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Attrition in School Rowing in New Zealand: A Qualitative Descriptive Study

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Abstract

It is widely acknowledged that involvement in sport has positive physical and psychosocial benefits for adolescents. However, concerns have been expressed, both in New Zealand and internationally, about the relatively high attrition rates in youth sport. This qualitative study captured the experiences of eight (five male, three female) adolescents who were no longer participating in high school rowing programs in New Zealand. Data were gathered through semi-structured interviews, and we conducted an inductive thematic analysis. A secondary analysis was then conducted using a self-determination and basic psychological needs framework that placed specific emphasis on need satisfaction and need thwarting. Key findings from this study suggest that participants' experiences of rowing were initially positive but were subsequently influenced by dissatisfaction and thwarting of basic psychological needs. The findings confirm the significance of coaches and parents providing an environment that supports young athletes' needs for relatedness. Concerns are also raised about the potentially damaging effects of weight-restricted sport for adolescents. By drawing upon athlete voice, it is hoped that the findings of this study can inform coach education and result in the development of more athlete-supportive rowing programs for adolescent athletes.

Keywords

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It is widely acknowledged that involvement in sport has positive physical and psychosocial benefits for adolescents. However, concerns have been expressed, both in New Zealand and internationally, about the relatively high attrition rates in youth sport. This qualitative study captured the experiences of eight (five male, three female) adolescents who were no longer participating in high school rowing programs in New Zealand. Data were gathered through semi-structured interviews, and we conducted an inductive thematic analysis. A secondary analysis was then conducted using a self-determination and basic psychological needs framework that placed specific emphasis on need satisfaction and need thwarting. Key findings from this study suggest that participants' experiences of rowing were initially positive but were subsequently influenced by dissatisfaction and thwarting of basic psychological needs. The findings confirm the significance of coaches and parents providing an environment that supports young athletes' needs for relatedness. Concerns are also raised about the potentially damaging effects of weight-restricted sport for adolescents. By drawing upon athlete voice, it is hoped that the findings of this study can inform coach education and result in the development of more athlete-supportive rowing programs for adolescent athletes. Keywords: Self-Determination Theory, SDT, Semi-Structured Interviews, Attrition, Adolescents, Rowing, Descriptive Qualitative

It is widely acknowledged that participation in sport can provide a range of holistic health benefits for young people (Fraser-Thomas, Côté, & Deakin, 2005). However, the period of adolescence has been identified as a time when high rates of attrition in sport occur (Balish, Rainham, Blanchard, & McLaren, 2014). In this study we draw upon the definition of attrition by Gould and Petchlikoff (1988) as the prolonged absence of systematic practice and competition. Participation rates in youth sport would appear to peak at 12 years of age and from that age forward there is a common trend of decline, which accelerates toward the end of the school years (Slater & Tiggemann, 2010). These high attrition rates suggest that the benefits of sport are outweighed or undermined by other factors linked to the sport context as it operates in the high-school environment (Humbert et al., 2006). Fraser-Thomas, Côté, and Deakin (2008), and more recently Crane and Temple (2015) have noted that research has tended to focus on predominantly quantitative approaches to examine the reasons why adolescents no longer participate in sport. Quantitative studies are able to capture the most important antecedents of behaviour but rarely provide sufficient depth to discover more about why something actually happened. It would seem to be important, therefore, that researchers pursue an in-depth understanding of the reasons for attrition in sport. We suggest that a useful

theoretical lens through which to pursue a greater understanding of attrition in sport is the self-determination theory (SDT).

SDT is a motivation theory used to explain the reasons behind individuals' behaviours and decisions to pursue or maintain an activity (Deci & Ryan, 2000). Commonly used to understand optimal functioning in sport and physical activity, SDT proposes that "all humans have a need to feel competent, autonomous and related to others" (Deci & Ryan, 2008, p. 15). It is proposed that the degree to which one can achieve self-determination is dependent upon the degree to which one can satisfy these three basic psychological needs: the need for autonomy, the need for competence, and the need for relatedness. The basic psychological need for competence is met when we perceive our behaviour as effective and we feel that we have adequate ability; the need for autonomy is fulfilled when we perceive ourselves as the instigators of our own behaviour and that we have some control of our actions; and the meeting of the need for relatedness occurs when we experience security and a sense of belonging or connection to others. It has been argued that engaging in behaviour that satisfies these needs will promote optimal functioning, whereas behaviour that fails to meet these needs will lead to dis-satisfying outcomes (Weiss & Amorose, 2008). In their review of correlates of youth sport attrition, Balish et al. (2014) systematically assessed the level of evidence from 23 qualifying studies for each correlate identified. Levels were categorised as high, low, or insufficient. The authors noted that most of the intra-personal level correlates were aligned in some way with SDT, supporting the significance of the three fundamental needs as high quality correlates of youth sport attrition.

Qualitative studies that have adopted an SDT lens to examine attrition are less common. However, the studies that have been conducted have added to the body of knowledge, as they suggest that the need of relatedness is especially significant for young athletes and appear to confirm the importance of supporting the fundamental psychological needs of adolescents. For example, Williams, Whipp, Jackson, and Dimmock (2013) conducted semi-structured interviews with 10 young female golfers. Their content analysis—which was informed by a SDT framework—found that participants who felt supported by their parents, coaches, and peers as well as feeling a sense of belonging and connection to their club were more likely to continue playing golf. These findings were supported by a further qualitative study by Fraser-Thomas et al. (2008). Fraser-Thomas et al. interviewed 20 adolescent swimmers, and their thematic analysis reinforced the importance for young athletes of feeling supported by significant others—including parents, coaches, and programmers—during their adolescent years.

