The Understanding of "Rest" and its Effects upon Athletes' Sport-Performance and General Well-Being

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Abstract

This thesis inductively builds a theoretical framework and understanding of athletes' rest, pertaining to the perceived effects that it has upon their sporting performance and general well-being. Collectively, this thesis utilises a mixed methods design in order to comprehend the meanings and values that athletes have upon rest. The initial study utilised a grounded theory approach to explore athletes' specific experiences of rest along with their personal perceptions of "what rest means to them". For the second study a descriptive correlational quantitative design was used to identify significant differences in athletes': use, frequency of use, and perceived effectiveness of resting techniques across a large and generalised sample. Additionally, significant differences were also sought found regarding athletes' varying sport types and level of competition. The final study utilised a longitudinal qualitative content analysis design to examine the perceptual variances of athlete rest over the course of a competitive season. This thesis offers a conceptual model of rest that portrays the interplay between the: cessation of activity, perceptions of sport performance, and general well-being. Contributing to this model, concepts including: interaction, switching-off, adaptation, and sport specifications build upon the general understanding of rest as the cessation of activity. The dynamics of these relationships encompass the fluid variation on how rest can affect an individual's sport performance and general well-being. Overall, this thesis is able to generate an initial conceptual model and understanding of athlete rest from a sport psychology perspective. As rest is not a concept that is studied directly or extensively in most academic disciplines, further investigation into rest across other domains is necessary in order to better understand its implications upon performance and well-being more generally.

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CHAPTER ONE

Introduction to Literature on Rest

Rationale, Aims, and Objectives for the Research Study

In order to obtain and sustain a high level of sporting excellence athletes must achieve optimal physical and mental performance within practice and competitions. However, just as important for the athlete is maintaining personal well-being outside of these activities. Rest is known to impact both athlete performance and well-being. However, despite sport becoming increasingly professionalised at all levels of performance, rest has received little research attention such that our understanding of the topic remains limited and sports practitioners have little information to use to inform their practice. A review of the literature, to follow, reveals that rest has not been studied from a multi-disciplinary perspective, yet is currently a concept considered within multiple disciplines; rest has not been extensively examined; and rest has not been studied directly. These limitations in the available research on rest form the rationale for my research. The overall aim of my research is to advance the current understanding of rest in sport. The more specific aims of my research are to study rest directly, extensively, and from a sport psychology perspective. To achieve this, I aim to ask the athletes themselves about their understandings and experiences of rest. From these understandings of rest, numerical values will be placed upon resting experiences through the utilisation of quantifiable data, allowing insight into what resting experiences are most frequently used and which are most effective. Lastly, I aim to understand the variances of athletes' perceptual values of rest throughout their competitive season through the use of longitudinal research methods. These aims and objectives will be addressed in the following chapters of the thesis.

Introduction to the Review Sections

Rest has been considered by researchers working in a number of different academic fields within and beyond the sport sciences. However, researchers in one field have often not

taken into consideration work on rest by researchers working in other fields. Nonetheless, I will consider these various areas of research and theory together here in one place to highlight the range of current literature on rest and of the current research. I will also identify some limitations of this research and propose suggestions for research that may overcome these limitations.

A brief review of research and theory concerning rest by Eccles and Riley (2014) offers a classic, dictionary definition of rest as the cessation of activity. According to these authors, rest has various effects on the individual depending on the duration and context of the rest period. In order to better understand rest within these contexts it is useful to differentiate these specific types of rest periods and consider them individually. Therefore, the review sections will be divided into separate sections where rest is either mentioned or is relatable, although it should be recognised that conceptual overlap has been seen across multiple disciplines. First, there is a discussion of current academic literature's association of rest with inactivity. Rest has been viewed as a dualistic concept that is separate and distinct from practice and/or activity. However, as individuals are "resting" by definition, within one academic discipline, they may not be in another. Second, an overview of physical and mental adaptations is offered. This section focuses on the conceptualisation and application of specific literature relating to recovery, overtraining, burnout, and how they relate to rest. As these terms imply a negative connotation or depreciated state of being for an individual, the need for positive values and language associated with rest is also discussed. Third, the importance of rest periods to an individual's development in motor learning and attainment of expertise will be highlighted. These processes require focused attention from the individual in order to improve their performance, therefore the rest breaks that are taken will aid in replenishing their cognitive functioning. Fourth, an individuals' social and environmental surroundings will be discussed in relation to the influence that they have upon the

individual's utilising rest periods. These types of external factors are bound to exert a level of control over the individual; however, too much control can lead to the devaluation of rest along with decreased autonomy.

