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The Roles of the Talent Development Environment on Athlete Burnout: A Qualitative Study

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Grounded on basic psychological needs theory (Deci & Ryan, 2000), this qualitative study investigated the impacts of the talent development environmental factors on athlete burnout. Talented youth athletes with high and low burnout levels ($n = 38$; each group had 19 participants) were recruited to attend focus-group interviews. Thematic analysis led to five environmental themes: long-term development focus, holistic quality preparation, support network, communication, and alignment of expectations. Athletes with high burnout levels were likely to experience more detrimental and less conducive talent development environmental antecedents compared to those who were with low burnout levels. It was concluded that the talent development environmental factors are important antecedents for burnout prevention.

Keywords: athletic development, environmental factors, needs, exhaustion, sport
The Roles of the Talent Development Environment on Athlete Burnout: A Qualitative Study

Athlete burnout is defined as “a syndrome of physical/emotional exhaustion, sport devaluation, and reduced athletic accomplishment” (Raedeke, 1997, p. 398). Physical and emotional exhaustion refers to feelings of extreme low energy and tired. Sport devaluation describes feelings of detached and negative attitudes toward sport. Reduced sense of accomplishment is conceived as feelings of lack of improvement and success. Studying athlete burnout is important as athlete burnout is negatively related to health (Cresswell & Eklund, 2006), sports performance (Gustafsson, Kenttä, & Hassmén, 2011), and sports participation (Boiché & Sarrazin, 2007).

Given the importance of studying athlete burnout, various models or theoretical frameworks such as cognitive-affective model (Smith, 1986), total-quality-recovery model (Kentta & Hassmen, 1998), perspective of stress and recovery (Kallus & Kellmann, 2000), and failure-adaptation model (Tenenbaum, Jones, Kitsantas, Sacks, & Berwick, 2003) have been proposed (see Gustafsson et al., 2011 for reviews of these models). These models generally suggest that athlete burnout is a result of maladaptation to overtraining or insufficient recovery (Goodger, Gorely, Lavallee, & Harwood, 2007). More recently, increasing research has applied basic psychological needs theory (BPNT) for studying athlete burnout (Li, Wang, Pyun, & Kee, 2013; Perreault, Gaudreau, Lapointe, & Lacroix, 2007).

BPNT provides a different perspective for understanding athlete burnout when compared to those aforementioned frameworks and models.

Needs Satisfaction and Burnout

According to BPNT (Deci & Ryan, 2000), people have three basic psychological needs: autonomy (the need to have ownership of actions and choices), competence (the need to feel competent in accomplishing optimally challenging tasks), and relatedness (the need to sense belongings and connectedness). BPNT posits that people’s three basic psychological
needs must be satisfied for positive functioning and growth (Deci & Ryan, 2000). On the other hand, needs dissatisfaction and even thwarting will result in negative outcomes such as burnout (Deci & Ryan, 2000). The tenets of BPNT have been supported by several empirical studies. Specifically, early studies have shown that needs satisfaction was negatively related to athlete burnout (e.g., Hodge, Lonsdale, & Ng, 2008; Perreault et al., 2007; Quested & Duda, 2011), whereas needs thwarting was positively associated with athlete burnout (e.g., Balaguer et al., 2012; Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011).

BPNT also considers the impacts of the environmental antecedents on needs satisfaction, dissatisfaction, and thwarting (Deci & Ryan, 2000). Positive environmental factors (e.g., parental support) will enhance one’s three basic psychological needs while negative environmental antecedents (e.g., lack of feedback) will negatively affect needs satisfaction. A close examination on environmental factors has been recommended to understand critical antecedents of athlete burnout (Curran, Appleton, Hill, & Hall, 2011; Quested & Duda, 2011). Guided by BPNT (Deci & Ryan, 2000), environmental antecedents of athlete burnout were examined in early research. Quantitative research has consistently showed that coaching environments such as interpersonal styles were associated with athletes’ burnout level (e.g., Balaguer et al., 2012; Quested & Duda, 2011). These quantitative findings support the tenets of BPNT.

A few qualitative studies also investigated the impacts of the environmental antecedents on athlete burnout through the lens of BPNT. Cresswell and Eklund (2006) interviewed adult New Zealand professional rugby players with various burnout levels and reported that burnout experiences were more likely to be found in players who failed to meet needs satisfaction of competence and autonomy due to situational and environmental demands (e.g., heavy training loads, injuries, and competitive rugby environments). These
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qualitative findings were replicated with adult professional rugby players from New Zealand and United Kingdom (Cresswell & Eklund, 2007a, 2007b). More recently, Gustafsson, Hassmén, Kenttä, and Johansson (2008) interviewed adult Swedish athletes and found that antecedents (e.g., multiple demands, lack of recovery, and high expectations) affected athletes’ competence and burnout experiences. In short, a qualitative approach examining environmental antecedents of athlete burnout has received little attention from scholars (Goodger et al., 2007).

