0.178 \times \text{Search} \ [t = 2.33]
\]

\[
\text{Work-relatedness} = 3.41 - 0.384 \times \text{Avoidability} \ [t = 5.11] + 0.280 \times \text{Negativity} \ [t = 4.33]
\]

\[
\text{Specificity} = 1.96 - 0.266 \times \text{Work-relatedness} \ [t = 3.35] + 0.0046 \times \text{Decision Time} \ [t = 3.45] + 0.187 \times \text{Saliency} \ [t = 2.04]
\]

If we translate each model into natural English, we can outline what we have learned about shock content from this analysis:

1. Unexpected shocks are typically negative.

2. Where shocks are negative, it is likely they have been unexpected, work-related and result in a decision to leave that is avoidable, and this will typically provoke more comprehensive job search.

3. Work-related shocks are typically avoidable and negative.
4. Shocks that are specific (only affect the leaver) are typically personal. They result in decisions to leave that are more salient, and that take less time to enact.

Correlation and multiple regression analyses both support the idea that there is a meaningful link between shock type and the avoidability construct. This relationship was explored further, using cluster analysis. Cluster analysis is not principally used to test hypotheses, as it is predominantly exploratory (Lorr 1983: 3-4), however, outlining a hypothesis is useful for the sake of clarity. As will become apparent, this hypothesis cannot be validated, or tested by a significance level. Instead, other forms of corroboration are warranted.

**Hypothesis 2** There will be different types of shock, which can be described in terms of the shock dimensions: expectancy, negativity, work-relatedness, specificity and the avoidability construct.

**Cluster Analysis**

The aim of cluster analysis is to divide a given set of objects into groups, or ‘clusters’, so that the members of each group (cluster) are relatively similar (Lorr 1983: 1; Späth 1980: 7). Unlike in discriminant analysis, with cluster analysis the number of groups is not known in advance (Tietjen 1986: 141), and consequently, there may be difficulties in defining what exactly constitutes a cluster, with some commentators arguing that the ultimate criterion is a value judgement (Bonner 1964 in Everitt 1993: 6). Additionally, most methods of cluster analysis use relatively simple algorithms to group data, and have little support in terms of underlying statistical theory (Aaker et al 2001: 566). There is also little consensus as to the preferred algorithm (Harris 2001: 480). Nonetheless, cluster analysis is used in a wide range of empirical disciplines (archaeology, biology, economics, marketing, medicine) (Romberg 1984: 30) because it is often useful to group together similar objects. Identifying groups can help to reduce data and make it more manageable, for example in identifying market or consumer segments. More fundamentally, it can also be useful to be able to classify, and make sense of complex patterns, for example in differentiating between superficially similar diseases (Everitt 1993: 2).
Summarily speaking, there are four basic problems in cluster analysis (Späth 1980: 12): choice of measure of distance (the indicator of separateness between two objects); choice of algorithm (the method used to form clusters); choice of number of clusters to be formed (i.e. how many groups are taken to constitute a solution, assuming a solution exists); choice of variables (the measurements that are used to measure distance).

In terms of the hypothesis above, measure of distance, and choice of algorithm are largely arbitrary. The ideal solution will only become apparent after running the analysis. Accordingly, the first step is to identify the variables.

Measures

Avoidability was included in two of the four multiple regression equations, and this indicated it could be a useful variable for grouping leavers, based on the type of shock they reported. As shock influence had not featured in any of the regression models, it was excluded from the cluster analysis. Therefore, the measures selected to group leavers were: the shock items Ic, d, e and g, and the avoidability item Xa. These variables were chosen because bivariate correlation analysis and multiple regression analysis had shown these items provoked responses consistent with hypotheses relating to shock content. This in turn suggests that if it is meaningful to talk of groups of shock, they are likely to be identified using these measures.

Method

Initially, the method chosen to group the data was agglomerative (clusters are formed by grouping together existing clusters) and hierarchical (the method is stepwise to produce a range of cluster solutions) (Hair et al 1998: 476). Each procedure is advantageous for the initial stage of a cluster analysis. Hierarchical methods offer the complete range of potential solutions; in this case (with 153 observations), this will range from 1 to 153 'clusters'. Agglomeration allows for a visual inspection of the range of solutions (via the dendrogram - see figure 8.4 below) and is an appropriate method to explore patterns among data. The procedure for forming clusters was Ward’s method, which seeks to minimize within-cluster variation (Romeshburg 1984: 129-130). Minimising within cluster variation was chosen as an agglomerative procedure, because this can facilitate identification of
distinct groups of cases (Aaker et al 2001: 570). There is also evidence to suggest Ward’s method is preferable to other hierarchical clustering methods (Blashfield 1976; Mojena 1977). Squared Euclidean distance was used as this is recommended with Ward’s method (Hair et al 1998: 486).

The sample consisted of all cases where respondents had reported shocks, irrespective of whether these were classified by the model and excluded three cases with missing data (total 153 cases). This procedure can further support the idea that shocks can be described as typical if identifiable patterns of clusters emerge.
Figure 8.4: Dendrogram: Clustering Leavers Using Shock Dimensions And Avoidability

Cutting point for two cluster solution

Measure of relative distance between the two clusters
The preliminary solution suggested by this analysis is a two-cluster solution, because when there are only two groups of cases, the difference between rival clusters of cases is largest. This is indicated on the dendrogram (figure 8.4). No cases were obvious outliers, so the final cluster centroids (table 8.12 below) were calculated using a non-hierarchical clustering procedure (also called k-means clustering), to enhance the Ward solution, by making sure that all points were close to the relevant cluster centroid.

Table 8.12: K-Means Identification Of Centroids (For A Two Cluster Solution)

<table>
<thead>
<tr>
<th>Final Cluster Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
The majority of cases were allocated to cluster 2 (table 8.14).

Table 8.14: Number Of Cases In Each Cluster

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>103</td>
</tr>
<tr>
<td><strong>Valid</strong></td>
<td><strong>153</strong></td>
</tr>
<tr>
<td><strong>Missing</strong></td>
<td><strong>3</strong></td>
</tr>
</tbody>
</table>

Validation

This cluster analysis will be revisited in the next chapter, when responses from the open items will be used to test the validity of this grouping. However, simply based on the data used for clustering an independent samples t-test (table 8.15 below) reveals there is a highly significant difference in the mean scores of these two groups for each of the relevant items, especially for the negativity variable.
Table 8.15: T-test For Each Of The Variables Used In The Cluster Analysis – Comparing Mean Scores In Clusters 1 and 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Levene’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Expectancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.375</td>
<td>.541</td>
</tr>
<tr>
<td>Negativity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>8.557</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work-Relatedness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>.722</td>
<td>.397</td>
</tr>
<tr>
<td>Specificity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>7.330</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>46.550</td>
<td>.000</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>-7.229</td>
<td>64.753</td>
</tr>
</tbody>
</table>

a. Two sets of significance levels are quoted where this test indicates the variances differ.

Discussion

Combining data about the nature of the shock together with data on avoidability means we can describe leavers who experience a precipitating event as falling into two groups. The majority of cases in this sample (cluster 2) can be characterised as experiencing a negative, work-related shock, which typically provokes a decision to leave that the organization could otherwise influence. For some leavers however (cluster 1), the initial shock is more positive and personal, and organizational intervention has correspondingly less impact on the decision. These results are consistent with the findings from the multiple regression analyses earlier. Chapter nine will offer a validation of this two group clustering.

It is not possible to say to what extent these findings are representative of a wider body of leavers, given that this is the first time that dimensions of the shock construct have been explored. However, one might anticipate that just as different occupations seem to have characteristically different patterns of exit (Lee et al 1999), they may have different typical
profiles of the interaction between shock dimension and avoidability. For example, nurses are covered by collective bargaining agreements, frequently work in teams and by and large operate in an institutional setting. One might therefore anticipate that many work-related incidents are more likely to be 'global' than 'specific'. Additionally, given that a sizable portion of the leavers studied here are not the chief wage earners in their family, one might anticipate that the scope for organizational intervention (avoidability) would be lower in cases where the shock is personal. Pregnancy is likely to have a less sizable impact in occupations where the gender split is 50-50 or predominantly male. The labour market for nurses is very slack (i.e. available alternatives are plentiful) and is thus less likely to act as a brake on leaving decisions, which could have a wide range of effects on the interaction between dimension of shock and avoidability.

An illustration of how good these items are in terms of forming leavers into two separate groups can be shown via a simple scatter plot. We can plot leavers on a graph (figure 8.5) by calculating their 'x' values using the product of their scores on the expectancy, negativity and work-relatedness items – as is shown in table 8.12, scores on these items were on the whole higher for cluster group 1. Leavers' 'y' values can be calculated using the product of their scores on the avoidability and specificity items – as is shown in table 8.12, scores on these items were on the whole lower for cluster group 2. Labelling each case by the cluster group gives a graphical representation of the separateness of these two groups.
Figure 8.5: Separation Between Leavers As A Function Of Scores On Discriminating Items

Explanations For The Failure To Classify Leavers

As well as using the additional survey items to explore shock, a further benefit is that these and other data can be used to explore the structure of the data set as a whole. Initially, it was noted that a large proportion of leavers were unclassifiable. Having looked in some detail at the characteristics of groups of these leavers (in terms of null pathways), it is also possible to look at the data set in broader terms. The aims of doing this are twofold: firstly, to see if there are possible explanations for classification failure of the unfolding model, and secondly to see if there is a basis for improving classification.
After having explored one initial possible reason for classification failure (missing data), there are at least two further sources of failure to classify leavers, which we can conveniently label a priori and a posteriori. A priori, there could be limitations in the theoretical structure of the model. A posteriori, there could be particular issues relating to this instance of operationalising the model. These could arise from experimenter error (in survey design and implementation, or in analysis and interpretation of results), or they could be a function of the particular context in which this study was undertaken. Classification failure could be a result of any one of these, or a combination. A possible source of respondent error (responses to the image violation items) is discussed in chapter nine. Before undertaking a more comprehensive analysis of classification failure, which will take into account leavers’ responses to the open items, it is worth reiterating that the response rate, sample size and window in which responses were sought (2-14 months after leaving as opposed to 3-5 years) all represent substantial experimental improvements, and accordingly reduce scope for other sources of error.

To conclude this chapter, exploration of classification failure will focus on two areas, the theoretical structure of the model, and the influence of context on this test of the model. It should be noted that even were contextual factors solely responsible for failure to classify, this would still present a serious challenge to the integrity of the unfolding model as it is currently formulated, given that it claims to apply equally to all leavers. However, it is still important to investigate the effects of context on classification, as this may inform theoretical revisions of the model.

Contextual Factors Affecting Classification

The demographic comparisons cited in the previous chapter point to several areas of difference between the sample here and that of Lee et al 1999. This sample is predominantly female (91% v 31%), younger (35 v 40), average tenure is lower (4 years v 8 years) and mean job satisfaction is lower (2.85 v 3.39). In addition, this group comprises nurses, whereas Lee et al’s group comprised accountants. It is not possible to compare the characteristics of this population with Lee et al’s population in detail, though we can use these summary differences to explore whether they had any impact on classification. For instance, we can test whether male leavers are typically more classifiable, whether age influences classification, as well as test whether respondents with higher job satisfaction
and longer tenure are easier to classify. Table 8.16 below lists these dimensions, offering summary data relating to the sub samples ‘classifiable’ and ‘non-classifiable’ for this population of leavers.

Table 8.16: Comparison Of Classifiable And Non-Classifiable Cases In Five Summary Variables

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measure For Overall Sample</th>
<th>Measure For Classifiable Leavers Only (271 cases)</th>
<th>Measure For Non-classifiable Leavers Only (81 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (% Female)</td>
<td>91%</td>
<td>93%</td>
<td>86%</td>
</tr>
<tr>
<td>Age</td>
<td>35</td>
<td>34.4</td>
<td>37.5</td>
</tr>
<tr>
<td>Tenure</td>
<td>4</td>
<td>3.9</td>
<td>4.7</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>2.85</td>
<td>2.67</td>
<td>3.4</td>
</tr>
<tr>
<td>Image Violation</td>
<td>2.66</td>
<td>2.36</td>
<td>3.52</td>
</tr>
</tbody>
</table>

It can be seen that the cases that are unclassifiable have on the whole, higher mean job satisfaction. We might expect this given that some cases were unclassifiable owing to a failure to report job dissatisfaction, and there is an even larger difference in terms of mean scores on the image violation items, which were the main source of classification failure. These differences do not amount to an explanation of the difference between the classifiable and unclassifiable cases, because they are at least partly a function of how the model classifies leavers.

Nonetheless, higher levels of job satisfaction and higher scores on the image violation scales for individual cases may well be one indicator that classifying a particular leaving decision is more difficult. Perhaps it is in these cases that the basis for the decision is related to non-work factors, and the leaving process is only partly articulated by the constructs of the model, such as search, evaluation and offers. However, it is not sensible to explain the difference between classifiable and unclassifiable cases by pointing to differences in the mean scores for these items for the two groups, given that the initial grouping into classifiable and unclassifiable cases is partly dependent on scores in these sections of the survey. If we are seeking a bivariate explanation of the nature of
unclassifiable cases, this cannot be on the basis of constructs used to determine classification.

The group whose leaving decisions were unclassifiable had longer tenure and were slightly older. These are consistent with one another, and to some extent to be expected. Leavers who report higher levels of job satisfaction are also likely to have stayed longer in their previous post (where they were relatively more satisfied). On the whole we might also expect this group to be slightly older, given the difference in tenure. Simply put, they will (on the whole) be more likely to be older as they have worked for a long period 'somewhere'. There was no notable difference in the gender composition of the two groups, though with such a predominantly female sample, it would be difficult to explain or describe differences in terms of gender unless there was a very considerable effect. The range of other potential occupational or contextual factors that could influence classification is considerable, meaning that ascribing difference in classification rates between this study and Lee et al's study solely to gender would be inadequate.

One other difference we may infer between the two occupational groups is that nurses less typically form the chief wage earners of a family than accountants. Because an item was included to test whether leavers were the chief wage earners in their household, it was possible to investigate whether this was an indicator of classification failure. It may be that the model does not describe this kind of decision to leave as accurately, given that the decision may be influenced by a third party. However, the ratio of unclassifiable nurse leavers who reported being the chief wage earner, and classifiable nurse leavers who reported being the chief wage earner was similar (38 / 81 = 47%, 142 / 271 = 52%) and a Chi-squared test was insignificant.

Another way in which non-work domain variables (Cohen 1999) might influence leaving decisions is the influence of children, or dependants (Price 1986, 1999). Again, however the ratio of unclassifiable nurse leavers reporting dependants and classifiable nurse leavers reporting dependants (34 / 81 = 42%, 77 / 271 = 28%) was not significantly different. Overall, 156 of 352 leavers reported a shock, and the likelihood of someone being unclassifiable was not significantly associated with their reporting (not reporting) a shock (39 / 81 = 48%, 117 / 271 = 43%).
In terms of classification success for leavers in this sample alone, we might expect different rates of classification success depending on whether leavers reported their current job as being at a higher grade, or whether they were still working in the NHS, or more generally still, whether they were still working as nurses. Each of these scenarios might be more easily classified if we construe these kinds of job-to-job transition as more associated with typical turnover behaviours such as search and evaluation.

Table 8.17 below shows this data:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Status</th>
<th>Proportion Unclassifiable</th>
<th>Proportion Classifiable</th>
<th>Difference (1 d.f.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In NHS*</td>
<td>Yes</td>
<td>58 / 80 = 0.73</td>
<td>190 / 268 = 0.71</td>
<td>Ns</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>22 / 80 = 0.27</td>
<td>78 / 268 = 0.29</td>
<td></td>
</tr>
<tr>
<td>In Nursing*</td>
<td>Yes</td>
<td>64 / 79 = 0.81</td>
<td>236 / 270 = 0.87</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>15 / 79 = 0.19</td>
<td>34 / 270 = 0.13</td>
<td></td>
</tr>
<tr>
<td>Promotion**</td>
<td>Yes</td>
<td>16 / 55 = 0.29</td>
<td>105 / 221 = 0.48</td>
<td>$\chi^2 = 10.17, p &lt; 0.01$</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>39 / 55 = 0.71</td>
<td>116 / 221 = 0.52</td>
<td></td>
</tr>
</tbody>
</table>

* 4 or fewer missing cases

** 24 missing cases (only includes leavers currently working as nurses)

This suggests that where nurses are working in the same sector, and change in grade is not considered, there is no difference in the ability of the unfolding model to classify leavers. Even where nurses have left the profession, there is no difference in the classification ability of the model. However, when looking at those leavers who reported working at a higher grade, relatively few of these (16 / 121) were unable to be classified. This suggests that decisions to quit where people leave to go to a job at a higher grade are better articulated by the unfolding model than decisions where people stay at the same level, or drop down.

These preliminary tests suggest that certain obvious potential bivariate explanations of differences between the classifiable and unclassifiable leavers are inadequate. However
there is evidence to suggest that leaving decisions that do not result in promotion are less easily modelled. This bivariate analysis does not rule out the possibility that the model is sensitive to particular combinations of characteristics that result in some decisions being unclassifiable.

A more comprehensive means of identifying factors affecting classification is to use discriminant analysis or logistic regression. These have an advantage over bivariate analyses of difference between the two groups (such as the influence of a leaver being the chief wage earner, or the presence of shock), because these techniques assess the interrelationship between several independent variables and one (categorical) dependent variable. In this case, the dependent variable is whether or not leavers were classifiable by the unfolding model. This analysis could help identify factors affecting classification that are not detectable by bivariate analyses.

Using A Model To Explain Classification Failure

The first stage of building such a model is to identify potential predictor variables. As well as the job satisfaction, image violation and avoidability items, a discriminant analysis function, or logistic regression equation can also incorporate demographic measures (tenure, sex, number of dependants, whether the respondent is the principle wage earner) and core survey items, such as measures of decision times, search, evaluation of alternatives and the script section of the survey. Shock items would not be included in this model, as they only apply to a sub-sample of leavers.

As has been discussed, there are difficulties inherent in building any model that contains variables that play a role in classification. In this case, the explanatory power of these variables is being counted twice, both beforehand to decide classification, and afterwards to explain the differences in classification. Accordingly, the model can only include predictors that have no influence on the classification, namely: salience, tenure, avoidability, the four items relating to attitudes towards the profession and the first duration period (time between first thoughts of leaving and final decision to leave). Tests of the distribution of several of these variables have already indicated that they are not normally distributed (above), and thus it would seem that discriminant analysis is an inappropriate means of exploring classification failure (Hair et al 1998: 276). Also, although, the overall
number of observations in the study is high, there is a greater incidence of missing data in the demographic section than in other parts of the survey, which reduces the sample size (outlined below). Finally, logistic regression is a more robust technique than discriminant analysis, and more capable of handling several categorical independent variables simultaneously (ibid: 246). All these considerations suggest logistic regression is a more appropriate analytical technique than discriminant analysis.

Logistic Regression

As previously discussed, this type of regression technique builds a model to predict the likelihood of group membership, which is defined in terms of the dependent variable. The logistic regression equation itself is based on an odds ratio, comparing the probability of an event’s occurrence with the probability of its non-occurrence (ibid: 278).

In terms of this analysis, the odds ratio refers to the likelihood of an individual being classifiable by the unfolding model. The independent, or predictor variables are a mixture of metric (e.g. salience, avoidability), or categorical / dummy variables (e.g. gender, whether the leaver had dependants), derived from respondents’ answers to items that were not used in classification.

The final sample size for this test was 219 leavers, of whom 48 were unclassifiable. Of the overall sample of 352 leavers, 52 were excluded from this analysis, as they were no longer working as nurses. The rationale for restricting analysis to leavers who were still working as nurses is given in the ‘measures’ section below. This left a sample size of 300. Of this 300, 81 further cases had missing data in one or more of the predictor variables. Although this final sample size represents a substantially smaller number than the overall sample of 352, this is still a large enough group to employ multivariate analysis and the ratio of observations to variables is over 20 to 1, which is consistent with established guidelines for other multivariate procedures (ibid: 99, 258, 342). Given that five of the variables (below) were one-off, categorical measures, it was not possible to predict missing values with any confidence. In order to reflect the difference in proportion between the classifiable and unclassifiable cases, a cut off value for the probability function of 0.78 (171 classified cases / [171 + 48 unclassified cases]) was used (rather than the SPSS default of 0.5). This is because the average probability is dependent on the ratio of cases in each category.
Measures – Metric Variables

Decision time, saliency and avoidability were measured in the same way as for the bivariate correlations and multiple regression analyses and tenure and age were measured in years. Attitudes towards the profession were measured using a single measure - the mean of the items XI a to d inclusive. The alpha reliability score for this scale was 0.84, and a principle components factor analysis using varimax as the method for extraction revealed a single factor structure, as the scree plot below (figure 8.6) indicates. Hence it seems sensible to summarise attitudes towards the profession as a single summated scale.

Figure 8.6: Scree Plot Showing Single Factor Structure Of Professional Attitude Items
Measures - Dummy Variables

The dummy variables included accounted for the following:

1. Whether the leaver had been grade D, or grade E and above
2. Whether the leaver was female
3. Whether the leaver reported being the chief wage earner
4. Whether the leaver reported having any dependants
5. Whether the leaver reported being at a higher grade (loosely labelled ‘promotion’)

Each of these was stated, or could be inferred from data in response to the demographic items in the survey. It should be noted that leavers’ reporting an increase in grade does not necessarily indicate promotion was a factor in the decision to quit, however concerns over career development and promotional opportunities were paramount for many nurses (as is discussed in the next chapter), and there is therefore some empirical (as well as intuitive) justification in translating a reported increase in grade as ‘promotion’. It was only possible to determine whether a leaver had been promoted where they were still employed as a nurse, because it is only for these leavers that promotion (in terms of an increase in grade) could be quantified. Analyses including promotion as a predictor variable would thus need to exclude all the leavers no longer working as nurses. This is acceptable given:

1. Preliminary $\chi^2$ analysis had identified there was a significantly higher proportion of nurses who had not experienced promotion and were unclassified, than who had experienced promotion and were unclassified ($\chi^2=10.17$, p<0.01).

2. The substantive need to try to identify leaving decisions where it was likely that concerns over career development were significant.

3. There was no indication that nurses who left the profession were less easily classified (as shown in table 8.17 above).

Hence, 52 cases of leavers who were no longer working as nurses were excluded from the analysis. The rationale for using the above set of metric and dummy independent variables was that any information derived from this function would be independent of the
classification schema. There is also intuitive merit in expecting that the character of unclassifiable decisions might be described in terms of salience (presumably unclassifiable decisions would be less salient, or more vague), or in terms of duration of the decision (decisions which are not easily modelled may take longer). Including variables to assess grade and tenure could indicate whether the model applies with greater accuracy at different career stages. Testing whether the leaver was promoted can offer a clue as to whether the unfolding model is better at classifying some types of exit (quits resulting in promotion may indicate primarily work-related, ‘rational-economic’ decisions) than others. Information relating to wage earner status, and number of dependants could give clues as to the mobility of the leaver.

Method

The method of logistic regression used this time was forward stepwise, with the criteria for deciding whether to include a variable in the regression equation being the statistical significance of its score statistic at the 5% level. This is a test statistic for measuring whether the logistic coefficient is significantly different from zero, and is derived from the change in log-likelihood resulting from inclusion of the variable in the regression equation. The criterion used for deciding whether to remove a variable from the equation was the Wald statistic. This is a measure of the statistical significance of the logistic coefficient, similar in use and interpretation to the $t$ value in multiple regression (Hair et al 1998: 244).

Validation

In both multiple and logistic regression, a commonly accepted procedure for validating the model is to divide groups randomly into analysis and holdout samples (Hosmer and Lemeshow 1989: 171-3). This procedure will not be used to validate the model developed here. In this part of the study, the primary focus is on exploring the reasons for classification failure, and the meaning of classification failure for this test of the unfolding model. Both these considerations concern internal validity. It is not as important to establish the generalisability of these results to a wider population. A more appropriate means of understanding and interpreting the results of such analyses is to check for internal consistency, namely, coherence with other measures and findings, coherence with existing
theory, coherence or conflict with the architecture and underlying theory of the unfolding model.

Results

Two of the ten hypothesised predictor variables proved useful in distinguishing between classifiable and unclassifiable leavers. These were the extent to which the leaver reported their decision as avoidable, and whether or not they had been promoted (see table 8.18).

Table 8.18: Variables Identified As Useful In Predicting Classification Status

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AV</td>
<td>.374</td>
<td>.119</td>
<td>9.867</td>
<td>1</td>
<td>.002</td>
<td>1.453</td>
</tr>
<tr>
<td>Constant</td>
<td>.080</td>
<td>.394</td>
<td>.042</td>
<td>1</td>
<td>.838</td>
<td>1.084</td>
</tr>
<tr>
<td>Step 2b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AV</td>
<td>.366</td>
<td>.122</td>
<td>9.089</td>
<td>1</td>
<td>.003</td>
<td>1.443</td>
</tr>
<tr>
<td>PROM1(1)</td>
<td>-.940</td>
<td>.374</td>
<td>6.307</td>
<td>1</td>
<td>.012</td>
<td>.391</td>
</tr>
<tr>
<td>Constant</td>
<td>.713</td>
<td>.479</td>
<td>2.215</td>
<td>1</td>
<td>.137</td>
<td>2.040</td>
</tr>
</tbody>
</table>

a. Variable entered on step 1: Avoidability
b. Variable entered on step 2: Promotion.

In the earlier logistic regression analysis, attempting to replicate Lee et al’s findings of a significant relationship between decision time and pathway, straightforward entry method was used and both predictor variables were cited. In this case, because the regression models have been generated in a stepwise fashion (rather than via straightforward entry), and because two variables have been found to be significant predictors, we have two competing models – both of which are useful in predicting classification status. At step 1, the avoidability variable is selected as the most powerful predictor variable. At step 2, promotion is also found to be a useful predictor. None of the other potential candidates for predictor variables (having dependants, decision time etc.) significantly improve the model, and so step 2 is the final step.

