Autonomy and competence frustration in young adolescent classrooms: Different associations with active and passive disengagement

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Abstract

Few studies have attempted to identify distinct psychological correlates of different forms of classroom disengagement. Drawing from basic psychological needs theory (Deci & Ryan, 2000), this study investigated two divergent mechanisms predicting active and passive classroom disengagement. Pupils (N = 647; age = 11–14 years) and their respective teachers completed a questionnaire measuring the study variables. Using structural equation modelling, pupils’ perceptions of teacher psychological control positively predicted pupils’ autonomy and competence frustration in class. Pupils’ competence frustration indirectly and positively associated with teacher-rated passive disengagement (e.g. daydreaming in class), via reduced feelings of vitality. Pupils’ autonomy frustration demonstrated positive associations with both active disengagement (e.g. talking and making noise) and passive disengagement but neither relationship was explained by feelings of vitality. These distinct mechanisms may have implications for educators, identifying potential causes of different forms of pupil disengagement and the importance of avoiding psychological control in classrooms.

Keywords: teacher control, motivation, psychological needs, frustration, disengagement.
1. Introduction

Engaging school pupils is a principal goal for most teachers in school classrooms. As such, theoretical and empirical research has investigated the adaptive teacher behaviours (e.g., Assor, Kaplan, & Roth, 2002) and pupil perceptions of learning contexts (e.g., Fall & Roberts, 2012; Patrick, Ryan, & Kaplan, 2007) that may effectively promote pupil engagement. Teachers are, however, often confronted with pupils that do not participate, become disruptive, and withdraw themselves from classroom activities. Despite the presence of these behaviours, there seems a lack of conceptual understanding and theoretical evidence concerning the negative processes underpinning classroom disengagement. In the present work, we investigated whether the frustration of two candidate basic psychological needs (i.e., autonomy and competence) could explain distinct disengagement processes.

Disengaged pupils are one of the biggest difficulties that teachers face in school classrooms and can be an indicator of prolonged academic and social pupil problems (Fredericks, 2014; Henry, Knight, & Thornberry, 2012). Classroom disengagement reflects negative classroom conduct and detachment from learning activities (Appleton, Christenson, & Furlong, 2008; Skinner, Furrer, Marchland, & Kindermann, 2008). Disengaged pupils will typically not try hard, give up when faced with challenging tasks, and alienate themselves in the classroom by withdrawing from learning activities (Reeve 2006; Skinner, Kindermann, & Furrer, 2009). Pupils are considered disengaged if they lose focus (e.g. daydream), or participate in off-task conversation or argument with classmates, instead of listening to the teacher or completing class activities (Gobert, Baker, & Wixon, 2015). In other words, pupils may be engaged in irrelevant behaviour or thought processes which constitute academic disengagement as they are disconnected from classroom activities.

A closer examination of maladaptive reactions in classrooms suggests two different forms of classroom disengagement. Pupils can actively disengage by detaching themselves
from classroom activities in an animated and reactive manner, such as disrupting the class, talking over or arguing with others, or disobeying the teacher (Way, 2011). These pupils direct their behaviour towards irrelevant stimuli and away from instructional information or classroom tasks. Such active detachment within the classroom should not be confused with contrasting displays of interest and enthusiasm associated with classroom engagement, such as passionate debating of learning material between pupils. Rather, our definition of active disengagement refers to reactive and animated types of maladaptive behaviour that is both non-compliant and off-task in nature.

Alternatively, pupils may passively disengage by withdrawing in an inactive manner, signified by lethargy, daydreaming, and tiredness in class. These pupils will become unresponsive to teacher or peer interactions that relate to classwork, often not attempting tasks, and avoiding or refusing to answer questions. Pupils who passively disengage do not impose an immediate problem in classrooms and often do not receive the same focus from educators as actively disruptive pupils (Paulsen, Bru, & Murberg, 2006). Researchers have not explored the distinction between active and passive types of pupil disengagement or the associated social and cognitive correlates, despite the clear differences in their respective characteristics. Adopting a generic disengagement perspective does not allow for targeted interventions aimed at minimising passive or active disengagement and this may stunt theoretical advancement.

When examining the social and intrapersonal processes associated with pupil behaviour, self-determination theory (SDT; Ryan & Deci, 2002) has gained extensive empirical support within the domains of education and human motivation. In particular, it is posited within SDT that pupils will function less effectively in classroom environments that are perceived as psychologically controlling (e.g., Hein, Koka, & Hagger, 2015). Psychologically controlling teachers attempt to direct, manipulate or pressure pupils by
disregarding the pupils’ perspective and adopting a teacher centred agenda, typically using external sources to motivate pupil behaviour (e.g. deadlines, incentives, threats of punishment, criticism; Reeve, 2009; Reeve & Jang, 2006). SDT posits that pupils’ basic psychological needs will be frustrated when they perceive their teacher as psychologically controlling (Niemiec & Ryan, 2009; Ryan & Deci, 2000; Vansteenkiste & Ryan, 2013). We further propose that the frustration of two needs, namely autonomy and competence, may be differentially associated with active and passive disengagement in the classroom. The need for autonomy refers to the experience of volition and psychological freedom towards one’s behaviour (deCharms, 1968). Frustration of this need, therefore, concerns feeling oppressed and pressured to behave in certain ways (Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011). The need for competence refers to the experience of effectiveness in one’s pursuits (White, 1959). Thus competence frustration concerns feelings of inadequacy or failure (Bartholomew et al., 2011).