Recently, studies have focused on the distinction between psychological needs going unmet and those needs being actually thwarted or undermined (Bartholomew, Ntoumanis, Ryan, & Thogerson-Ntoumani, 2011; Costa, Ntoumanis, & Bartholomew, 2015). This need-thwarting work specifically examines the feelings of incompetence that can emerge from unrealistic expectations, and also explores the undermining of relatedness which can arise from feelings of rejection and dismissal.

When examining youth sport attrition, it seems important to acknowledge the possibility, therefore, of two sets of process with differing psychological consequences; where basic psychological needs are unmet and where they are actually thwarted. The findings of recent quantitative studies support this, in that need thwarting predicts particular states of ill-being not necessarily associated with unsatisfied needs (Costa et al., 2015; Gunnell, Crocker, Wilson, Mack, & Zumbo, 2013). Germane at this point is an argument made by Costa et al. (2015) that "thwarting does not refer to the social context but to one's experiential state" (p. 12). This argument emphasises the importance of capturing specific personal interpretations when seeking to understand psychological need thwarting, which in turn we believe supports the need for detailed qualitative investigation to supplement existing knowledge.

Our aim in this study was to try to gain a greater insight into adolescents' experiences of rowing in the high school environment. At a time when concerns are being expressed in New Zealand—and internationally—about the physical inactivity levels of young people (Walters, Payne, Schluter, & Thomson, 2015), we were interested in understanding why adolescents who had invested significant time and commitment to their sport from the age of 14 years, decided to withdraw from their sport after only 3 to 4 years of involvement. In doing so, we drew upon a widely used motivation theory (SDT) to examine how the participants' motivational needs went either unsupported or thwarted. There is a considerable body of evidence supporting the wide ranging benefits of physical activity for people of all ages (Kolt et al., 2005). With a clear link between sport and physical activity, we believe that this study can potentially provide important knowledge for providers of sports with exceptionally high attrition rates. Ultimately, this may enable them to provide young people with more enjoyable experiences which may be conducive to nurturing a life-long love of sport. A further aim was to provide an opportunity for these young people to have a voice.

Literature Review

We conducted a review of contemporary peer-reviewed academic literature—from 2000 to present— investigating youth involvement and attrition in sport. The studies conducted in this domain are predominantly drawn from the field of sport psychology, covering a range of topic areas; of particular interest to this current study are the influences of coaches, parents, peers, gender, and the sport itself.

The Influence of Coaches

Participation in sport is strongly influenced by the environment created by coaches, and by the priorities, values, and behaviours they convey (Smoll & Smith, 2001). A review of developmental literature indicated that coach behaviours that represent an over-emphasis on competition, and poor athlete-coach relationships have been identified as factors contributing to adolescent withdrawal from sport (Tofler & Butterbaugh, 2005). More recently, need thwarting by coaches has also been linked to athlete ill-being and disaffection (Felton & Jowett, 2015). Conversely, positive coaching characteristics such as good communication, the provision of meaningful feedback, being fair and forming positive connections with each athlete, are representative of what has become known as autonomy-supportive behaviour (Mageau & Vallerand, 2003). These behaviours have been shown to have a positive influence on athletes by promoting self-determined motivation (Gillet, Vallerand, Amoura, & Baldes, 2010; Keegan, Spray, Harwood, & Lavallee, 2010).

The Influence of Parents

Early involvement in sport depends heavily on parent support and remains a key factor in the continued participation of adolescent athletes (Strachan, Côté, & Deakin, 2009). The qualitative investigations conducted with adolescent athletes have confirmed the significance of parent-child interactions to continued engagement with sport. The perspectives of 22 adolescent competitive swimmers highlighted the significance of developing a close bond with their parents through, for example, early morning car rides to training and having opportunities to share the highs and lows of their sporting experiences (Fraser-Thomas & Côté, 2009). Furthermore, it appears to be important that athletes are able to discuss their feelings about sport with their parents and be given the chance to make their own decisions. Adolescent athletes who retain their involvement in sport have indicated that parents who gave them

choices and supported their decisions helped them to stay engaged (Fraser-Thomas et al., 2008). However, interviews with 32 female athletes revealed that parents who focused more on outcomes than effort left them feeling under pressure resulting in their participation in sport being less enjoyable (Knight, Neely, & Holt, 2011). The pressure created by these parents appears to be consistent with the concept of thwarting of basic psychological needs described by Bartholomew et al. (2011).

The Influence of Peers

The positive role of peers revolves around friendship, cooperation, and the reinforcement of roles and values amongst a group. Young swimmers have described the type of environment they create and share with their sporting peers as providing a sense of family (Fraser-Thomas et al., 2008). A number of studies that have been conducted have been sport specific, but focus group interviews with 79 "specializing"[1] athletes (ages 9 to 18 years) have confirmed the importance of the sense of belonging that peers can provide across a range of sports (Keegan et al., 2010). However, during the adolescent years, pressure on broader peer relationships can arise from sport participation. Time spent involved with sport increases with age and ability; as a consequence, athletes can struggle to reconcile performance demands with friendships outside of sport where there may be limited peer understanding of the commitments associated with sport participation (Fraser-Thomas & Côté, 2009; Fraser-Thomas et al., 2008). There can also be pressure on adolescents to specialise through selection processes, which can lead to the separation of talented performers from their peer groups (Baker, Côté, & Abernethy, 2003). As a consequence, talented young performers can find themselves detached from non-sport related peer networks.