As logistic regression relies on a different method of modelling the dependent variable from multiple regression, the interpretation of the regression coefficients (column B above) is also different. Indicators of the strength of the coefficient are (a) the significance level (p =
and (b) the high Wald statistic, which is, "...the square of the ratio of the coefficient divided by its standard error...(Pampel 2000: 30)" - in this case, the square of (0.374 / 0.119). This has a chi-squared distribution and (as discussed above) is used as a selection criterion to test whether a variable can be entered into a model.

**Logistic Regression Models**

Below are the logistic regression equations (models) for each step of this analysis. These are expressed in terms of a probability function – the probability that an individual leaver is classifiable. When the result of this function is greater than the stipulated cut-off value of 0.78 (171 classified cases / [171 + 48 unclassified cases]), leavers are predicted to be classifiable. The regression coefficient (in bold) shows the relative predictive power of the predictor variable. The standard error of the constant and standard errors for each coefficient are shown in table 8.18 above. The Wald statistic for the regression coefficient (also in table 8.18) gives an indication of the relative importance of each variable.

**Step 1**

\[
p_{\text{classifiable}} = \frac{1}{1 + \exp[-(0.80 + 0.374 \times \text{Avoidability})]}
\]

**Step 2**

\[
p_{\text{classifiable}} = \frac{1}{1 + \exp[-(0.713 + 0.366 \times \text{Avoidability} - 0.94 \times \text{Promotion})]}
\]

**Interpretation Of The Classification Table**

The classification table (table 8.19) below shows the number of leavers correctly predicted as classifiable (coded as 1) or unclassifiable (coded as 0) for both steps of the logistic regression analysis.
Table 8.19: Classification Table For The Two Competing Models

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unclassifiable</td>
<td>Classifiable</td>
</tr>
<tr>
<td>Step 1</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>0</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td></td>
</tr>
</tbody>
</table>

This table comprises two 2 x 2 matrices. At the right-hand side of each matrix are percentages that describe the predictive accuracy of each model. The horizontal totals give the number of actual observations in that group. For example, at step 1 the number of observed unclassifiable leavers (coded as 0) ‘Unclass’ is 31 + 17 = 48.

The diagonals in this matrix show the number of correctly predicted, or incorrectly predicted cases. For example, again at step 1, the first regression model correctly predicts 31 leavers as unclassifiable (the intersection of the ‘0’s), and 111 leavers as classifiable (the intersection of the ‘1’s). Looking at the opposite diagonal shows how this first model wrongly predicts 17 unclassifiable leavers as being classifiable, and wrongly predicts 60 classifiable leavers as being unclassifiable.

Costs Of Prediction Error

In many instances where regression, or discriminant analyses are used, it is straightforward to assess the effect of errors in prediction as the costs are tangible. For example, we could assess the impact of mistakenly predicting ‘good’ customers as ‘bad’ customers and vice versa in terms of overall business objectives and cost. In some contexts organizations might place more emphasis on correctly predicting all ‘good’ customers than on identifying ‘bad’ ones. Similarly, the test procedure for a particular disease might incorporate a relatively high level of ‘false positives’ (cases where the disease is initially wrongly
detected as present), in order that fewer cases go undetected, i.e. seek to minimise ‘false negatives’.

If the goal here were to enhance our overall understanding of the interrelationships between these variables, mis-predicting unclassifiable leavers as classifiable would be just as ‘costly’ as mis-predicting classifiable leavers as unclassifiable. In this case, evaluation of the model could be done using goodness-of-fit, log-likelihood or Hosmer and Lemeshow’s goodness of fit index (Menard 2001: 19-21), all of which can be generated by SPSS. However, because we are interested in correctly identifying as many cases as possible that the unfolding model fails to classify, mis-predicting leavers as classifiable instead of unclassifiable is more costly than mis-predicting unclassifiable leavers as classifiable.

It is only in instances where classification is a clear goal of the analysis that measures of predictive accuracy are a suitable means for assessing model fit (Hosmer and Lemeshow 1989: 147), because reverting to a dichotomous measure (correctly predicted or mis-predicted) negates some of the advantages that logistic methods offer in transforming a non-linear relationship (ibid.). Using a measure of predictive efficiency can in some cases suggest different conclusions from those suggested by a measure of goodness-of-fit (Menard 2001: 32).

However, it can be seen that maximising overall predictive accuracy will not enable evaluation of the model. Simply predicting all leavers as classifiable would result in our prediction being right 78% of the time, but this would not tell us anything about how the unfolding model works. Because we are not interested solely in maximal success, the proportional chance criterion gives a more appropriate baseline against which to measure the success of a given model. This can be represented by the following formula:

\[ C_{PRO} = p^2 + (1 - p)^2 \]

where \( p \) is the proportion of observations in one group, and \( 1 - p \) is the proportion of observations in the other group. In this case, where we have 171 / 219 classifiable leavers, \( C_{PRO} = 0.78^2 + 0.22^2 = 0.658 \), or expressed as a percentage, 65.8%. Measures of predictive accuracy that are lower, or only marginally higher than this, are an indication that the model is not useful.
Using the proportional chance criterion, neither model is usefully able to predict whether leavers are classifiable, or unclassifiable. In a sense, this would represent a vindication of the model and original schema used to classify leavers, if this were taken to mean that analysis has not shown any systematic source of classification failure. However, the second model is able to predict correctly 77.1% of the unclassifiable leavers. Even though this also mis-predicts classifiable status in 55.6% of cases, this finding suggests that the unfolding model itself is better able to classify leavers who leave in order to be promoted. Using the second model to predict unclassifiability is far superior to the percentage we would expect to identify by random selection, because unclassifiable cases only make up 22% of the sample. Also, in cases where there is a disparity in the sizes of the two component groups (here classifiable and unclassifiable leavers), this procedure, “…will always favor classification into the larger group (Hosmer and Lemeshow 1989: 147)".

Conclusion

This chapter has analysed the nature of the shocks reported in this group of nurse leavers, and explored reasons for classification failure. Consistent with the extant literature on turnover, 14 bivariate correlations relating to shock were found to be statistically significant. Multiple regression analysis indicated that: unexpected shocks are typically negative; negative shocks are typically work-related and provoke avoidable quits which are more likely to involve search; work-related shocks are typically avoidable and negative; specific shocks are typically personal, result in quitting decisions that are more salient and take less time to enact. Cluster analysis indicated there were broadly two kinds of shock in this group of leavers: cluster group 2 could be characterised as experiencing a negative, work-related shock which provokes an avoidable quit; cluster group 1 experienced a positive, personal, non-work shock that prompted a quit that was unavoidable. Logistic regression was used to attempt to explain instances of classification failure. The promotion variable was found to be a useful predictor of classifiable status (those quits resulting in promotion were more likely to be classified).

This logistic regression analysis will be revisited in the penultimate chapter, after analysis from the open-ended responses is incorporated in classification of leavers. The next chapter presents qualitative analysis of responses to the open-ended items in the survey.
Chapter Nine: Extension Part Two – Open Items

Introduction

The preceding chapter used multiple regression and cluster analysis to investigate the nature of shocks, as well as logistic regression to explore potential reasons for cases being unclassifiable. The scope for logistic regression was found to be limited, given that most of the numbered items in the survey are used to tap the core theoretical constructs of the model. Accordingly, there are relatively few variables that can be meaningfully used to explore the difference between classifiable and unclassifiable cases. Nonetheless, there was evidence to suggest that the model is better at classifying leaving decisions that involve promotion. Using supplementary qualitative data, and looking at the surveys on a case-by-case basis, it is possible to learn more about the classification of leavers, but also to learn more about this test of the unfolding model. As is shown, a substantial number of leavers who were unclassified on the basis of purely numbered items could be classified when information from additional open items was investigated. These items also provide an alternative basis for exploring the difference between classifiable and non-classifiable cases. The next chapter will integrate the quantitative and qualitative analyses.

The Additional Open Items

The revised survey used in this study had three additional open items, included to tap well-established constructs in turnover research. Two of these assess the reasons for leaving, “What was the primary reason for leaving your prior post?” and “Please describe any other important reasons”. The third assesses avoidability, “There are things that the Trust could have done that might have caused me to stay... Please elaborate.” The three open items in Lee et al’s survey were also retained. Two requested elaboration of specific constructs (shock, job satisfaction). The third was an all-purpose item which concluded the questionnaire, “In addition, please feel free to elaborate on any of your responses below.”

Together, it was anticipated that these six items would encourage rich supplementary information, as well as allow respondents greater scope to express their thoughts and feelings regarding their decision to leave. More specifically, inclusion of the additional
items was warranted to address shortcomings in the original survey, and enable greater exploration of the model’s core constructs. Inclusion of items to assess nurses’ reasons for leaving was to gather more detail on the nature of image violations, as well as to explore the idea that paths have typical characteristics. Assessing avoidability was warranted given that this too might shed light on the character of the different paths. An ancillary benefit is that this item should offer some clues for organizational interventions.

Addition of these items also addresses two more general concerns:

1. The unfolding model represents a new, unique and unconventional way of looking at turnover. Whilst this makes it an attractive choice for a replication study, its very unconventionality may mean it is difficult to integrate findings from such a study with the broader, well-established turnover literature. The introduction of two well-established constructs (reasons and avoidability) makes dialogue with the established literature easier.

2. These items were also included to allow insight into the organizational and occupational context for NHS nurses, as well as give scope for suggested interventions at each participating Trust, and to a wider policy audience.

**Job Offer as Shock**

In 6 cases (1022, 3036, 4020, 7022, 7070, 8017), respondents reported a shock, a script and a job offer whilst simultaneously reporting no search, and no evaluation of alternatives. Although these cases were not covered by the original classification schema, they represent path 1 quits where the job offer itself is a shock, (Lee et al 1999: 453). It is possible of course that an instance of someone receiving an unexpected job offer could coincide with their experiencing another, overriding shock (such as spousal relocation). However, this would still imply a path 1 quit (admittedly where there are multiple shocks), given that there is no search or evaluation for alternatives and there is evidence of a script. In some cases, the shock was not explicitly described as a job offer, for example, one respondent (1022) wrote, “wanted a higher grade and more opportunity for learning”. A clearer illustration of job offer as shock was given in (7070), “whilst on sick leave a career opportunity was highlighted to me by my partner”. Although there is arguably a greater
degree of inference employed in these classification decisions (it was not always certain the offer was the shock), instances where people reported a shock, a script, no search, no evaluation and a job offer were labelled as path 1, in line with Lee et al (1999).

Evidence Of Constructs Undetected By Numbered Items

Some cases were reclassified after clear evidence for the presence of previously unreported constructs was found. Forty-one respondents described an image violation, which was not assessed by the numbered items in sections VI and VII. Three respondents (3015, 3065, 7010) described job dissatisfaction and one (5006) became classifiable on identification of a specific non-work option, (Lee et al 1999: 453) namely early retirement. In one case (7022), script attribution enabled the identification of one of the six instances of leaving where the job offer was the shock.

The basis for every attribution of a previously unreported construct is shown in detail in appendix four. In each case, a verbatim extract is presented as evidence for inferring the presence of the given construct. In some cases, evidence indicating a core construct was found, but it was still not possible to classify a leaver. These are also shown in the appendix. All the open responses in each survey were analysed, and in no case was it found that identification of a hitherto unreported construct caused a previously classifiable case to become unclassifiable, or to become classified into an alternative path. Some concerns over the validity of shock attribution became apparent for a few leavers, and this would have affected classification where a reported shock could have been deemed invalid (for example where a path 3 leaver would have become reclassified as path 4b). However, in no case was there sufficient evidence to imply that attribution of shock would be a contradiction (see Validity Of Shock Assessment below). The examples in table 9.1 below offer an illustration of how previously unreported constructs were identifiable after analysis of the open responses.
Table 9.1: Examples Of Core Constructs Indicated In Open Responses

<table>
<thead>
<tr>
<th>ID No</th>
<th>Extract</th>
<th>Item(s)</th>
<th>Construct</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>7068</td>
<td>&quot;More time to my family.&quot;</td>
<td>Other Reasons</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>3039</td>
<td>&quot;I was bullied by my manager&quot;</td>
<td>Primary Reason</td>
<td>Job Dissatisfaction</td>
<td>Path 3</td>
</tr>
<tr>
<td>5006</td>
<td>&quot;Early Retirement&quot;</td>
<td>Primary Reason</td>
<td>Non-work option ('Job Offer')</td>
<td>Path 3</td>
</tr>
<tr>
<td>3039</td>
<td>&quot;I became pregnant with my second child... I felt the need to put my baby first... I couldn't continue as a sister and guarantee being there for my baby when it mattered.&quot;</td>
<td>Shock, Avoidability and Primary Reason Items</td>
<td>Script</td>
<td>0</td>
</tr>
</tbody>
</table>

**Image Violations**

In this study, as in the 1999 study, the main reason for non-classification was respondents’ failure to report image violation. Inspection of the open items indicated that in 41 cases, evidence for image violation was found. Primarily, the source for this was respondents’ answers to the ‘reason(s)’ items, though there were cases where data from these items was missing or inconclusive, and image violation could be inferred from the other open items. In the majority of instances where evidence of image violation was found, this resulted in an ability to classify leavers who were previously unclassifiable. Thirty leavers became classifiable upon identification of image violation alone: 1 as path 2, 10 as path 3 and 19 as path 4b. One case (7010) was classifiable as path 4b after identification of both image violation and job dissatisfaction. Evidence for each case where previously unreported image violation is attributed is shown in appendix four, in the same form as in table 9.1.
Discussion

Both in this study, and in Lee et al 1999, failure to report image violation adversely affected classification. This indicates there are problems either with the assessment of the construct and the current scale (validity), or with the underlying theoretical framework of the model. Evidence that the scale does not elicit valid responses can be found in several cases where respondents leave for purely personal reasons. For example, respondent 1007 wrote:

I thoroughly enjoyed my job at South Bucks... the only reason for leaving was to move, I missed the sea.

This is clear evidence of (value) image violation, namely where professional life is incompatible with a personal need. However in response to the items, 'How compatible were your personal goals with those of your former Trust?' and 'If I had stayed, I would have been able to achieve most of my personal goals', this respondent answered 5 ('very compatible') and 5 ('strongly agree') respectively. This apparent contradiction can be explained if this respondent interpreted the phrase 'personal goals' as relating solely to life at work. Interestingly, this suggests that the high reliability scores obtained for the image violation items may actually be evidence that the scale is not valid. For example, one would expect that in cases where there was a conflict between an otherwise satisfactory life at work, and a desire to pursue personal goals, that respondents scores would display a different profile of responses to these eight items from cases where people were generally dissatisfied, or satisfied. This is illustrated below (see figure 9.1):
Figure 9.1: Image Violation Items And Hypothesised Profiles Of Responses

<table>
<thead>
<tr>
<th>Not Compatible / Strongly Disagree</th>
<th>Compatible / Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>How compatible were your <strong>personal values / ethics</strong> with those of your former Trust?</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>How compatible were your <strong>professional values / ethics</strong> with your former Trust?</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>How compatible were your <strong>personal goals</strong> with those of your former Trust?</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>How compatible were your <strong>professional goals</strong> with those of your former Trust?</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>If I had stayed, I would have been able to achieve most of my career goals.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>If I had stayed, I would have been able to achieve most of my personal goals.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>At the Trust, my career was progressing as I expected.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>At the Trust, my personal goals were progressing as I expected.</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

The circled responses represent an archetypal profile of responses to this scale, which would ideally be found (be valid) in cases where a respondent experienced ‘fit’ (Beach 1990) across each of the value, strategic and trajectory images. The boxed responses represent an archetypal profile at the other end of the spectrum, which would be valid.
where a respondent experienced image violations in each of the three images. The numbers that are shaded represent a third archetypal set of responses, where there is compatibility of value, trajectory and strategic images at work, but violation of the strategic and trajectory images in terms of respondents’ personal life. This could describe cases where respondents felt pressure to relocate, perhaps where their spouse found a better job, or cases where respondents wanted to move nearer to family and friends. Both the circled and boxed responses would yield high reliability scores, and they could also be valid for cases where people experienced compatibility (the circles) or violation (the boxes) across all three images. The shaded responses would not yield high reliability scores using conventional measures of validity (alpha ratings), though the scale could nonetheless be both valid and reliable if it typically produced the same pattern of responses across different cases, where people experienced the same mixture of image compatibility and violation.

There are two sources of evidence within the data that suggest it is unlikely this scale is a valid and reliable measure for such cases. Firstly, the alpha score for this scale was extremely high (0.89). If each measure accurately and independently assessed a different type of image, in a discrete context (either work, or home-life), then we would expect this score to be far lower, because some people would simultaneously report fit for some images / contexts and violation for other images / contexts.

Secondly, there is evidence to suggest that many respondents interpreted this scale as referring solely to life at work. Many of the cases where previously unreported image violations were detected by content analysis (see appendix 4) are cases where the primary reason given for leaving is family-related. For example, eight respondents who did not report any image violation, in terms of the scale above (1003, 1007, 3027, 3037, 3045, 3074, 4022, 6016) describe a process of relocating motivated by non-work factors.

Future tests with this scale could include items relating to personal goals in a completely separate section, perhaps with a heading, such as ‘your life outside work’ to make it clear that personal goals is not interpreted as personal career goals, or personal goals at work. Alternatively, or additionally, items could be reworded to make it more explicit that life outside work was meant to be included in an assessment of personal goals. Either measure is likely to improve the validity of this scale, though it would decrease the reliability score if a measure of intra-respondent consistency, such as alpha rating were used.
Scripts

It was less straightforward to determine when to assign 'script', perhaps because this is the least well defined or operationalised construct in the model. For example, three common reasons for leaving, 'spousal or family prompted relocation', 'taking early retirement' and 'pregnancy' could all be interpreted as evidence of leavers' responding to 'scripts' Lee et al (1996: 17-18). However, there was evidence in some responses that summary information offered in the 'primary reason' or 'shock' items, misleadingly suggested a script. The example below clearly illustrates how script attribution may be invalid if it is based on a summary reason:

I fell in love and moved to Melton Mowbray (1001).

This seemingly has many of the characteristics of a script, namely a personal decision, unrelated to the job and where, 'quitting [is] embedded within a larger set of ongoing events, decisions and processes (Lee et al 1994: 17)'. However supplementary information (in response to the avoidability and 'other reasons' items) undermines the idea that this respondent's quit is scripted:

Given training in working hours, then my partner would have moved down here... Would have stayed but fed up with training needs not being met in work time. Had to do training on days off unpaid (1001).

Similarly, one respondent (3018) described the primary reason as, "Husband in RAF – he was posted". This also sounds like a scripted decision, however their response to the additional elaboration item was:

Whilst in my last NHS post I feel that my manager always supported her staff although she was under enormous pressure within the trust. Although I was only on [my] unit for a short time, I enjoyed learning about the speciality and had the conditions previously discussed been better, would most definitely have stayed.

These examples show it is not sufficient to attribute script simply on the basis of a particular reason. They also illustrate that the supplementary items may be valuable in shedding light on the validity of script attribution. Further evidence to undermine the attribution of script in response to summary information alone comes from responses to the scaled avoidability item, 'There are things the Trust could have done that might have
caused me to stay'. Eight respondents (2026, 3018, 3033, 6013, 6018, 7001, 7027, 8037) who had indicated they left owing to relocation or spousal relocation agreed, or strongly agreed with this statement, implying that for some respondents at least, a decision to relocate was not 'set in stone', but avoidable if appropriate management action were taken. Another problem was also identified when avoidability was explored. In five of the eight cases cited above, scripts were nonetheless counted as present, as a result of responses to the items designed to tap this construct. This cast doubt on the validity and reliability of the script scale (VIIb through d).

In this study, the criterion for assigning 'script' in the open responses was that scripts were only counted as present where it was felt leavers showed evidence of a pre-existing plan. For the majority of cases, there was insufficient evidence to indicate a 'pre-existing plan', but this was identifiable in eight cases (1007, 3001, 3020, 3039, 3040, 5001, 7022, 7058) where a script had not already been indicated. In none of these cases (shown in the appendix) was it found that respondents agreed or strongly agreed with the item, 'There are things the Trust could have done that might have caused me to stay'. This implies that using the stricter criterion 'identification of a pre-existing plan' may avoid type II errors (Ho = Respondent has a script).

Despite concerns over the validity and reliability of the scaled items in section VII, if respondents had previously indicated a script by an appropriate response to these items (as described in the classification schema), this was allowed to stand as sufficient evidence of a script. This is consistent with the idea that the open responses are used to supplement quantitative data.

Changes to script attribution have little effect on classification overall, given the 1999 revision to the unfolding model, which allows for scripts to be present or absent in all paths save path 1, where it is a necessary component of the quit. In only one case did the identification of a pre-existing plan in the open responses affect a classification decision, where 7022 became counted as path 1 (an instance of 'job offer as shock'). Respondents 3001, 3020 and 3040 were already classified, the others remained unclassifiable.
Script Formation

In some other cases, respondents did not report a script, nor was evidence found for a script on analysis of their open responses but there were insights as to how leavers in general may come to form scripts. There was also evidence that other behaviours could be legitimately described as scripted. Given that this construct is the least well articulated of the unfolding model’s constructs, it is instructive to explore this in more detail. The extracts below describe two different ways in which scripts may be formed. These extracts also partially support the somewhat idiosyncratic sense of ‘script’ in the unfolding model. If we recall the earlier critique of Lee et al’s use of ‘script’, one basic criticism was that they conflated or confused two different established senses of the term, one from clinical psychology (where a script is an unconscious and personal life plan), and the other from more mainstream social psychology (where a script is a context specific, event based structure for organizing cultural or shared knowledge about well-known situations). In the first extract below, the sense of script in mainstream social psychology seems more apt, though admittedly, personal experience is an important factor. In the second extract, two schema (relating to search and future employment) are formed after a particularly salient, unpleasant shock. As these relate to a highly personal, rare experience that forms part of the basis for a life plan, the sense of script in transactional analysis seems to fit better, though admittedly, these life-plans are not held unconsciously.

As I come from [a] different country where I'm used to having better benefits, I am not surprised that many nurses leave their jobs due to maternity. Three months leave is ridiculously short!!! I plan to leave nursing or go part-time if I ever consider having children (8027).

I was assured I would receive support and guidance [but] with no previous training I was dumped in all specialities whenever theatre was shortstaffed. The last straw came when I was put on a weekend and found myself in emergency theatre... when I complained I was told to “shut up and get on with it”. I spent most of the weekend in tears because I was so worried something could go wrong. When a case came up that I'd never done before let alone seen I was told that I was going to do it. I heard the senior members of staff slagging me off in an offensive manner, which upset me even more, but I vowed I would not do the case. The rest of the weekend passed in a blur, as soon as it was over I started looking for another job... I will never return to nursing (8006).

The first extract describes the existence of a pre-existing plan in the event of a future specific shock (pregnancy). One basis for the script is previous personal experience, ‘I’m
used to having better benefits' and the second is acknowledgement of other leavers' behaviour, 'I am not surprised many nurses leave their job due to maternity'. The second extract illustrates how a particularly powerful shock forms two schemata which could legitimately be described as scripted, in the sense that they are automatic and involve little or no deliberation. The first of these is search behaviour, 'as soon as it was over I started looking for another job', the second is a pre-existing plan in relation to future employment, 'I will never return to nursing'.

Other nurse leavers (7042, 8006) also stated they would never return to nursing, and there was evidence of a range of scripts relating to plans for future employment. For example some respondents (who were still working as nurses) indicated they would not return to the NHS (3066), or more specifically, a particular Trust (5008), or more specifically still, a particular hospital (1019).

Discussion
The implications of this analysis for the unfolding model are that the script concept remains unclear. Notwithstanding that script attribution has little influence in classification (only affecting potential path 1 leavers), the definitional basis for the construct is weak, and consequently, so is the basis for deciding whether scripts should be allocated. Some decisions which appear scripted on the basis of a summary reason on closer examination actually appear to be more carefully considered and weighed up, as is implied by these decisions being described as avoidable. The validity and reliability of the scaled items to assess scripts is questionable, given that seven cases were only identifiable as having scripts on the basis of their responses to open items, and five cases described as scripted were avoidable. There is also evidence that non-quit behaviours (search, plans for future employment) can be defined as scripted with the same degree of rigour.

There is no doubt that some decisions to leave can be described as scripted, in the sense that respondents enact a pre-existing plan to quit, and this phenomenon is not adequately described in the existing turnover literature, notwithstanding Mobley's (1981) account of impulsive quitting. However, problems accurately attributing scripts suggest that the utility of this construct is limited by inadequacies in the current measures. It is also difficult to see how using the notion of a script offers any potential for improving the management of
turnover. Future revisions to the unfolding model could focus on trying to develop improved measures for scripts, or more explicitly define exactly what a script is. An alternative solution, albeit at the expense of potentially oversimplifying the turnover phenomenon, would be to forgo using the script construct altogether, thus collapsing paths 1 and 2. In the current formulation of the model, scripts only play a role in pathway 1, and the only difference between this path and path 2, is that image violation is a necessary condition for path 2 leavers. In this study, the three respondents allocated to path 1 on the basis of their responses to numbered items each reported image violation.

Validity Of Shock Assessment

Reading through the completed questionnaires, an apparent anomaly was evident. In some cases, although respondents had reported a shock (by responding yes to the item, 'Was there a single, particular event that caused you to think about leaving?'), and filled in the five items designed to test different dimensions of this shock, the description of the, 'single, particular event' seemed more indicative of a series of events, or a general state. For example, one nurse (7029) responded to the item 'please briefly describe the event' with a numbered list:

(1) Extremely busy ward with shortage of staff, less support, (2) After maternity leave I was given only three months in which I could do suitable shifts (3) No creche facility for nurses, waiting list 9 months (4) Came to A&E with pain... No preference given for staff who work there and I was treated very badly (5) No family accommodation.

Another (7006) responded thus:

Lack of professional development and progression from my grade as well as poor morale.

Both extracts point to a problem with the validity of the shock measure, insofar as the item has clearly not elicited description of a single event. We could describe the first extract as combining particular events (2, 4), with more general problems (1, 3, 5). The second seems to relate general, underlying dissatisfaction. Notwithstanding that in each case respondents may have in mind a particular episode, the sense of these extracts is that the respondents have seized on the first open item as an opportunity to describe the general circumstances
surrounding their decision to quit. The implication of this for the sample as a whole could be that shocks are over-reported and the subsequent five items (testing the dimensions of the shock) may be filled in to retrospectively validate an inappropriate response or preserve consistency.