Recent research findings have helped to expand knowledge of this ‘darker side’, postulating that need frustration may be distinct from need dissatisfaction, and is associated with ill-being and comprised interpersonal functioning (Bartholomew, Ntoumanis, Cuevas, & Lonsdale, 2014; Costa, Ntoumanis, & Bartholomew, 2015; Gunnell, Crocker, Wilson, Mack, & Zumbo, 2013). Attempts to cope with experiences of need frustration typically provoke defensive and compensatory behaviours such as passivity, alienation, misbehaviour, resistance, and defiance (Vansteenkiste & Ryan, 2013). In line with this evidence, investigating classroom disengagement may be better understood by measuring competence and autonomy frustration, rather than dissatisfaction, to appropriately tap into the intensity associated with negative psychological experiences (Bartholomew et al., 2011). Indeed, recent evidence demonstrated that pupils reported higher classroom disengagement and bullying behaviours, when they perceived their psychological needs to be frustrated due to
psychologically controlling teachers (Hein et al., 2015; Jang, Kim, & Reeve, 2016). This
evidence, in line with many other studies, adopted a composite approach whereby general
need frustration was measured. A more nuanced approach to psychological need frustration
may unearth new insight into maladaptive educational processes.

School classrooms represent contexts where learners face regular demands relating to
their performance and ability (Reis, Sheldon, Gable, Roscoe & Ryan, 2000). In such
environments, it will be difficult for pupils who experience competence frustration to
maintain active involvement in activities (Nicholls, 1989). In fact, when pupils perceive
themselves to lack competence in the classroom, they are likely to withdraw from class
activities in a passive manner. A lack of competence has been associated with greater
amotivation in education settings (e.g., Legault, Green-Demers & Pelletier, 2006), which is
carerterised by an absence of effortful behaviour (Deci & Ryan, 2000). Similarly, students
that were passively detached from school have reported little belief in their capability of
being successful at school (Patrick, Skinner, & Connell, 1993). This process is analogous to
learned helplessness, where pupils develop a belief that they cannot influence or bring about
a desired outcome and develop self-defeating behaviour patterns, such as giving up,
withdrawing effort and passive avoidance of tasks (Abramson, Seligman, & Teasdale, 1978;
Elliot & Dweck, 1988). Collectively this evidence suggests that if competence is frustrated in
the classroom, it will result in learners withdrawing their effort and demonstrating passive,
avoidance type behaviours in attempts to evade demonstrating their perceived incapableness.

In contrast to the relationship between competence frustration and passive behaviours,
an active and disruptive response may be more likely associated with the frustration of ones’
autonomy. Research in the parenting domain indicates that children tend to have actively
adverse responses to an absence of autonomy, including higher levels of delinquency (Barber,
1996), problem behaviours (Pettit, Laird, Dodge, Bates & Criss, 2001), and aggressive
behaviour (Joussemet et al., 2008). Young adolescents have also been found to reject parental authority when prevented from acting volitionally (i.e. in line with endorsed values and interests; Van Petegem, Vansteenkiste, Soenens, Beyers, & Aelterman, 2014). Extrapolating from this knowledge base, we propose that the frustration of autonomy in classrooms is likely to lead to reactive disengagement and avoidance which manifests itself as making noise or talking to other pupils. In contrast, frustrated competence may be a stronger correlate of passive disengagement in class. No previous research has tested this important distinction despite it being implied by the evidence described above. Exploring potentially distinct correlates of autonomy and competence frustration is required to identify theoretical mechanisms that explain different types of disengagement.

Our portrayal of active and passive types of disengagement suggests adverse behaviours that are underpinned by different levels of subjective vitality, a feeling of aliveness and energy (Ryan & Frederick, 1997). From a broad SDT perspective, the frustration of autonomy and competence will deplete vitality (Ryan & Deci, 2008). Nonetheless, research in adolescent athletes and physical education students has evidenced a stronger association between competence and feelings of vitality, compared to autonomy (Adie, Duda, & Ntoumanis, 2012; Reinboth, Duda, & Ntoumanis, 2004; Taylor & Lonsdale, 2010). These studies examined psychological (dis)satisfaction, rather than competence and autonomy frustration. In an adult sample, competence but not autonomy frustration, was associated with reduced vitality (Gunnell et al., 2013). It may be that frustration of the two needs have unique depleting influences on pupils’ vitality. Identifying processes that differ in the reduction of subjective vitality may be fundamental in identifying underlying causes of active and passive disengagement.