Environment, Needs Satisfaction, and Burnout

One of the important contextual antecedents of athlete burnout may be the talent development environment. The talent development environment concerns every aspect of the environments, where athletes with athletic potential are situated (Henriksen, 2010; Martindale, Collins, & Daubney, 2005). Several talent development environmental factors that are important for effective talent development have been identified based on comprehensive literature reviews (Li, Wang, & Pyun, 2014; Martindale et al., 2005). These key talent development environmental factors were further conceptualized as a five-factor framework (Li, Wang, Pyun, & Martindale, 2015). The five factors are long-term development focus (e.g., fundamental development), holistic quality preparation (e.g., clear training guideline), support network (e.g., sports science support), communication (e.g., feedback), and alignment of expectations (e.g., goal setting; see Li et al., 2015).

According to BPNT (Deci & Ryan, 2000), environmental antecedents within the five-factor framework may affect athlete burnout via the three basic psychological needs. The characteristics of the five effective talent development environmental factors are to deemphasize winning, give choices in training, adjust goals regularly, provide tasks with optimal challenges, and offer interpersonal support (Li et al., 2015). These effective environmental antecedents are expected to nurture athletes’ autonomy, competence, and
relatedness. For example, de-emphasize on winning helps athletes to understand that winning is not very important at early developmental stages, which will enhance their autonomy. Offer training tasks with optimal challenges to athletes will help them develop their motor skills and competence. Provide interpersonal support will make athletes feel connected with others and facilitate their relatedness (Deci & Ryan, 2000). The three satisfied basic psychological needs will then help to prevent athlete burnout (Hodge et al., 2008; Quested & Duda, 2011). On the other hand, negative environmental antecedents (e.g., winning at all costs, unclear training guideline, and negative feedback) will negatively affect and even thwart athletes’ needs satisfaction, and consequently contribute to athlete burnout (Balaguer et al., 2012; Bartholomew et al., 2011). However, direct evidence regarding the impacts of the talent development environmental antecedents on athlete burnout was lack.

The Current Study

In summary, little attention has paid to investigate the environmental antecedents of athlete burnout from a qualitative perspective (Goodger et al., 2007). There was lack of direct evidence supporting the impacts of the talent development environmental factors on athlete burnout. Further, it has been suggested that future studies should compare environmental antecedents for athletes with different burnout levels (Eklund & Crewell, 2007). Therefore, this qualitative research aimed to explore the impacts of the talent development environmental factors on burnout experiences among athletes with low and high burnout levels. Specifically, how talented athletes with two contracting burnout levels experienced their talent development environmental antecedents were explored through focus group interviews. The interview findings were interpreted using BPNT (Deci & Ryan, 2000).

Method

Participants
Participants ($n = 38$, male = 20, female = 18) were talented youth athletes sampled from five schools hosting talent development programs in Singapore. Participants had a mean age of 14.08 years ($SD = 1.00$) and participated in a variety of sports such as basketball, football, hockey, shooting, and swimming. On average, participants had involved in their sport for 5.91 ($SD = 2.66$) years. They were purposefully selected based on their burnout scores measured by the Athlete Burnout Questionnaire (Raedeke & Smith, 2001). In line with the definition of athlete burnout, the scale measures three burnout factors: physical and emotional exhaustion, sport devaluation, and reduced sense of accomplishment (see Raedeke & Smith, 2001). Reliability and validity of the scale has been supported (e.g., DeFreese & Smith, 2014; Quested & Duda, 2011; Raedeke & Smith, 2001). The subscale score can range from 1 to 5. A higher subscale score indicates a greater burnout level (Raedeke & Smith, 2001). The three burnout factors showed adequate internal reliability with the current sample ($\alpha$s = .75 to .95).

As there were not well established cut-off values for determining high and low burnout levels, the criteria created in the early studies were followed (Cresswell & Eklund, 2006; Cresswell & Eklund, 2007b). Accordingly, the high burnout group ($n = 19$) referred to those players who had high scores on all burnout factors ($Ms = 3.43$ to 4.19, $SD$s = 0.44 to 0.60) and the low burnout group participants ($n = 19$) were those players who had low scores on all burnout factors ($Ms = 1.37$ to 2.41, $SD$s = 0.47 to 0.75). The results of independent $t$-tests showed that there was a significant difference in burnout scores between the two groups with very large effect sizes ($ps < .01$, $ds = 1.94$ to 6.06; Cohen, 1988). Thus, the sampling strategy enabled researchers to investigate how the perceived talent development environmental factors may lead to the two different burnout levels.

**Interview Guide and Procedures**
Ethics approval was obtained from the principal investigator’s institution. Before the
data collection, ethical clearance and informed consent were obtained. An interview guide
was developed based on the literature of talent development (e.g., Li et al., 2014; Martindale
et al., 2005) and past studies on athlete burnout (e.g., Gustafsson, Kenttä, Hassmen,
Lundqvist, & Durand-Bush, 2007). Questions of the interview guide mainly revolved around
the effects of respective talent development environmental factors on their perceptions of
burnout symptoms (e.g., “what were the factors that kept you in your sport?”). Follow-up
probes were used to obtain detailed responses. The interview guide is available from the first
author upon request.