One resolution to this would be to explore the description in each case and distinguish between bona fide shocks and descriptions of a series of events, or a general state. The main drawback of this approach is that defining a cut-off point is largely arbitrary. This makes it difficult to construct a method for allocating shock with a similar level of transparency and rigour as the existing classification schema, which in turn would make it harder for others to assess and challenge the schema, or test these findings. There is also no guarantee that the absence of explicit description of a particular event means there was no shock. If we took 'absence of evidence' as 'evidence of absence', this would imply that a respondent who left this item blank (6019), or who wished to withhold an answer, "Horrible situation that cannot be described on paper" (7083) could not be counted as having shocks.

We can perhaps note that where more than one event is described, this does not invalidate attribution of 'shock' as there is no reason why someone may not experience multiple shocks. Assuming there is a valid response to the five numbered items (i.e. the respondent has 'a single event' in mind) interpreting a particular list of shocks could be difficult, because we may be unsure which shock the respondent is referring to. However, this could be militated against by drawing inferences based on their responses (if they described the event as 'expected' or 'positive' etc.).

A more fundamental problem may be that respondents report a series of shocks, and 'switch' between the shocks they are considering when answering the closed items. This would invalidate their responses to these items. Alternatively, they may report two or more particular events, as well as describe general scenarios (as is the case for 7029 above), but not have a particular event in mind when they respond to the five closed items. This second threat reduces to the challenge initially identified, namely that respondents recall a general affective state (such as low satisfaction), and cognitively reframe the items to validate references to this affective state.
There is no way to definitively ascertain whether these hypothetical threats to validity have actually occurred in this study. It might be that only a small number of respondents misinterpreted, or reconstructed this section. Intuitively, the items in this section seem robust. The first refers to, "a single, particular event" and subsequent items each refer to, "the event". Nonetheless, two threats to validity remain:

1. Respondents report multiple shocks and 'switch' between them in responding to the five items

2. Respondents do not report a genuine shock, instead they reconstruct this section and respond with a more general affective state in mind

There is reason to believe that the second threat is the more plausible. The implication of recalling any of a series of events is that respondents use episodic memory, which is associated with particularly elaborate and detailed recall (Symons and Johnson 1997: 371). This, together with the implication that recalling a particular episode involves, "...the ability to mentally travel through time..." (Wheeler et al 1997: 331)" both indicate that rapid 'switching' between different shocks in response to five, brief consecutive items is unlikely. Instead, it is more likely that where a series of events are listed, responses consistently describe one particularly salient event.

Description of a general state of dissatisfaction may also indicate an instance where the shock is a seemingly inconsequential event in isolation, but nonetheless valid, as a 'last straw', as is the case for this respondent:

I felt I wasn't getting support I needed. This feeling was building up for a long time, but one discussion with my manager 'pushed me over the edge' (7076).

In other cases respondents supplied briefer answers: "low standards" (1014), "my role not valued" (2007); or cited a similar lack of support: "lack of staff, stress and no support" (3040), "my line manager was very unsupportive and very hard to please, did not appreciate hard work of staff" (7084), "the way the ward sister treated myself and other staff all [the] time, every day" (8027). None of these would constitute description of a 'single event' on the strictest interpretation. Equally however, they do not contradict attribution of shock.
In one case (7033), the description in this item could have been construed as referring to a general state, rather than a particular event:

Sheer volume of work and not being appreciated by management that I as the nurse specialist understood best how it affected my patients and myself.

However, support for the notion this respondent had a particular event in mind could be gathered from their response to the item tapping ‘other reasons’ (emphasis added):

Being left to get on with it because I proved capable, confident, knowledgeable and reliable. Consultants, colleagues and patients liked me. I worked 12 to 14 [hour] days each and every day to keep my department afloat. I asked for help when it did come it was too little too late.

This is also an indication that where respondents supplied briefer or more vague answers, they could nonetheless have had a specific incident in mind. After consideration, the original, quantitative data relating to shocks was allowed to stand. In no case was there evidence that attribution of the shock construct was actively contradicted by answers to the item asking respondents to describe ‘the event’. However it remains possible that some respondents who did not experience a shock seized on the first open item as an opportunity to describe general feelings of dissatisfaction. Future tests could offer an initial open item asking for a general description of the events surrounding a leaver’s decision, or simply reorder the questions so that the reasons items are first - though a change in ordering could influence the validity of responses if people were prompted by particular items (e.g. satisfaction measures), or felt the need to preserve consistency (e.g. if the reason for leaving was asked first).

**Validity Of Primary Reason Responses**

A similar phenomenon was notable in some respondents’ answers to the (primary reason) item, “What was the primary reason for leaving your prior post?” Where respondents answered with more than one reason, the first reason cited was taken to be their primary reason, and subsequent reasons were coded as ‘other important reasons’. For example respondent (1019) replied to this item with, “Poor salary, poor opportunities, felt undervalued.” The first reason ‘poor salary’ was taken to be the primary reason and the other two, ‘poor opportunities, felt undervalued’ were coded as ‘other reasons’. This is
admittedly somewhat arbitrary, however intuitively there is some merit in the belief that where respondents list a series of concerns, the first one to come to mind is the most important. Support for this can perhaps also come from the fact that these items were towards the end of the survey. The implication of this is that respondents had already been thinking about the circumstances surrounding their decision, whilst completing earlier sections. Accordingly their response could be described as more considered than responses to earlier items such as the shock item.

Classification Status After Integrating Open Responses

Table 9.2 below illustrates how classification for the sample as a whole was affected, once supplementary data from the open responses was used to identify constructs in the model. This table also includes the cases where the job offer was the shock. As has been noted, in no case did previously classifiable cases become unclassifiable, and neither did any classifiable cases become reclassified into different paths.

Table 9.2: Effect On Classification Of Including Open Responses In Analysis Of Core Constructs

<table>
<thead>
<tr>
<th>Path</th>
<th>Quantitative data only</th>
<th>Additionally classifiable cases (using open responses to identify core constructs)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>6*</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>115</td>
<td>10</td>
<td>125</td>
</tr>
<tr>
<td>4a</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>4b</td>
<td>153</td>
<td>24</td>
<td>177</td>
</tr>
<tr>
<td>Unclassified</td>
<td>81</td>
<td></td>
<td>41</td>
</tr>
</tbody>
</table>

*Cases where the job offer is the shock (as outlined above)

Content Analysis of Open Responses

A 33 item coding frame was constructed to try to describe the open responses in terms of general themes. This coding frame was developed towards the end of the data collection
stage, and after the majority of open answers had been entered into WORD, to ensure a significant degree of familiarity with the data set. Developing it at this stage allowed it to be tested and refined, as when new surveys were entered and coded, they could be checked against the existing coding frame, which was then revised as necessary.

Some themes were apparent as particularly pertinent to this set of leavers (spousal or family related relocation, short-staffing, inflexibility of working hours, workload), others coincided with common sources of job dissatisfaction (insufficient opportunity for development / refused opportunity to develop, concerns with management or organizational culture, stress) or common reasons for leaving (clash with supervisor, health, pregnancy). Some had greater relevance for particular subgroups of the leavers, (cost of living or housing). The full list is shown below.

Table 9.3: Coding Frame For Content Analysis Of Open Responses

1. Spousal or family-related relocation
2. Clash with subordinate(s) or colleague(s)
3. General concerns with management or organizational culture
4. Discrimination
5. Bullying
6. Personal family problems or pressures
7. Clash with supervisor or senior manager
8. Completed a course of training or education
9. Concerns over promotion or career development
10. Clash with patient or member of the public / Public expectations too high
11. Inflexibility of work hours
12. Imposed reorganization of work
13. Health
14. Pregnancy
15. Role conflict (feel unable to provide professional care / feel undervalued)
16. Short staffed or under-resourced
17. Job offer, opportunity or promotion
18. Starting course
19. Travel problems
20. Lack of support
21. Qualified for early retirement
22. Change in financial circumstances
23. Insufficient opportunity for development / refused opportunity to develop
24. Mishandled disciplinary procedure
25. Working conditions / concerns over safety
26. Lack of Supervision
27. Low pay / Concerns over grade
28. Further Professional / Personal Development (specialism / career)
An initial hope was that gathering content-type data on issues surrounding job satisfaction and reasons for leaving would make it easier to apply the unfolding model in this particular context. Given the unfolding model is a retrospective, generic, process model, it is difficult to see how the current formulation can be used in prediction, either of individual decisions to leave, or more generally to describe institutional or sectoral drivers of turnover. One reason for developing a database of information on leavers’ reasons for leaving, and their sources of dissatisfaction, is that it may be possible to combine this ‘static’ information with the insights a ‘dynamic’ model has to offer. For example, certain paths have typical characteristics in terms of the language of the model, but if these paths also have evidence of typicality in terms of reasons for leaving, or common sources of job dissatisfaction, this could greatly enhance the scope there is for the model to be immediately useful. Equally, given these terms are well established in the general literature on turnover, there is more scope to integrate the findings from this study, with previous studies.

Initially it is instructive to offer some general frequency-type data resulting from the application of this coding frame to the open responses. Below are shown the six most common ‘primary reasons’ given for leaving.
Table 9.4: Six Most Commonly Cited ‘Primary Reasons’

<table>
<thead>
<tr>
<th>Ranking and Brief Description of Code</th>
<th>Frequency</th>
<th>% (Base 346)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Career development</td>
<td>59</td>
<td>17.1</td>
</tr>
<tr>
<td>2 Relocation</td>
<td>46</td>
<td>13.3</td>
</tr>
<tr>
<td>3= Role Conflict</td>
<td>22</td>
<td>6.4</td>
</tr>
<tr>
<td>3= Job Offer, Opportunity or Promotion</td>
<td>22</td>
<td>6.4</td>
</tr>
<tr>
<td>5 Lack of Support</td>
<td>20</td>
<td>5.8</td>
</tr>
<tr>
<td>6= Concerns With Management</td>
<td>17</td>
<td>4.9</td>
</tr>
<tr>
<td>6= Concerns Over Time Flexibility</td>
<td>17</td>
<td>4.9</td>
</tr>
<tr>
<td>Total</td>
<td>203</td>
<td>58.7</td>
</tr>
</tbody>
</table>

* Six cases with missing data

The 1999 Institute for Employment Studies report for the Royal College of Nursing (RCN) cites seven themes as being commonly identified by nurses as the ‘single most important factor reducing the likelihood of leaving nursing’. These are (1999: 4): ‘better pay’, ‘better resources to do the job’, ‘reduced workload’, ‘improved promotion prospects’, ‘flexible working hours’, ‘better career structure’, ‘more opportunities for developing skills’. As has been mentioned, five of these were incorporated as job-specific components of the job satisfaction scale. Given that this item asks nurses to predict what things could be changed for them which would reduce the likelihood of their leaving, one might expect there to be considerable overlap with the most commonly cited primary reasons for those nurses who have actually left.

There is indeed some similarity across the IES’ findings and the findings here, and each of the themes they identify emerged in the data. Leavers did specifically mention pay (six cases), resources (ten cases), workload (eight cases), promotion / career development (nine cases) or opportunities for training (six cases) as the primary reason for their leaving. In terms of the most commonly cited primary reasons in this study, Career Development is partly synonymous with ‘opportunities for developing skills’ or ‘better career structure’, Role Conflict and Lack of Support are partly synonymous with ‘better resources to do the job’, Job Offer, Opportunity or Promotion is closely related to ‘prospects for promotion’ and seventeen respondents cited Time Flexibility as their primary reason for leaving. There
are however two main differences between the findings of the IES study relating to factors likely to reduce leaving, and the results of content analysis of leavers’ reasons in this study.

In the IES study 39% of respondents cited ‘better pay’ as the ‘single most important factor reducing the likelihood of leaving nursing’. In this study, in response to the pay satisfaction item, 178 respondents (50.6%) expressed dissatisfaction, though only six (1.7%) mentioned pay as the primary reason for leaving a particular nursing post. Indeed a greater number of respondents reported dissatisfaction for the items relating to workload (206 = 58.5%) and resources (204 = 58%) than reported pay dissatisfaction. Secondly, there is no mention of spousal or family-related relocation in the IES study, though this has a large impact on turnover decisions in this study.

Discussion

The differences can be partially explained in terms of two points relating to a) methodology and b) survey design. Firstly, the IES study was conducted on nurses who were currently working, and responses would have been with the current job in mind. Secondly, this particular item asked about leaving ‘nursing’. Both factors limit the power of any predictions about nurse turnover within the NHS, and hence partially explain the failure of the results here to correspond with the IES study. Asking existing nurses to predict factors influencing their decision to leave is likely to miss at least one common ‘primary reason’, namely spousal or family-related relocation. This is something people are less likely to consider when making predictions about future decisions to quit because it is not work-related, and it is often unexpected. If we accept that there is a role for a precipitating event in the turnover decision, then other common reasons may similarly go unidentified. In terms of survey design, asking about intent to stay ‘in nursing’ is problematic, given that the number of nurses who leave the profession altogether is relatively small in any given year (less than 2% in 1999: IES: 4), and most nursing turnover is within the NHS.

The broader implication of this comparative analysis is that studies assessing possible interventions to address employee turnover may be misguided, where they focus exclusively on existing workers. Although the item the IES uses seems on the face of it a reasonable indicator of potential interventions to reduce turnover, it is not consistent with evidence gained from asking actual leavers what the main basis for their decision to leave
was. For example, although pay was a source of dissatisfaction for more than half the respondents to this survey, very few saw it as being the main reason they left. In addition to the two specific points described above, there are three further possible explanations for disparities between pre hoc and post hoc analyses of factors influencing a decision to leave.

1. Sources of current dissatisfaction may be of a different kind to those that actually precipitate a decision to leave.

2. Current employees may use any such study as an opportunity to express a particular kind of dissatisfaction, if they believe this may direct a favourable organizational intervention.

3. Studies seeking clues for organizational intervention may initially overestimate the scope they have to influence decisions to leave.

Accepting any, or each of these points suggests that post hoc analysis of turnover is a sounder basis for determining organizational interventions.

Profile Of Open Responses To Reasons And Shock Items

Investigating the overall pattern of responses to each open response item revealed substantial differences in terms of the themes respondents reported. To some extent such differences would be expected, and reflect differences in the constructs being evaluated, for example some codes (relocation, pregnancy) do not relate to job satisfaction. However, there were also differences in terms of the overall profile of responses between the two reasons items. This supports the idea that some 'reasons' for leaving are insufficient sources of dissatisfaction by themselves to provoke a decision to quit. The frequency charts below illustrate the overall differences in the profile of responses to the primary reason, and other reasons items. Because respondents could cite more than one 'other' reason, the overall frequency of responses to the other items is greater. It is possible to weight this, to offer a better basis for visual comparison. For example, the total number of responses to the primary reason item was 346 (hence 346 coded responses) and the overall number of times a code was allocated to the 'other reasons' item was 627. So a weighted average could be used to calculate the weighted frequency of other reasons: 346 / 627 * n, where 'n'
is the number of times a theme was counted as mentioned by respondents. For example, general concerns with management (code 3) was mentioned by 72 respondents and so could be given a weighted value of 39.4.

Although this would mean that the cumulative frequencies of both series was the same, it is still possible to trace overall differences in the profile of responses to each item, without manipulating the data in this way. Portraying unweighted frequency data has two advantages. Firstly it gives an accurate representation of the number of times a code is mentioned, secondly, it offers insight into common underlying sources of secondary reasons for quitting. Nonetheless, it should be kept in mind that the basis for comparison between these two items is limited by the difference in cumulative frequency.

Figure 9.2: Frequency Profiles Of Primary And Other Reasons Items

This shows how certain factors that are not frequently reported as the main reason for leaving, still impact on the leaving decision. Dissatisfaction with management (code 3: 72 cases), conflict with personal values and role (code 15: 67 cases), pressure of being short-staffed or under-resourced (code 16: 52 cases), feeling a lack of support (code 20: 47 cases)
and workload (code 33: 43 cases) are all mentioned by a large number of respondents as “important reasons” affecting their decision to leave. Pay (code 27) is only mentioned by 21 respondents as an important other reason, which is perhaps surprising, given the amount of attention attributed to this in contemporary discussions of nursing turnover in the media and in a number of other studies (IES 1999; Thornley 1998). This could be because this study only looked at nurses who had actually left, and whilst it may be an ongoing source of dissatisfaction, pay may not be as significant in initiating the decision to quit as has previously been suggested. Alternatively, it may be that concerns over low levels of pay translate into more consciously planned career development, which is a dominant theme in this sample.

As one might expect relocation is more commonly cited as the primary reason for quitting, rather than a subsidiary reason. Equally, concerns over career development are not as frequently reported as an important ‘other reason’, though they are still a common theme (code 28: 39 cases). This is consistent with the idea that career development offers a solution to concerns over pay, in the form of career progression. The combined total of these two graphs reveals several key themes, which emerge as predominant in this sample of nurse leavers.
This offers a summary picture of the main reasons these nurses choose to leave positions within the NHS. The most frequently cited reasons are career development (28: 98), personal conflict with role (15: 89), concerns with management (3: 89), perceived lack of support (20: 67), being short-staffed or under-resourced (16: 62), concerns over time flexibility (11: 58), relocation (1: 57) and workload (33: 51). As we have seen it can be problematic to interpret relocation as purely personal, and it would be inaccurate to see this as an exclusively 'non-work-related' reason. Setting this aside for the moment, we have a picture of nursing turnover consistent with the media portrayal of the NHS as under huge pressures, short of staff and short of resources. Nurses find themselves under pressure to work longer hours or shifts at short notice to cover staff shortages, which in turn compromises their ability to provide care. Relocation may provide one source of escape, or offer the chance to be closer to support that is lacking in the work environment. Career development is likely to result in a wider range of career options, or provide the skills needed to work in a specialism which may be under less immediate resource pressures.
Shocks And Reasons

In the preceding chapter, cluster analysis found evidence for there being two types of shock in this sample. The larger group (cluster group 2) comprised those who had typically experienced a negative, work-related shock, which precipitated the decision to leave. These employees on the whole reported that their decision to leave was avoidable, i.e. the Trust could have taken action that might have caused them to stay. The smaller group (cluster group 1) comprised those who had typically experienced a positive, personal shock, and in this case, the decision to leave was not avoidable, i.e. there was little the Trust could have done to influence their decision. To explore this further, responses to the shock open item were content analysed, and labelled as either 'work-related' (given the code 2), or 'non-work-related' (given the code 1). Although this information is assessed in responses to the numbered 'dimension of shock' items, this provides an alternative means of validating the cluster analysis.

Validation Of Earlier Cluster Analysis

Hypothesis 1a: The open responses to the shock item will predict cluster membership, as determined by the cluster analysis of the shock dimensions and avoidability construct.

Hypothesis 1b: The open response to the primary reason item will predict cluster membership, as determined by the cluster analysis of the shock dimensions and avoidability construct.

Method

For each case, the respondent's comments to both the open shock item, and the open reason item had been coded using the 33 item coding frame used above. This frame was then collapsed, so that all non-work-related themes were recoded as '1', and all work-related themes were recoded as '2'. The table below illustrates this.
Table 9.5: Collapsing The Coding Frame To Work- And Non Work-Related Themes

<table>
<thead>
<tr>
<th>Original Code</th>
<th>Work (2)</th>
<th>Non-Work (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Relocation</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2 Clash with subordinate(s) or colleague(s)</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>3 General concerns with management</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>4 Discrimination</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>5 Bullying</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>6 Personal family problems or pressures</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>7 Clash with supervisor or senior manager</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>8 Completed a course of training or education</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>9 Concerns over promotion or career development</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>10 Clash with patient or member of the public</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>11 Inflexibility of work hours</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>12 Imposed reorganization of work</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>13 Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Pregnancy</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>15 Role conflict</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>16 Short staffed or under-resourced</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>17 Job offer, opportunity or promotion</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>18 Starting course</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>19 Travel problems</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>20 Lack of support</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>21 Qualified for early retirement</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>22 Change in financial circumstances</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>23 Insufficient opportunity for development</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>24 Mishandled disciplinary procedure</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>25 Working conditions / concerns over safety</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>26 Lack of Supervision</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>27 Low pay / Concerns over grade</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>28 Further Professional / Personal Development</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>29 Job satisfaction / Morale</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>30 Management Structures / Restructuring</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>31 Cost of Living or Housing</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>32 Stress</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>33 Workload</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

As can be seen, the majority of codes are work-related, though it is not the case that all are exclusively ‘work’ or ‘non-work’. Some, such as ‘health’ or choosing to take ‘early retirement’ may be a combination across the data set as a whole (‘work’ for some, ‘non-work’ for others), or a mixture (relating to work and also influenced by non-work considerations) for individual leavers. There are limits to what can be learned from imposing such a blunt dichotomy, however, this should provide a basic test of the cluster groupings developed earlier.
Procedure

In three cases (2024, 7029, 7059), respondents reported a mixture of work and non-work related themes. Each survey was inspected, and the most salient event (based on the respondent’s description) was chosen as ‘the shock’. This was then sense-checked against their scores for the five shock dimensions, to test for consistency. Respondents 2024, and 7029 were classed as reporting ‘work-related’ shocks, and respondent 7059 was classed as reporting ‘non-work-related’ shocks. Three respondents (1006, 5013, 7021) did not complete all the shock items, and could not be assigned cluster groupings. Two respondents (6019, 7083) did not complete the shock open item. Five respondents (3031, 3086, 7004, 7074, 7082) did not complete the reason item.

Results

In 81.5% (123 of 151) of cases the membership of the cluster group was predicted correctly by the response to the open shock item. 19 cases were wrongly predicted as being in cluster group 2, when they were in group 1, only 7 cases were predicted as being in cluster group 1, when they were in group 2. In 83.1% (123 of 148) of cases, cluster membership was predicted accurately by the response to the primary reason item. 19 cases were wrongly predicted as being in cluster group 2, when they were in group 1, only 6 cases were predicted as being in cluster group 1, when they were in group 2. In 15 cases, the summary code for the shock and reason item was different, i.e. work-related in one and personal in the other.

We can use the proportional chance criterion to assess both levels of predictive accuracy (Hair et al 1998: 269), given by the formula:

\[ C_{\text{PRO}} = p^2 + (1 - p)^2 \]

Where (with two groups) \( p \) = proportion of individuals in one group, \( 1-p \) is the proportion of individuals in the other group. This gives a proportional chance criterion of \((0.67)^2 + (0.33)^2 = 55.8\%\). The actual figures of 81.5% and 83.1% compare favourably both with this measure (\( \chi^2 = 45.9, p<0.001, 1 \text{ d.f.} \)), and with the maximum chance criterion of 67.3% (\( \chi^2 = 17.1, p<0.001, 1 \text{ d.f.} \)). We can infer that using either the open shock item, or the reason item offer a sound basis for predicting cluster membership. This in turn provides
some validation of the original cluster analysis, as well as suggesting evidence of reliability across the open shock item and the 'dimensions of shock' items.

**Conclusion**

Content analysis of the open items has added much to this overall test of the unfolding model. An additional 39 cases are now classifiable, after identification of the constructs: image violation, dissatisfaction, script and non-work option. Examples of cases where previously unreported constructs were detected in the open responses were offered. Six cases have been identified as instances of where the unexpected job offer was the shock. Close analysis of the open responses has shed some light on the nature, incidence and formation of scripts, as well as casting doubt on the current measures of this construct. Threats to the validity of shock attribution have been made explicit, and countered. The validity and reliability of the image violation scale has also been called into question, and suggestions for improvements to this scale have been offered, given that evidence from the open responses suggests this scale may have been frequently misinterpreted as relating solely to work. Frequency data based on a 33-item coding of the 'reasons' items undermines one traditional method of studying turnover, namely focusing on existing employees' predictions. This also suggests that the predominant focus on pay in the media and in some studies of nurses may overemphasise the importance of this topic at the expense of structural or institutional shortcomings. A dichotomous coding of the open responses asking leavers to describe their shock was found to be a good predictor of cluster membership, as was a dichotomous measure of the primary reason item.

The next chapter integrates findings from the qualitative and quantitative analyses of the survey data.
Chapter Ten: Integration Of Quantitative and Qualitative Analyses

Introduction

The previous three chapters report results of the analysis of this test of the unfolding model. The first two of these present the results of various quantitative analyses. Chapter seven, *Replication Element Of The Study* used Lee et al’s 1999 paper to analyse and interpret leavers’ responses in terms of the core theoretical constructs of the unfolding model, and repeated tests of their hypotheses where meaningful. Small sample sizes in three of the five pathways precluded some tests being sensibly carried out. Chapter eight, *Extension Part One - Quantitative Analyses*, analysed additions to the survey in detail, principally exploring items testing dimensions of shock, and exploring the relationship between these items, the avoidability item and the reasons item. Chapter eight also presented evidence that classification failure at this stage was to some degree systematic, as the variable ‘promotion’ (whether a leaver was now working at a higher grade) was found to be a useful predictor of leavers whom this operationalisation of the unfolding model had failed to classify.

Chapter nine, *Extension Part Two - Open Items* examined the open-ended responses relating to shock, reasons and avoidability in detail, identifying 6 additionally classifiable cases that were path 1 quits, where the job offer was the shock. 34 more cases were classifiable after the identification of previously unreported constructs, predominantly cases of image violation.

To conclude, this chapter will once again use logistic regression analysis, this time including those cases that were additionally identified as classifiable after analysis of the open responses. This is in order to explain the nature of those 41 cases that remain unclassifiable. This will be supplemented by profiling those leavers who remain unclassified in terms of the core constructs of the model, in other words, identifying and explaining the presence of null pathways. This represents an integration of information from both the numbered items, and the open responses. The final chapter will summarise
and draw conclusions about what has been learned during this test of the unfolding model of voluntary turnover.

**Logistic Regression**

The method used was the same as for the earlier logistic regression analysis, although this time, a different cut-off value was used, to reflect the change in proportion of classifiable cases. The value used was \((198 \text{ classified leavers} / [198 + 21 \text{ unclassified leavers}] = 0.9)\). 81 cases had missing data, which (as previously outlined) was far more prevalent in the demographic section than in the main body of the questionnaire. 52 were not selected, as they were not still working as nurses. As before, this left a total of 219 cases that were included in this analysis.