1.1. The present research
On the basis of the foregoing considerations, the aim of this study was to assess the maladaptive processes that underlie active and passive disengagement in class. In accordance with SDT (Bartholomew, et al., 2011; Ryan & Deci, 2000; Vansteenkiste & Ryan, 2013), we hypothesised that teacher psychological control will be positively associated with pupils’ perceived autonomy and competence frustration (hypothesis 1). Concordant with learned helplessness processes (Abramson et al., 1978; Elliot & Dweck, 1988) and previous evidence (Adie et al., 2012; Gunnell et al., 2013; Reinboth et al., 2004; Taylor & Lonsdale, 2010), we proposed that the frustration of competence will be associated with teacher ratings of passive disengagement via decreased feelings of vitality (hypothesis 2). In contrast, the frustration of autonomy in class will be directly associated with teacher ratings of active disengagement and not explained by pupils’ subjective vitality (hypothesis 3). Reflecting our overall model, we expected to observe significant indirect effects between teacher psychological control and the two forms of disengagement (hypothesis 4).

2. Method

2.1. Participants

Six hundred and forty seven secondary school pupils (60% male, mean age = 12.59 years, $SD = 0.93$ years, age range = 11 – 14 years old) and their teachers ($n = 22$) participated in the study, coming from three schools in the United Kingdom (two selective grammar schools and one comprehensive school). A total of 29 different classrooms were used for the study. All three schools catered for pupils ageing from 11-18 years of age, with class sizes ranged from 17 to 31 pupils per class. Ethnicity data was not obtained for individual pupils, however, the three schools ranged between 10% - 21% of their total number of pupils being considered from ethnic minorities, which is below the UK average of 27% (Drake, 2015).

2.2. Measures

2.2.1. Perceptions of teacher psychological control.
Pupil perceptions of their specific teacher’s psychological control were measured using 10 items (e.g. “My teacher does not allow me to work at my own pace” and “My teacher makes me feel guilty when I do not please them”), previously used by Madjar, Nave, and Hen (2013). Items were rated using a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale authors demonstrated satisfactory factorial structure and internal consistency ($\alpha = .71 - .74$; Madjar et al., 2013).

### 2.2.2. Autonomy and competence frustration.

Pupil perceptions of autonomy and competence frustration during the class were measured using the respective subscales of the Psychological Need Thwarting Scale (Bartholomew, Ntoumanis, Ryan et al., 2011). Items were adapted to an educational context with some words simplified for use with secondary school children. These items were also checked by teachers and modified where necessary to ensure pupils’ understanding of each item’s terminology and phrasing. For instance, the original questionnaire stem “In my sport” was changed to “In this class”, with any original item relating to training (e.g. “I feel prevented from making choices with regard to the way I train”) modified to represent learning (e.g. “I feel prevented from making choices about the way I learn”). Both subscales consisted of four items: autonomy (e.g. “I feel forced to follow decisions made for me,”); competence (e.g. “There are situations where I am made to feel I am not good enough”). Items were rated on a 7 point scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Both subscales have previously demonstrated satisfactory internal consistency (autonomy frustration: $\alpha = .67$; competence frustration: $\alpha = .79$) and factorial validity (Bartholomew et al., 2011).

### 2.2.3. Subjective Vitality.

Pupils’ feelings of subjective vitality in the class were measured using a five item version of the Subjective Vitality Scale (Ryan & Frederick, 1997), previously used by
Bartholomew, Ntoumanis, Ryan, Bosch et al., (2011). Items were rated on a 7 point scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Example items include “I have energy and spirit” and “I nearly always feel alert and awake”. All original items demonstrated good internal consistency (α =.92) and factorial validity, with all items used in this study loading above .50 onto their respective latent factor (Ryan & Frederick, 1997).

2.2.4. **Pupil disengagement.**

Pupil disengagement can be measured in variety of different ways, such as pupil self-report, school data, independent observations and teacher ratings. We obtained teacher ratings of each pupil’s active and passive classroom disengagement to avoid over-reliance on pupil self-report and minimise measurement error associated with common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Teacher perceptions of pupils’ active disengagement in class were assessed using two adapted items from the disrespect subscale of the Pupil Behaviour Patterns Scale (Friedman, 1995; see Hastings & Bham, 2003, for construct validity). These items were selected to measure classroom behaviour that was both non-compliant and disruptive, assessing active disobedience (e.g. “Student X in my class argues with other students”) and active inattentiveness (i.e., “Student X in my class often speaks over others and makes a lot of noise”). Both items were rated on a 6 point scale ranging from 1 (never) to 6 (always). The original scale demonstrated good internal consistency (α =.87; Freidman, 1995), with the two items used in this study loading .60 and .51 onto their respective latent factor (Hastings & Bham, 2003).

Teacher perceptions of pupils’ passive disengagement in class were measured using two items designed for the purpose of this study: “To what extent does Student X daydream” and “To what extent does Student X switch off in class”. Each item was rated on a 6 point scale ranging from 1 (never) to 6 (always). These items were designed to reflect teachers’ general perceptions of pupils’ withdrawal from both social and performance situations,
typically associated with pupil passivity (Paulsen et al., 2006). We chose two items for each type of disengagement to enable each teacher to feasibly rate each individual pupil in their class. Internal consistency and factor loadings are presented in Table 1.