Forty-six athletes were contacted via their head coach or department head, and 38 of
them agreed to attend focus group interviews. Eight participants declined to attend the
interview because of their tight schedule. The interviews were arranged about 2 to 4 weeks in
advance under the help of head coaches or department heads. Participants from the same
school formed a focus group for eliciting more discussions among them (Krueger & Casey,
2000). Each focus group had six to ten participants, and the group size was considered
suitable (Krueger, 1994). Given the suitable size of each focus group and the good sampling
strategy (i.e., between group differences were well controlled), five interviews were
conducted to achieve “data saturation” (Zeller, 1993). Namely, no new codes emerged after
completing the five interviews. All focus group interviews were conducted in quite
classrooms or consulting rooms, where group members sat around a table to make them feel
at ease. Using focus group interviews has several advantages: (a) the technique allows
researchers to tap the views of a number of participants in groups; (b) this method provides
information derived from interactions among participants; (c) the interviewing approach
offers a relative “safe” forum for participants to express their views; and (d) participants may
feel to be supported in a sense of group memberships (Krueger & Casey, 2000).
A primary researcher and/or a sport psychologist conducted and coordinated all the interviews. Before commencing on an interview, participants were informed the objective of the interview, the procedure, and their right to refrain from answering any questions. All the interviews were audio-taped, and written field notes were also taken (Krueger, 1994). The term burnout was not mentioned once participants understood the term to minimize the sensitivity of being stigma of burnout (Gustafsson et al., 2008). Instead, this sensitive term was replaced by other terms such as “motivation loss” and “negative feelings at this stage” (Cresswell & Eklund, 2007b; Gustafsson et al., 2008). All the interviews were conducted in English, and the duration of interviews ranged from 44 to 82 \( (M = 60) \) minutes.

Data Analysis

The audio tapes and field notes were converted to verbatim transcriptions. To ensure that participants’ responses were kept confidential, each participant was assigned by a unique code. For example, H1 referred to the first interviewee in the high burnout group, and L2 referred to the second interviewee in the low burnout group. Thematic analysis was used for analyzing the transcribed data. Both inductive and deductive analytic approaches were applied (Hsieh & Shannon, 2005). The inductive analysis was first conducted without trying to fit into the five-factor framework of the talent development environment. The inductive approach included three steps: (a) coding participants’ statements according to their key concepts, (b) combining the coded concepts, and (c) refining the identified themes (Fiese & Bickman, 1998). Deductive analysis was then employed to identify the themes in the data in light of the five-factor framework (e.g., Li et al., 2015) after the inductive approach. The use of both inductive and deductive approaches ensured that data analysis was guided by both the collected data (athletes’ descriptions of their experiences) and the theory (the five-factor framework). The data were analyzed by the primary researcher. However, to avoid subjectivity and potential bias of data interpretations, another sport psychologist who has
expertise in qualitative research reviewed and agreed the primary researcher’s explanations on the data (Marshall & Rossman, 2006).

Trustworthiness

Trustworthiness was established through several steps. Firstly, open-ended questions were carefully structured to ensure truly open-ended responses from our participants (Patton, 2002). Secondly, the primary researcher and the sport psychologist were well trained in qualitative research methods, and they conducted all the interviews. As such, they were able to generalize discussions on the interview questions (Patton, 2002). Thirdly, more than one focus groups were conducted, and the results were sent back to some of the participants ($n = 18$), also known as member checks, to see if any changes were required to establish the credibility of the findings (Krueger, 1994; Patton, 2002). Those participants required no further changes. Finally, the preliminary findings were verified by the other two independent researchers. They discussed the identified dimensions and sub-themes to reached consensus (Marshall & Rossman, 2006).

Results and Discussion

Similarities and differences in the raw data were conceptualized and led to 18 sub-themes, and these sub-themes were represented by five higher-order dimensions of the talent development environmental factors that influenced burnout experiences. The five dimensions were long-term development focus, holistic quality preparation, support network, communication, and alignment of expectations. The results support the five-factor framework of talent development environment (Li et al., 2015). A breakdown of the five dimensions was presented in Table 1. Most sub-themes were common across the two burnout groups, and a few were unique in either group. Environmental antecedents between the two groups were compared if they shared a common sub-theme. Each of the dimensions and sub-themes are explained in detail below.
Long-Term Development Focus

According to Ericsson (2007), it takes a long-term journey, may be ten years, for athletes to achieve sporting success. The dimension of long-term development focus represents the extent to which talent development programs are specifically designed to facilitate long-term sporting success (Li et al., 2015). Four sub-themes under this dimension emerged: selection pressure, developmental rationales, mistakes, and winning.

Selection pressure. It has been suggested that practitioners should select as many youth talents as possible to let them involve in training and competitions, as well as to maintain the size of talented pool in talent development programs (Martindale, Collins, & Abraham, 2007). Several athletes in the high burnout group, however, described that they had huge pressure from selection process for competitions or from securing a starting position. These athletes were unable to control the situation, which made them feel exhausted. One athlete explained: “I don’t think I’m good enough to secure my position. Sometimes I was replaced” (H8). This result is similar to the previous studies showing that adult or professional athletes with a high burnout level had to live up to the selection or non-selection issue (e.g., Cresswell & Eklund, 2007b; Gustafsson et al., 2008).

It was interesting to find that a few athletes in the high burnout group mentioned that they never worried about the selection because they performed better than their teammates: “I don’t have pressure in selection, because generally I’m selected for competitions” (H1). Most of the athletes with low burnout scores showed no or low pressure from being selected. One athlete commented: “My teammates feel under pressure because I’m always in the starting list” (L2). The current study adds to the literature that one’s ability in sports may compound the selection pressure. It seems that athletes who were usually selected had lower selection pressure compared with those who were seldom selected. In short, the selection pressure might attribute to a high burnout level for some athletes. When these athletes were unable to
control the selection pressure and their autonomy was negatively affected (Deci & Ryan, 2000).