Gender Differences

There is conflicting research relating to the relationship between gender and adolescent attrition in sport. Some studies found higher attrition rates for females, particularly during adolescence (see Slater & Tiggemann, 2010). However, other research has suggested that attrition rates are in fact steeper for boys because fewer girls participate in sport prior to adolescence. Following this line of argument, girls therefore move into their adolescent years (13 years and over) at a lower participation rate and continue to engage in less physical activity throughout their teenage years (Whitehead & Biddle, 2008). In New Zealand, the Youth Participation in Sport Survey conducted by Sport New Zealand (2012) found that 60% (female) and 70% (male) of 7-14 year olds participated in at least 3 hours of sport a week. By the time they were 15-18 years old, this decreased to 40% of girls and 50% of boys.

Previous studies have suggested that the primary reasons given by adolescents for no longer participating in sport are related to a lack of enjoyment, the influence of the coach, and pressure of time (see the US-based study of 22 teenage former and current soccer players conducted by Keathley, Himelein, and Srigley, [2013]). Studies specific to gender differences have, however, highlighted the significance of positive social relationships for female athletes (Keathley et al., 2013; Yungblut, Schinke, & McGannon, 2012), and the need for relatedness (Williams et al., 2013). Other reasons that have been cited for females deciding to no longer participate include perceptions of femininity, and self-perceptions related to competence and body image (Slater & Tiggemann, 2010; Whitehead & Biddle, 2008).

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[1] The term, specializing, refers to a time when athletes decide to focus exclusively on one or at most two sports (Côté, Murphy-Mills, & Abernethy, 2012).

Competitive School Rowing

Relative to other sports, athletes enter competitive rowing quite late in New Zealand, with competition starting at the under-15 age group. Despite thriving race entry numbers across age-groups in New Zealand, and relatively equal numbers of male and female athletes participating, attrition rates in school rowing have been reported to be higher than 50% between the early high school years (age 14-15) and the final years (age 17-18) (NZSSRA, 2009). In contrast, attrition rates of only 20% have been reported for similar age ranges across all sports (Sport New Zealand, 2012). In a recent media interview in New Zealand, the CEO of Rowing New Zealand (RNZ) Simon Peterson suggested that post-school attrition rates are as high as 80%.

Studies on rowing are limited, and relate predominantly to the high performance environment (e.g., Côté & Sedgwick, 2003; Purdy & Jones, 2011; Purdy, Potrac, & Jones, 2008). These studies do, however, offer insight into the perceptions of rowers, particularly in relation to coach behaviour. Côté and Sedgwick's (2003) study interviewed both rowers and coaches to establish their perceptions of effective coaching behaviour. The behaviours perceived to be important and valued by both the coach and the rowers were reflective of the autonomy-supportive coaching behaviours that have been proposed by Mageau and Vallerand (2003).

Rowing offers weight-restricted events for both male and female rowers. To meet these weight restrictions, athletes who are naturally heavier can diet intensely. The dieting strategies employed by athletes to maintain lightweight status can lead to a risk of osteoporosis in women and a variety of dietary deficiencies in both sexes (McNally, Wilson, & Seiler, 2005). When considering body image, weight, and disordered eating in sport, a review of literature conducted by Sundgot-Borgen and Garthe (2011) noted that research differentiates between lean-sports (those that value aesthetics, e.g., gymnastics and dance) and weight-class sport, where athletes have to obtain a certain weight before competition (e.g., wrestling, weightlifting, and lightweight rowing). Competing in both types of sports has been identified as a risk factor for disordered eating habits and extreme weight loss methods. Some of the weight, diet, and body image issues retrospectively identified in studies of elite and college athletes showed most cases of anorexia nervosa occurred in the teenage years, with initial onset occurring around 13-14 or 17-18 years of age (Reinking & Alexander, 2005).

Lightweight rowing events are offered at the international level, club, and in some cases, school level (including in New Zealand). The lightweight rowing research that has been conducted has been survey based and found that rowers tend to have highly controlled eating habits, which has been identified as a further risk factor for disordered eating. Furthermore, athletes can be accepting of extreme weight-loss methods such as laxatives and sweat runs. However, they would appear to be less likely to develop eating problems than runners or participants of other lean-body sports (Karlson, Black-Becker, & Merkur, 2001; Reinking & Alexander, 2005). The present study provides an opportunity to gain insight into a context where weight rather than leanness is the driver of associated behaviour. While it is common to see weight, diet, and sport as psychologically problematic for young people it is uncommon to see it discussed as a source of attrition.

Rowing in New Zealand

To provide context related to the commitments required from athletes in high school rowing programmes, the school rowing season in New Zealand runs from October to March, consisting of one to two regattas a month. Due to relatively late entry into rowing—adolescents normally enter high school rowing programmes at age 14—athletes in these programmes would

fall into what Côté, Murphy-Mills, and Abernethy (2012) refer to as the specializing years. Participation in most high school rowing programmes would require attendance at between five and eight training sessions per week, with between 10 and 15 hours invested in a typical week, with this commitment being higher for some schools. There is also a financial commitment, estimated to be between $2,000 to $3,000 New Zealand dollars a season (R. Beattie, personal communication, November 22, 2016).

Study Context

The first, third and fourth authors of this study are lecturers in sport and recreation, with specific interests and expertise in the sociology of sport (author one), sport psychology (author three) and sports coaching (all authors). Author two is an ex-postgraduate student at our institute, and is currently the coach development manager at Rowing New Zealand. We are all passionate about young people's experiences in sport, and have a collective interest in creating more supportive environments for young athletes. This current paper is drawn from a Master's study conducted by the second author, Rebecca Beattie, and represents an attempt on our part to draw attention to what we feel are some of the more concerning issues that arose from the findings of her thesis.