**Measures**

Metric: (as before) Salience, tenure, avoidability, the mean of the four items relating to attitudes towards the profession and the first duration period (time between first thoughts of leaving and final decision to leave).

Non-metric / Dummy Variables: (as before) Whether the leaver had been at grade D, sex, whether the leaver was the chief wage earner, whether the leaver reported having any dependants, whether the leaver reported being at a higher grade (loosely labelled 'promotion').

In addition, following the analysis of the open-ended items in chapter nine a dummy variable was used that accounted for whether the leaver had recorded a work-related reason for leaving, or a non-work related reason. In total, 64 leavers had recorded a non-work related reason, and 288 had reported a work-related reason.

**Results**

Once again, the avoidability score was a useful overall predictor of which cases the unfolding model could classify, and which cases it was unable to classify. This time however, a more powerful predictor of classification status was identified, namely whether
the leaver had reported a work-related or non work-related reason for leaving. Including information about whether the leaver had been promoted did not significantly improve the model (in terms of the score statistic at the 5% level). One other variable was included: whether or not the leaver had any dependants (see table 10.1).

Table 10.1: Variables Identified As Useful In Predicting Classification Status

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable(s) Entered</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PRIMARY(1)</td>
<td>2.170</td>
<td>.490</td>
<td>19.598</td>
<td>1</td>
<td>.000</td>
<td>8.754</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>.869</td>
<td>.330</td>
<td>6.917</td>
<td>1</td>
<td>.009</td>
<td>2.385</td>
</tr>
<tr>
<td>2</td>
<td>AV</td>
<td>.558</td>
<td>.197</td>
<td>7.981</td>
<td>1</td>
<td>.005</td>
<td>1.747</td>
</tr>
<tr>
<td></td>
<td>PRIMARY(1)</td>
<td>1.676</td>
<td>.520</td>
<td>10.396</td>
<td>1</td>
<td>.001</td>
<td>5.346</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>-.393</td>
<td>.533</td>
<td>.543</td>
<td>1</td>
<td>.461</td>
<td>.675</td>
</tr>
<tr>
<td>3</td>
<td>AV</td>
<td>.628</td>
<td>.207</td>
<td>9.207</td>
<td>1</td>
<td>.002</td>
<td>1.873</td>
</tr>
<tr>
<td></td>
<td>DEPS1(1)</td>
<td>1.226</td>
<td>.535</td>
<td>5.257</td>
<td>1</td>
<td>.022</td>
<td>3.407</td>
</tr>
<tr>
<td></td>
<td>PRIMARY(1)</td>
<td>1.687</td>
<td>.535</td>
<td>9.938</td>
<td>1</td>
<td>.002</td>
<td>5.404</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>-1.306</td>
<td>.684</td>
<td>3.644</td>
<td>1</td>
<td>.056</td>
<td>.271</td>
</tr>
</tbody>
</table>

a. Variable(s) entered on step 1: Primary Reason
b. Variable(s) entered on step 2: Avoidability
c. Variable(s) entered on step 3: Any Dependents

Inspection of the classification table (see table 10.2) revealed that the highest overall rate of predictive accuracy was achieved at step 3, where the classification status of 84.5% of leavers is correctly predicted. At steps 2 and 3, an equally high proportion of unclassifiable leavers are correctly predicted as unclassifiable – (16 out of 21, 76.2%).
Table 10.2: Three Competing Models For Prediction Of Classification Status

<table>
<thead>
<tr>
<th></th>
<th>Observed</th>
<th>Predicted</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>31</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td></td>
<td>61.9</td>
<td>84.3</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>42</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td></td>
<td>76.2</td>
<td>78.8</td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>29</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td></td>
<td>76.2</td>
<td>85.4</td>
</tr>
</tbody>
</table>

The promotion variable did not feature in this analysis, as it did not significantly improve overall predictive accuracy according to the stipulated criteria for variable inclusion (significance of the score statistic at 5%). Nonetheless, this variable has previously been shown to be useful in identifying unclassifiable cases, and there is a good case to be made for seeing this as of greater theoretical value than the correct prediction of classifiable cases. Bearing in mind the relative scarcity of unclassifiable cases here (only 21 out of 219), any measure of overall predictive power, such as the Wald statistic is likely to discount the potential explanatory power of a variable to correctly identify unclassifiable cases. To test whether promotion contributed additionally to the identification of unclassifiable cases, an alternative means of generating a logistic regression model was used.

Method

The items that resulted in the highest number of unclassifiable cases being identified, and the overall highest rate of predictive accuracy were the reason for leaving item, the avoidability item, and the item tapping whether the leaver had any dependants. Using an
alternative method of equation building (straightforward entry of stipulated variables), these variables, and the variable promotion were simultaneously used to build a regression model. In this model, there were fewer missing cases as the number of variables was fewer. For this analysis, 234 leavers were classifiable, and 23 were unclassifiable. The cut-off value for the regression equation was therefore slightly higher, \(\frac{234}{234 + 23} = 0.91\).

Results

Using these four variables (as in table 10.3) resulted in 18 of the 23 unclassifiable cases being correctly predicted as unclassifiable by the unfolding model (78.3%, see table 10.4). The overall rate of predictive accuracy was lower for this model than for earlier models (79%), and hence the significance of the Wald statistic was low for the predictor variable promotion. Nonetheless, this impressively high rate of predictive accuracy for unclassifiable cases suggests that these variables are an optimum solution in terms of predicting cases of leavers, who are still working as nurses that are unclassifiable using the model.

Table 10.3: Variables Used In Model Generated By Straightforward Entry

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slep AV</td>
<td>.629</td>
<td>.198</td>
<td>10.116</td>
<td>1</td>
<td>.001</td>
<td>1.876</td>
</tr>
<tr>
<td>DEPS1(1)</td>
<td>1.627</td>
<td>.519</td>
<td>9.835</td>
<td>1</td>
<td>.002</td>
<td>5.088</td>
</tr>
<tr>
<td>PROM1(1)</td>
<td>-.545</td>
<td>.534</td>
<td>1.042</td>
<td>1</td>
<td>.307</td>
<td>.580</td>
</tr>
<tr>
<td>PRIMARY(1)</td>
<td>1.467</td>
<td>.515</td>
<td>8.129</td>
<td>1</td>
<td>.004</td>
<td>4.336</td>
</tr>
<tr>
<td>Constant</td>
<td>-.993</td>
<td>.724</td>
<td>1.879</td>
<td>1</td>
<td>.170</td>
<td>.371</td>
</tr>
</tbody>
</table>

a. Variable(s) entered on step 1: Avoidability, Any Dependents, Promotion, Primary Reason
Table 10.4: Classification Table For Model Generated By Straightforward Entry Of Selected Variables

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Step 1</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>49</td>
<td>185</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Selected cases DENURSE EQ 1
b. No unselected cases to classify.
c. The cut value is .910

Discussion

Although this solution tells us something about the inability of the model to classify a subset of the leavers (those still working as nurses), this analysis does not take into account that our 'target' of unclassified cases has moved. In the earlier analysis, the proportion of nurses who were classifiable but no longer working as nurses (34 / 270 = 0.13) was not significantly different from the proportion of leavers who were unclassifiable and no longer working as nurses (15 / 79 = 0.19). In other words, the model did not seem sensitive to whether a leaver had left the profession, or stayed within the profession.

The initial investigation showed that promotion was a useful discriminator for those cases who were unclassified by numbered items alone, but there is no reason that the more fine-grained analysis (including analysis of the open items) has reduced the number of unclassifiable cases across the board. It may be that those cases that still escape classification have characteristics that undermine the ecological validity of the model.
Procedure

To explore this idea, and allowing for analysis of those leavers who were no longer working as nurses, two further regression analyses were carried out. Both of these excluded the promotion variable. The aim of this is to derive heuristically a parsimonious model of classification success that is a good predictor of classification status. This model should also allow insight into why those leavers that remain unclassifiable are not captured by the current formulation of the model. As well as the two considerations of parsimony and predictive accuracy (in terms of identification of unclassifiable cases) being paramount, it will also be useful to try to maximise the number of cases included in this analysis, so the problem of missing data is minimised.

Recalling the earlier logistic regression analysis, the number of variables open to inclusion in the analysis is thirteen. Excluding 'promotion', these are as follows:

Metric: decision time (DECN), salience (SALNT), avoidability (AV), their mean score on the summate scale for professional attitudes (PROFATMN), tenure (TENUREYR), age (DEHOWOLD).

Dummy: gender (DEGENDER(1)), whether the leaver was grade D or above (GRADED(1)), whether the leaver reported having any dependants (DEPS(1)), whether they reported being the chief wage earner (SELFCWE(1)), whether their primary reason for leaving was work or non-work related - as discussed in chapter nine - (PRIMARY(1)), whether they were still a nurse (DENURSE(1)), and finally, whether they were still in the NHS (DENHS(1)).

The dummy variables whether the leaver was still in the NHS and whether the leaver was still a nurse are likely to overlap, but an initial analysis could suggest whether it is worth retaining one of these in favour of the other. An initial analysis should also give a clue as to whether certain variables can be excluded, where it is indicated they have very little predictive power, as measured by the significance of the Wald statistic.
Method

As a first step, all thirteen variables were entered, so that the summary table of variables in the equation could indicate: which could be removed (i.e. ones that showed very little predictive power); whether to retain the dummy variables ‘NHS’, or ‘Nurse’ (or potentially even both). The cut off value was (239 classified leavers [239 + 33 unclassified leavers] = 0.88).

Results

This first step shows three variables were highly significant (avoidability, primary reason, whether the leaver was still a nurse). Three more were significant at the 10% level (professional attitudes, whether the leaver was grade D, whether they had any dependants) so there is a good case for restricting further analysis to examination of these (see table 10.5).

Table 10.5: Exploring Potential Predictor Variables To Explain Classification Status
(Including Those Leavers No Longer Working As Nurses)

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DECN</td>
<td>-.001</td>
<td>.001</td>
<td>.376</td>
<td>1</td>
<td>.540</td>
<td>.999</td>
</tr>
<tr>
<td>SCCLEAR</td>
<td>-.098</td>
<td>.183</td>
<td>.286</td>
<td>1</td>
<td>.593</td>
<td>.907</td>
</tr>
<tr>
<td>AV</td>
<td>.522</td>
<td>.172</td>
<td>9.225</td>
<td>1</td>
<td>.002</td>
<td>1.686</td>
</tr>
<tr>
<td>PROFATMN</td>
<td>-.475</td>
<td>.281</td>
<td>2.846</td>
<td>1</td>
<td>.092</td>
<td>.622</td>
</tr>
<tr>
<td>TENUREYR</td>
<td>-.017</td>
<td>.048</td>
<td>.129</td>
<td>1</td>
<td>.720</td>
<td>.983</td>
</tr>
<tr>
<td>DEHOWOLD</td>
<td>-.041</td>
<td>.033</td>
<td>1.514</td>
<td>1</td>
<td>.219</td>
<td>.960</td>
</tr>
<tr>
<td>DEGENDER(1)</td>
<td>.631</td>
<td>.706</td>
<td>.797</td>
<td>1</td>
<td>.372</td>
<td>1.879</td>
</tr>
<tr>
<td>GRADED(1)</td>
<td>.920</td>
<td>.524</td>
<td>3.085</td>
<td>1</td>
<td>.079</td>
<td>2.508</td>
</tr>
<tr>
<td>DEPS1(1)</td>
<td>1.020</td>
<td>.478</td>
<td>4.553</td>
<td>1</td>
<td>.033</td>
<td>2.774</td>
</tr>
<tr>
<td>SELF_CWE1(1)</td>
<td>-.127</td>
<td>.464</td>
<td>.075</td>
<td>1</td>
<td>.784</td>
<td>.881</td>
</tr>
<tr>
<td>PRIMARY(1)</td>
<td>1.524</td>
<td>.493</td>
<td>9.556</td>
<td>1</td>
<td>.002</td>
<td>4.588</td>
</tr>
<tr>
<td>DENHS(1)</td>
<td>.770</td>
<td>.713</td>
<td>1.164</td>
<td>1</td>
<td>.281</td>
<td>2.159</td>
</tr>
<tr>
<td>DENURSE(1)</td>
<td>-2.034</td>
<td>.747</td>
<td>7.405</td>
<td>1</td>
<td>.007</td>
<td>.131</td>
</tr>
<tr>
<td>Constant</td>
<td>.865</td>
<td>1.809</td>
<td>.229</td>
<td>1</td>
<td>.633</td>
<td>2.375</td>
</tr>
</tbody>
</table>

a. Variable(s) entered on step 1: Decision Time, Salience, Avoidability, Professional Attitudes, Tenure, Age, Gender, Grade D, Any Dependents, Self As CWE, Primary Reason, NHS, Nurse
Procedure

As a next stage, the analysis was repeated using just these six variables, which were entered stepwise this time, using the same criteria for entry and removal as before. This should make it easier to assess competing models in terms of the three criteria identified above, namely parsimony, fewest missing cases and predictive accuracy (i.e. identification of unclassifiable cases). The advantage of restricting analysis to these six variables is that this has dramatically reduced the number of missing cases, and thus allowed for exploration of most of the data set. Although backward elimination in some cases has advantages over forward, stepwise selection (Menard 2001: 55), these two procedures often generate the same results (ibid.) and it was felt more important here to minimise the impact of missing data. Backward elimination using all 13 potential variables would mean this analysis would have 81 missing cases. However, the number of missing cases with the six identified variables was only 30 (of 352).

Results

Each variable (apart from whether the leaver was grade D) or above was statistically significant in terms of its predictive power, thus generating five alternative models (see table 10.6 below).
Table 10.6: Variables In The Five Models Generated By Stepwise Entry

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable(s)</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Primary Reason</td>
<td>-1.485</td>
<td>.365</td>
<td>16.541</td>
<td>1</td>
<td>.000</td>
<td>.226</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>2.436</td>
<td>.228</td>
<td>114.601</td>
<td>1</td>
<td>.000</td>
<td>11.428</td>
</tr>
<tr>
<td>2</td>
<td>Primary Reason</td>
<td>-1.578</td>
<td>.380</td>
<td>17.255</td>
<td>1</td>
<td>.000</td>
<td>.206</td>
</tr>
<tr>
<td></td>
<td>Nurse</td>
<td>1.419</td>
<td>.420</td>
<td>11.444</td>
<td>1</td>
<td>.001</td>
<td>4.134</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>1.333</td>
<td>.368</td>
<td>13.133</td>
<td>1</td>
<td>.000</td>
<td>3.792</td>
</tr>
<tr>
<td>3</td>
<td>Primary Reason</td>
<td>-1.160</td>
<td>.406</td>
<td>8.154</td>
<td>1</td>
<td>.004</td>
<td>.313</td>
</tr>
<tr>
<td></td>
<td>Avoidability</td>
<td>.421</td>
<td>.142</td>
<td>8.866</td>
<td>1</td>
<td>.003</td>
<td>1.524</td>
</tr>
<tr>
<td></td>
<td>Nurse</td>
<td>1.597</td>
<td>.439</td>
<td>13.255</td>
<td>1</td>
<td>.000</td>
<td>4.940</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>-.193</td>
<td>.619</td>
<td>.097</td>
<td>1</td>
<td>.755</td>
<td>.824</td>
</tr>
<tr>
<td>4</td>
<td>Primary Reason</td>
<td>-1.171</td>
<td>.422</td>
<td>7.706</td>
<td>1</td>
<td>.006</td>
<td>.310</td>
</tr>
<tr>
<td></td>
<td>Avoidability</td>
<td>.502</td>
<td>.149</td>
<td>11.301</td>
<td>1</td>
<td>.001</td>
<td>1.652</td>
</tr>
<tr>
<td></td>
<td>Nurse</td>
<td>1.433</td>
<td>.457</td>
<td>8.824</td>
<td>1</td>
<td>.002</td>
<td>4.193</td>
</tr>
<tr>
<td></td>
<td>Dependants</td>
<td>-1.318</td>
<td>.399</td>
<td>10.929</td>
<td>1</td>
<td>.001</td>
<td>.288</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>.276</td>
<td>.659</td>
<td>.175</td>
<td>1</td>
<td>.675</td>
<td>1.318</td>
</tr>
<tr>
<td>5</td>
<td>Primary Reason</td>
<td>-1.269</td>
<td>.438</td>
<td>8.394</td>
<td>1</td>
<td>.004</td>
<td>.281</td>
</tr>
<tr>
<td></td>
<td>Avoidability</td>
<td>.467</td>
<td>.149</td>
<td>9.773</td>
<td>1</td>
<td>.002</td>
<td>1.596</td>
</tr>
<tr>
<td></td>
<td>Nurse</td>
<td>1.716</td>
<td>.483</td>
<td>12.514</td>
<td>1</td>
<td>.000</td>
<td>5.563</td>
</tr>
<tr>
<td></td>
<td>Dependants</td>
<td>-1.347</td>
<td>.407</td>
<td>10.963</td>
<td>1</td>
<td>.001</td>
<td>.260</td>
</tr>
<tr>
<td></td>
<td>Professional Attitudes</td>
<td>-.602</td>
<td>.239</td>
<td>6.354</td>
<td>1</td>
<td>.012</td>
<td>.548</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>1.557</td>
<td>.842</td>
<td>3.423</td>
<td>1</td>
<td>.064</td>
<td>4.746</td>
</tr>
</tbody>
</table>

a. Variable(s) entered on step 1: Primary Reason
b. Variable(s) entered on step 2: Nurse
c. Variable(s) entered on step 3: Avoidability
d. Variable(s) entered on step 4: Any Dependents
e. Variable(s) entered on step 5: Professional Attitudes

Table 10.7: Statistics For The Only Variable Not To Feature In Any Model

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Variable(s)</th>
<th>Score</th>
<th>df</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GRADED(1)</td>
<td>1.456</td>
<td>1</td>
<td>.228</td>
</tr>
<tr>
<td>Overall Statistics</td>
<td></td>
<td>1.456</td>
<td>1</td>
<td>.228</td>
</tr>
</tbody>
</table>

The significance of the score statistic at step 5 was above the stipulated threshold (five percent), and thus insufficient to allow for this variable to be included in a subsequent sixth model (see table 10.7). Five of the six identified potential predictors were found to be useful in predicting classification status and this represents a vindication of the earlier
method of identifying potential predictor variables (straightforward entry, and selection based on significance of the Wald statistic).

The classification table for this final logistic regression analysis indicated that the highest overall level of predictive accuracy (79.8%) was at step 1, when only the primary reason variable was included. At steps 3 and 5 however, although overall predictive accuracy was lower (71.1%, 75.8% respectively), more unclassifiable cases were correctly predicted as unclassifiable (29 / 38 = 76.3%, 30 / 38 = 78.9%). Predictive accuracy is less straightforward to assess than overall model fit, as Menard suggests:

...there is no consensus at all on how to measure the association between the observed and predicted classification of cases, based on logistic regression or related methods (2001: 24).

Accordingly, as a final means of assessing the predictive accuracy of this last model, an additional measure of model fit will supplement the classification table below: the chi-square test for reduction in log-likelihood. First however, the classification table for each step of the procedure is shown below (see table 10.8). At step 5, when the highest percentage of leavers who were unable to be classified is correctly predicted, the model can be represented thus (see table 10.6):

Step 5

\[
p_{\text{classifiable}} = \frac{1}{1 + \exp \left[ - (1.557 + 0.467 \times \text{Avoidability} - 0.602 \times \text{Professional Attitudes} - 1.347 \times \text{Any Dependents} - 1.269 \times \text{Primary Reason} + 1.716 \times \text{Nurse}) \right]}
\]

Using this model, an overall score of above 0.88 (the cut-off value reflecting the relative probability of a leaver being predicted as classifiable) would predict a leaver to be unclassifiable using the unfolding model. A score below 0.88 would predict them to be unclassifiable. In more natural sounding English, leavers in this study are more likely to be classified by the unfolding model if:

They described their decision to quit as avoidable, they had more favourable attitudes towards their profession, their decision was work related, they had no dependants and if they were still working as nurses.
Table 10.8: Classification Table Showing Predictive Accuracy For Each Of The Five Models

<table>
<thead>
<tr>
<th></th>
<th>Predicted</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observed</td>
<td>Predicted Percentage</td>
<td>Observed 0</td>
<td>Observed 1</td>
<td>Correct</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>14</td>
<td>17</td>
<td>21</td>
<td>44.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>44</td>
<td>240</td>
<td></td>
<td>84.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 1</td>
<td>0</td>
<td>26</td>
<td>12</td>
<td>68.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>71</td>
<td>213</td>
<td></td>
<td>75.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>0</td>
<td>29</td>
<td>9</td>
<td>76.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>84</td>
<td>200</td>
<td></td>
<td>70.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>0</td>
<td>28</td>
<td>10</td>
<td>73.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>66</td>
<td>218</td>
<td></td>
<td>76.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 4</td>
<td>0</td>
<td>30</td>
<td>8</td>
<td>78.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>70</td>
<td>214</td>
<td></td>
<td>75.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75.8</td>
</tr>
</tbody>
</table>

Model Fit

The table below shows one commonly used measure of model fit, namely the chi-square test for the reduction in log likelihood value (Hair et al 1998: 280). Log likelihood is similar to the residual or sum of squared errors in linear regression, and a well fitting model has a smaller value (ibid.). Also, -2 times the log likelihood value (often written as -2LL) has an approximately chi-square distribution (Genard 2001: 19-21). This means significance values can be easily calculated or alternative models based on the addition of new terms. This is done by multiplying the difference in log likelihood by -2, and calculating a $\chi^2$ significance score for this value using the appropriate number of degrees of freedom (Hosmer and Lemeshow 1989: 16). Alternative models can be compared against a base-line value, or null model (Hair et al 1998: 280) where there are no predictor variables and merely a constant – the significance scores for this are indicated in the ‘model’ row of the table below (see table 10.9). Alternatively, the significance of reduction in -2LL can be
compared at each step. So for example the impact of adding one variable can be assessed – the significance scores for this are indicated in the ‘step’ row of the table below (see table 10.9).

Table 10.9: Chi-square Test For Reduction In Log-Likelihood

<table>
<thead>
<tr>
<th>Omnibus Tests of Model Coefficients</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>15.446</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td>Step 1</td>
<td>15.446</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td>Step 2</td>
<td>10.444</td>
<td>1</td>
<td>.001</td>
</tr>
<tr>
<td>Model 2</td>
<td>25.889</td>
<td>2</td>
<td>.000</td>
</tr>
<tr>
<td>Step 3</td>
<td>9.225</td>
<td>1</td>
<td>.002</td>
</tr>
<tr>
<td>Model 3</td>
<td>35.114</td>
<td>3</td>
<td>.000</td>
</tr>
<tr>
<td>Step 4</td>
<td>11.302</td>
<td>1</td>
<td>.001</td>
</tr>
<tr>
<td>Model 4</td>
<td>46.416</td>
<td>4</td>
<td>.000</td>
</tr>
<tr>
<td>Step 5</td>
<td>6.412</td>
<td>1</td>
<td>.011</td>
</tr>
<tr>
<td>Model 5</td>
<td>52.828</td>
<td>5</td>
<td>.000</td>
</tr>
</tbody>
</table>

So at every stage, the model represents a highly significant improvement over a null-model. Also, each step represents a significant improvement over the prior step. This suggests there is reason for considering the final model (at step five) to be an optimum solution, because it is also here where the highest number of unclassifiable leavers is correctly identified.

Discussion

This analysis suggests that in this study, the unfolding model is open to the charge of systematic failure, and is better able to cope with decisions to quit that are work related, avoidable and which result in the leaver staying in their profession. The model is less able to articulate decisions to quit that are (broadly) non-work related, and where external factors, such as kinship responsibility, or external events may influence the decision.

The number of missing cases here is relatively low, and only two unclassified cases are excluded, so the sample here is likely to be representative of all the leavers included in this study.
The evident inability of the existing image violation scale to detect some non-work related image violations suggests there was a systematic weakness prior to a more fine-grained analysis because the variable 'promotion' (a typically work-related variable) was found to be a good predictor of those leavers who had not been classified at the first stage of analysis. At this final stage, after the quantitative and qualitative analyses have been integrated, including a variable to assess whether leavers had left for non-work-related reasons, combine well with measures of avoidability, and a measure for whether the leaver was still in the same profession to achieve a relatively high level of predictive success. There is therefore reason to believe that supplementing the analysis of data from the numbered items with analysis of responses to the open items has only partially militated against the effects of problems with the image violation scale.

This analysis suggests that this formulation of the unfolding model falls short of lifting the veil on all leaving decisions, which runs counter to the claims of Lee et al (1999). Nonetheless, the overall number of cases able to be described by the model in this test is high (88.4%), and it may be that this level of ecological validity demonstrates sufficient 'practical adequacy' (Sayer 1992), for the model to merit further, incremental theory development.

The potential explanations for why there are outstanding unclassifiable cases are various, and are summarised below. These explanations can be thought of as progressively more 'optimistic', in terms of the underlying goal of modelling employee turnover. These should serve to guide a more detailed, case-by-case analysis of those leavers who still remain unclassifiable.

Potential Explanations Of Outstanding Classification Failure

1. Certain decisions to quit are too complex (dynamically, socially or ontologically), to be represented by any model.

2. Certain decisions to quit are too complex, to be represented by the unfolding model or variations of the model.
3. Certain decisions to quit are too complex, to be represented by the current formulation of the unfolding model, though refinements may be worthwhile.

4. The current formulation of the unfolding model is already able to describe turnover comprehensively in some contexts, but it is unable to model NHS nursing turnover.

5. The current formulation of the unfolding model is already able to describe turnover in this context, but it has been inadequately operationalised.