### 2.3. Procedure

Full ethical approval was obtained from the principal researcher’s university ethics committee. Pupils and teachers were provided with details of the study both verbally and in writing prior to the study commencing. All teachers provided written consent, with parental opt-out forms provided to enable parents to indicate if they did not wish for their child to participate. Four pupils opted out of the study. All pupils were instructed that they did not have to complete the questionnaire if they did not wish to. The pupil questionnaire was administered by the principal researcher at the beginning of a school lesson and collected once each pupil had completed the questionnaire. The taught subject varied between classes (Physical Education = 41%; Humanities = 24%; Citizenship = 21%; Sciences = 14%) ¹. Prior to administering the questionnaire, it was explained to the pupils and teachers that all items referred to the specific class that the questionnaire was administered in. Once the questionnaires had been administered, the principal researcher explained the instructions to each class and allowed the opportunity for pupils to ask any additional questions. The pupil questionnaire took approximately ten minutes for pupils to complete. To ensure confidentiality, pupils were asked to direct any questions regarding the study to the principal researcher and not the class teacher (who remained a passive observer during data collection). The teacher rated pupil disengagement questionnaires were provided to teachers at the end of the school lesson, subsequent to pupils completing the questionnaire, and were completed and returned to the principal researcher within a week of being administered.

### 2.4. Data Analysis
Preliminary analysis involved calculation of descriptive statistics, Cronbach’s alpha coefficients, and bivariate correlations (see Table 1). We also conducted confirmatory factor analysis using Mplus software (Version 7:2; Muthén & Muthén, 1998 - 2012) to test the item factor loadings on their respective latent factor. Each item was used as an indicator of its respective subscale latent factor (e.g. the four autonomy items were indicators of the autonomy frustration latent factor). We used maximum likelihood estimation with robust standard errors and the TYPE = COMPLEX command in Mplus. These analytical steps meant that calculation of standard errors was robust to deviations from normality (Olsson, Foss, Troye, & Howell, 2000) and accounted for potential clustering effects associated with pupils being nested within different classrooms (Hox, 2010). A full multi-level model was unfeasible as our sample size did not contain enough Level 2 units (i.e. classrooms; \( n = 29 \)) to meet suggested guidelines (i.e. \( n > 50 \); Maas & Hox, 2005).

After the confirmation of acceptable factorial structure for all latent variables, we tested a fully forward model, depicting all paths between every latent factor as a baseline to compare subsequent models (Model 1). We then systematically removed non-hypothesised paths to arrive at our proposed model (for similar procedures see Marshall, Parker, Ciarrochi, & Heaven, 2013). We removed the non-hypothesised direct paths from teacher control to each disengagement and vitality (Model 2). Next, we removed non-hypothesised direct paths between competence frustration and both types of disengagement (Model 3) and the non-hypothesised path between autonomy frustration and passive disengagement (Model 4). Finally, we tested our hypothesised model (shown in Figure 1) by removing the non-hypothesised paths between autonomy frustration and vitality, and vitality and active disengagement (Model 5).

Each model was evaluated to clarify if the solution was well defined, the size and direction of the regression paths were conceptually plausible and model fit indices were
acceptable. The indices used for estimating goodness of fit of the models were the
Standardised Root Mean Square Residual (SRMR < .06), Root Mean Square Error of
Approximation (RMSEA < .08; along with 90% confidence intervals) and Comparative Fit
Index (CFI > .90). Although CFI values greater than .90 are considered representative of a
well-fitting model (Bentler, 1992), values closer to .95 have been recommended as indicative
of good model fit (Hu & Bentler, 1999). If the more parsimonious model did not show
reduced fit to the data compared to the previous model (i.e., ΔCFI < .01 and ΔRMSEA < .015; Chen, 2007; Cheung & Rensvold, 2002) then we accepted the parsimonious model.
Satorra-Bentler scaled chi-square difference tests are also reported, however, these tests have
been shown to be overly strict with large sample sizes, therefore, more emphasis was placed
upon the interpretation of delta CFI and RMSEA (Brown, 2006; also see Gunnell, Bélanger,
& Brunet, 2016 for a comparable analytical procedure).

Results

2.5. Descriptive statistics

Means, standard deviations, and internal consistency values for all measurement
scales are presented in Table 1. All mean values, with the exception of subjective vitality,
were below the midpoint of their scales. Cronbach’s alpha values all demonstrated
satisfactory internal consistency (α > .70).

INSERT TABLE 1 HERE

2.6. Measurement model

Confirmatory factor analysis specified a measurement model (i.e., no paths between
latent factors), with all indicator items predicting their respective latent factor. Model fit
indices produced a well-fitting measurement model: $\chi^2 = 633.63; df = 309; \text{SRMR} = .05; \text{CFI} = .94; \text{RMSEA} = .04; (90\% \text{ confidence intervals: 0.036 - 0.045})$. Correlations between latent
factors are presented in Table 1. Teacher control was found to correlate positively with the
frustration of both needs and both types of disengagement, and negatively with vitality. In accordance with SDT, autonomy and competence frustration positively correlated with each other. Both autonomy and competence frustration negatively correlated with vitality and positively correlated with passive disengagement. Active and passive disengagement were moderately and positively correlated with each other. Standardised factor loadings and residual variances are presented in Table 2. All items were included in the subsequent analyses.