The Study

The primary research question for this study is, what influences adolescent athletes' decisions to drop out of school rowing? The aim of the study was—through the use of semi-structured interviews—to gain a deeper understanding of why adolescent rowers who have invested a significant commitment to rowing, no longer participated in their sport.

Theoretical Framework

This qualitative descriptive study is situated within a post-positivist paradigm. Ritchie and Lewis (2014) state that from a post-positivist perspective there is an acknowledgement that multiple realities exist, and that our view of the world is constructed by our own perceptions and observations of the environment around us. The methods adopted in this study were accordingly designed to have congruence within a post-positivist perspective, creating space for each participant in the study to share his/her own individual views and experiences. We attempt to stay true to a qualitative descriptive approach. In doing so we acknowledge that "no description is free from interpretation" (Sandelowski, 2000, p. 335), and follow guidelines by Sandelowski to try to present a comprehensive summary of our data in a way that the research team (and subsequently our readers) would agree is accurate and stays true to the participants' words.

The study further draws upon SDT (Deci & Ryan, 2000) to provide a lens to analyse how the participants' experiences in rowing were influenced by the satisfaction and dissatisfaction of basic psychological needs, and upon the work of Bartholomew et al. (2011) to examine how these needs may have been thwarted. SDT was chosen by virtue of being a well-researched motivational theory. As such, it could be reconciled with analysis of the processes that surround goal directed behaviour, in this case rowing. SDT posits that regulatory processes interact with innate psychological needs to determine the sustainability of behaviour as well as the affective states experienced in pursuit of goals. Thus, we believe that SDT has value when examining the relationship between the experiences of school pupils and the structures, individuals, and events that influence their desire to row.

Method

This qualitative descriptive study captured the experiences of eight (five male, three female) adolescents who were no longer participating in high school rowing programs in New Zealand. Data were gathered through semi-structured interviews. Full ethical approval for the research was granted by our institution's ethics committee (AUTEC).

Participants

The participants were eight high school students (five males and three females) aged between 16 and 18 years of age. All high schools ($N = 13$) in an urban area of New Zealand who offered large (more than 20 athletes) rowing programs were invited to participate. An initial approach was made through the regional rowing association to the schools' sports directors. Of the schools approached, eight agreed to take part. Information sheets inviting the students to take part in the study were delivered to 34 students who no longer participated in their school rowing programmes, and eight students were chosen to participate in the study. Students who consented to participate were excluded at random if there were too many from one school. This was necessary to prevent a bias towards one particular training programme. It was decided that a maximum of two students from each school would be recruited to prevent this bias from occurring. Six of the recruited rowers had completed three seasons in their school rowing programme with their school while the remaining two had completed two seasons. All participants provided fully informed consent to participate in the study. To maintain anonymity no schools or individuals were identified in this research. Consent forms with the participant's name and school were stored in a locked filing cabinet in a storage facility at our research institute. Code names of participants and schools were used on all working documents to ensure no identifying features were exposed.

Procedure

We used semi-structured interviews, which enabled the use of open-ended questions, thereby creating space for follow-up probing in an attempt to gain a deeper understanding of athlete experiences (Patton, 2002). Semi-structured interviews have been described as purposeful conversations involving open-ended, broad, and non-descriptive questions (Carpenter, 1997). Our design of these questions was informed by the theoretical framework—SDT—drawn upon in this study. These included questions which focused on the three basic psychological needs and the notion of intrinsic motivation. From a general perspective of motivation we were interested in finding out what motivated our participants to row. From an autonomy perspective, we were interested in finding out what participants enjoyed (and did not enjoy) about rowing and why; from the perspective of competence we designed questions to elicit participants' perspectives of their ability and how significant others made them feel in this regard (e.g., did your coach let you know if you were doing something well or not? How did this make you feel?); and in relation to the need of relatedness questions were designed to discover participants' sense of belonging (e.g., what sort of relationships did you have with your teammates/coach?). As these participants no longer participate in rowing, we also designed questions to specifically ask them about the main reasons they no longer rowed. The questions were designed to create space for follow-up questions to be asked dependent upon participants' answers. Interviews lasted between 30 and 45 minutes. We believe that the semi–structured nature of the interview allowed the participants to express a full range of beliefs, feelings, and behaviours. Participants in all interviews appeared to be relaxed, and indeed appeared to be grateful for the opportunity to have their opinions heard.

The interviews were conducted by the second author of this study. Prior to conducting the full interviews, one pilot study was conducted with a "convenience" participant. The purpose of the pilot interview was for the interviewer to practice her interview technique, and for the research team to subsequently review the questions and responses before implementing the actual study. The pilot participant was also provided an opportunity to provide feedback to the researcher in relation to the relevance of questions and any thoughts he had on the interview. The participant felt the interview was thorough, questions were clear, and felt he had an opportunity to speak freely about all aspects of his involvement in sport.

Data Analysis

We originally designed this study to examine the motivation of these participants focusing on their basic psychological needs (SDT). After two initial interviews were conducted and transcribed (by the second author), the research team met a number of times to review the data. At that early point, it became clear that there were powerful stories present that fell outside the scope of a solely SDT derived analysis. We felt such an analysis may not adequately represent the voices of those interviewed. We subsequently decided upon an approach that would first conduct an inductive thematic analysis (Braun & Clarke, 2006), with the data within the themes identified by us subsequently being analysed through an SDT lens using a directed content analytical approach (Hsieh & Shannon, 2005).