**Developmental rationales.** Providing the rationale for long-term development is a feature of the effective talent development (Martindale et al., 2005). Many interviewees in the high burnout group did not realize the pathway to be an elite performer is very long. This made them feel incompetent and thwarted their competence. On the contrary, a few participants in the low burnout group mentioned that they knew that it could take a long time for them to be a good athlete and/or to be involved in a high-level competition. For example, L11 made a remark: “Why I’m not selected, because I’m not as good as other players.” Thus, providing rationales for the long-term athletic development may be perceived to be a positive antecedent for preventing burnout via needs satisfaction. Needs satisfaction of athletes was believed to be enhanced through receiving rationales for athletic development (e.g., Adie, Duda, & Ntoumanis, 2012; Kipp & Weiss, 2013).

**Mistakes.** A few interviewees with high burnout scores stated that they were afraid of making mistakes in training or competitions because they would be punished if they made mistakes. For example, H8 mentioned that “We are not allowed to make mistakes. If you make mistakes in today’s match, the next day you will definitely get in trouble”. This finding was contrary to the effective feature of long-term development focus, as the athletes were neither allowed to make mistakes nor given long-term opportunities to train or compete. Early studies showed that limited long-term opportunities were credited with causing athlete burnout (Gould, Tuffey, Udry, & Loehr, 1996; Gustafsson et al., 2007). This is because athletes’ autonomy could not be fulfilled when they were given limited long-term development opportunities or lack of ownership for their own development (Ryan & Deci, 2000).
Winning. Many interviewees with low burnout levels mentioned that their coaches required them to focus on improving skills and deemphasizing on winning. Below were a few examples: “He [coach] doesn’t emphasize too much on winning or beating others. But, he says that he wants to see our efforts” (L3); and “He [coach] doesn’t emphasize too much on winning. He asks us to try our best’ (L4). In the case that the coach did not focus on winning, it could be because the team was strong and he/she did not have to worry about the winning or losing. One athlete explained: “Our coach doesn’t really emphasize on winning. Our team is quite strong” (L5). Consequently, the positive experience that coaches deemphasized on winning may help athletes to avoid burnout. Past studies also supported deemphasizing on winning was a negative predictor of burnout (e.g., Isoard-Gautheur, Guillet-Descas, & Duda, 2013; Reinboth & Duda, 2006). According to BPNT (Deci & Ryan, 2000), knowing the rationale that winning was not important at the early stage of development enhanced athletes’ autonomy and thus helped them to prevent burnout.

Holistic Quality Preparation

This dimension represents the extent to which talent development programs are holistically prepared both inside (e.g., coaching) and outside (e.g., social lives) the sports setting (Li et al., 2015). The dimension consisted of four sub-themes: demands, overtraining, good coaches, and social lives.

Demands. Many student-athletes in the high burnout group mentioned that time was a big demand for sports participation even they realized the importance of training. For example, “During terms 2 and 3, the training was just too much. I was trying to keep up with the training schedule. But I didn’t go for training often during that time, because I didn’t have too much time” (H6). A school demand was another factor that distracted some athletes’ training and made them feel stressed and tired: “Study is another main source making me feel stressed. I’m only good at certain subjects…” (H10). It seems that the school demand was a
unique environmental antecedent among our student-athletes. This antecedent was not found in early studies with adult professional players (e.g., Cresswell & Eklund, 2006, 2007a).

On the contrary, most interviewees in the low burnout group either perceived lower demands from training or study, or were able to cope with the demands as illustrated by the example below: “Besides school and sports, I don’t have other things to do. It is quite easy for me” (L9). A few participants with low burnout scores added that during the period of examination, they felt more anxious and stressed. L18 stated that “I get distracted sometimes especially during the exam period…you can’t really focus on your training”. In short, the interviewees with high burnout scores generally perceived more demands for time and study than the low burnout group. They also felt obligations to invest efforts on sports training when they concurrently had other demands such as spending time on learning. As such, they might feel lack of control for the demands, which undermined their autonomy (Deci & Ryan, 2000).

**Overtraining.** Many participants with high burnout levels indicated that they were excessively trained and/or lack of recovery. H19 complained that: “The training hours are too long.” The long training hours indirectly shortened their sleeping hours: “I spend most of my time on training and have no time to sleep…I will go home and sleep whenever there’s no training” (H9). Lack of sleep and poor recovery negatively influenced the interviewees’ training motivation: “There is really no time for recovery. After you recover over the weekend, Monday comes and everything starts again. The night before the training, I feel like I don’t want to go training” (H5). This is supported by previous studies that the continuing fatigue caused by overtraining and lack of recovery led to athlete burnout (Cresswell & Eklund, 2006; Gould et al., 1996).