**INSERT TABLE 2 HERE**

**2.7. Primary Analysis**

Model fit indices, standardised regression coefficients and standard errors for every model are presented in Table 3. Model 1 (our fully forward model) showed acceptable fit to the data; however, the inclusion of all paths led to several parameter estimates suggesting relationships that were theoretically unlikely (possibly due to statistical suppression; MacKinnon, Krull & Lockwood, 2000). For instance, teacher psychological control positively predicted vitality, and autonomy and competence frustration both negatively predicted active disengagement. Removal of the direct effects from teacher psychological control to both disengagement types and vitality (Model 2) did not meaningfully reduce the fit of the model to the data (based on ΔCFI and ΔRMSEA) and produced conceptually defendable relationships; therefore, we rejected Model 1. Model 3 (removal of direct paths between competence frustration and both types of disengagement), Model 4 (removal of the path between autonomy frustration and passive disengagement), and Model 5 (our hypothesised model) similarly led to well-defined solutions, defendable conclusions, and limited reduction in model fit. As a result, we accepted our hypothesised model as the most parsimonious model.
In our proposed model, teacher psychological control was positively associated with autonomy and competence frustration (hypothesis 1). Based on criteria for establishing magnitude of indirect effects (Cohen 1988; Preacher & Kelley, 2011), a small to moderate indirect association was found between competence frustration and passive disengagement, via reduced pupil vitality ($\beta = .08, p = .01$; hypothesis 2). Our proposed direct association between autonomy frustration and active disengagement was found to only approach conventional levels of statistical significance (hypothesis 3). Reflecting the overall hypothesised process (hypothesis 4), a moderate indirect association between teacher psychological control to active disengagement via autonomy frustration was found, although only approaching conventional levels of statistical significance ($\beta = .09, p = .07$). The indirect association between teacher psychological control and passive disengagement through competence frustration and vitality was small to moderate ($\beta = .06, p = .01$).

**INSERT TABLE 3 HERE**

In models 2 and 3 we observed an unexpected direct association between autonomy frustration and passive disengagement that led us to consider this pathway further in an alternative model (see Model 6). This association is conceptually defensible, however, the inclusion of this path did not improve model fit. Furthermore, across Models 2, 3 and 6, the inclusion of this path led to other aspects of the model that were less theoretically defensible. Specifically, competence frustration had no association with passive disengagement despite considerable previous evidence suggesting the contrary (e.g., learned helplessness; Abramson et al., 1978; Elliot & Dweck, 1988). Consequently, we did not include the path between autonomy frustration and passive disengagement in our final model (Model 5) but could not rule out the meaningfulness of this observed relationship (which is depicted in Figure 1).

**INSERT FIGURE 1 HERE**

3. Discussion
The purpose of this study was to determine if passive and active disengagement were associated with perceived teacher control, and to examine if the frustration of pupils’ basic psychological needs of autonomy and competence would associate differentially with separate disengagement responses. No research to date has explored if the frustration of these psychological needs may trigger different maladaptive processes in school settings. The findings of the present study provide cross-sectional evidence for the potential association between these needs and active and passive disengagement processes.

In line with extant evidence (Jang et al., 2016), the present findings demonstrate that pupil disengagement is indirectly associated with teachers’ psychological controlling strategies, such as adopting guilt inducing tactics, disregarding pupil opinions and using criticism to pressure pupils. The use of teacher psychological control has been associated with a range of maladaptive learning outcomes including pupil amotivation and resistance to authority (Haerens, Aelterman, Vansteenkiste, Soenens, & Van Petegem, 2015), decreased academic engagement (Assor, Kaplan, Kanat-Maymon & Roth, 2005), and reduced enjoyment (Reeve & Jang, 2006). Yet despite this evidence, educators still regularly demonstrate, and often prefer, the use of psychological controlling strategies in the classroom (Newby, 1991; Reeve, 2009; Reeve & Assor, 2011; Taylor, Ntoumanis & Smith, 2009). The findings in the present study extend current knowledge by detailing potential mechanisms which may explain how psychologically controlling teaching may lead to passive withdrawal or active disengagement in classrooms. Specifically, the present study suggests that teachers’ use of psychological control will thwart, rather than support, pupils’ needs for autonomy and competence in the classroom. As a consequence, pupils that perceived their autonomy to be frustrated may become disruptive and disobedient, whereas perceived competence frustration may lead to pupil passivity in class.
Our findings illustrate that pupils who perceived that their competence was frustrated were rated as passive, daydreaming pupils by their teacher. Low perceived competence has been previously associated with feelings of learned helplessness (Elliot & Dweck, 1988), amotivation (Legault et al., 2006), and passive detachment from school (Patrick et al., 1993). In other words, pupils that feel they do not have the ability to be successful in the classroom may withdraw passively from learning activities in an attempt to hide their perceived incompetency and avoid failure. These pupils may attempt to avoid attention by becoming unwilling to answer questions, offer their opinion or attempt difficult tasks. Our results suggest that this relationship between competence frustration and passive disengagement may be a consequence of reduced vitality. That is, pupils that perceive themselves as a failure or being incapable in class will likely experience reductions in their vitality, resulting in passive classroom behaviour. These pupils will typically participate less in activities and may appear tired in class. As a result, such passive behaviours may actuate as a helpless response which may impede academic development and progression, often without the teacher’s awareness (Tam, Zhou, & Harel-Fisch, 2012).