Table 1: Phases of thematic analysis (Braun & Clarke, 2006, p. 87)

Phase	Description of Process
1. Familiarising yourself with the data	As noted by Sandelowski (2000), researchers conducting qualitative descriptive studies need to stay "close to their data" (p. 336). The second author transcribed the data verbatim following each interview, and attempted to immerse herself in the data through constant reading, note taking, and voice recording.
2. Generating initial codes	The second author utilised the qualitative software tool, Weft QDA, to code the data. Data were transcribed into a Microsoft word document, then converted into a text document and imported into Weft QDA. Data were then coded (e.g., a code was generated for whenever participants spoke about "fun," which was a recurring topic).
3. Searching for themes	Data were collated relevant to each code by the second author. Within each theme, she then coded sub-themes. For example, the theme "fun" indicated that fun can mean different things to people. For some this related to being with their friends, for others this meant the "feel" of the boat on the water.
4. Reviewing themes	During the analytical phase regular meetings (weekly) were held by the research team. Prior to each meeting each member of the team would examine the most recent transcripts, and then the second author guided the team through the themes and sub-themes she had identified. These discussions resulted in new themes being identified, for example, a theme emerged in relation to lightweight rowing being spoken about by rowers differently to the way they talked about general rowing.
5. Defining and naming themes	The discussions at the regular meetings now narrowed, and specific themes and sub-themes were agreed upon through ongoing discussion. Each research team member brought different expertise and insights to these discussions: author one in regards to the subject area and qualitative research; author two who was conducting the study as part of a Masters study; author three who has expertise in sport psychology; and author four who has expertise in the subject area and in the sport of rowing. A broad range of expertise enabled different perspectives to emerge and inform the discussions throughout this process.

An overview of the high-level framework and the specific approach we used to conduct the initial thematic analysis is provided in Table 1. We identified the high level themes through this 5-step process related to enjoyment of rowing, the influence of the coach, and weight-related issues.

At that point, we revisited the data using a directed content analytical approach informed by the work of Hsieh and Shannon (2005). Hsieh and Shannon (2005) define content analysis as "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (p. 1278). Drawing upon the SDT framework (Deci & Ryan, 2000) related to basic psychological needs—autonomy, competence, and relatedness—we decided upon 6 main codes to capture how participants spoke about their needs being met (positively or negatively). The codes we created related to positive competence, negative competence, positive autonomy, negative autonomy, positive relatedness, and negative relatedness. As during the initial thematic analysis phase, we continued to meet on a weekly basis to discuss the analysis in relation to SDT. For example, under the previously identified main theme, "enjoyment of rowing," a sub-theme to emerge from the data in relation to the basic need *relatedness* was a "sense of family". Once the team was satisfied with the categories identified (e.g., the data identified related to positive relatedness) the data were finally revisited by the team to examine the data through a "needs thwarting" lens. Examining the data in relation to this theme from a *needs thwarting* perspective, enabled us to identify behaviours by coaches that served to actually thwart participants' needs for relatedness and belonging. This approach enabled an interrogation of the data informed by the work of Bartholomew and colleagues (Bartholomew, Ntoumanis, Ryan, & Thogerson-Ntoumani, 2011; Costa, Ntoumanis, & Bartholomew, 2015), to specifically analyse how the actions of others (peers, coaches, and parents) served to thwart the meeting of the three basic psychological needs of the participants. For example, when coaches directed their focus on the higher level performers, we identified these behaviours as actively thwarting participants' need for relatedness and competence. Ultimately we felt that this multi-layered analytical approach allowed for a deeper representation of the data, enabling us to stay true to the participants' stories.

It has been argued that the rigour of qualitative research should be assessed against the criteria associated with the methodology adopted (Sparkes & Smith, 2009). In following guidelines related to qualitative descriptive studies provided by Sandelowski (2000), we have attempted to stay close to the participants' words and infer meaning that is "likely to result in easier consensus among researchers" (p. 335). With low inference descriptions, Sandelowski suggests that researchers are more likely to agree on themes that emerge. The outcomes of the regular meetings we held during the analytical phase supported this suggestion. We also attempted to stay true to recommendations by Sandelowski in relation to the analytical coding techniques adopted. The approach was data driven, and simultaneous collection of data and analysis was conducted, with each approach informing the other. In line with recommendations for rigour in relation to the writing up of qualitative studies, we have attempted to provide a succinct overview of the evolution of the current study, and the cumulative processes and steps we followed when developing and conducting the analyses (Barbour, 2014).

Results

Sandelowski (2000) recommends that authors of qualitative descriptive studies organize and summarize the informational content of their data in the most logical way. We attempt to do this by representing the data through the presentation of the three higher order themes we identified. These related to: factors that influenced enjoyment of rowing, the influence of the coach, and issues related to weight-restricted competition. The dominant theme

identified related to enjoyment. Within that category, three lower order themes were identified: a sense of family; the enjoyment associated with the *feel* of the boat on the water; and the disappointment about feeling excluded from a sport they loved, which ultimately led to the majority of participants' decision to withdraw from their sport. Additionally, within the presentation of the themes in this section, we examine how participants' basic psychological needs are either supported or thwarted by the actions of significant others.