More reasonable training loads and sufficient recovery, on the other hand, were found in the low burnout group. Several athletes indicated their satisfaction with training loads and
sufficient recovery: “I train about 2.5 hours per session. The training load is OK” (L1). High-quality recovery was important for motivating athletes to participate in training: “Usually, it [the tired feeling] doesn’t last for very long…and we recover. We just really want to go for training again” (L7). To sum up, the findings highlighted that overtraining and/or insufficient recovery may result in burnout through the reduced satisfaction of competence. The insufficient recovery might make athletes feel incompetent and inefficient in completing optimally training tasks, which subsequently affected their satisfaction of competence (Ryan & Deci, 2000).

**Good coaches.** Many athletes in the high burnout group expressed their disappointments, mentioning that they did not have good coaches to build necessary techniques and skills at their levels. For instance, H1 commented: “My coach can’t coach actually”. Failing to provide an authentic program to help athletes master or improve skills influenced their needs satisfaction of competence (Ryan & Deci, 2000). A few interviewees were unhappy with their coaches because they were criticized or punished by their coaches. An athlete (H15) added that the criticism made him feel controlled and affected his motivation in training. A repetitive training routine also undermined a few athletes’ training motivation: “We train every day and subsequently the same thing over and over again. That is boring” (H16). According to past research (Mouratidis, Lens, & Vansteenkiste, 2010; Podlog & Dionigi, 2009), behaviors such as scolding, punishment, and lack of choices in training were found to negatively affect athletes’ autonomy.

For the low burnout group, most interviewees expressed their satisfaction with the coaches such as rich experiences and improvement of weaknesses. A few examples were highlighted as follows: “The coach is good. Basically, she has more experiences than my previous one” (L6); and “My coach is good. She knows our weaknesses well, and she tells us how we can improve” (L16). However, a few interviewees with low burnout levels who were
keen to improve their skills noted that they were unsatisfied with their current coaching programs because they were not sophisticated enough. Taken together, the athletes instructed by low-level coaches were less likely to fulfill their basic psychological needs because of the low-quality training programs and controlling behaviors (e.g., scolding, punishment, and lack of choices). On the other hand, having a coach who provided a right coaching program was a good source to build athletes’ competence to avoid burnout.

**Social lives.** Sacrificing social and recreational activities were found to positively predict burnout (e.g., Gould et al., 1996; Gustafsson et al., 2008). In the current study, a few interviewees with a high burnout level described that they were forced to sacrifice their social lives and spend more time on training: “I have a long-term relationship with my batch mates. Occasionally, we eat outside together. We did more during year 1. Nowadays, we don’t have too much time to do that” (H6). Athletes who had no or little time off to stay with friends tended to have a higher burnout level. This is because these athletes were asked to give up recreational activities and social relations, which lowered their degree of autonomy and relatedness (Deci & Ryan, 2000).

**Support network**

This dimension concerns the extent to which a coherent and approachable support network is available for athletes (Li et al., 2015). Four sub-themes of the dimension emerged: school support, facilities and equipment, parental support, and peer support.

**School support.** A few players who reported high burnout scores believed the inflexible school policy that never allowed them to switch to the other sports event caused bad feelings and undermined their motivation to continue sports participation: “I was forced to choose my current sport [discus]” (H4). Similar to H4’s descriptions, H2 commented: “I don’t want to play this sport [volleyball] anymore. I prefer to play soccer, but I’m not allowed to change”. This supports the finding by Coakley (1992) that the social organization of sport
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(e.g., the school policy inhibits athletes’ control over their sports participation) predicted burnout. According to BPNT (Deci & Ryan, 2000), the refrained choice to switch to others sports will undermine athletes’ autonomy.

In the low burnout group, several interviewees perceived that they had received support from schools and teachers, which relieved their stress and pressure: “They [teachers] will talk to us and comfort us during our stressful time” (L9). Athletes who were living inside schools reported they were able to get close to their classmates or teammates and to build friendship with them (e.g., L15: “It has been OK to stay in the school. I get to know more people and my friends better”). Overall, athletes’ autonomy was affected by the inflexible school policy, which did not allow them to change to other sports. Athletes in the low burnout group were supported by the school policy. The school played an important role in enhancing athletes’ autonomy and relatedness as well as in reducing their burnout experiences.

Facilities and equipment. A few interviewees in the high burnout group complained that they had insufficient training facilities. The problem affected their training and emotion. Athletes with high burnout levels might want to participate in training more often but they were unable to control the facility and/or venue issue, which appeared to reduce their degree of autonomy (Podlog & Dionigi, 2009). On the contrary, players with low burnout levels reported they had enough training facilities. A female athlete expressed her happiness with the easy accessibility to her training venue and the flexibility of her training program: “The training venue is just right opposite our campus…when it rains, we can’t train in that room and we will do drills instead in other places” (L7). Therefore, the insufficient training facilities might affect athletes’ autonomy and competence in sports participation because they were unable to fix the issue and had fewer opportunities to develop their motor skills, which in turn caused burnout.
Parental support. Negative parental support was occasionally found in the high burnout group. The negative parental support might increase players’ burnout level. For example, H17 described her parents were not supportive in her sports participation: “They [parents] will keep asking me why not you just keep off from the track for a while and just focus on your study. I have pressure to perform well from them”. This example illustrated how the lack of parental support contributed to burnout and supports the previous findings (e.g., Goodger et al., 2007; Gould et al., 1996). In general, most interviewees from both groups expressed their positive experiences regarding parental support (e.g., support athletes on the spot, provide informational support, and comfort bad feelings). These parenting behaviors can be characterized as autonomy-supportive styles facilitating needs satisfaction because they conveyed caring, encouraging, confidence, and acceptance to athletes (Deci & Ryan, 2000).