Implicit in each of these explanations is a criterion for determining what constitutes a successful theory of turnover. If we take Lee et al’s (1999) study as a framework for assessing validity, they claim that the presence of one falsifying case is sufficient to overthrow their model, and by this standard no model of turnover would be valid unless it applied to every case of turnover. Though this can be seen as consistent with Popper’s (1969) notion of the role of refutation in theory development, it has been argued in this thesis that falsification is an unrealistic criterion in social science research. Instead the epistemological basis for this study has been the development of the idea of ‘critical testing’, and a corresponding emphasis on the value of replication that goes beyond mere repetition. Accordingly, the criteria for judging the success of the unfolding model here are more open to interpretation. Rather than the end point being a straightforward rejection or acceptance of the model, the existing high level of ecological validity can serve as a base level of ‘practical adequacy’ (Sayer 1992) and identifying areas for improvement can guide further theory development.

A case-by-case analysis of unclassifiable leavers can inform such development and critical appraisal of the model.

Profiling Of All Leavers Who Remained Unclassified

As has been stated, the final number of leavers who were classified into one of the five pathways of the model was 311 out of 352, or 88.4%. This is significantly lower than the rate reported in Lee et al 1999 of 212 out of 229, or 92.6% ($\chi^2 = 6.1, p<0.05$), though the model describes a far higher number of leaving decisions than traditional accounts of
turnover which do not include the notion of shocks, and which do not typically recognise that some decisions to quit take place without search or evaluation.

In the first analysis chapter, it was identified how an initial round of classification based solely on responses to numbered items, found evidence of null pathways in those leavers who were unclassifiable. These were outlined, and it was demonstrated that unlike in Lee et al (1999), missing data played no part in these leavers being unclassifiable. Analysis of the open responses has indicated the presence of constructs that were unreported in the numbered items of the questionnaire, and also suggested areas in which the image violation scale could be improved for future tests. Examining each case that is still unable to be classified by the model should shed further light on reasons for classification failure, and thereby lead to a final assessment of the unfolding model.

The table below shows all the cases that remain unclassified, and which thereby represent null pathways. This is compared alongside the initial profile of unclassified cases that was presented in the first analysis chapter. For economy of space, Image Violation is shortened to IV, Dissatisfaction is shortened to Dissat and Evaluation is shortened to Eval.
### Table 10.10: Tracking Population Of Null Pathways For Both Stages Of Classification

<table>
<thead>
<tr>
<th>No</th>
<th>Description of Null Pathway</th>
<th>Closed Items Only</th>
<th>Closed &amp; Open Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shock + No Script + No IV + No Dissat + No Search + No Eval + Offer</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Shock + No IV + Dissat + Search or Eval + No Offer</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Shock + No IV + Dissat + Search or Eval + Offer</td>
<td>11</td>
<td>4*</td>
</tr>
<tr>
<td>4</td>
<td>Shock + No IV + No Dissat + Search or Eval + Offer</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Shock + No IV + Dissat + No Search + No Eval + Offer</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Shock + IV + Dissat + Search or Eval + No Offer</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Shock + IV + Dissat + No Search + No Eval + Offer</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Shock + IV + No Dissat + No Search + No Eval + Offer</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>Shock + IV + No Dissat + Search or Eval + Offer</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>No Shock + No IV + Dissat + Search or Eval + Offer</td>
<td>26</td>
<td>3*</td>
</tr>
<tr>
<td>11</td>
<td>No Shock + No IV + No Dissat + Search or Eval + Offer</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>No Shock + IV + No Dissat + Search or Eval + Offer</td>
<td>5</td>
<td>11**</td>
</tr>
<tr>
<td>13</td>
<td>No Shock + IV + Dissat + Search or Eval + No Offer</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>No Shock + IV + Dissat + No Search + No Eval + Offer</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Total Unclassified</td>
<td>81</td>
<td></td>
</tr>
</tbody>
</table>

* Change is solely because of identification of Image Violation
** Number of cases is higher because of identification of image violation i.e. 6 cases have moved from null path 11

The main driver of change in classification status is the identification of image violation in the open responses. This results in the largest two null pathways (3 and 10) being substantially reduced. However, in path 12, we can see there are now eleven cases. This describes leavers who do not report job dissatisfaction, but who leave after conducting a search and receiving an offer or likely offer.

It is worth reiterating that implicit in any evaluation is some criterion for what we consider to be a successful model. The implication of Lee et al’s (1999) paper would seem to be that the only successful theory would be one that represents all leavers. Although this is an ideal goal, and one it is worth occasionally referring to, it is perhaps more fitting to explore cases where there seems to be a systematic failure to describe decisions to leave, rather than to admit failure unless every single case is classified. This is consistent with the notion that falsification is an unrealistic criterion for development of theory in social science, “...since
organizational studies are rarely conducted under conditions of closure (Tsang and Kwan 1999: 769)."

**Improvements As A Result Of Combining Answers To Open And Closed Items**

Profiling of the leavers in terms of the unfolding model's core constructs shows that the number of unclassified cases decreased in ten of the fourteen null pathways and three of the null pathways are now empty. Eleven of the pathways are still populated, and this suggests that supplementing the numbered items with qualitative analysis leads to wholesale benefits and improves classification across a range of quitting decisions, rather than simply systematically eliminating certain types of classification error. Nonetheless, the largest factor in improving classification was identification of image violation. This accounted for the two largest reductions in misclassified cases, as shown in the table above. This in turn clearly points to a problem with the current instrument used to test the model, and future tests will need to improve the image violation scale, rather than rely on the goodwill and interest of respondents in presenting detailed responses to open items.

The pathway that is currently most populated has 11 leavers in it, and these are all unclassifiable, because they fail to report job dissatisfaction. This is discussed in detail below. Firstly though, it is worth looking at the two next largest null pathways, 6 and 4 above, and pathways with similar profiles to these, namely 13 and 11 respectively. Together, these four pathways describe 15 leavers.

**Leavers In Null Pathway 6 and 13 – No Offer**

In path 6, these leavers are not classifiable because they fail to report a job offer. This could partly be explained by the characteristics of the labour market for nurses in the UK, but also could be a limitation in the survey instrument. Nurses may be more comfortable in leaving without a specific job offer than many other types of worker, because the general shortage of nursing staff, and ready availability of agency, or bank work means finding short-term work is often easy, and they may be confident about the availability of alternatives. For example one leaver (2025) stated, "I knew if I got out of that place I would most certainly be offered somewhere else! I immediately was!" In null path 13, one
Leaver was unable to be classified because they had a similar profile, albeit not having reported a shock.

Lee et al incorporated the idea that general labour market availability could influence a decision to quit by refining the construct of 'job offers' to include 'likely offers'. This would mean leavers might quit without a particular job in hand, but believe it likely they would get a job offer. They tested this with the yes/no item, 'If you didn’t have a job offer in hand when you actually left, did you believe that getting an offer was very likely?' It is likely that this item would have elicited a yes response from many of the leavers in this sample, given the generic shortages of nursing staff across the service.

In this survey, as has been discussed, dichotomous items were kept to a minimum, to try to pre-emptively address any suggestion of 'forcing' data and to allow a more sophisticated range of techniques to be applied in analysis. The yes/no job offer item was rescaled to the 5 point agree-disagree item, "I was confident of finding a suitable job when I left, though I didn’t have a specific job to go to." It was recognised that this item did not apply to those leavers who did have a job offer, and it was only employed in analysis of those leavers who reported having no job offers (see figure 9.1).

Leavers In Null Pathways 4 and 11 – No Image Violation, No Job Dissatisfaction

Null path 4 describes those leavers who reported a shock, search and/or evaluation and offer, but did not report image violation, or job dissatisfaction. The problems with the image violation scale have already been discussed at length, so in one sense half of the 'problem' with classifying these leavers may have been resolved. More formally, problems in these respondents' interpretation of the image violation scale may mean that non work-related strategic and trajectory image violations were unreported, as leavers answered these items solely with work considerations in mind.

Pathway 11 describes leavers with a similar profile, but who also did not report shock. It may be that understanding of both these paths can be further enhanced by more detailed analysis of the leavers in path 12. This represents leavers who could not be classified solely because none of them reported job dissatisfaction.
Leavers In Null Pathway 12 – No Job Dissatisfaction

As shown in table 10.10, 11 cases were describable by this pathway, namely 1023, 3043, 3046, 3047, 3048, 4023, 6004, 6016, 7011, 7031, 7036. Each of these reported no shock, no dissatisfaction and left after search and/or evaluation and offer. In order to explore whether it is meaningful to think of the inability of the model to classify these cases as systematic failure, it is possible to explore these respondents’ answers to the open items in detail.

The table below shows verbatim extracts from these respondents’ completed questionnaires. These are shown by respondent and by item. Where respondents left an item blank, this has simply been omitted to make the best use of space.

Interestingly this group of respondents appears to have taken less time to write in detailed responses than other leavers, judging by none of them having completed either the satisfaction, or additional elaboration items. This may be (pre hoc) because they had less to say, or it may be (post hoc) that the likelihood of shorter responses is greater for those respondents for whom analysis of the open items has not resulted in classification. Bearing in mind that 6 leavers moved into this path on identification of image violation in their open responses, one might speculate that other things being equal, shorter responses, or the absence of a response to a particular question relating to satisfaction is associated with lower levels of dissatisfaction.
Table 10.11: Open Responses For Leavers In Null Pathway 12

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1023</td>
<td>Primary</td>
<td>“Same grade, though now 15-20 minutes from home”</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>“Cost of fuel, spend more time with family”</td>
</tr>
<tr>
<td></td>
<td>Avoid'y</td>
<td>“Travel time to and from work”</td>
</tr>
<tr>
<td>3043</td>
<td>Primary</td>
<td>“Reduce travelling”</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>“Impending restructuring”</td>
</tr>
<tr>
<td></td>
<td>Avoid'y</td>
<td>“One… reason for leaving was to reduce the distance I travelled to work”</td>
</tr>
<tr>
<td>3046</td>
<td>Primary</td>
<td>“To change area” [still working in same specialism so inferred as geographical area]</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>“Needed a new challenge and change of direction” [still an NHS nurse, though different specialism]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Change in personal life”</td>
</tr>
<tr>
<td>3048</td>
<td>Primary</td>
<td>“Distance between home and work”</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>“Staffing levels, putting patient care at risk”</td>
</tr>
<tr>
<td></td>
<td>Avoid'y</td>
<td>“I left due to buying a house in Nottingham, too far to commute.”</td>
</tr>
<tr>
<td>4023</td>
<td>Primary</td>
<td>“Different working environment”</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>“Nearer home… no night shifts”</td>
</tr>
<tr>
<td>6004</td>
<td>Avoid'y</td>
<td>“I left [for] an alternative career”</td>
</tr>
<tr>
<td>6016</td>
<td>Primary</td>
<td>“Wanted to move near family”</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>“Also to change speciality”</td>
</tr>
<tr>
<td>7011</td>
<td>Avoid'y</td>
<td>“I left my job because I had moved in with my boyfriend 65 miles away and didn’t want to commute any longer. Where we lived was more important to me than where we worked”</td>
</tr>
<tr>
<td>7031</td>
<td>Primary</td>
<td>“Career progression”</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>“Social working hours (9-5). Reputable employer that values ethnic diversity.”</td>
</tr>
<tr>
<td>7036</td>
<td>Primary</td>
<td>“To return to teaching” [Maths in secondary school]</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>“Widening of theory-practice gap”</td>
</tr>
</tbody>
</table>
Discussion

This group does seem to differ as a type from the main body of leavers in this survey. Five of the eleven respondents (as shaded above) gave as a reason for leaving, wanting to reduce travelling time, two (3046, 6016) wanted to relocate, two (6004, 7036) left for an alternative career, and two were motivated by more identifiably work related factors ('needed a new challenge and change of direction' [3047], 'career progression' [7031]).

This points to one area in which the structure of the current survey could be improved. Although travel time is not a source of dissatisfaction caused by the job, it can be a source of dissatisfaction that people associate with their workplace. Bearing in mind that NHS nurses are able to relocate relatively easily, and that the NHS as an employer has a nationwide presence, dissatisfaction caused by travel time may play a significant part in turnover decisions in this context.

More generally perhaps, the idea that job dissatisfaction (Lee et al 1999: 451-2) is a necessary feature of three of the decision pathways may be erroneous. Instead this could be more accurately understood as dissatisfaction incurred through work. This in turn could help the development of a more valid and reliable scale that would identify sources of dissatisfaction such as travel time, which take place outside the workplace but nonetheless may influence decision processes relating to quitting, particularly in this context where relocation is relatively easy and not costly, and the organization of interest has a nationwide presence.

In terms of the other six leavers, these respondents included very little information in the open responses to their surveys, and there was insufficient information to identify any of them as reporting job dissatisfaction. It can be noted perhaps that not all theorists feel that job satisfaction is a necessary feature of quitting (Hulin et al 1985). Indeed the current version of the unfolding model portrays satisfaction as irrelevant, or bypassed in pathways 1 and 2. However, in these pathways, this is after a shock and where no search or evaluation has taken place. Reformulating the model so that it showed the more deliberate pathways (3, 4a, 4b) as not necessarily involving job dissatisfaction would represent a fundamental revision, equivalent to removing the job dissatisfaction construct from the model altogether.
The incorporation of change along these lines might be appropriate for this context however. As has been discussed, it could be that there are fewer costs incurred by NHS nurse leavers, who may be able to get an almost identical job relatively easily. The relationship between job dissatisfaction and voluntary quitting may be attenuated by a range of other factors, such as the general state of the labour market, or more particular ease of transfer. Any such change to the architecture of the model, to incorporate context, would mean that this account does not apply equally to all contexts.

Having discussed null pathways 6, 13, 4, 11 and 12, it is worth summarily describing the outstanding cases of classification failure.

Leavers In The Other Null Pathways
The null pathways 1, 5 and 8 are no longer populated. Null pathway 9 describes three cases (1007, 2021, 7051) similar to 12 above, where leavers failed to report job dissatisfaction. Pathways 3 and 10 describe leavers who are unclassifiable because they fail to report image violation, though it is worth reiterating that these have been dramatically reduced, following integration of the open responses into the analysis. In null pathway 2, two leavers did not report image violation and did not report an offer.

In null pathway 7, two leavers left having reported a shock, image violation dissatisfaction and an offer, but without reporting conducting a search or evaluation. Similarly in null pathway 14, one leaver (8016) left having reported image violation, dissatisfaction and an offer, but without reporting a shock, or search and / or evaluation. That these cases are unclassifiable could be a function of the characteristics of the labour market for NHS nurses, who may be confident of getting a job without needing to search. This would be consistent with the perception that underlying peculiarities in the NHS labour market translate into across the board difficulties in classification.

Alternatively, for the path 7 leavers, it could be the case that these leavers experienced an unexpected job offer, which was the shock causing them to quit, as path 1 leavers. This latter interpretation would be an instance of where classification failure was consistent with problems with script attribution. Inspection of one of the path 7 cases (8026) revealed that
this leaver described having been pushed out of work by a traumatic experience and the way it had been handled:

Friend told me about a vacant post... Had I not been bullied back to work after a traumatic experience – one for which I felt to blame, I may have stayed.

Although this definitely seems to have the characteristics of a scripted (in the sense of automatic, driven by strongly held beliefs) quit, it was not possible to attribute script on the basis of the numbered items, or on the basis of the criterion 'evidence of a pre-existing plan' in the analysis of open responses.

The other path 7 leaver (1022), and the path 14 leaver (8016) agreed, or strongly agreed in response to the item, 'I was confident of finding a suitable job when I left, though I didn't have a specific job to go to'. This indicates that the inability of the model to classify these leavers might be a reflection of this particular context, where search and evaluation are unnecessary features of many voluntary quits, given nurses' confidence in being able to find alternative work.

**Conclusion**

Identification and analysis of these outstanding unclassifiable cases has given a final indication as to the limitations of this test of the unfolding model, in this context. As has previously been identified, there are limitations with the way that image violation has been assessed, and the ability to classify some respondents on the basis of their open responses has depended partly on respondents' goodwill, and willingness to contribute. Where respondents wrote very little, or left items blank, it was sometimes impossible to attribute image violation, and some cases are still unclassifiable solely owing to failure to report image violation.

Including script as a construct has considerable appeal, because it seems to hold out the possibility of modelling automatic, or habitual elements of the decision process. However, there are problems in operationalising this construct. The current scale has proved inadequate, and relying on a summary description of the content of a decision (e.g. the reason for turnover is given as 'relocation') was found to be insufficient evidence for
attributing script. One of the outstanding cases (8026 above) seemingly had some of the flavour of a scripted decision, where the job offer was the shock, but there was insufficient evidence to attribute script based on the criterion of ‘pre-existing plan’, and so this case remained unclassified.

This final analysis has also suggested there may be a limitation in the job dissatisfaction scale, or more generally in the use of the job dissatisfaction construct, given that 5 unclassified leavers expressed dissatisfaction with travelling to work, though this dissatisfaction was not tapped in the numbered items in the survey. Given that Lee et al (1999: 451-2) understand the construct as job dissatisfaction, this has not been taken as sufficient evidence to allow for classification of these respondents. However future tests might construe job dissatisfaction as ‘work related dissatisfaction’, or ‘dissatisfaction incurred through work’. In practice this might mean very little change to existing scales, but if particular contextual factors (labour market characteristics, ease of transfer, nationwide presence of employer) mean that inferring the relationship between dissatisfaction and turnover is harder, then measures of dissatisfaction need to be more precise, and also tailored to the particular context.

As well as identifying limitations in two of the existing measures, there is some justification here for believing that turnover in the context of NHS nurses represents a severe challenge for any model. The ready availability of alternative opportunities, and apparent ease of transfer can be partly inferred from the high number of instances of relocation driven turnover. Frequently, respondents quit without search, and / or without evaluation. Often too, there is no evidence of an offer, and this suggests that there may be problems in capturing all the decision processes of a large number of nurse leavers.

The final chapter will review the study and discuss what has been learned from this test of the unfolding model in three dimensions: an overall assessment of the model; the general implications for modelling turnover; implications for this particular context. This chapter will also offer suggestions for future research.
Introduction
This final chapter has three objectives: firstly to reflect critically on the path taken in this thesis; secondly to summarise and further draw out the implications of this research; thirdly to suggest avenues for future research.

To enable critical reflection it is appropriate to begin with a summary of the elements of the research that preceded data analysis. To do this, the first two sections of the chapter summarise what has been learnt under the following headings:

1. Theoretical Background
2. Design Of The Test

To draw out the implications of this research, the following three sections discuss the wider implications of the findings:

3. General Implications For Modelling Turnover
4. Implications For The Turnover Of NHS Nurses
5. Summary Of Areas Of Contribution

Finally, as a guide to future research, the thesis concludes thus:

6. Overall Theoretical Assessment Of The Unfolding Model

Section One: Theoretical Background

Research To Date
Turnover research can be justified because of the organizational significance of turnover (Mobley 1982) and because despite a huge array of research into the area (Iverson 1999), current methods of understanding turnover are of limited use in managing the phenomenon.
Turnover remains attractive as a phenomenon to be modelled because it is significant (Price 1977), potentially costly (Dess and Shaw 2001) and relatively clear cut (Porter and Steers 1973). The phenomenon also has an economic dimension, an organizational dimension and a psychological dimension.

The review of the literature in chapter one argues that turnover research can be described as belonging either to the labour market or psychological school. Labour market accounts (Kirschenbaum and Mano Negrin 1999) rely on making basic assumptions about leavers that prohibit sophisticated models of turnover, and therefore these accounts cannot be used to manage turnover effectively (Morrell et al 2001). Research in the psychological school is restricted by dominant ideas that focus mainly on relationships between an affective state, such as commitment (Chang 1999) or satisfaction (Hom and Kinicki 2001) and turnover.

Both schools may have suffered as a result of the persistent influence of March and Simon's (1958) account. One legacy of this may be that both the economic school and the psychological school are open to the charge of oversimplifying the decision to quit, casting the leaver as rational and ignoring dynamic, ontological and social complexity in the decision making process (Langley et al 1995).

Theories within both schools have modest predictive power (Lee et al 1999), and the utility of different accounts has been shown to vary in different contexts (Hom and Griffeth 1995: 50). The focus on prediction of turnover may limit our ability to understand or explain the turnover phenomenon in its complexity (Sheridan and Abelson 1983).

There are two wide ranging methodological threats to validity of turnover research in the psychological school. These concern: a) the use of proxy variables, such as intent to leave (Vandenberg and Nelson 1999); b) construct redundancy in research into the organizational commitment – turnover intentions relationship (Bozeman and Perrewé 2001).

All these things suggest that new theory is needed, and one promising avenue was identified, namely Lee et al's (1999) 'unfolding model'.

248
The Unfolding Model

The unfolding model is based on image theory (Beach 1990), an alternative to more traditional accounts of decision-making that emphasise the role of rational choice – (March and Simon 1958: 93). Image theory incorporates rational choice theory, but places more emphasis on intuition and habit (Mitchell and Beach 1990) as well as the need for decisions to ‘fit’ with internal values (Beach 1990: 3-4). Although image theory incorporates rational choice theory, it stresses first and foremost the non-rational character of most decisions.

As well as image violation, the model introduces two new constructs that potentially contribute to understanding turnover. Using the idea of scripts can help describe how certain decisions to quit bypass job search and evaluation of alternatives (Hulin et al 1985), thus developing Mobley et al’s (1979) notion of impulsive quitting. Using the idea of a shock, as needed to, ‘shake employees from their lethargy’ (Lee and Mitchell 1991: 118), is in line with related ideas: Becker’s (1960) sunk costs, Rusbult and Farrell’s (1983) investment dimension and Mercer’s (1979) inertia. It is also consistent with Sheridan and Abelson’s (1983) notion that employees fundamentally wish to retain employment.

The model outlines five different ways in which people may choose to leave organizations, thus accounting for different types of leavers (Hulin et al 1985) as well as acknowledging different reasons for leaving (Abelson 1987) better than extant expectancy or utility accounts can. Many accounts of turnover (Mobley 1977; Price and Mueller 1986; Rusbult and Farrell 1983) are restricted to analysing work factors, and fail to assess employees’ values.

The critique in chapter three raised a number of concerns with the most recent test of the model (Lee et al 1999). The script construct was poorly articulated (and thus difficult to operationalise), the existing survey used mainly dichotomous questions, (so was potentially open to the charge of forcing the data). The survey does not ask leavers’ reasons for quitting, which may make it hard to develop predictive power. The classification schema overlapped and one item was used in some cases to tap for more than one construct (undermining construct clarity). These issues suggested there was a need for development of the survey instrument, and classification schema.
The model was also found to have several advantages over traditional models of turnover. The latest published test of the model demonstrated support for its ecological validity, and for the role of the shock construct in turnover. Lee and Mitchell’s work takes us beyond traditional, rational theories of decision making, which is important in the context of research in organizational studies generally (Langley et al 1995), but perhaps even more particularly in turnover research, which has been hindered by the legacy of March and Simon. The model also represents a break from a traditional pattern of studying turnover. It focuses more explicitly on turnover as a decision, and on the leaver. Both of these engender methodological improvements. The variable of interest is actual turnover, not a proxy variable, and leavers are assessed directly rather than by inference (such as in a two stage cross-sectional survey). However, although it is often cited (Allen and Griffeth 2001; Hom and Kinicki 2001; Maertz and Campion 2001; Price 2000), no test of the model had been conducted without the principal authors, and therefore replication of the basic findings of Lee et al was called for.

Section Two: Design Of The Test

Role Of Replication

Falsifiability is one frequently identified criterion of theory in natural science (Hospers 1971; Magee 1973; Popper 1969), however investigations in social science cannot as easily separate that which can be tested from that which cannot, and nor can social scientists tell whether a theory has been falsified. Replication can offer some of the appeal of a falsifiability criterion in the sense that it holds out the possibility of our accumulating knowledge (McKinley et al 1999), but also allows for a range of testing (Tsang and Kwan 1999). An argument was presented that suggested the validity of replication as a technique is less dependent on the mode of investigation, and more dependent firstly on one’s ontology, and secondly on whether it is possible to take context into account adequately.

This analysis, and introduction to critical realist epistemology outlined how it is possible to simultaneously refine theory and to test it. This position is only tenable with a construction of replication as a mode of inquiry that can go beyond mere repetition, and that can also allow development. In this way, it is possible to preserve the logic of a repeat test, and allow for refinements to improve theory, as well as incorporate context sensitivity.
The Setting For The Research – The NHS

For several reasons it has been argued that this context would provide a formidable test bed for a replication study of the unfolding model.

There is a widespread shortage of NHS nurses (IES 1999), and this means that for individual nurses in the NHS, there are likely to be a variety of alternative opportunities. These can influence job satisfaction and thereby indirectly influence turnover, as well as influencing turnover directly (Hulin et al 1985: 242-4). Part of the explanation for sparsely populated paths in this test can be in terms of this labour market context. Almost all nurse leavers (339 of 352) reported a job offer, or likely offer, which automatically excluded them from paths 2 and 4a. One criticism of the setting for this study could therefore be made insofar as this context (or the restriction to just one population) does not allow for a greater range of turnover behaviours. Typically, very few nurses will leave without a job offer or likely offer given widespread awareness about the chronic shortage of nursing staff, and opportunities to work for a nursing bank or agency. Nonetheless, it should also be noted that paths 1, 2 and 4a are sparsely populated in Lee et al’s 1999 study, which had 21 leavers in these three paths, and 191 in paths 3 and 4b.

The widespread availability of opportunities in nursing makes it harder for both the economic and the psychological schools to model or predict leaving decisions than in other contexts. For example: economic accounts would suffer in defining labour market scope, which would be defined differently for different leavers, whose only restriction may be how much they are able / willing to travel; psychological accounts reliant on detecting relationships between an affective state and turnover could suffer as the labour market conditions moderate these effects.

Nurses may feel committed to different constituencies, such as their profession, their work, their colleagues or their patients. Both the structural complexity of the NHS, and nurses having multiple constituencies of commitment pose problems for many theories in the ‘psychological school’, as well as problems in defining labour market scope (i.e. specialism or hospital or Trust or sector) for the economic school. If we simply construe the NHS as ‘the organization’, then under most accepted definitions of turnover (Mobley 1982) we lose
sight of the vast, costly problem of intra-NHS nursing turnover, because these employees would count as remaining within ‘the organization’.