In line with previous evidence found within the parenting domain (Barber, 1996; Pettit et al., 2001), autonomy frustration positively predicted active disengagement, albeit the relationship was borderline statistically significant considering conventional standards. Pupils lacking in autonomy may struggle to apply social rules and standards to their behaviour in the classroom (Ryan, Deci, & Vansteenkiste, 2016; Weinstein, Przybylski, & Ryan, 2012). For instance, pupils that feel forced to behave in regimented ways may become restless, disobedient and disruptive. Unlike competence frustration and passive disengagement, vitality did not play a role in this process. Rather, a threat to a person’s psychological freedom may result in reactive attempts to gain independence away from the source of the perceived threat and heteronomy (Pavey & Sparks, 2009). Therefore, pupils’ experience of
autonomy frustration manifests as active disengagement, disobedience and disruption. Pupils that experience autonomy frustration may actively disengage as a method of distraction from any negative feelings associated with perceived coercion (Skinner & Wellborn, 1997).

Throughout our analysis, support for an association between autonomy frustration and passive disengagement was observed; however, inclusion of this path in analytic models resulted in theoretically spurious associations among other variables. It may be that classroom constraints that are perceived to be coercive may also cause some pupils to passively switch off and daydream. Unlike competence frustration, this passive autonomy process may not be driven by reduced feelings of vitality, but rather signify a simple avoidance of the perceived heteronomous context and associated negative affect. Reasons why the inclusion of this association led to potentially spurious conclusions among the other variables remain unknown, but they were likely of a statistical nature.

3.1. Implications of the study

From a theoretical perspective, the different relationships of autonomy and competence frustration with vitality and active disengagement are noteworthy. This study represents the first empirical evidence that frustration of pupils’ competence and not autonomy may reduce vitality in the classroom. The obstruction of autonomy may potentially manifest in pupils’ reactance and rebellion towards the source of the perceived heteronomy (i.e., oppositional defiance; Vansteenkiste & Ryan, 2013). In contrast, competence frustration is not implicated in these rebellious processes and may manifest as passivity in the classroom. In addition, we observed that autonomy frustration may be associated with both active and passive disengagement. The concept of autonomy comprises affective and decisional components (Houlfort, Koestner, Joussemet, Nantel-Vivier, & Lekes, 2002). Passive reactions may represent avoidance of the negative affect associated with autonomy frustration. In contrast, the active and rebellious reactions may be initiated as a response to
the frustration of decisional aspects of autonomy (e.g., experiences of overt force to control
behaviour, such as threats of punishment; see Haerens, Vansteenkiste, Aelterman, & Van den
Berghe, 2016 for comparisons with internally versus externally controlling teaching).

From an applied perspective, identifying different disengaging processes associated
with autonomy and competence frustration can inform educators of the underlying reasons
for specific types of classroom disengagement. Some teachers may interpret psychological
control as an effective method of engaging pupils (Reeve et al., 2014), as a response to poor
pupil behaviour (Reeve, 2009) or motivation (Pelletier, Séguin-Lévesque, & Legault, 2002).

The moderate indirect effects sizes observed in the present findings highlight why this
approach may be counterproductive and may result in both active and passive disengaged
pupils. Thus, teacher directed interventions may be required to help teachers understand the
consequences of employing psychological control and teach them methods to avoid such
strategies (Hospel & Galand, 2016; Reeve & Assor, 2011). Teachers should not force pupils
to do activities, but demonstrate the relevance of learning activities, and provide the
opportunity for pupils to give their opinion without using controlling language (e.g. “you
must” or “have to”; Assor, et al., 2002; Reeve, 2015; Reeve & Assor, 2011; Reeve & Jang,
2006).

3.2. Future Directions

This study presented a number of findings concerning maladaptive teacher behaviours
and internal processes that lead to different types of pupil disengagement. A particular
strength of this study is the use of teacher reported pupil disengagement as it provides an
observed assessment of pupil disengagement, rather than relying on a self-report measure.
Nevertheless, the addition of independent classroom observations in future research may also
offer an alternative and complementary account of pupil disengagement (e.g., Allen et al.,
2013). Furthermore, we acknowledge that our teacher measures of pupil disengagement were
limited to two items. This allowed teachers to provide ratings for every pupil, however, larger multi-item scales (e.g. Caldwell, Rudolph, Troop-Gordon, & Kim, 2004; Jang, et al., 2016) may provide a more detailed examination of different types of classroom disengagement.