Peer support. Influences of peers and teammates on burnout have received increasing attention from scholars (e.g., DeFreese & Smith, 2014). Most of the interviewees with low burnout levels generally described they received support from their teammates, role models, and/or siblings. The peer support produced many benefits such as enhancing friendships and motivation. However, a few interviewees in the high burnout group showed low sense of belongings with their teammates. They just played alone or played with other people outside the team: “I just don’t bother other teammates during basketball training. I go out swimming with other people who are not my teammates” (H7). The nature of sports they were involved could contribute to this behavior or phenomenon, as explained by H4: “We [my teammates and I] just do our own work because of the nature of my sport [discus]. We don’t work very closely to each other”. In short, in an effort to avoid burnout, it might be of significance to provide peer support as a source to facilitate athletes’ relatedness. The nature of sport might influence the positive interactions among teammates.
Communication

Communication refers to the extent to which coaches communicate effectively with athletes in both formal and informal settings (Li et al., 2015). The dimension had three sub-themes: communication climates, feedback, and “mute” coaches.

Communication climates. Coaches and athletes can be communicated in either an autonomy-supportive way (e.g., acknowledgement of personal feeling) or a controlling fashion (e.g., nonverbal criticism; Mouratidis et al., 2010). According to H5, athletes in the high burnout group felt controlled and incompetent when they were forced to do something that they were not good at: “It is more about what my coach wants, and I have no choice. It is about what he asks you to do, and you just do it”. Even when athletes were asked to provide inputs about their training programs, they perceived that as a negative experience because their coaches never considered the provided inputs: “He [coach] never used our suggestions. That wastes our time; anyhow, don’t ask us” (H10). These results were in line with the findings from the early studies (e.g., Balaguer et al., 2011; Gould et al., 1996). They found that the negative communication climates such as failing to understand athletes and take athletes’ perspectives caused burnout.

In the low burnout group, a few participants mentioned that a balance between good and bad communications was acceptable: “There is a balance between the good and bad stuff” (L17). Sometimes, knowing or understanding coaches well helped athletes to get rid of bad moods as remarked by L4: “I hope my coach don’t shout so much in future. I have known him for long and I quite get used to it, but other athletes who don’t really know him will feel scared”. To sum up, a more autonomy-supportive communicating style (e.g., taking athletes’ perspectives and better understanding of coaches) should be implemented. This is important as ineffective communication styles frustrate athletes’ needs satisfaction (Mouratidis et al.,...
To this end, using the autonomy-supportive communicating fashion may help athletes to relieve and avoid burnout symptoms.

**Feedback.** Several interviewees with high burnout scores mentioned that they were discouraged by their coaches’ controlling feedback. For example, “My coach often says that I have been training for so long but without making any progress” (H7). On the other hand, coaches provided timely feedback with useful tips during training for the low burnout group: “Rather than just let our problems carry on, he [coach] has been quite good and given quite a lot of reminders to help us solve the problems timely” (L10). The positive feedback increased the training effectiveness and improved athletes’ skills, satisfying their needs of competence (Carpentier & Mageau, 2013). One female athlete with low burnout commented that simple encouragement with considerate tone of voice from coaches relieved her tiredness especially during the high intensity training sessions: “Sometimes during the hard training sessions, she compliments us. That makes us feel happy about our performance” (L17). According to Carpentier and Mageau (2013), feedback with a considerate tone of voice was defined as an autonomy-supportive behavior. Thus, the findings from this study suggest that timely feedback with useful tips and a considerate tone of voice may be used to increase athletes’ autonomy and competence, which help to prevent burnout.

**“Mute” coaches.** Many interviewees in the high burnout group stated that their coach were like a stranger who rarely talked to them, or the conversations between them were only limited to a very general topic. This was illustrated by H5: “When we see the coach in the training, we are likely to say ‘hi coach!’ and after training we say ‘goodbye coach!’ That’s all”. In this situation, these athletes felt that they were not cared, which negatively affected the coach-athlete relationship and relatedness (Mageau & Vallerand, 2003). On the other hand, an interviewee in the low burnout group mentioned that although her coach did not talk to her often, she felt comfortable because she understood the rationale behind that: “She
[coach] is more likely to talk to you only when you shot badly without knowing why and when you feel frustrated about your performance” (L6). According to previous studies (e.g., Carpentier & Mageau, 2013; Mouratidis et al., 2010), it could be useful for athletes to be explained by coaches regarding why they were not provided with feedback. This communication style was considered as a positive behavior facilitating athletes’ needs satisfaction (Mouratidis et al., 2010).

Caring coaches. Gustafsson et al. (2008) reported that athletes with high burnout scores described their coaches were lack of caring (e.g., no interactions between athletes and coaches outside training). Although this event was not found in the high burnout group, the current study showed that several interviewees in the low burnout group described their positive experiences with their coaches both within and outside training settings. The interacting experiences enhanced the coach-athlete relationship as supported by the following quotes: “I have strong emotional bond with my coach. We are chatting more than just training; some are about my school and life” (L6). In addition, many interviewees with low burnout scores described that they interacted more with their coaches, which enhanced the positive coach-athlete relationship. For example, L9 remarked: “During training he [coach] is very strict... However, outside training, he acts like a friend… That makes us feel good”. This finding was supported by previous studies (e.g., Creswell & Eklund, 2006, 2007). Obviously, the positive coach-athlete interaction made them sense independent and close to their coaches. Hence, caring coaches who made athletes feel being connected may be a positive event to increase their relatedness and then to prevent burnout.