Public sector work is less well paid than comparable private sector work, and there is a tradition of nursing being seen as vocational, or even charitable (Leeson and Gray 1978 in Francis, Peelo and Soothill 1992: 57). However nurses are not a homogeneous group (ibid), and wide-ranging empirical studies have consistently shown concerns with pay are paramount among nurses (IES 1997, 1998, 1999). So representing the leaving decisions of nurses may demand more in terms of modelling different groups of leavers.

It was also indicated in chapter three that choice of context was not guided by purely theoretical considerations. There is a pressing problem in the UK with nursing shortages, and these are exacerbated by high turnover. Whether this is construed as an ‘HRM’, ‘management’, or ‘social’ problem, research which contributes to greater understanding of nursing turnover can be considered worthwhile, insofar as it relates to a real-word, organizational problem.

The Method Of Data Collection
The method used in this study was a questionnaire, distributed to voluntary nurse leavers at eight NHS Trusts. Feedback from the pilot stage was used to guide changes to Lee et al’s (1999) survey, thus supplementing earlier theoretical criticism. The main consideration in gaining access was to enable a sample that would compare favourably with Lee et al’s (1999) sample. Although follow up letters are advisable where possible, to boost response rate, this procedure was not followed here for the following reasons: in order to minimise the resource pressures on Trusts; to avoid contacting those unwilling to participate more than once (mindful of the sensitive nature of the information); to be able to guarantee respondent confidentiality (and thereby boost the response rate and encourage honest responses); to comply with the terms of the Data Protection Act; to have as similar a procedure as possible at each Trust.
The Survey Instrument

As has been discussed, in no case did missing data potentially influence classification. Missing data were principally in the demographic section, and it is unlikely one could ever eliminate this. Reliability ratings were higher for the job satisfaction scale in comparison with Lee et al (1999). These things are evidence that the survey worked well.

Addition of the reasons items, and refinement of the shock scale represented the two biggest changes to the 1999 survey. These items have also proven to be useful in providing a theoretical bridge between the unfolding model and existing research on turnover, and in developing ideas about the complexity of shocks that are more consistent with the earliest papers presenting the unfolding model (Lee and Mitchell 1991; 1994). The analysis of responses to the open items informed debate and discussion on the validity of shock assessment and the aetiology of the script construct, which has not previously been discussed in such detail, notwithstanding Lee et al’s (1996) qualitative study. The analysis of the primary reason item informed critical appraisal of the classification success of the model, as discussed in the previous chapter.

Less positively, the image violation scale proved to be poor at eliciting reports of personal image violations, and suggestions as to how this could be improved (e.g. a more explicitly ‘non-work’ section, reworded items) have been made.

The shock item elicited description of a series of events, or a general affective state in some instances, rather than description of ‘a single, particular event that caused you to think about leaving’. This could be remedied for future tests by changing the ordering of the items in the survey, although it is possible that this would simply result in the problem of respondents wanting to ‘get something off their chest’ being shifted to another item. This finding has implications for other studies that investigate similarly emotive phenomena.

One item in the demographic section was poorly formulated and asked two questions, ‘If you were married at the time you left, was your spouse employed?’ This was not included in any of the analysis. A measure of financial inertia, was available via ‘In your household, what is the occupation of the chief wage earner?’
The item, 'Did you leave voluntarily?' occasionally elicited a response of 'no', from respondents whose other answers clearly indicated a voluntary quit. The interpretation for this is that some respondents read this as, 'Did you want to leave', and so in some instances the response 'no' would mean, 'I did not want to leave (but I had to, to be near my family/husband).’ It was not considered problematic to distinguish whether quits were voluntary here. It is very rare that nurses are dismissed. Nonetheless some cases (e.g. 3082 – "...laid off on ill health grounds...") could be identified as involuntary, and these were excluded.

**Improvements In This Study**

Chapters six and seven provide evidence that the current study represents a robust test of the unfolding model. The sample size is larger for this test, response rate is higher, and the window of time in which respondents left is more recent. The classification rules presented in this test are more transparent, more parsimonious, and no item is used to tap for more than one construct. The nature of each path has also been made more explicit, in terms of the model’s core theoretical constructs. The substantial contextual differences between this sample and the 1999 sample indicate that the replication study represents a robust test. The two samples are working in different professions, different countries and for different kinds of employer. The sample in this study is mainly female, and the labour market context is very different.

One aim of the design and operationalisation of this study was to integrate ideas from the unfolding model with constructs in the more mainstream literature on turnover, such as avoidability and reasons. Although this could potentially be cast as a retrograde step, forming linkages with better established ideas means it is less likely that the unfolding model will, "...wither on the intellectual vine..." (Horn and Griffeth 1995: 94). It also makes it easier to see how these findings fit in with other research to date, and thus provides a broader basis for the assessment of this study than if it were merely to be compared to the previous test of the unfolding model.
Section Three: General Implications For Modelling Turnover

Bivariate Correlation Analysis
The theoretically meaningful and statistically significant relationship between various shock items and the avoidability item suggests that inclusion of this construct is likely to enhance our understanding of the turnover process. Identification and corroboration of 14 specific hypotheses relating to shock dimensions provides a sound basis for developing such understanding.

Multiple Regression Analysis
The multiple regression analysis develops and refines understanding of these bivariate relationships. This analysis suggests that in this study, the shock scale elicits responses that are:

- internally consistent with both quantitative and qualitative measures
- consistent with the established literature on labour turnover
- consistent with intuitive or commonsense beliefs about the nature of work and shocks
- consistent with the core premise of the unfolding model, i.e. people leave organizations in different ways.

Cluster Analysis
Clustering cases offers further support for the idea that we can sensibly talk about two different kinds of shock, as does validation of this clustering by simple, dichotomisation of the responses to both the 'shock' and 'reasons' items. This simple dichotomy was also found to be a useful predictor of classification status.
Use Of Proxy Variables

The study also contributes to one contemporary debate in turnover research, offering theoretical and empirical support for the idea that understanding turnover is best accomplished by studying leavers, rather than current employees (notwithstanding that the current formulation of the model can only study leavers). The implications of this can be drawn out in terms of the differences between the findings reported in the IES study (where current employees are asked to speculate about what might prevent their quitting) and the differences here (where actual leavers are asked why they left). The discrepancies imply that:

- sources of current dissatisfaction may be different to those that actually precipitate a decision to leave

- current employees may use such a study as an opportunity to express a particular kind of dissatisfaction, if they believe this may direct a favourable organizational intervention

- studies seeking clues for organizational intervention may initially overestimate the scope they have to influence decisions to leave.

Section Four: Implications For The Turnover Of NHS Nurses

Nurse Mobility

The shortage of nursing staff means that the availability of alternative opportunities is high, as is shown by 339 of the 352 respondents having an offer or likely offer. This can affect turnover directly or indirectly (Hulin et al 1985; Kirschenbaum and Mano Negrin 1999).

The NHS is a large, complex organization, but nurses may feel they are employed by the NHS rather than by a Trust, particularly if they have worked elsewhere (as many respondents to this survey had). Evidence for this can be found where overall levels of dissatisfaction with workload, resources, pay and promotional opportunity were not represented as dissatisfaction with the Trust as an employer.
Instead, it is likely nurses see these problems as endemic, or see Trusts as relatively powerless. This may mean their commitment is to the organization 'the NHS', so inter-Trust turnover (which constitutes the bulk of nursing turnover) is not checked by feelings of organizational commitment or loyalty (Lee et al 1992; Lum et al 1998; Porter et al 1974; Somers 1995; Tett and Meyer 1995), but instead by moral / normative commitment (Allen and Meyer 1990; Jaros et al 1993), which may find expression in terms of nurses being committed to care for their patients, or committed to working in the public sector. Evidence that nurses see one Trust as like another can be found in the high prevalence of relocation as a reason for quitting. Although spousal relocation is likely to be more prevalent with a predominantly female sample (Greenhalgh and Mavrotas 1996: 140), in this study, relocation was also frequently initiated by the leaver.

The absence of an organizational commitment 'factor', combined with the nationwide presence of the NHS as an employer mean that 'embeddedness' (Mitchell, Holtom and Lee 2001) or inertia, can be hard for Trust managers to create. This can make it difficult to retain employees.

**Empirical Contribution**

One contribution to understanding of nurse turnover has been to add to the empirical data on nurse leavers. The sample is made up of 352 full-time, qualified nurses who left their jobs voluntarily to work elsewhere. If we can accept a recent DoH figure, this translates into a one-off replacement cost to the NHS of over £1.5 million. The majority of leavers (86%) are still working as nurses, and 71% are still working as NHS nurses.

As has been mentioned above, pay was only cited as the primary reason for leaving by 6 of the respondents. Furthermore, only 21 cited it as one of 'any other important reasons'. These findings suggest that more attention is given to the discussion of this topic than it merits, and is perhaps consistent with other evidence to suggest that the level of nursing pay is widely misunderstood (Guardian/ICM poll: 18/1/2000).

209 nurses (57%) reported that a favourable organizational intervention might have caused them to stay. 156 (44.3%) respondents were able to point to a single, particular event that
first caused them to think of leaving, and in roughly two-thirds of these cases, the event was work-related and also a negative experience.

In the majority of cases where people reported a single, particular event that was work-related, they also described their decision to leave as potentially avoidable – i.e. agreed / strongly agreed that ‘There are things that the Trust could have done that might have caused me to stay.’ Examples of these events were: failure to achieve promotion; perceived inequity in opportunities for promotion or allocation of training courses; inflexibility in allocation of shifts; lack of recognition of a problem by ‘management’.

The most common theme to emerge in terms of reasons given for leaving was career development. This was mainly driven by concerns over grade compression, lack of promotional opportunities within a particular Trust, or desire to develop specialist expertise. It is possible to interpret each of these as in some way a ‘proxy’ for pay, but given the level of detail at which many respondents replied to the open items on the survey, it remains striking that only 6 cited pay as a reason, and only 21 listed it as one of (possibly several) other important reasons.

Many nurses cited relocation as a reason for leaving, suggesting that in many cases, nurse turnover appears to be beyond the control of managers. This was supported by the cluster analysis, which pointed to two prototypical types of decision to quit, the most common being work-related, negative and avoidable, and the second being personal and unavoidable. Cases of relocation were typically where the leaver’s partner had received a job offer, but there were also cases of leaver instigated decisions to move nearer to family and friends.

Scope For Intervention

The third highest rated job satisfaction item tapped satisfaction with Trust as an employer. At first sight this is perhaps not what one would expect, given that everyone chose to leave, and also levels of satisfaction are below average overall. However, it is an indication that work pressures (work-load, shortage of resources, pay, lack of career opportunities) are often seen as symptomatic of the state of the service as a whole, rather than as the shortcomings of an individual Trust, which nurses may see as relatively powerless.
This has several implications for Trust managers. A somewhat defeatist conclusion would be that managers may have little control over decisions to leave. More positively, this could signal an opportunity for a more participative approach to managing nurses, one that explicitly recognises the institutional pressures, whilst simultaneously creating an atmosphere of partnership. In simple terms this could mean greater transparency in decisions relating to promotion, and training provision; sharing information about resource constraints and allocation; emphasis on support and encouragement at ward level; provision of realistic and honest information and advice on within-Trust career progression.

In some sense, this approach would be consistent with the organizational culture of the NHS (as outlined in chapter four), in emphasising bargaining and negotiation. It could also offer more scope for senior staff to span professional and managerial roles, as senior nurses may be better able to involve employees in decisions relating to the development of Trust specific policies and procedures.

This may seem idealistic, given that if there is a chronic shortage of staff, it is likely that developing procedures via consensus and involvement is likely to be seen as low-priority and costly in terms of staff time. However, it should be recognised that the problems caused by chronic shortages of staff cost an enormous amount in time and resources, and that these problems are exacerbated by turnover. Spending time on developing such participative measures could be seen as an investment, and depending on how it is managed, it may also be an opportunity to signal to existing staff that their opinions are important – i.e. they are valued. It can also be a signal that areas of key concern are being addressed, or at least recognised as such by ‘management’.

More specifically, there is considerable evidence relevant to this issue of greater participation. Magner, Welker and Johnson (1996) have shown how participation in the decision process can moderate the negative effects (thoughts of quitting) of unfavourable performance ratings and Guthrie (2001) provides evidence indicating a link between high-involvement work practices (e.g. information sharing, performance based promotion, employee participatory programs) and retention. Brooks (2001) suggests that the ill effects of shift work can be moderated by nurses’ being involved in decisions about rostering. Aiken and Sloane (1997) show how innovations in nurses working practice, and recognition of the value of specialist expertise can militate against emotional exhaustion or burnout.
which has been shown to be a predictor of voluntary turnover (Wright and Cropanzano 1998).

What this analysis may mean for nurses is that those who feel they participate / have participated in the process by which promotion (training / shift allocation) is decided are less likely to respond negatively if in their own case, they are unsuccessful. This difference may mean that failure to receive a promotion is less unexpected, and thereby less likely to translate into a ‘shock’.

Section Five: Summary Of Areas Of Contribution

Theoretical

The thesis reports the first independent test of Lee and Mitchell’s (1991; 1994) unfolding model of employee turnover. In itself this is an important contribution, as the model offers a new and innovative way of modelling employee turnover and although it is often cited by other turnover theorists (e.g. Cohen 1999; Khatri et al 2001), there have only been two empirical tests of the model to date (Lee et al 1996; Lee et al 1999), and no independent corroboration of the authors’ principle findings. This thesis therefore answers theorists’ call for more replication studies in the field of employee turnover generally (Maertz and Campion 2001: 369) and with respect to the unfolding model in particular (Hom and Griffeth 1995: 86).

Additionally, the thesis represents a particular form of replication - generalization and extension (Tsang and Kwan 1999) - and another intended contribution is to develop the work of Lee et al. To this end, an extensive critique of the model provides the basis for questionnaire development, and the addition of items to assess well established constructs in turnover research such as avoidability (Abelson 1987) and reasons for leaving (Campion 1991) makes it easier to link this test of the unfolding model to previous research in turnover. Elaboration of the shock construct (chapter eight) constitutes a notable contribution.

Another benefit is that this test can be seen as an example of how organizational theory can be developed. Accordingly, one contribution is analysis of the role of replication in

The literature review in the thesis critiques and synthesises a range of disparate methods for understanding turnover (Morrell et al 2001). In addition to providing a framework that organizes existing research, this review contributes to an understanding of the turnover phenomenon, and gives insight into how such understanding can benefit organizations seeking to manage turnover effectively.

Empirical

The context for the study is the turnover of nursing staff in the NHS. This has been a topic of intense media interest for at least the last four years, but despite this protracted length of interest, there have been few studies conducted on actual nurse leavers. The findings in this study challenge some preconceptions about the main reasons nurses choose to change jobs within the NHS, or choose to leave the NHS.

Explaining discrepancies between the received picture, and the findings of this test enhance understanding of turnover in this context, as well as adding to the limited reservoir of detailed empirical data on actual nurse leavers.

Methodological

The thesis makes a contribution to a current debate in turnover research (Dalton et al 1999; Tang et al 2000), namely arguing that in order to understand turnover better, organizations and researchers need to study leavers, rather than make inferences based on general attitude surveys, or proxy variable such as intent to leave (Vandenberg and Nelson 1999).

Section Six: Overall Theoretical Assessment Of The Unfolding Model

Classification Of Leavers

Each of the analysis chapters has presented evidence that supports the underlying approach of Lee et al, but each chapter has also cast doubt on the universal ecological validity of the unfolding model. The replication chapter presents evidence that a relatively large
proportion of leavers (81 / 352) in this test were not classifiable, using solely responses to
the numbered items. Not all of these unclassifiable cases could be classified after this first
stage of analysis was supplemented with analysis of the open items. Additionally, even
after the open analysis was included to assess unreported constructs, three of the pathways
in the model were sparsely populated or empty, in total describing only 9 leavers (8 in path
1, one in 4a), as opposed to 302 in paths 3 (125) and 4b (177). The results of the logistic
regression analysis indicate the model is open to the charge of systematic failure. The
implication of each of these analyses is that this formulation of the unfolding model falls
short of articulating all leaving decisions, which runs counter to the claims of Lee et al
(1999), who state that the presence of one falsifying case is sufficient to overthrow their
model (ibid: 451, 459).

Evidence supporting the approach of Lee et al (1999) was also found. Detailed explanation
of classification failures in the replication chapter, and the integration chapter indicates that
no other existing model would achieve the same levels of ecological validity as
parsimoniously as the unfolding model. The ability to meaningfully separate leavers into
different pathways, and even classification failure is evidence that the anatomy of the
decision to turnover is different for different people. Detailed inspection and analysis of
open responses indicates that it is possible to correctly classify a large proportion of leavers
in this study (311 of 352 = 88.4%).

**Shock**

This study supports the idea that shocks play a part in a substantial number of decisions to
leave. The refinements to the shock items represent a theoretical contribution, as well as an
opportunity for the insights of the unfolding model to be integrated into existing accounts of
turnover. Chapter eight contributes to understanding of the role that shocks play in people’s
decision to leave and this analysis is consistent with the underlying approach of Lee et al.
Firstly it was shown how different kinds of shock could be identified as precipitating
decisions to quit. This is consistent with the idea that people leave organizations in
different ways. Secondly, relationships between type of shock and character of the leaving
decision were hypothesised and detected. This offers support for the idea that it is sensible
to look at turnover from a decision-making perspective. This approach also suggested the
existing measures for shock (Lee et al 1999: 461) are insufficiently sophisticated.
Image Violation And Scripts

Chapter nine casts doubt on the validity of the existing image violation scale, in terms of its application to this set of leavers, as many non work-related image violations were not detected. This scale failed to detect predominantly non-work related moves which involved such diverse issues as emigrating to Australia (1003), or other parts of the country (3027, 3045, 3074) family commitments or pressures (4022, 6016, 7034, 7059, 7068), or other personal reasons (2015, 3053). Suggestions have been offered as to how this scale could be improved for future tests, but it is worth noting that March and Simon’s (1958) account perhaps provides a more readily accessible account of such moves as arising from the incompatibility of work and non-work roles.

Analysis also cast doubt on the validity of the scale for assessing scripts. Some decisions were identified as scripted on the basis of responses to items VIIc – e, but many of these decisions were described as avoidable. Relying on a summary description of the content of a decision - such as the reason given for leaving (as in Lee et al 1996: 17) - was found to be inadequate to attribute script, because this did not exclude the possibility a quit was avoidable. If a scripted quit were also avoidable, this would be inconsistent with the description of path 1 as being where, ‘quitting [is] only one part of a mosaic of issues’ (Lee et al 1999: 454).

Notwithstanding these concerns, this investigation provided some insight and evidence into how scripts about future work behaviours can come to be formed. Using the criterion ‘evidence of a pre-existing plan’ in content analysis resulted in consistency between avoidability attribution and script attribution (no additionally identified scripted quits were avoidable). This suggests there is scope to develop understanding of planned quits. Using this criterion also supports the notion that scripts can be understood as images (plans form part of the strategic image: Beach 1990: 7).

Unclassifiable Cases

The logistic regression analysis suggested that in this context, the model is better able to classify decisions that are archetypically work-related, than decisions that are motivated by other factors. This could be inferred because using a measure that assessed whether the leaver was currently employed at a higher grade provided the best means of identifying
cases that were unclassifiable. This is consistent with the failure of the image violation scale to identify non work-related image violations.

Once the numbered items were supplemented with analysis of responses to the open items, the number of classifiable cases increased. This indicates that including additional open items had militated against some of the limitations of the image violation scale. However there was still evidence to suggest that in this test, the model was less able to cope with some types of quit (non work-related, unavoidable, resulting in leaving the profession). This suggests the model is open to the charge of systematic failure, and is better able to cope with decisions to quit that are work-related, avoidable and which result in the leaver staying in their profession.

Current Formulation Of The Model And An Alternative Conceptualisation

In both the theoretical and empirical sections of this thesis, a number of concerns have been uncovered with relation to the current formulation of the model. Although a number of improvements have been made to the survey instrument and classification schema, there remain unresolved issues:

1. The current model and its operationalization do not offer a universal, comprehensive account of turnover. The results of the classification exercise pose a severe challenge to the validity of the model.

2. Although scripts play a part in turnover and related behaviours, it is problematic to assess and model them.

3. The current image violation scale does not reliably assess personal image violations.

4. In many contexts (sectors where likely offers abound) paths 1, 2 and 4a will be sparsely populated.

Against these we can set a number of positive lessons from this test:
1. This study has offered evidence supporting the basic hypothesis of the unfolding model, namely that, "...people use different and distinct psychological processes when leaving an organization..." (Lee et al 1996: 5).

2. The model captures a large percentage of decisions to leave, and thus has higher ecological validity than other models of turnover.

3. Shocks play a significant and meaningful role in many decisions to quit.

4. There is scope to link research using the unfolding model, with well-established ideas in turnover research, relating to reasons and avoidability.

The list of concerns suggests it is not possible to adopt the model unquestioningly, or remedy existing faults with minor adjustments. However, the model has proved superior to other accounts, and the shock construct has proved a rich source for the development of ideas about this group of leavers. This suggests it is not advisable to consign the model to, "...wither on the intellectual vine..." (Hom and Griffeth 1995: 94). The model as it currently stands can prompt theorising as well as invite further testing. Accordingly, the following section concludes the thesis by outlining an agenda for future research.

To close this section however, an alternative conceptualisation of turnover is offered below (figure 11.1). It is inappropriate to validate this using the data gathered in this study, because this has been used to test the unfolding model. Nonetheless, development of figure 11.1 has been guided by this test. The model incorporates the same constructs as used in the unfolding model, albeit more parsimoniously, and less prescriptively. In this model, the pathways are 'fuzzy', describing a multitude of potential leaving decisions, which are nonetheless organised around four 'limit cases', or paradigmatic quits. These 'limit cases' are analogous to the pathways in the existing unfolding model except that paths 1 and 2 have been collapsed.

This model offers a less clear agenda for research than Lee et al's (1999) paper, because it does not offer the same scope for null pathways to be represented, although it does claim there are only two broad categories of quit (quits with a shock and quits prompted by image violation). Even so, it may have heuristic benefits in allowing for a greater variety of
leaving decisions to be conceptualised than Lee et al’s model, which this research has suggested may be too prescriptive. Nonetheless, the model should not be seen as ‘the result’ of this test of the unfolding model, because the aim of this test was to replicate (critically test both theoretically and empirically) Lee et al’s work, and that is the source of the theoretical contribution. Neither is this intended as a replacement for the current framework, because there is considerable scope to develop the unfolding model as the final section of the thesis shows. The model does prompt a number of research questions however (table 11.1).

*Table 11.1 Research Questions Prompted By An Alternative Conceptualisation Of The Decision To Quit*

<table>
<thead>
<tr>
<th>Aspect of Model (see figure 11.1)</th>
<th>Research Questions</th>
</tr>
</thead>
</table>
| Overall                          | Are there any quits without image violation?  
Can a range of quits be demonstrated?  
Are there relationships between reasons, avoidability, satisfaction and SOE behaviours? |
| Stage 1                          | How does satisfaction affect the relationship between (shock and) image violation and final decision to quit (this implies studying non-leavers)?  
Can the model be developed or tested on current employees (perhaps 2 wave cross-sectional / longitudinal study supplemented with exit interview data)? |
| Stage 2                          | Is it useful to develop a summated scale (index) for SOE behaviour?  
Can this be applied to understanding scope for intervention? |
| Stage 3                          | Can cluster analysis identify a discrete number of types of quit?  
Is this sector specific?  
Does this support Lee et al’s five-fold typology? |
Figure 11.1: A ‘Fuzzy Path’ Model Of The Decision To Quit

Quits with a Shock

Stage 1  Stage 2  Stage 3
Shock→\text{T}→S
Prompts\text{S}
Image\text{S}
Violation\text{AE}

Other Quits

Stage 1  Stage 2  Stage 3
Image\text{S}
Violation\text{AE}

Notes

Stage 1 Satisfaction: Level of dissatisfaction is irrelevant in some quits. In other quits it has a moderate influence. In other quits, dissatisfaction is a necessary condition.

Stage 2 External Variables: In some quits Search, likely Offer, Evaluation will be non-existent. In other quits there will be differential or moderate levels of some / each of these. In other quits there will be high levels of search, extensive evaluation, and a concrete offer.

Stage 3 Describing the Quit: There will be many types of quit, distributed along either of two continua. Each continuum can be defined by two ‘limit cases’ or paradigm quits. For quits with a shock, limit case I is where leavers do not search, or have an offer or evaluate alternatives. This conflates paths 1 and 2 in the current unfolding model. Limit case II involves extensive search, extensive evaluation and a concrete offer. This is analogous to path 3. In non-shock quits, limit case III shows where leavers do not search, or have an offer or evaluate alternatives. This is analogous to path 4a. Limit case IV involves extensive search, extensive evaluation and a concrete offer. This is analogous to path 4b.
Directions For Future Research

1. Future tests should not be judged as ‘successful’ or ‘unsuccessful’ depending on whether they are able to classify all leavers. Although complete ecological validity is a worthy aspiration, the criterion to judge the success of future theory should be based on critical testing, rather than falsification. Evaluating any future formulations of the unfolding model will remain a matter requiring judgement and interpretation.

2. Image theory should be retained as a useful heuristic, because it represents an innovative way of thinking about turnover, and is a potential source for new theory.

3. The unfolding model should also be tested and developed, given that it has demonstrated high ecological validity and the potential to link it to the well established turnover literature has been demonstrated.

4. Future studies are also likely to benefit from reinforcing links with the existing literature on turnover (avoidability, reasons, and potentially functionality).

5. Future studies should use the classification schema presented here, or if developing new schema, ensure they are specific and unambiguous.

6. Future studies could seek to develop a test of the model using more than one population simultaneously, and thus continue the goal of developing a generic account of turnover.

7. Revision to the scale assessing image violations is likely to improve both validity and reliability, if this means respondents understand that issues outside work are being assessed.

8. A potential theoretical advance would come via the development of a reliable scale for tapping script. As has been indicated here, such a measure may be checked for consistency with an avoidability score. Using evidence of having a ‘pre-existing plan’ (following Lee et al 1996: 7) elicited consistency in this study.
9. Future quantitative studies should continue to include open items, or gather qualitative data to enable triangulation of measures. Further qualitative analysis may inform development of a scale for scripts.