The cross-sectional nature of this study allowed us to explore associations with the frustration of autonomy and competence. Future studies may adopt a longitudinal method to explore if different disengaging processes are indicators of prolonged academic problems. For example, longitudinal work could investigate if the passive responses associated with competence frustration result in increased class truancy levels, school drop-out or decreased performance expectations over a longer time period. Similarly, active disengagement associated with autonomy frustration may be associated with increased classroom punishments, school suspensions and even school exclusions.

Finally, the concept of engagement versus disengagement is considered as a multidimensional paradigm comprising behavioural, cognitive, and emotional components (Fredricks, Blumenfeld & Paris, 2004; Skinner, Kindermann, Connell & Wellborn, 2009; Wang, Chow, Hofkens, & Salmela-Aro, 2015). The present study exclusively focused on teacher perceptions of behavioural components. Previous work has found perceived competence to be the only significant predictor of anxiety whereas autonomy was the only significant predictor of frustration (Skinner et al., 2008). Building on these findings, and previous research on achievement emotions and control-value theory (Pekrun, 2006), the addition of emotional and cognitive components may provide educators and researchers with an understanding of the negative feelings that may accompany these maladaptive behaviours.

4. Conclusions

The findings from the current study highlight distinct correlates of autonomy and competence frustration with two separate types of pupil disengagement. Teacher psychological control was found to be associated with both processes, stressing the
importance for schools and educators to avoid applying such psychological control in classrooms. Although most teachers may apply controlling strategies with the well-meaning intention of engaging pupils, the adoption of such control may promote pupils to become passively or actively disengaged in classrooms.

Notes

1 The processes under investigation are proposed to be universal (Deci & Ryan, 2000; Niemiec & Ryan, 2009) and there is no evidence to suggest that the processes vary across subjects. In addition, a MANOVA revealed very few subject differences in the mean levels of the study variables, apart from higher vitality and lower active disengagement in Physical Education classes, compared to the other classroom subjects. After controlling for these differences in PE, all substantive conclusions remained the same as our reported model.
References