Alignment of Expectations

The dimension of alignment of expectations refers to the extent to which goals for talent development are set and aligned coherently (Li et al., 2015). This dimension had two sub-themes: expectations toward athletes and individual goals.
**Expectations toward athletes.** Some high burnout interviewees expressed that they felt pressured to meet their coach’s expectations. For example, one athlete said: “Our coach expects too much. You know that he mentioned winning or losing doesn’t matter, but he wants us to get the championship title” (H9). Sometimes, athletes felt controlled, as there were discrepancies between a coach’s expectations and an athlete’s goals. A few athletes with high burnout levels also perceived pressure from their parents’ high expectations resulting in incompetence: “My parents hope I can become a good athlete as well as to do well in my study. But I don’t think I can make both” (H1). An excessive expectation was also found to be a predictor of athlete burnout in past research (e.g., Goodger et al., 2007; Gustafsson et al., 2008). These athletes might feel controlled and incompetent when they were unable to realize those unrealistic expectations set by their parents and/or coaches, which led them to burnout.

On the contrary, several interviewees in the low burnout group perceived no demands of expectations from their coaches and parents: “He [coach] sets realistic goals” (L9); and “My parents don’t have a high expectation on me, and they just want me to enjoy the game” (L1). Hence, a more realistic goal may be set to avoid needs frustrations for autonomy and competence.

**Individual goals.** Most participants in the high burnout group mentioned that although there were goals for the team, their coaches rarely set a personal goal for each athlete. Even in the case that a personal goal was set, the goal was difficult for an athlete to achieve. For the athletes in the low burnout group, their coaches set personal and task goals that focused on self-improvement: “Her [coach] goal is to help you stay calm before you shoot. It isn’t that kind of goal that you should shot 10” (L6). Setting a personal goal based on one’s own experiences enhances sport performance (Martindale et al., 2007), which may indirectly reduce the feelings of lack of accomplishment. In addition, a strong self-referenced goal was negatively related to athlete burnout. This is because a self-referenced goal helps
athletes to focus on self-improving, which is more controllable compared to an ego-involving goal such as beating others (Isoard-Gautheur et al., 2013; Reinboth & Duda, 2006). As such, setting an individualized and task goal is helpful for improving athletes’ sports performance and competence (Deci & Ryan, 2000).

**General Discussion**

Grounded on BPNT (Deci & Ryan, 2000), this qualitative study was innovative to compare the talent development environmental antecedents between youth athletes with high and low burnout levels. The results led to five effective talent development environmental dimensions (i.e., long-term development focus, holistic quality preparation, support network, communication, and alignment of expectations) that were consistent with the literature (Li et al., 2015). Consistent with BPNT (Deci & Ryan, 2000), the participants with high burnout levels tended to confront with more negative and less positive environmental antecedents, which frustrated and even thwarted their needs satisfaction, and subsequently resulted in burnout experiences. Conversely, the participants with low burnout levels were likely to experience more positive and less negative environmental antecedents. Therefore, our findings support the tenets of BPNT and the link between the five talent development environmental factors and athlete burnout. Findings of current research provide the first qualitative evidence regarding the roles of the five talent development environmental factors on athlete burnout.

Some identified burnout antecedents such as selection pressure and overtraining from this study were similar to those from previous studies (e.g., Cresswell & Eklund, 2006; Gustafsson et al., 2008). That means, these antecedents could be salient in predicting athlete burnout even the participants’ characteristics (e.g., age, sports, and culture) of the current research were different from those of the past studies. On the other hand, many of the identified burnout antecedents were unique in this research (e.g., developmental rationales
and mistakes). These findings highlight the significance to further investigate environmental antecedents of burnout (Goodger et al., 2007).

It is interested to found that although some athletes might be situated in a similar talent development environment, they had different burnout levels. The intrapersonal factors such as perfectionism trait may contribute to the difference (e.g., Gould et al., 1996; Gustafson et al., 2008). Another interesting finding is that athletes who had low burnout levels also suffered from negative environmental antecedents (e.g., time demand), whereas athletes with high burnout levels also benefited from positive environmental antecedents (e.g., parental support). Given the participants with high burnout levels tended to confront with more negative and less positive environmental antecedents than the low burnout group, it seems that there was a “dose effect” regarding the impacts of the environmental antecedents on athlete burnout. Further, the positive experiences may help buffer the negative ones.

Limitations and Implications

There are several limitations and implications of this study. First, although some contextually sensitive data or findings were derived from this study (Marecek, 2003), the results are related to talented young athletes in Singapore and might not be generalized to other populations. However, there is potential to transfer the study findings to other contexts given the similarity of youth sports settings (e.g., building fundamental skills during early stage of talent development).