Factors Influencing the Enjoyment of Rowing

The rowing family: A sense of relatedness. Feeling part of a "family" and a strong sense of camaraderie were perceived to be a major source of the enjoyment attributed to rowing. This sense of family was enhanced through aspects of rowing perceived to be unique to the sport. The participants enjoyed attending training camps and training with older and younger rowers, and the involvement of parents at these camps:

> Jack: It got us all working together, even though we were all different age groups. There would be times when we would go out with the younger ones instead of just sticking with our age groups and we would actually mix and mingle. It was a strong bond right throughout the age groups.

Parental involvement was also perceived to be an important component of the rowing family. The participants were aware of how much time and effort parents put in to supporting their participation in rowing and spoke highly of the support provided. However, the participants also mentioned ways in which they had witnessed other parents becoming over-involved.

> Jack: For the parents, just focus on the well-being of the kids and not to try and coach them, because I've seen some parents, they act as if they know more about the sport and as the person doing that sport it's annoying, they're trying to give you advice about something they don't know about.

The sense of family identified by all participants in relation to their rowing can be seen to support their need for relatedness and was something that all participants valued. The participants did not criticise their own parents, however the perceived over-involvement of other parents within the "rowing family" had the potential to thwart participants' needs for relatedness and autonomy.

The feel of the boat. The "feel of the boat" and just being on the water was a major source of pleasure for all participants and supported their need for autonomy. For example, Nathan stated:

> It was sort of a positive energy rush, it felt really good to be out there on the water. It was something that I really enjoyed. It was just pure love of being on the water, it was just amazing, it was a sort of a kick. I just loved it and kept on doing it.

Jen felt the same but acknowledged the difficulty in expressing the feeling. She was certainly aware of when the boat was going well:

It's hard to describe, it's just a better feeling and more free and that's kind of what we had been training for, to row, and it's just nice to be on the water.

I loved it but I still dropped out. The participants referred to the intensity of the sport, and discussed the commitment they made to rowing by attending multiple early morning training sessions. They spoke of the enjoyment of being on the water, the fun they had with their friends, and the health and fitness benefits gained from the sport of rowing. In spite of these perceived benefits, all but two of the participants withdrew from this sport. This decision to withdraw did not appear to be related to the commitment required. Only one of the participants dropped out through deciding to commit to something else (another sport). However, this was due to coach pressure from the other sport (rugby) to focus and specialise in that sport. Several factors appeared to result in these decisions. Firstly, when teammates dropped out this resulted in them experiencing doubts about their own continued involvement:

Nathan: Well basically the guys who I had been rowing with the previous two seasons they all dropped out and I realised I wasn't as good as the other athletes who were still in the program.

The participants' felt that the coaches were only focussed on the top athletes, leaving them feeling unwanted and left out.

Tom: [The coaches] had a tendency to focus more on the top level I guess, well that's to be expected in the environment, but it did leave you feeling a bit left out some of the time.

Two participants, however, were essentially pressurized to leave the sport. While earlier Jen had shared her love of rowing, she later talked about how she stopped rowing.

Jen: I was really upset because I was excited to come back to rowing to try another year to get better, but to say at the start that I can't get in [to a boat] because [my fitness test result] is not good enough. It sort of made me feel like I wasn't wanted there and they sort of didn't want to train me [so I could get fitter] to actually row.

Jen's account here reveals the thwarting of relatedness (not wanted in the "family") and competence (not good enough). Her need for competence also goes unmet in so far as she is denied the opportunity to perform on any subsequent occasion.

In Nathan's case, he was asked to leave by the coaching team. However, the coaching team did not speak to him directly, but rather the message was relayed through his father.

Nathan: Well I was told [to leave] through my dad because he was the one in the interview and stuff and I was pretty gutted, pretty disappointed and shocked because I love the sport so much.

The sense of relatedness and competence that participants (Jen and Nathan) had experienced was now being thwarted by the actions of coaches who were perceived to be focused on results and outcomes.

Influence of the Coach

The impact of the coach came through as a central influence on the decisions by some of the participants to give up rowing. The participants referred to the often competing goals of athletes and coaches, of feeling under-valued in the squad, having limited opportunities for input (autonomy), and poor coach-athlete communication. A conflict between externally prescribed performance goals and performance achievement goals emerges.

> Matthew: Well [the coaches] were concerned with doing well at regattas and winning medals and that sort of thing, so they were pushing results.

The most important factors for the participants, however, related to the amount of effort they put in and on improving:

> Jen: I just really wanted to improve my rowing and for it to just feel better as well. We won a few times and when we didn't we wanted to just improve.

The participants felt they often did not meet the expectations of the coach and therefore felt they were not good enough to be involved in the sport. They felt segregated from others and unimportant. These perceptions were demonstrated through being ignored by coaches, sometimes being required to train without a coach, and being asked by the school not to return to rowing the following season:

> Sarah: We weren't in the prized lot of people that would do really well. I wasn't a terrible rower but I wasn't like amazingly good so the crews that I was in never really did well and the coaches didn't put as much time into them as other crews.

The coaches' behaviours were also perceived to be unfair, and demonstrated a lack of respect for all athletes:

> Sarah: It wasn't an even playing field and for everyone to be putting in the same amount of time and money, you're paying a lot of money to be part of this sport and then to not even get treated with the same respect or we don't get the training. It's difficult.

Participants spoke about the culture of school sport, with its focus on performance. They were aware that coaches are often employed by schools and sports organisations to get results, so even if coaches wish to promote an autonomy-supportive environment they run the risk of losing their position when performance targets are not being met.

> Tom: [The coaches] were focused on winning; they wanted us to be the best rowers we could be. High school rowing in New Zealand is very competitive so I think it is the culture of the sport in New Zealand as opposed to the coaches we have at school.