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Table 1
Descriptive Statistics and Latent Factor Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
<th>α</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teacher Control</td>
<td>1-5</td>
<td>2.19</td>
<td>0.77</td>
<td>.84</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Autonomy Frustration</td>
<td>1-7</td>
<td>2.45</td>
<td>0.96</td>
<td>.78</td>
<td>.85***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Competence Frustration</td>
<td>1-7</td>
<td>2.24</td>
<td>1.01</td>
<td>.81</td>
<td>.74***</td>
<td>.88***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Vitality</td>
<td>1-7</td>
<td>4.69</td>
<td>1.36</td>
<td>.82</td>
<td>-.36***</td>
<td>-.47***</td>
<td>-.50***</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Active Disengagement</td>
<td>1-6</td>
<td>1.65</td>
<td>0.99</td>
<td>.84</td>
<td>.28***</td>
<td>.12*</td>
<td>.08</td>
<td>-.01</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6. Passive Disengagement</td>
<td>1-6</td>
<td>1.92</td>
<td>1.06</td>
<td>.84</td>
<td>.26***</td>
<td>.20***</td>
<td>.16***</td>
<td>-.13*</td>
<td>.56***</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: *p<.10, **p<.05, ***p<.001.
### Table 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor Loading</th>
<th>Residuals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teacher Control (TC)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My teacher is only willing to listen to opinions that match their opinion</td>
<td>.37</td>
<td>.86</td>
</tr>
<tr>
<td>My teacher always tries to change me</td>
<td>.48</td>
<td>.78</td>
</tr>
<tr>
<td>My teacher stops me before I have finished saying what I wanted</td>
<td>.65</td>
<td>.58</td>
</tr>
<tr>
<td>My teacher clearly shows that I have hurt their feelings when I do not meet their expectations</td>
<td>.46</td>
<td>.79</td>
</tr>
<tr>
<td>My teacher often interrupts me</td>
<td>.70</td>
<td>.51</td>
</tr>
<tr>
<td>My teacher makes me feel guilty when I do not please them</td>
<td>.66</td>
<td>.57</td>
</tr>
<tr>
<td>My teacher does not allow me to work at my own pace</td>
<td>.71</td>
<td>.50</td>
</tr>
<tr>
<td>My teacher avoids talking to me when I have disappointed them</td>
<td>.63</td>
<td>.60</td>
</tr>
<tr>
<td>My teacher interrupts me in the middle of activities that interest me</td>
<td>.70</td>
<td>.51</td>
</tr>
<tr>
<td>My teacher tells me what to do all the time</td>
<td>.63</td>
<td>.60</td>
</tr>
<tr>
<td><strong>Autonomy Frustration (AF)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel prevented from making choices about the way I learn.</td>
<td>.69</td>
<td>.52</td>
</tr>
<tr>
<td>I feel pushed to behave in certain ways.</td>
<td>.67</td>
<td>.55</td>
</tr>
<tr>
<td>I feel forced to follow decisions made for me.</td>
<td>.71</td>
<td>.49</td>
</tr>
<tr>
<td>I feel under pressure to agree with the school activities I am given.</td>
<td>.68</td>
<td>.54</td>
</tr>
<tr>
<td><strong>Competence Frustration (CF)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are situations where I am made to feel I am not good enough.</td>
<td>.73</td>
<td>.47</td>
</tr>
<tr>
<td>I don’t feel good enough because I am not given opportunities to fulfil my potential.</td>
<td>.66</td>
<td>.57</td>
</tr>
<tr>
<td>Situations occur in which I am made to feel I am incapable.</td>
<td>.73</td>
<td>.47</td>
</tr>
<tr>
<td>There are times when I am told things that make me feel that I lack ability.</td>
<td>.77</td>
<td>.41</td>
</tr>
<tr>
<td><strong>Vitality (Vit)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don't feel very energetic.</td>
<td>.55</td>
<td>.69</td>
</tr>
<tr>
<td>I have energy and spirit.</td>
<td>.70</td>
<td>.51</td>
</tr>
<tr>
<td>I look forward to this class.</td>
<td>.64</td>
<td>.60</td>
</tr>
<tr>
<td>I nearly always feel alert and awake.</td>
<td>.74</td>
<td>.46</td>
</tr>
<tr>
<td>I feel energised.</td>
<td>.84</td>
<td>.30</td>
</tr>
<tr>
<td><strong>Active Disengagement (Active)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In class, this student often speaks over others and makes a lot of noise</td>
<td>.83</td>
<td>.31</td>
</tr>
<tr>
<td>In class, this student argues with other students</td>
<td>.87</td>
<td>.25</td>
</tr>
<tr>
<td><strong>Passive Disengagement (Passive)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent does this student daydream in class</td>
<td>.73</td>
<td>.47</td>
</tr>
<tr>
<td>To what extent does this student switch off in class</td>
<td>.99</td>
<td>.01</td>
</tr>
<tr>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>TC &gt; AF</td>
<td>.90****</td>
<td>.92****</td>
</tr>
<tr>
<td>TC &gt; CF</td>
<td>.80****</td>
<td>.80****</td>
</tr>
<tr>
<td>TC &gt; Vit</td>
<td>.41**</td>
<td>-</td>
</tr>
<tr>
<td>TC &gt; Active</td>
<td>.96****</td>
<td>.21**</td>
</tr>
<tr>
<td>TC &gt; Passive</td>
<td>.47**</td>
<td>.23**</td>
</tr>
<tr>
<td>AF &gt; Vit</td>
<td>-.45**</td>
<td>.10</td>
</tr>
<tr>
<td>AF &gt; Active</td>
<td>-.51**</td>
<td>.32****</td>
</tr>
<tr>
<td>AF &gt; Passive</td>
<td>-.14</td>
<td>.27</td>
</tr>
<tr>
<td>CF &gt; Vit</td>
<td>-.48****</td>
<td>-.42**</td>
</tr>
<tr>
<td>CF &gt; Active</td>
<td>-.30**</td>
<td>-.11</td>
</tr>
<tr>
<td>CF &gt; Passive</td>
<td>-.15</td>
<td>.01</td>
</tr>
<tr>
<td>Vit &gt; Active</td>
<td>-.01</td>
<td>.08</td>
</tr>
<tr>
<td>Vit &gt; Passive</td>
<td>-.09</td>
<td>.09</td>
</tr>
</tbody>
</table>

χ²(df) = 697.23(310) 724.00(313) 724.11(315) 738.60(316) 734.27(318) 721.69(317)
S-Bχ²(df) = 697.23(310) 724.00(313) 724.11(315) 738.60(316) 734.27(318) 721.69(317)
SRMR = .053 .054 .054 .054 .054 .054
CFI = .926 .922 .922 .920 .921 .923
RMSEA = .044 .045 .045 .045 .045 .044
RMSEA 90% CI = [.040, .048] [.041, .049] [.041, .049] [.041, .050] [.041, .049] [.040, .049]

Note. χ²(df) = Chi-square and degrees of freedom; S-B = Satorra-Bentler Scaled Chi-Square Difference; SRMR = Standardized Root Mean Square Residual; CFI = Comparative Fit Index; RMSEA = Root Mean Square of Approximation; CI = confidence interval; TC = Teacher Psychological Control; AF = Autonomy Frustration; CF = Competence Frustration; Vit = Subjective Vitality; Active = Active Disengagement; Passive = Passive Disengagement. Chi-square difference was not reported between Model 5 and 6 as Model 6 was not nested within Model 5. * p < .10, ** p < .05, *** p < .01, **** p < .001.
Figure 1. Structural equation model depicting our hypothesised model (Model 5) with separate processes predicting active and passive classroom disengagement. The dotted pathway depicts an unexpected association between autonomy frustration and passive disengagement. Full inclusion of this path resulted in other aspects of the model becoming less theoretically defensible but we acknowledge the potential meaningfulness of this observed relationship. For brevity, latent factor indicators are not shown.

*p < .05, **p < .01, ***p < .001.