Second, using retrospective interviews for data collection was one limitation of this study. This method relies heavily on participant recall (Jonson & Sherman, 1996). Participant recall can be influenced by a variety of factors such as one’s satisfaction with sports (Cresswell & Eklund, 2006). Nevertheless, it is important to emphasize that the use of this method rather than intervention studies for investigating burnout experiences was necessary given the ethnical limitations for conducting research (e.g., purposely inducing burnout...
syndromes in an intervention study is unethical; Gustafsson et al., 2008). Alternatively, future studies may use prospective interviews. It might be also useful to adopt a longitudinal design to prospectively examine potential factors that may lead athletes who are situated in a similar context (e.g., schools, parents, and coaches) to different burnout levels.

Finally, this study identified various positive and negative talent development environmental events affecting athletes’ needs satisfaction and then contributed to burnout (see Table 2). As there were large variations in terms of experiences reported across the participants, the identified events were not intended to represent all participants. It might be possible that the events could be antecedents and/or consequences of burnout syndromes because of the person-environment interactions (Bronfenbrenner, 2005) and the dynamic nature of burnout (Cresswell & Eklund, 2007b). Regardless of that, these identified events are likely to be adopted by practitioners for preventing or avoiding burnout from a practical perspective. Significant others (e.g., coaches and parents) are suggested to avoid giving high selection pressure to athletes, overtraining athletes, providing athletes discouraging feedback, discoursing athletes’ sports participation, and setting unrealistic goals or expectations for athletes. Instead, they are recommended to provide athletes the rationale of long-term development, reasonable training loads, positive personal support and feedback, and individualized and task goals.

Conclusions

Findings of this qualitative research attest to the five-factor framework of talent development environment and the tenets of BPNT. Athletes in the high burnout group are likely to experience more detrimental and less conducive talent development environmental antecedents compared to the low burnout group. The current research sheds light on how to better prepare talented athletes to elite levels by facilitating their needs satisfaction and avoiding burnout through providing positive talent development environmental events.
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Table 1

*Overview of General Dimensions and Sub-Themes among Participants*

<table>
<thead>
<tr>
<th>General dimension</th>
<th>Sub-theme</th>
<th>Common/unique sub-theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-Term Development Focus</td>
<td>● Selection pressure</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Developmental rationales</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Mistakes</td>
<td>High burnout group</td>
</tr>
<tr>
<td></td>
<td>● Winning</td>
<td>Low burnout group</td>
</tr>
<tr>
<td>Holistic Quality Preparation</td>
<td>● Demands</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Overtraining</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Good coaches</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Social lives</td>
<td>High burnout group</td>
</tr>
<tr>
<td>Support Network</td>
<td>● School support</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Facilities and equipment</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Parental support</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Peer support</td>
<td>Both groups</td>
</tr>
<tr>
<td>Communication</td>
<td>● Communication climates</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Feedback</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● “Mute” coaches</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Caring coaches</td>
<td>Low burnout group</td>
</tr>
<tr>
<td>Alignment of Expectations</td>
<td>● Expectations toward athletes</td>
<td>Both groups</td>
</tr>
<tr>
<td></td>
<td>● Individual goals</td>
<td>Both groups</td>
</tr>
</tbody>
</table>
Table 2

*Events Related to the Burnout Groups within a Needs Satisfaction Framework*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>High burnout group</th>
<th>Low burnout group</th>
<th>Relations to needs satisfaction/thwarting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-Term Development Focus</td>
<td>● High selection pressure</td>
<td>● Low/no selection pressure</td>
<td>Autonomy, competence, and relatedness</td>
</tr>
<tr>
<td></td>
<td>● Lack of long-term developmental vision</td>
<td>● Understanding of the rationale of long-term development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Afraid to make mistakes</td>
<td>● “Dilution” of winning</td>
<td></td>
</tr>
<tr>
<td>Holistic Quality Preparation</td>
<td>● Time, travelling, and/or study demands</td>
<td>● Manageable time and study demands</td>
<td>Autonomy, competence, and relatedness</td>
</tr>
<tr>
<td></td>
<td>● Excessive training and insufficient recovery</td>
<td>● Reasonable training load and sufficient recovery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Inappropriate training guidance</td>
<td>● Proper training programs</td>
<td></td>
</tr>
<tr>
<td>Support Network</td>
<td>● Inflexible school policies</td>
<td>● Positive school and teacher’s support</td>
<td>Autonomy and relatedness</td>
</tr>
<tr>
<td></td>
<td>● Short of training facilities/venues</td>
<td>● Sufficient training facilities/venues and easy accessibility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Negative parental support</td>
<td>● Positive parental support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Low senses of belongings</td>
<td>● Good peer support</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>● Controlling climate</td>
<td>● Autonomous climate</td>
<td>Autonomy, competence, and relatedness</td>
</tr>
<tr>
<td></td>
<td>● Discouraging feedback</td>
<td>● Timely and formative feedback</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Lack of feedback</td>
<td>● Easy communication and interaction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● “Mute” coaches</td>
<td>● Caring coaches</td>
<td></td>
</tr>
<tr>
<td>Alignment of Expectations</td>
<td>● High expectations</td>
<td>● Realistic goals</td>
<td>Autonomy and competence</td>
</tr>
<tr>
<td></td>
<td>● Conflicting goals</td>
<td>● Individualized and task goals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>● Lack of personal goals</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* These events were not found in all participants.