To summarise, the coaches' behaviour appeared to often be need thwarting in nature; the behaviour clearly did not support these participants' needs and essentially contributed to a number of participants' decisions to opt out of their sport.

Adolescents and Weight Loss

Of the participants interviewed all three females and one male discussed concerns with lightweight rowing, with the female participants focusing on the segregation, pressures and health concerns related to being a lightweight rower.

The first issue raised related to the division lightweight rowing created within the squad. The impact on the sense of relatedness was prevalent not only in the wider squad but also within the lightweight squad itself. Participants discussed the special treatment lightweight girls received through having their own meals, their own room and the majority of the coaching attention, and this created conflict. The pressures on maintaining weight to be part of a lightweight rowing crew also crossed over into their social lives:

> Kate: So usually what you can do is go to rowing training and then go out for dinner with your friends and you can still see them and have normalcy. But with rowing lightweight, well you would have to eat at home and only have fish and vegetables [laughs], and even at school I would just sort of stay with my doubles partner because we'd have weird food. I think doing [rowing] at high school should be more fun and you shouldn't have to focus on weight loss because I think it confuses and divides the girls.

Participants also spoke about the types of weight-loss methods they were exposed to and how this had implications for other aspects of their lives:

> Kate: My school results were awful, I wasn't focusing at all because I just wasn't eating and I was exercising and it was obviously bad for my body. There are photos of me and [my rowing partner], it's just our bones sticking out, yeah and we just stopped, we stopped getting our periods for the entire rowing season.

Some of the non-lightweight rowers empathised with their lightweight counterparts.

> Sarah: I don't think it was all good for [the lightweights] because they did have a lot of pressure put on them to become lightweight and it's not very healthy to make teenage girls obsess over their weight, like that's sort of a recipe for disaster.

Kate revealed the pressures that can be placed on young athletes to row (including from themselves), even when there are health concerns:

> I wanted to do rowing again for my last season, but my mum and my doctor wouldn't let me row lightweight because it was too unhealthy to do it again, and I didn't want to row [in an unrestricted category] and get worse results, so I didn't want to get like a medal one year and then go back and not go to Maadi [prestigious national regatta] and not get any medals.

Coaches once again are identified as key figures in these participants' lives, having a strong influence on these lightweight rowers. However, coaches' behaviours do not occur in a vacuum, and the structure and organisation of a sport that encourages adolescents to focus on weight loss can be viewed as going beyond simply thwarting athletes' needs, to creating an environment and situation which is actually harmful to their health.

Discussion

Our findings reinforce previous research that draws on SDT, highlighting the significance of a need for athletes to feel competent, to have a sense of autonomy, and to feel related in their sporting experiences. In addition, evidence emerged related to a series of events consistent with the concept of need thwarting.

A Love of Rowing

Notable in this study was the sheer enjoyment of rowing experienced by all participants, who discussed how rowing can be a purely intrinsically motivating activity. This was demonstrated through athletes experiencing what has been termed as *flow*; an optimal positive state of energised focus, where one is completely absorbed in what they are doing (Csikszentmihalyi, 1990). All the participants said they loved the "feel of the boat" and being out on the water, confirming links between this concept of flow and intrinsic motivation (Seifert & Hedderson, 2010). It is alarming to note that primarily through the actions of others, athletes who express such a love for their sport are no longer participating. Processes of selection, a focus on outcomes, along with ignoring and thwarting these athletes' sense of relatedness and belonging, appears to have drawn coaches into a process where arguably all three athlete needs are undermined and thwarted.

A Sense of Belonging

Several studies have highlighted the importance of being with friends and social interaction for young athletes (Bailey, Cope, & Pearce, 2013; Keegan, Harwood, Spray, & Lavallee, 2009), and feeling connected and part of a family (Fraser-Thomas et al., 2008; Keegan et al., 2010). The enjoyment associated with training with older and younger athletes in the rowing environment demonstrated a sense of relatedness as a positive aspect of rowing and something that not all sports offer. Our findings reflect those of Fraser-Thomas and Côté (2009), where special relationships, personal development, and shared experiences with older and younger athletes contributed to the bond and positive environment within an adolescent swimming team.

What consistently emerged for us in the current study was the importance of relatedness for these young participants, which supports the findings that have also emerged in other recent studies (e.g., Williams et al., 2013). Rowers expressed the opinion that during challenging times, it was their peers that kept them involved. If organizations, coaches, and sports leaders are to consider how to keep youth involved, then it would seem logical to recognise their desire to be with their friends.

Coach Behaviour

The impact of the coach is one of the most commonly cited reasons for withdrawal from sport (Fraser-Thomas et al., 2008). The focus of the coaches referred to in this study appeared to reflect their outcome-focused needs as opposed to the needs of their athletes. Perceptions of competence, fun and enjoyment, learning new skills, and being with friends have been identified as being important to youth in sport participation (Bailey et al., 2013). These needs were mirrored by the participants in this study but were thwarted by the actions of their coaches, who appeared to be predominantly interested in results. Participants were in effect isolated from their friends, and this left them feeling unimportant. Being treated unfairly is commonly cited as a disliked coach behaviour (Fraser-Thomas & Côté, 2009), and participants'

perceptions of the training environment revealed further evidence of autocratic coaching styles resulting in a lack of reward for effort and commitment, and a segregation of ability.