10. Although the open items enhanced interpretation of the shock construct, they also identified a further problem in terms of response validity, which could potentially apply in a wide range of research settings. Where respondents are particularly keen to describe a single (typically unpleasant) situation, they may misinterpret an initial open-ended survey item as a prompt to describe the situation they have in mind. Future design could control for this (perhaps by sending out multiple versions of a questionnaire where items are differently ordered).

11. These open items enabled a richer picture of the occupational and institutional context for this particular group of leavers to emerge. Perhaps future tests could seek to identify industry specific profiles of turnover.

12. One limitation of the model as currently formulated is that it is only possible to test it on leavers, yet there is reason to believe that to fully understand turnover in a particular context, research would need to investigate existing employees as well. The challenge for using an 'unfolding' approach in this type of study would be that existing employees cannot be categorised into any path. Research taking this approach might need to focus more on understanding contextual (sector or firm) elements that drive particular shocks, or in developing understanding of the relationship between reasons for leaving and decision processes. Understanding the labour market context could also influence how we understand various decision processes as unfolding.

13. Outside the field of management, we could examine other contexts where shocks could precipitate decisions. For example, and mindful of a broader sense of 'career', image theory could inform study on recidivism in criminals, or relapse in drug users or psychiatric patients. Research in these areas could help individuals identify different typical shocks, and this could guide thinking on how to develop cognitive and behavioural strategies to prevent people re-offending, or relapsing.
14. At another level of analysis, we could employ an understanding of shocks in the context of organizational development, perhaps where mergers are understood not just in terms of their effects on individual employees, but in terms of larger groups. Research in this area could attempt to articulate a decision frame, or decision making context for an organization, perhaps incorporating understanding of organizational culture into the construction of what constitute value, strategic and trajectory images.
References


Feinstein A. (1967) *Clinical Judgement*, Williams & Wilkins Co, Baltimore


Heydebrand W. V. (1973) *Hospital Bureaucracy*, Dunellan, New York


Hospers J. (1973) *An Introduction to Philosophical Analysis*, Prentice Hall, New Jersey


Rotter J. B. (1966) 'Generalized Expectancies for Internal Versus External Control of Reinforcement', *Psychological Monographs*, 80(1)


295


Scarpello V. and Campbell J. P. (1983) 'Job Satisfaction: are all the parts there?', *Personnel Psychology*, 36: 577-600


Todor W. D. and Dalton D. R. (1986) ‘Workers Stay Longer When They Have a Chance to Transfer’, *Sociology and Social Research*, 70(4) p 276


Webster C. (1988) *Health Services Since the War, Volume 1: problems of health care, the National Health Service before 1957*, HMSO, London


Appendix 1: Lee et al’s (1999) Survey
The following questions concern the timing, circumstances, decision processes and act of leaving your prior CPA firm. The questions focus on (1) when you first began to think about leaving, (2) the final decision to leave and (3) the act of leaving itself. (Please respond by ticking the appropriate box or providing a short answer where indicated.)

I. A Precipitating Event

A. Was there a single, particular event that caused you to think about leaving?  
   (If “NO” please go to Section II below)  

B. Was the event expected?  
C. Was the event unexpected?  
D. Would you characterize the event as positive?  
E. Would you characterize the event as negative?  
F. Would you characterize the event as neither positive or negative?  
G. Did the event involve purely personal issues (i.e. unrelated or external to your job itself)?  
H. Did the event involve purely firm issues?  
I. Did the event involve a combination of personal and firm issues?  
J. Was an unsolicited job offer or inquiry the event that first led you to think seriously about leaving?  
K. Please briefly describe the event.

II. Your final decision

A. Did you voluntarily leave the firm (this includes early retirement)?  
B. If you voluntarily left the firm, did you leave to avoid an immediate or near immediate lay off (e.g. from a merger, reorganization etc.)? (Please answer only if you voluntarily left the firm.)
III. The times between the (1) first thoughts of leaving, (2) final decision to leave, and (3) the act of leaving

A. After your first thoughts about leaving, how long did it take you to make the final decision to leave?

Please specify in terms of months, weeks or days: ______________________

B. After you made the final decision to leave, how long did you stay on the job before you actually left?

Please specify in terms of months, weeks or days: ______________________

IV. Evaluating your alternatives before leaving

A. After your first thoughts about leaving, did you evaluate any specific job alternatives before deciding to leave?

Yes ☐ No ☐

B. After your first thoughts about leaving, did general job availability affect your decision to leave (e.g. you were pretty sure you could get another job, though you didn’t have a specific job in mind)?

Yes ☐ No ☐

C. In making your final decision to leave, did you seriously consider non-work options (e.g. staying at home, returning to school, taking a sabbatical)?

If you responded yes, please indicate the type of non-work option you pursued:

____________________

If you responded yes, were you financially independent?

Yes ☐ No ☐

If you ultimately left for a non-work option, please go directly to Section VI.

D. Did you have at least one job offer in hand when you decided to leave?

Yes ☐ No ☐

E. Did you ultimately accept a job offer that you had in hand? (Please answer only if you had a job offer in hand.)

Yes ☐ No ☐

F. If you accepted a job offer you had in hand, was it originally an unsolicited job offer or inquiry? (Please answer only if you had a job offer in hand.)

Yes ☐ No ☐

G. If you didn’t have a job offer in hand when you actually left, did you believe that getting an offer was very likely?
V. The job search before leaving (if applicable)

A  Before you left, how comprehensive was your search for another job (e.g. did you gather lots of information on other job opportunities or search on a daily basis)

No Search  Casual Search  Between Casual and Comprehensive Search  Comprehensive Search  Very Comprehensive Search

B  How many acceptable alternative jobs did your search produce before you left your former firm?

C  How many total job offers did you have before you left your former firm?

VI. Personal & Professional values and goals

A  How compatible were your personal values / ethics with those of your former firm?

Not Compatible  Slightly Compatible  Moderately Compatible  Compatible  Very Compatible

B  How compatible were your professional values / ethics with those of your former firm?

Not Compatible  Slightly Compatible  Moderately Compatible  Compatible  Very Compatible

C  How compatible were your personal goals with those of your former firm?

Not Compatible  Slightly Compatible  Moderately Compatible  Compatible  Very Compatible

D  How compatible were your professional goals with those of your former firm?

Not Compatible  Slightly Compatible  Moderately Compatible  Compatible  Very Compatible
VII. Expectations about goals and values

A If I had stayed, I would have been able to achieve most of my career goals.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

B If I had stayed, I would have been able to achieve most of my personal goals.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

C At my former employer, my career was progressing as I expected.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

D At my former employer, my personal goals were progressing as I expected.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

VIII. The circumstances surrounding the final decision and act of leaving

A At the time I left my job, the circumstances seemed clear that I had to make a decision about leaving (i.e. the circumstances were a turning point).

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

B I have left a job before for essentially the same reasons (i.e. very similar circumstances).

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

C At the time I left my job, I had already determined that I would leave IF a certain event were to occur (e.g. being accepted to graduate school)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>
IX. Nature of work environment

A There are things that the firm could have done that might have caused me to stay.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

B At your former firm, how satisfied were you with the:

<table>
<thead>
<tr>
<th>Very Dissatisfied</th>
<th>Generally Dissatisfied</th>
<th>Neither</th>
<th>Generally Satisfied</th>
<th>Very Satisfied</th>
</tr>
</thead>
</table>

1 Supervision you received
2 Firm as an employer
3 Career opportunities
4 Financial Rewards
5 Your co-workers
6 Nature of the work
7 Recreational activities
8 Fringe benefits*

C At your former firm, how satisfied were you with the work environment related to:

<table>
<thead>
<tr>
<th>Very Dissatisfied</th>
<th>Generally Dissatisfied</th>
<th>Neither</th>
<th>Generally Satisfied</th>
<th>Very Satisfied</th>
</tr>
</thead>
</table>

1 Generating new client business
2 Competitive pressures
3 Autonomy of the work
4 Pressures of the work
5 Time flexibility

Please elaborate on any of the above or discuss specific factors which we may have omitted.

* e.g. vacation, holiday time, insurance coverage, retirement plans, sick leave, holiday leave
X. The Effects of Legal Liability

1. Were you personally involved on behalf of your former employer in litigation against the firm? 

   Yes ☐  No ☐

2. Partners was there ever a situation in which you were required to make personal payment because of litigation against your former employer? 

   Yes ☐  No ☐

3. Managers, if you had been a partner at the time, was there ever a situation in which you have been required to make personal payment because of litigation against your former employer? 

   Yes ☐  No ☐

4. The present or future possibility of litigation against the firm influenced my decision to leave. 

   Yes ☐  No ☐

5. Actual or prospective litigation against the firm contributed to a work atmosphere within the firm that influenced my decision to leave. 

   Yes ☐  No ☐

6. The costs associated with litigation and potential legal liability reduced the firm’s profits, and this contributed to my decision to leave the firm. 

   Yes ☐  No ☐

7. Was there a particular event or series of particular events related to litigation that influenced your decision to leave? If yes, please describe briefly. 

   Yes ☐  No ☐

8. Was concern over litigation the catalyst that caused you to begin to think about leaving, even if it was not your main reason for leaving? 

   Yes ☐  No ☐

9. The threat of litigation contributed to a tightly controlled work environment that resulted in the loss of my professional autonomy. 

   Yes ☐  No ☐

10. The change to LLP status would have changed my decision to leave. 

    Yes ☐  No ☐

11. The profession’s claims with respect to litigation are completely valid. 

    Not Confident ☐  Slightly Confident ☐  Moderately Confident ☐  Confident ☐  Completely Confident ☐  

12. I support the profession’s claim regarding excessive litigation costs. 

    Could not Recommend ☐  Hesitantly Recommend ☐  Moderately Recommend ☐  Strongly Recommend ☐  Very Strongly Recommend ☐
X. Demographic and Personal Opinion Questions

A. What were the dates of employment with your former firm? _____________

B. What was your position at the time you left (e.g. partner, manager, other)? _____________

C. When you left what practice were you in (e.g. auditing, tax, consultant)? _____________

D. In your new current position what is your job title? _____________

E. How old are you? _____________

F. What is your gender? Female _____________ Male _____________

G. What was your highest college degree and what year did you graduate? Level _____________ Year _____________

H. When you left, what were the number and ages of your dependents? _____________

I. If you were married at the time you left, was your spouse employed? Yes ___ No ___ N/A ___

J. Compared to when you entered the profession, what is your current attitude toward the public accounting profession?

   Considerably Less Favourable
   Less Favourable
   Approximately The Same
   More Favourable
   Considerably More Favourable

K. How confident are you that the profession is fulfilling its public mission well?

   Not Confident
   Slightly Confident
   Moderately Confident
   Confident
   Completely Confident

L. How confident are you that the profession is heading in the right direction?

   Not Confident
   Slightly Confident
   Moderately Confident
   Confident
   Completely Confident

M. To what degree would you recommend the profession to others as a career?

   Could not Recommend
   Hesitantly Recommend
   Moderately Recommend
   Strongly Recommend
   Very Strongly Recommend
XI Questionnaire Follow-Up (optional)

Thank you very much for responding to this survey. Should you desire to receive a summary of the results that will be provided to the public accounting firms, please provide your complete mailing address below.

We would also like an opportunity to follow-up this questionnaire with a brief telephone call, whose purpose would be to obtain elaboration on the survey questions. If you’d be willing to talk to us, please provide your name, telephone number, and the best time to call. All comments would be strictly confidential and your name will not be revealed to anyone outside the researchers. Please note, you may request a summary of the results without agreeing to the optional phone call.

Complete Mailing Address: ________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

Name: ________________________________________________

Phone Number: __________________________________________

Best time to call: _________________________________________

In addition, please feel free to elaborate on any of your responses below (or on the back of this page).
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

310
Appendix 2: The Survey Used In This Study
Dear Respondent,

[Name] NHS Trust has agreed to participate in a survey of turnover of nursing staff. The study is an independent, academic project, based at Loughborough University and will help contribute to the understanding of how and why nurses choose to change jobs within the NHS, or choose to leave the NHS.

They are contacting you on our behalf and would ask you to take a few minutes of your time to help in this worthwhile study. Please find enclosed a survey, which asks you for your opinions on this matter. The survey should only take fifteen minutes to complete. We would ask you to complete every question, and assure you that any opinions you express will remain confidential. You do not have to supply your name, and you may ask for a copy of the results.

May I take this opportunity to assure you that your opinion is important and stress that it would be impossible to gain improved understanding of this problem without the co-operation of concerned people such as you.

Kevin Morrell  
NHS Nursing Retention Project  
Loughborough University
Please respond to the following questions by circling the appropriate number or providing a short answer where indicated. Please answer all the questions unless otherwise indicated.

Section I

A Was there a single, particular event that caused you to think about leaving?  
Yes 1  No 2  If you answered ‘NO’, please go to Section II below

B Please briefly describe the event.

C To what extent was the event expected or unexpected?  
Totally Unexpected 1  Somewhat Unexpected 2  Neither 3  Somewhat Expected 4  Totally Expected 5

D To what extent was the event a positive or negative experience?  
Totally Negative 1  Somewhat Negative 2  Neither 3  Somewhat Positive 4  Totally Positive 5

E Did the event involve personal issues or work issues?  
Totally Work issues 1  Mainly Work, some personal 2  A mixture 3  Mainly Personal, some work 4  Totally Personal issues 5

F How much did the event influence your final decision to leave?  
Not at all 1  It had Some Influence 2  Moderate Influence 3  It was the Main Influence 4  Overwhelming Influence 5

G Who else at work did the event affect?  
Only affected me 1  Affected me and a few colleagues 2  Affected some colleagues 3  Affected most colleagues 4  Affected all my colleagues 5

Section II

A Did you leave voluntarily (this includes early retirement)?  
Yes 1  No 2

B If you voluntarily left, did you leave to avoid an immediate or near immediate lay off?  
Yes 1  No 2
Section III
A After your first thoughts about leaving, how long did it take you to make the final decision to leave?
Please specify in terms of months, weeks or days: ____________________________

B After you made the final decision to leave, how long did you stay on the job before you actually left?
Please specify in terms of months, weeks or days: ____________________________

Section IV

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>I left without evaluating any alternatives.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>I had at least one definite job offer before I finally left.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>C</td>
<td>I was confident of finding a suitable job when I left, though I didn’t have a specific job to go to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>I weighed up a range of work and/or non-work alternatives before leaving.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>E</td>
<td>I didn’t leave until I had a definite job to go to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Section V
A Before you left, how comprehensive was your search for another job

<table>
<thead>
<tr>
<th>No Search</th>
<th>Casual Search</th>
<th>Between Casual and Comprehensive</th>
<th>Comprehensive Search</th>
<th>Very Comprehensive Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

If you circled '1', please go to question C

B How many acceptable alternative jobs did your search produce before you left (i.e. how many could you have realistically accepted)?

C How many total job offers did you have before you left?

_________
Section VI

<table>
<thead>
<tr>
<th>Question</th>
<th>Not Compatible</th>
<th>Slightly Compatible</th>
<th>Moderately Compatible</th>
<th>Very Compatible</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> How compatible were your <em>personal values / ethics</em> with those of your former Trust?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>B</strong> How compatible were your <em>professional values / ethics</em> with those of your former Trust?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>C</strong> How compatible were your <em>personal goals</em> with those of your former Trust?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>D</strong> How compatible were your <em>professional goals</em> with those of your former Trust?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Section VII

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> If I had stayed, I would have been able to achieve most of my career goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>B</strong> If I had stayed, I would have been able to achieve most of my personal goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>C</strong> At the Trust, my career was progressing as I expected.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>D</strong> At the Trust, my personal goals were progressing as I expected.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Section VIII

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> At the time I left, it seemed clear to me that I had to decide there and then whether to stay or go.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>B</strong> I have left a job before for essentially the same reasons (i.e. very similar circumstances).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>C</strong> At the time I left my job, I had already determined that I would leave IF a certain event were to occur (e.g. not receiving a promotion).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>D</strong> My decision to leave was influenced by a colleague (or colleagues) leaving.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Section IX

### A
At your former Trust, how *satisfied* were you with the:

<table>
<thead>
<tr>
<th></th>
<th>Supervision you received</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Trust as an employer</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>b</td>
<td>Career opportunities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>c</td>
<td>Financial rewards</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>d</td>
<td>Your co-workers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>e</td>
<td>Nature of the work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>f</td>
<td>Recreational activities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>g</td>
<td>Fringe benefits*</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### B
At your former Trust, how *satisfied* were you with the work environment related to:

<table>
<thead>
<tr>
<th></th>
<th>Your workload</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>The resources you had to do your job</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>b</td>
<td>Prospects for promotion</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>c</td>
<td>Opportunities for developing skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>d</td>
<td>Flexibility of working hours</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Please elaborate on any of the above or discuss specific factors which we may have omitted.

________________________________________________________________________________

________________________________________________________________________________

________________________________________________________________________________

*e.g. holiday time, retirement plans, family leave*
Section X

A  There are things that the Trust could have done that might have caused me to stay

B  Please elaborate

Section XI

A  Compared with when you entered the profession, what is your current attitude toward the nursing profession?

<table>
<thead>
<tr>
<th>Considerably Less Favourable</th>
<th>Less Favourable</th>
<th>Approximately The Same</th>
<th>More Favourable</th>
<th>Considerably More Favourable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

B  How confident are you that the profession is fulfilling its public mission well?

<table>
<thead>
<tr>
<th>Not Confident</th>
<th>Slightly Confident</th>
<th>Moderately Confident</th>
<th>Confident</th>
<th>Completely Confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

C  How confident are you that the profession is heading in the right direction?

<table>
<thead>
<tr>
<th>Not Confident</th>
<th>Slightly Confident</th>
<th>Moderately Confident</th>
<th>Confident</th>
<th>Completely Confident</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

D  To what degree would you recommend the profession to others as a career?

<table>
<thead>
<tr>
<th>Could not Recommend</th>
<th>Hesitantly Recommend</th>
<th>Moderately Recommend</th>
<th>Strongly Recommend</th>
<th>Very Strongly Recommend</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Section XII

A  What was the primary reason for leaving your prior post?

B  Please describe any other important reasons
Section XIII  This is the final section, please take the time to answer each question that applies.

A  What were the dates of employment in your previous nursing post?  

B  How many hours a week did you work (please circle one number only)  

C  What was your grade when you left?  

D  When you left what specialism were you in?  

E  Are you still working in the NHS?  

F  Are you still working as a nurse?  

G  What is your grade now?  

H  What is your specialism now? (After answering, please go to question M)  

I  Are you still working?  

J  What is your job now? (After answering, please go to question M)  

K  Did you choose a non-work option (e.g. staying at home, returning to study etc.) when you left?  

L  Please indicate the type of non-work option you chose  

M  How old are you?  

N  What is your gender?  

O  What is your highest qualification and when did you first qualify?  

P  When you left, what were the number and ages of your dependants?  

Q  If you were married at the time you left, was your spouse employed?  

R  In your household, what is the occupation of the chief wage earner?
Questionnaire Follow-Up (optional)

Thank you very much for responding to this survey. If you would like to receive a summary of the results, please provide your postal address below.

We would also like an opportunity to follow-up this questionnaire with a brief telephone call, whose purpose would be to obtain elaboration on the survey questions. If you’d be willing to talk to us, please provide your name, telephone number, and the best time to call. All comments would be strictly confidential and your name will not be revealed to anyone outside the researchers. Please note you may request a summary of the results without agreeing to the optional phone call.

Postal Address: 

Name: 

Phone Number: 

Best time to call: 

In addition, please feel free to elaborate on any of your responses below.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Appendix 3: Covering Letter To Trust Key Personnel
[Name]
Department of HRM
[Name] NHS Trust

21 May 2001

Dear [Name]

Re: Research into Nursing Turnover

Firstly, thank you for your help and interest so far.

As discussed, please find enclosed a copy of the survey, together with a two-page summary document that should address any outstanding questions you may have relating to the project.

I am contactable via [details], or e-mail [details]. If I am not in, please leave a message and I will return your call as soon as possible.

Yours sincerely

Kevin Morrell

Kevin Morrell
Doctoral Researcher
Research into Employment and Management
Loughborough University Business School
Loughborough University LE11 3TU
HOW THE RESEARCH COULD BENEFIT A PARTICIPATING NHS TRUST

Much research into turnover looks at people who are still in an organization, e.g. using attitude surveys to predict turnover. These have not often been found to be reliable predictors and even where they are, they do not give an accurate assessment of underlying reasons why people leave. For example, the most commonly used organizational measures of reasons for leaving are insubstantial, or restricted to a single, oversimplified code. Research has shown that even if over-restrictive codes aren’t used, often the recorded reasons for an employee’s leaving may be worded so as to ‘save face’ and present the employee or their supervisor, or the organization in a good light.

Information from exit interviews (where they are conducted) can also be partial. Employees may not feel able to give a full and frank reason for leaving and the people conducting these interviews may misinterpret, or not be able/willing to probe. Sometimes, the reasons for leaving only become clear to the leaver some time after ‘the dust has settled’. This suggests that surveying recent leavers may be more beneficial to organizations wanting to retain staff. Additionally, if this is seen as being carried out by an independent body, and confidentiality issues are properly addressed, concerns over respondents’ being frank may be allayed.

How the Research would be Carried Out

Participating Trusts send out copies of a survey, to nurses who have left voluntarily in the last year. The surveys would then come back to me at Loughborough University. This would comply with issues of data protection. Also, people may be more frank replying to a third party. The survey is adapted from one successfully used in the States, and has been extensively pre-tested, both with nurses and nurse leavers.

I have also been in contact with [Name], the recruitment and retention nurse for the Trent region. She has expressed an interest in the research, and is working on including more Trusts from this region to supplement the ones I have already contacted.
Respondents

There is no way of identifying respondents from the survey or the envelope and I do not have access to their mailing details. The survey does not ask for sensitive personal data. It does ask respondents to provide demographic information which will only be analysed in the round. Those people who want to fill in the survey can do so anonymously but if they want to give me their name and are willing to take part in further study they can do. Respondents are free to choose not to answer the survey, or not to answer any questions on the survey, and if they want a summary copy of the results they can ask for one - this will be sent to them free of charge with no strings attached.

Ethics / Funding

The survey does not need Multi-centre Research Ethics Committee approval as I have confirmed with [Name], the MREC research administrator for Trent region. It has been vetted by a member of the university ethics committee. It conforms to the codes of practice of the British Psychological Society, and the Sociological Association. Any publications arising from the research will not name participating Trusts unless their permission is given formally. The project is being wholly funded by the university. There is no vested interest in any particular set of findings. The rationale for the research is to better understand nursing turnover.

Cost / Benefit

Participating in the project will incur little cost in either time or resources. All that is required is for participating Trusts to mail out the surveys and possibly mail one follow up ‘reminder’ letter (depending on the response rate). I am asking Trusts to contribute to the postage costs for the initial mail out only. This should not represent a significant cost - 19p per leaver contacted. The return postage and cost of printing the surveys will be met by me / the budget for the project.