Coaches who genuinely consider their athletes' opinions and feelings toward their sport, promote athlete self-determined motivation and therefore enhance their sport performance (Gillet et al., 2010). However, coaching does not occur in a vacuum and the competitive structure of school rowing in New Zealand (and as one participant suggested, the culture of school sport in general) constrains the coaching context and can result in increased pressure on coaches to create a performance focused training environment (Mageau & Vallerand, 2003).

Issues Related to Adolescent Weight Loss

The divisions created within squads because of lightweight rowing adversely impacted upon participants' sense of relatedness; if this is thwarted or unsupported then female adolescent athletes can start to lose their enjoyment for the sport (Bailey et al., 2013; Yungblut et al., 2012). However, of greater concern to the research team were the health related issues that emerged from the interviews. These issues related to adolescent girls being concerned about their weight, what they ate, and the impact on their studies and on their relationships. Previous research has highlighted the significant health consequences that can be faced by the dieting athlete. These include dehydration; inadequate intake of macro- and micronutrients; impaired cognitive function and psychological problems (anger, fatigue, tension, and anxiety); disordered eating, hormonal changes and low bone density (the female athlete triad); and implications for growth and maturation (Sundgot-Borgen & Garthe, 2011).

The female athlete triad is an interrelationship of menstrual dysfunction, low energy availability, and decreased bone mineral density, and it is relatively common among young women participating in sports (Nazem & Ackerman, 2012). While the prevalence of all three components of the triad is low in female athlete populations, there is a much higher risk of having at least one of the components. Kate had admitted she lost her period during her season as a lightweight rower, one component of the triad. One can argue that having just one component of the triad is a sufficient cause that needs to be addressed in order to prevent the other two components developing (Anderson & Petrie, 2012).

The required weight for a lightweight female competing for their school is no heavier than 59kg, and our participants referred to incidences where rowers lost weight immediately prior to an event. One can only assume this must have involved some dramatic weight loss strategies, and past research has shown that lightweight rowers are accepting of extreme weight loss methods (Karlson et al., 2001). Previous studies have expressed concerns about weight restricted sport for the older athlete (Karlson et al., 2001; Reinking & Alexander, 2005). These findings serve to reinforce significant concerns in relation to adolescent female participation in weight-restricted sport and is an area requiring further investigation.

Final Reflections

Our aim in this study was to use a SDT and need-thwarting framework to try to gain greater insight into the reasons for the relatively high attrition rates reported for rowing in NZ. It was of particular interest to us that experiences around relatedness were so important to those interviewed. This shares some common ground with research relating to retention of female golfers that also supported the significance of the role of relatedness (Williams et al., 2013).

The findings that most surprised us and gave us real cause for concern were related to issues around weight-restricted rowing. The processes related to achieving entry to weight-dependent performance categories further served to undermine relationships and feelings of

relatedness, but more worryingly highlighted potentially harmful consequences for young people (Anderson & Petrie, 2012). As we were finalising this paper, there was a development in relation to the issue of lightweight school rowing in New Zealand. Rowing New Zealand (the national governing body of the sport) put forward a proposal to the New Zealand Secondary Schools Rowing Association suggesting that weight-restricted rowing at secondary school level poses unacceptable health risks for young people (Ryan, 2016). The proposal was supported by the New Zealand Secondary Schools Sports Council and the findings of the thesis from which this current study is drawn were used as part of the evidence supporting this proposal. In spite of the concerns expressed by these key organisations, school principals voted to continue with lightweight rowing in school rowing regattas. Rowing New Zealand expressed frustration and disappointment with the decision. Although the focus of this current study was on rowing, we believe that the findings of this study raise concerns about the role of all sport in schools. With an increasing emphasis on performance and results, and a seeming lack of concern for young athletes' holistic welfare, we argue that there is an urgent need for future research in New Zealand (and elsewhere) to critically examine the role schools play in providing positive sporting experiences for the young people in their charge. One of the rowers interviewed in or study (Kate) revealed that her mother and doctor advised her on health grounds not to row lightweight again. However, her sense of competence and enjoyment of the sport was tied up with her success as a lightweight rower and she wanted to compete. This leads us to question the role of the school in seemingly allowing athletes to make these decisions irrespective of the associated health risks. Ultimately, we need to ask the question: what is the purpose and role of sport in school?

A positive factor to reveal itself in this study was how participants genuinely loved being in the boat and the sense of joy it gave them. All participants expressed a love for the sport, but for a range of reasons were no longer participating. These results suggest that if schools actually want to retain athletes in sport, they need to foster an environment that encourages greater autonomy-supportive behaviour from coaches and parents. Furthermore, they may wish to consider how feelings of relatedness can be maintained in the early years of the sport, and how an emphasis on competition and selection may be reduced. It may be apt to close with the words of Nathan Cohen, a New Zealand Olympic gold medal winning rower, who stated:

> We had so much fun together right from the start and it carried on from there, even though we were absolutely hopeless in our first couple of years. That was such an important thing for me because sport was almost more about enjoyment than it was about results, the results started coming later because you enjoyed the sport so much. (Savory, 2013)

Limitations

Due to concerns about the high attrition rates for this sport, we were hoping to attract a broader range of schools and participants in this study. Although the study had the support of Rowing New Zealand (the National Sporting Organisation of this sport), five schools declined the offer to participate. However, we believe our participants offered a unique insight into the competitive world of high school rowing. The context of this study relates specifically to the sport of rowing in the secondary school environment. The focus of this study was on motivation, and we make no claim that this motivational study would have similar outcomes in a different setting. We do believe, however, that the findings of this study may resonate with others working in any competitive sports environment with young people.

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