I would of course be happy to share the results of any research with interested parties at participating Trusts, in the form of a report, or brief presentation, or both. This will be in the form of summary data, as well as meaningful comparison between participating Trusts. The Trusts will not be named in this analysis.
Appendix 4: Identification Of Unreported Constructs Via Analysis Of The Open Responses
<table>
<thead>
<tr>
<th>ID No</th>
<th>Extract</th>
<th>Item(s)</th>
<th>Construct</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1002</td>
<td>“Inability to satisfy junior staff expectations... did not feel management were in tune withgrass roots nursing problems”</td>
<td>Both Reasons Items</td>
<td>Image Violation</td>
<td>0</td>
</tr>
<tr>
<td>1003</td>
<td>“I left so I could concentrate on my application to emigrate to Australia”</td>
<td>Avoidability</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>1007</td>
<td>“I thoroughly enjoyed my job at South Bucks... the only reason for leaving was to move, I missed the sea”</td>
<td>Elaboration</td>
<td>Image Violation and Script</td>
<td>0</td>
</tr>
<tr>
<td>1021</td>
<td>“Very unhappy with new ward and unreachable goals standards that were expected of us”</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>Path 3</td>
</tr>
<tr>
<td>1022</td>
<td>Shock + Script + Offer + No Search / Eval = ‘Job Offer As Shock’</td>
<td></td>
<td></td>
<td>Path 1</td>
</tr>
<tr>
<td>2015</td>
<td>“Too much paperwork-less and less time for hands on nursing. More weekends off important as had new family commitments”</td>
<td>Other Reason</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>2016</td>
<td>“? Future of the Trust”</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>2020</td>
<td>“Distance travelling to work... Changing from being based at one surgery – to covering two lots of GPs at four bases – a totally new caseload!”</td>
<td>Both Reasons Items</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>3001</td>
<td>“I’m disappointed I was unable to [work part-time]. When my child reached the very busy age of two I asked for a break from weekends as children at this age are notoriously hard work and nurseries are not available at weekends... financially it was not viable as a lone parent to take a career or family break for 12 months.”</td>
<td>Elaboration</td>
<td>Script</td>
<td>Still Path 3</td>
</tr>
<tr>
<td>3015</td>
<td>“I had been assured I could come off a rotational programme for newly qualified nurses. My second rotation... was very satisfying to me and I wished to pursue it for much longer. This had been agreed via my clinical team leader and process manager, I was later told it had not been agreed.”</td>
<td>Shock</td>
<td>Job Dissatisfaction</td>
<td>Path 3</td>
</tr>
<tr>
<td>3019</td>
<td>“Poor morale due to work politics, the workload and I often felt that I didn’t get the support when I needed it.”</td>
<td>Other Reasons</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>ID</td>
<td>Statement</td>
<td>Elaboration</td>
<td>Script</td>
<td>Path</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------</td>
<td>-----------------</td>
<td>--------</td>
</tr>
<tr>
<td>3020</td>
<td>&quot;Regardless of the fact that I only had one job to go to (only applied for one), if I didn't get the job, I had made the decision that I would leave the trust anyway.&quot;</td>
<td>Elaboration</td>
<td>Script</td>
<td>Still Path 4b</td>
</tr>
<tr>
<td>3027</td>
<td>&quot;To move to another part of the country&quot;</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>3036</td>
<td>Shock + Script + Offer + No Search / Eval = 'Job Offer As Shock'</td>
<td>Primary Reason &amp; Shock</td>
<td>Image Violation</td>
<td>Path 1</td>
</tr>
<tr>
<td>3037</td>
<td>&quot;Husband's job... My husband was given the opportunity to train in Melbourne, Australia.&quot;</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>0</td>
</tr>
<tr>
<td>3039</td>
<td>&quot;I became pregnant with my second child after having my first child... I felt the need to put my baby first... I couldn't continue as a sister and guarantee being there for my baby when it mattered.&quot;</td>
<td>Shock, Avoidability and Primary Reason</td>
<td>Script</td>
<td>0</td>
</tr>
<tr>
<td>3040</td>
<td>&quot;A job was offered to me, where I have always wanted to work.&quot;</td>
<td>Primary Reason</td>
<td>Script</td>
<td>Still Path 3</td>
</tr>
<tr>
<td>3041</td>
<td>&quot;Being spoken to in an inappropriate manner in front of patients and staff by the clinical educator.&quot;</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>Path 3</td>
</tr>
<tr>
<td>3043</td>
<td>&quot;Reduce travelling&quot;</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>0</td>
</tr>
<tr>
<td>3045</td>
<td>&quot;Family relocation to south of England – Husband’s job&quot;</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>3046</td>
<td>&quot;To change area&quot; [remained in same specialism so inferred as geographical area]</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>0</td>
</tr>
<tr>
<td>3047</td>
<td>&quot;Needed a new challenge and change of direction&quot;</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>0</td>
</tr>
<tr>
<td>3048</td>
<td>&quot;I left due to buying a house in Nottingham, too far to commute.&quot;</td>
<td>Avoidability</td>
<td>Image Violation</td>
<td>0</td>
</tr>
<tr>
<td>3053</td>
<td>&quot;At the time of leaving, my personal circumstances were having the greater effect on my decision to leave.&quot;</td>
<td>Avoidability</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>3055</td>
<td>&quot;Wanted more work in a different area.&quot;</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>3058</td>
<td>&quot;To work closer to where I live.&quot;</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>3065</td>
<td>&quot;I was bullied by my manager&quot;</td>
<td>Primary Reason</td>
<td>Job Dissatisfaction</td>
<td>Path 3</td>
</tr>
<tr>
<td>3074</td>
<td>&quot;Needed a change out of Leicester.&quot;</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>3079</td>
<td>&quot;Staff shortages due to sickness leading to stress on remaining colleagues... also compromising nursing standards-levels of care able to be given.&quot;</td>
<td>Other Reasons</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>4020</td>
<td>Shock + Script + Offer + No Search / Eval = 'Job Offer As Shock'</td>
<td>Path 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4022</td>
<td>&quot;Family - closer to home.&quot;</td>
<td>Primary Reason</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>5001</td>
<td>&quot;To go travelling. I believe I cannot do my job unless I get time off to 'recharge'.&quot;</td>
<td>Primary Reason</td>
<td>Script</td>
<td>Still Path 4b</td>
</tr>
<tr>
<td>5005</td>
<td>&quot;Working shorthanded as a result care of patient deteriorated.&quot;</td>
<td>Shock</td>
<td>Image Violation</td>
<td>Path 3</td>
</tr>
<tr>
<td>5006</td>
<td>&quot;Early retirement.&quot;</td>
<td>Primary Reason</td>
<td>Non-work</td>
<td>Path 3</td>
</tr>
<tr>
<td>6010</td>
<td>&quot;I felt cheated and let down by the Trust. I had worked hard and set up the job that I applied for and felt betrayed especially when the person who got the job was not as qualified as I was.&quot;</td>
<td>Avoidability</td>
<td>Image Violation</td>
<td>Path 3</td>
</tr>
<tr>
<td>6014</td>
<td>&quot;My post was ward manager. Ward closed due to reduced staffing. Unable to recruit without date to reopen, staff unwilling to accept post without this date. I planned to open on 5 days a week initially. Nursing management unable to support decision, I lost more staff due to this.&quot;</td>
<td>Avoidability</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>6016</td>
<td>&quot; Wanted to move near family.&quot;</td>
<td>Other Reasons</td>
<td>Image Violation</td>
<td>Still 0</td>
</tr>
<tr>
<td>7001</td>
<td>&quot;Moving Cities... disillusioned by the post&quot;</td>
<td>Both Reasons Items</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>7010</td>
<td>&quot;Workload, job description unrealistic as to what one could do in [a] working day. A struggle to get resources necessary to do job... managers (clinical) did not appear supportive or well-informed of the demands of my job. They also appeared out of touch with the stress of the ward environment.&quot;</td>
<td>Satisfaction and Other Reasons Items</td>
<td>Image Violation and Job Dissatisfaction</td>
<td>Path 4b</td>
</tr>
<tr>
<td>7022</td>
<td>&quot;Fell pregnant, did not want to raise child in London.&quot;</td>
<td>Primary Reason</td>
<td>Script</td>
<td></td>
</tr>
<tr>
<td>7022</td>
<td>Shock + Script + Offer + No Search / Eval = 'Job Offer As Shock'</td>
<td>Path 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7027</td>
<td>&quot;Job had not been what I expected.&quot;</td>
<td>Other Reasons</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>7031</td>
<td>&quot;Social working hours (9-5).&quot;</td>
<td>Other Reasons</td>
<td>Image Violation</td>
<td>0</td>
</tr>
<tr>
<td>7034</td>
<td>&quot;Manage to understand that I had a young family and my children should have the right to contact me at work if ever they needed, without the fear that</td>
<td>Avoidability</td>
<td>Image Violation</td>
<td>Path 4b</td>
</tr>
<tr>
<td>ID</td>
<td>Statement</td>
<td>Reason</td>
<td>Image</td>
<td>Path</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>7037</td>
<td>&quot;I would be told off for receiving telephone calls from them.&quot;</td>
<td>Other Reasons</td>
<td>Image</td>
<td>Path 4b</td>
</tr>
<tr>
<td>7058</td>
<td>&quot;I had little or no prospect of promotion, and when a higher grade was advertised at another trust I applied.&quot;</td>
<td>Elaboration</td>
<td>Script</td>
<td>Still Path 4b</td>
</tr>
<tr>
<td>7059</td>
<td>&quot;I left my job in order to prepare for moving to [another country]. This is to make a better life for our two young children... I loved my job but my family comes first.&quot;</td>
<td>Shock</td>
<td>Image</td>
<td>Path 3</td>
</tr>
<tr>
<td>7061</td>
<td>&quot;Commitment at home to supervise home improvements.&quot;</td>
<td>Elaboration</td>
<td>Image</td>
<td>Path 3</td>
</tr>
<tr>
<td>7068</td>
<td>&quot;Being bullied at work has been a very disheartening and demoralising experience. Completely disillusioned now with nursing.&quot;</td>
<td>Other Reasons</td>
<td>Image</td>
<td>Path 4b</td>
</tr>
<tr>
<td>7070</td>
<td>&quot;More time to my family.&quot;</td>
<td>Shock</td>
<td>Image</td>
<td>Path 1</td>
</tr>
<tr>
<td>7086</td>
<td>&quot;I hated the work, I was junior but given too much responsibility.&quot;</td>
<td>Elaboration</td>
<td>Image</td>
<td>Path 4b</td>
</tr>
<tr>
<td>8003</td>
<td>&quot;Being told by another senior nurse that, 'she should not need to offer support to me when I was employed at the same grade', on my first day.&quot;</td>
<td>Shock</td>
<td>Image</td>
<td>Path 3</td>
</tr>
<tr>
<td>8005</td>
<td>&quot;I hated the work, I was junior but given too much responsibility.&quot;</td>
<td>Primary Reason</td>
<td>Image</td>
<td>Path 4b</td>
</tr>
<tr>
<td>8017</td>
<td>&quot;Staffing levels often didn't meet demands of workload.&quot;</td>
<td>Satisfaction</td>
<td>Image</td>
<td>Path 4b</td>
</tr>
<tr>
<td>8043</td>
<td>&quot;Staffing levels poor, too many nights, no opportunity to develop in the way I wanted to, lack of management support.&quot;</td>
<td>Other Reasons</td>
<td>Image</td>
<td>Path 4b</td>
</tr>
</tbody>
</table>
Appendix 5: Feedback To Participating Respondents
Nursing Turnover Survey

Introduction

Firstly we would like to thank you for having agreed to take part in this survey. What follows is some general information about the study, and some summary data relating to specific points of interest. Hopefully this brief letter and summary of some of the findings to date, will be of interest to you, and should answer any questions you may have. If you have any outstanding queries, or comments please address them to:

Kevin Morrell, NHS Nursing Retention Project
Loughborough University, Loughborough, Leicestershire LE11 3TU.

Response Rate

In total, we received 352 usable responses, an average response rate of 31%. This is higher than we had expected, and is evidence that the people Trusts contacted on our behalf were generally both concerned, and willing to add to understanding of the problem of nursing turnover. It is a good rate of return considering a) the personal nature of the survey, b) the survey was quite long, c) it was unsolicited, d) non-returns were not followed up (not possible because of the confidential nature of the information) and finally, e) mailing details held by some Trusts were out of date or otherwise inaccurate.

Sample

Eight Trusts from three NHS regions were included in this project. Together they represent a wide range of different types of Trust (in terms of location, size, type etc.) and the nurses in the sample are from a wide range of specialisms. 91% of the sample is female, and all those contacted were fully qualified (D or above). The majority of the sample (86%) are still working as nurses, and 71% are still working as NHS nurses.

156 respondents were able to point to a single, particular event that first caused them to think of leaving, and in roughly two-thirds of these cases, this event was work-
related and a negative experience. In the majority of cases where people reported a single, particular event that was work-related, they also described their decision to leave as potentially avoidable – i.e. agreed that, "There are things that the Trust could have done that might have caused me to stay.” However, roughly one third of people reported leaving because of a single event that was not related to work. These events were typically described as positive, and in most of these cases, people reported that the decision to leave was not one that could have been avoided by the Trust.

Confidentiality

All the comments made in response to this survey were carefully read, and considered. I am personally very grateful to those of you who took the time and effort to include extra detail in your responses – a clear sign that many of you care deeply about this issue. These comments will only be passed on to Trusts where it can be guaranteed that this does not compromise confidentiality. In no case will anyone other than the principle researchers, who are listed below, be able to identify the source of a suggestion for improvement, or criticism. In turn, I would also ask that you treat this document as confidential.

Most Common Main Reasons For Leaving

This graph shows the seven most commonly cited reasons for leaving – based on people’s responses to the question “What was the primary reason for leaving your prior post?”
As you can see, the most common reason given related to career development. This was mainly driven by concerns over grade compression, lack of promotional opportunities within a particular Trust, or desire to develop specialist expertise. The second most common reason cited was relocation, typically where the leaver’s partner had received a job offer, but also in many cases to move nearer to family and friends. We used the phrase ‘role conflict’ to describe situations where nurses left because they could not provide the standards of professional care they wanted to, or where they felt they were being undervalued. Interestingly, only 6 leavers (1.6%) said that pay was the main reason for leaving.

**Summary Of Data On Job Satisfaction**

<table>
<thead>
<tr>
<th>Satisfied</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neither</td>
<td>3</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>2</td>
</tr>
<tr>
<td>Strongly Dissatisfied</td>
<td>1</td>
</tr>
</tbody>
</table>

This graph shows the average scores for all respondents in response to questions on job satisfaction. The questions are listed overleaf.
Figure 4: Job Satisfaction Questions

<table>
<thead>
<tr>
<th>General</th>
<th>Code (in chart above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At your former Trust, how satisfied were you with the:</td>
<td></td>
</tr>
<tr>
<td>Supervision you received</td>
<td>Supervision</td>
</tr>
<tr>
<td>Trust as an employer</td>
<td>Trust as Employer</td>
</tr>
<tr>
<td>Career opportunities</td>
<td>Career Opportunities</td>
</tr>
<tr>
<td>Financial rewards</td>
<td>Pay</td>
</tr>
<tr>
<td>Your co-workers</td>
<td>Colleagues</td>
</tr>
<tr>
<td>Nature of the work</td>
<td>Nature of Work</td>
</tr>
<tr>
<td>Specific to Nursing*</td>
<td></td>
</tr>
<tr>
<td>At your former Trust, how satisfied were you with the work environment related to:</td>
<td></td>
</tr>
<tr>
<td>Your workload</td>
<td>Workload</td>
</tr>
<tr>
<td>The resources you had to do your job</td>
<td>Resources for Job</td>
</tr>
<tr>
<td>Prospects for promotion</td>
<td>Promotional Opportunity</td>
</tr>
<tr>
<td>Opportunities for developing skills</td>
<td>Training / Development</td>
</tr>
<tr>
<td>Flexibility of working hours</td>
<td>Flexibility of work hours</td>
</tr>
</tbody>
</table>

As you can see, the two things people were most satisfied with were the nature of the work, and the relationship they had with their colleagues.

The things people were on the whole least satisfied with were the resources they had to do their job (2.49), the workload (average 2.5) and prospects for promotion (average 2.57). This was closely followed by pay dissatisfaction (average 2.58).

Once again, we would like to extend our thanks to you for taking part in this research. We would welcome any comments or thoughts you might have about this project.

Kevin Morrell, Professor Adrian Wilkinson, John Loan-Clarke
NHS Nursing Retention Project, Loughborough University Loughborough

The project is funded by: Loughborough University Business School, and Loughborough University Faculty of Social Science and Humanities
Appendix 6: Feedback To Participating NHS Trusts
Survey of Nursing Turnover

Contents

Executive Summary

Part 1 – Overall Findings

Overview
Job Satisfaction, Reasons For Leaving And Avoidability Of The Decision To Leave
Confidentiality
Most Common Main Reasons For Leaving
Summary Of Data On Job Satisfaction
Avoidability
Job Satisfaction By Trust
Reasons For Leaving By Trust
Conclusion

Part 2 – Data In Your Trust Only

Answers To Open-ended Questions
Description Of An Event That First Caused Thoughts Of Leaving
Comments On Job Satisfaction
Things The Trust Could Have Done That Might Have Caused Me To Stay
Primary Reason For Leaving
Other Reasons
Additional Comments
Executive Summary

This project was designed to explore how and why nurses choose to change jobs. The sample is made up of 352 full-time, qualified nurses who left their jobs voluntarily to work elsewhere. If we can accept a recent DoH figure, this number translates into a one-off replacement cost to the NHS of approximately £1.76 Million. Improving nurse retention would reduce one-off replacement costs to NHS Trusts, but also have longer-term benefits. This report should give an indication of the extent to which nursing retention can be improved in the participating Trusts. Initially, here are some of the key findings:

- The majority of leavers (86%) are still working as nurses, and 71% are still working as NHS nurses.

- 209 nurses (57%) reported that a favourable organizational intervention might have caused them to stay.

- Only six nurses (1.7%) said pay was the 'primary reason for leaving' and only 21 (6%) reported as one of 'any other important reasons'.

- 156 respondents were able to point to a single, particular event that first caused them to think of leaving, and in roughly two-thirds of these cases, the event was work-related and also a negative experience.

- In the majority of cases where people reported a single, particular event that was work-related, they also described their decision to leave as potentially avoidable – i.e. agreed / strongly agreed that “There are things that the Trust could have done that might have caused me to stay.” Examples of these events were: failure to achieve promotion; perceived inequity in opportunities for promotion or allocation of training courses; inflexibility in allocation of shifts; lack of recognition of a problem by ‘management’.
Part 1

Overview

In total, we received 352 usable responses, an average response rate of 31%. This is higher than we had expected, and is evidence that the people Trusts contacted on our behalf were generally both concerned, and willing to add to understanding of the problem of nursing turnover.

Several nurses stated that they were glad to be given the opportunity to express their feelings on this matter, and many provided a rich level of detail in response to the open-ended questions. This suggests that Trusts already have potential access to a rich body of information that could be used to improve the understanding and management of nursing turnover, though resource pressures may make this impractical. A few nurses, particularly those who had been in post for many years felt bitterness that they had not been thanked for their length of service, or been given the opportunity to say why they were leaving.

Eight Trusts from three NHS regions were included in this project. Together they represent a wide range of different types of Trust (in terms of location, size, type etc.) and the nurses in the sample are from a wide range of specialisms. 91% of the sample is female, and all those contacted were fully qualified (D or above), most (over 97%) were full time. Please refer to the table on page 8 to identify the number of your Trust.

---

1 The response rate is good considering a) the personal nature of the survey, b) the survey was quite long, c) it was unsolicited, d) non-returns were not followed up (not possible because of the confidential nature of the information) and finally, e) mailing details held by some Trusts were out of date or otherwise inaccurate.
Confidentiality

All the comments that nurses made in response to the open items on the questionnaire were typed up verbatim. Most of these comments contain information that should be of use to Trusts. These comments have only been passed on where it can be guaranteed that this does not compromise respondent confidentiality, so in some cases the comments have been edited to remove identifying detail (for example where a particular unit or manager is named). The open comments which follow the overall analysis only relate to your particular Trust. No Trusts are named in the overall analysis of the data, though a summary description of each is offered to give each an idea of the characteristics of the overall sample.

Bar Chart Showing Most Common Main Reasons For Leaving

As can be seen, the most common theme to emerge was career development. This was mainly driven by concerns over grade compression, lack of promotional opportunities within a particular Trust, or desire to develop specialist expertise. The second most common reason cited was relocation, typically where the leaver’s partner had received a job offer, but also in many cases to move nearer to family and friends.
We used the phrase 'role conflict' to describe situations where nurses left because they could not provide the standards of professional care they wanted to, or where they felt they were being undervalued. Interestingly, only 6 leavers (1.7%) said that pay was the main reason for leaving.

Table Showing Most Common Main Reasons For Leaving

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
<th>% (Base 346)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Career development</td>
<td>59</td>
<td>17.1</td>
</tr>
<tr>
<td>2 Relocation</td>
<td>46</td>
<td>13.3</td>
</tr>
<tr>
<td>3= Role Conflict</td>
<td>22</td>
<td>6.4</td>
</tr>
<tr>
<td>3= Job Offer, Opportunity or Promotion</td>
<td>22</td>
<td>6.4</td>
</tr>
<tr>
<td>5 Lack of Support</td>
<td>20</td>
<td>5.8</td>
</tr>
<tr>
<td>6= Concerns With Management</td>
<td>17</td>
<td>4.9</td>
</tr>
<tr>
<td>6= Concerns Over Time Flexibility</td>
<td>17</td>
<td>4.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>203</strong></td>
<td><strong>58.7</strong></td>
</tr>
</tbody>
</table>

* Six cases with missing data

The 1999 IES study for the RCN cites seven themes as being commonly identified by nurses as the 'single most important factor reducing the likelihood of leaving nursing'. These are (1999: 4): 'better pay', 'better resources to do the job', 'reduced workload', 'improved promotion prospects', 'flexible working hours', 'better career structure', 'more opportunities for developing skills'. There are two main differences between the findings of the IES study relating to factors likely to reduce nurses' leaving, and the results of analysis of leavers' reasons in this study. In the IES study 39% of respondents cited 'better pay' as the 'single most important factor reducing the likelihood of leaving nursing'. In this study, in response to the pay satisfaction question, 178 respondents (50.6%) expressed dissatisfaction, but only six (1.7%) mentioned pay as the primary reason for leaving a particular nursing post. Indeed a greater number of respondents reported dissatisfaction for the items relating to workload (206 = 58.5%) and resources (204 = 58%) than reported pay dissatisfaction. Secondly, there is no mention of spousal or family-related relocation in the IES study, though this has a large impact on turnover decisions in this sample.
The disparity between the IES account and this account of nursing turnover has three implications.

1. Sources of current dissatisfaction may be of a different kind to those that actually precipitate a decision to leave.

2. Current employees may use any such study as an opportunity to express a particular kind of dissatisfaction, if they believe this may direct a favourable organizational intervention.

3. Studies seeking clues for organizational intervention may initially overestimate the scope they have to influence decisions to leave.

Bar Chart Showing Data On Job Satisfaction

This graph shows the average scores for all respondents in response to questions on job satisfaction. The questions are listed overleaf.
The sample here is made up solely of leavers, and so we would generally expect this group to be less satisfied than current employees.

Table Showing Job Satisfaction Questions

<table>
<thead>
<tr>
<th>General</th>
<th>Code (in chart above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At your former Trust, how satisfied were you with the:</td>
<td></td>
</tr>
<tr>
<td>Supervision you received</td>
<td>Supervision</td>
</tr>
<tr>
<td>Trust as an employer</td>
<td>Trust as Employer</td>
</tr>
<tr>
<td>Career opportunities</td>
<td>Career Opportunities</td>
</tr>
<tr>
<td>Financial rewards</td>
<td>Pay</td>
</tr>
<tr>
<td>Your co-workers</td>
<td>Colleagues</td>
</tr>
<tr>
<td>Nature of the work</td>
<td>Nature of Work</td>
</tr>
<tr>
<td>Specific to Nursing</td>
<td></td>
</tr>
<tr>
<td>At your former Trust, how satisfied were you with the work environment related to:</td>
<td></td>
</tr>
<tr>
<td>Your workload</td>
<td>Workload</td>
</tr>
<tr>
<td>The resources you had to do your job</td>
<td>Resources for Job</td>
</tr>
<tr>
<td>Prospects for promotion</td>
<td>Promotional Opportunity</td>
</tr>
<tr>
<td>Opportunities for developing skills</td>
<td>Training / Development</td>
</tr>
<tr>
<td>Flexibility of working hours</td>
<td>Flexibility of work hours</td>
</tr>
</tbody>
</table>

The third highest rated question tested satisfaction with Trust as an employer. At first sight this is perhaps not what one would expect, given that everyone chose to leave, and also levels of satisfaction are below average overall. However, it is an indication that work pressures (work-load, shortage of resources, lack of career opportunities) are often seen as symptomatic of the state of the service as a whole, rather than as the shortcomings of an individual Trust, which nurses may see as relatively powerless.

We think this has several implications for Trust managers. A somewhat defeatist conclusion would be that managers may have little control over decisions to leave. More positively, this could signal an opportunity for a more participative approach to managing nurses, one that explicitly recognises the institutional pressures, whilst simultaneously creating an atmosphere of partnership. In simple terms this could mean greater transparency in decisions relating to promotion, and training provision; sharing information about resource constraints and allocation; emphasis on support and encouragement at ward level; provision of realistic and honest information and advice on within-Trust career progression.
Avoidability

This graph shows the responses for all leavers to the question, "There are things that the Trust could have done that might have caused me to stay".

This does not take into account how realistic the leavers’ assessment of ‘things the Trust could have done’ was. This report contains more information on avoidability by Trust (below) and also in the section on responses to open-ended questions. In general, the types of interventions nurses typically described related to: provision of training; career / promotional opportunities, or advice; improved workload-staff ratio; flexibility of working hours; or more basically, recognition of work pressures, and improved structures of support. Underlined themes are ones that (in our estimation) are potentially low cost / feasible.

Comparisons By Trust [The participating Trust was shown its number here]

This table shows the characteristics of each Trust, represented by a code number. This should give sufficient information to make basic comparisons without being able to identify particular Trusts. The number for your Trust is shown in this table.

<table>
<thead>
<tr>
<th>Trust Number</th>
<th>Relative Size</th>
<th>Type</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Medium</td>
<td>Acute &amp; Community</td>
<td>Rural</td>
</tr>
<tr>
<td>2</td>
<td>Medium</td>
<td>Community</td>
<td>Rural</td>
</tr>
<tr>
<td>3</td>
<td>Large</td>
<td>Acute &amp; Teaching</td>
<td>City</td>
</tr>
<tr>
<td>4</td>
<td>Medium</td>
<td>Acute</td>
<td>Rural</td>
</tr>
<tr>
<td>5</td>
<td>Medium</td>
<td>Acute</td>
<td>Rural</td>
</tr>
<tr>
<td>6</td>
<td>Large</td>
<td>Acute &amp; Teaching</td>
<td>City</td>
</tr>
<tr>
<td>7</td>
<td>Large</td>
<td>Acute &amp; Teaching</td>
<td>City</td>
</tr>
<tr>
<td>8</td>
<td>Large</td>
<td>Acute &amp; Teaching</td>
<td>City</td>
</tr>
</tbody>
</table>
Job Satisfaction By Trust

This graph shows the job satisfaction scores split by Trust. The key shows the number of each Trust, which is the same as the Trust number in the table above. The questions are the same as above, but abbreviated to save space.
This graph shows the reasons given for leaving, split by Trust. This is expressed in percentage terms to account for differences in Trust size.
Avoidability By Trust

This graph shows responses to the question, 'There are things the Trust could have done that would have caused me to stay'. This is expressed in percentage terms to account for differences in size. The ordering of Trusts is the same as above.
Conclusion

This first part of the report has presented information from the sample as a whole that gives a very recent picture of nursing turnover in eight NHS Trusts. The information relating to satisfaction, reasons for leaving, and avoidability should be useful to Trust managers in developing recruitment and retention policy. Information showing this data split by Trust should enable managers to compare the profile of leavers from their Trust with others in the sample. We have stopped short of making any concrete recommendations, as this would be somewhat presumptuous. However we have pointed to some evidence that suggests participative approaches (e.g. advice / support on within-Trust career development, recognition of resource pressures) might be beneficial in improving retention. This is based on the main reasons nurses gave for leaving, the responses suggesting most turnover was avoidable and responses to the job satisfaction questions.

The second part of the report contains leavers’ responses to the open ended questions, edited in some cases to preserve confidentiality.

We would be very keen to hear any thoughts or comments you have about this report, and also to answer any questions you may have about these findings. Please address all correspondence to:

Kevin Morrell, Loughborough University Business School, Loughborough University Loughborough, Leicestershire, LE11 3TU
e-mail k.m.morrell@lboro.ac.uk

Once again, we would like to thank you for participating in this research, and hope that this will be of use to you.

Kevin Morrell, Professor Adrian Wilkinson, John Loan-Clarke
Responses To Open-ended Questions

[In this section each Trust was given the responses for their leavers only to the open items tapping: shock, satisfaction, avoidability, primary reason for leaving, other reasons and a final general purpose answer]