Following these sections, four additional sections concerning rest in other various disciplines will be discussed. First, the concept of nutrition will be discussed regarding the impact that it has upon individuals' ability to facilitate time for effective rest. Second, a review of research on rest in occupational literature will be examined, where the importance lies in how individuals can enhance their own work-related performance by optimising their rest periods both within, and away from their working environment. Third, holistic considerations of rest will be discussed to demonstrate how its conceptualisation and perceptions have been used to construct and implement rest as a therapeutic method. Lastly, there is an overview of research in sociology that will examine the power relations between individuals and their institutions. As rest is a concept that can be valued by athletes competing in sport, it is important for them to strike a balance of understanding between their own personal beliefs and the values that are held by their coaches, institutions, and peers.

Rest's Association with inactivity

In their review of research on neural processing, Immordino-Yang, Christodoulou, and Singh (2012) offer a perspective of rest in which it is proposed that, while many individuals view rest as "down time", it should not be viewed as idleness or a wasted opportunity for productivity. When individuals engage in rest, their brains enter what has been known as a "default mode" of neural processing. This process, which is relatively suppressed when attention is focused on external factors, can involve behaviours such as daydreaming and mind-wandering (Immordino-Yang et al., 2012). In addition, rest periods provide individuals with the opportunity to reflect on past experiences and appreciate the

importance of managing future choices (Immordino-Yang et al., 2012). Therefore, as individuals' goal-oriented thought processes diminish when resting, other neurological processes are activated that involve abstract and social reasoning abilities. Thus, resting serves important cognitive functions.

In line with the proposals of Immordino-Yang et al., (2012), Buckner and Vincent (2007) propose that the focus within most research on the brain is on brain functioning during active tasks. Yet, cognitive processes occur, which includes time that does not involve pursuing specific task goals, and thus should be studied over longer time scales. Additionally, it is also believed that cognitive processes have the ability to evolve and occur over longer time scales, rather than contributing to immediate task goals (Buckner & Vincent, 2007). During these periods of default activity, certain regions of the brain increase in functioning that would not be as active when an individual is not in a resting-state. Furthermore, Buckner and Vincent point out that, while humans spend important periods of time engaging in task-oriented processes most time is spent away from immediate environmental pressures and involves modes of thought that consolidate memories and prepare us for the future (Buckner & Vincent, 2007). These findings demonstrate that, during periods of time where an individual is not focused and mentally engaged in a specific task, their mind is still active in consolidating memories and preparing the individual for future events.

Along with rest, terms such as: recovery, relaxation, and recuperation have taken on slightly different meanings across various authors and their research. Because of this, the conceptualisations of these terms on a universal and multi-dimensional level are often different, leading to the lack of a coherent conceptualisation for rest. In a special issue paper written by Zijlstra, Cropley, and Rydstedt (2014), the authors explain the difficulty in trying to define recovery due to the use of similar words, such as rest, that have been used to describe a similar process. Likewise, rest and recovery carry meaning in a number of

different academic disciplines, making it even more of a challenge to identify a universal conceptualisation (Zjilstra et al., 2014). By discussing and accounting for meanings of rest across multiple academic disciplines, it will be easier to develop a more coherent understanding of the term along with strengthening its application within sport.

The term recovery has also been proposed as a harmonising, continuous process, between individuals' psychophysiological 'actual' and required states (Zijlstra et al., 2014). Furthermore, the authors argue that the construct of recovery should be conceptualised as a dynamic process that changes based on the state of the individual. A conceptualisation of recovery can be seen as an individual's ability to eliminate or reduce symptoms relating to fatigue while also replenishing energy levels. Furthermore, recovery can also refer to the post-stress rest period that may provide information concerning physiological and psychological reactivity occurring after certain stressors have ended (Zijlstra et al., 2014). While rest is assumed to be a state where physiological resources are being restored, it is not as easily incorporated and discussed as a psychophysiological process. Instead, while the concepts of recovery and rest are linked together in terms of physiological recuperation, rest is mentioned as an appropriate remedy for physical fatigue but may not be an entirely adequate solution for mental fatigue (Zijlstra et al., 2014). While the aim of this paper calls for a more dynamic conceptualisation of recovery, it inadvertently portrays rest as a static construct that only pertains to physiological processes. Therefore, as it is argued that research on recovery should focus on regulation processes and how psychological determinants can affect these processes (Zijlstra et al., 2014), a multi-dimensional approach to rest should also be utilised in order to successfully incorporate variances in an individual's psychophysiological state.

Investigation into the effectiveness of recovery strategies by Balk, de Jonge, Oerlemans, and Geurts (2017) attempted to identify whether these strategies are most

effective when they match the athletes' particular sports demands, while taking into account the athletes' particular relation to their: recovery state, daily sport demands, and detachment. Sixty-eight elite athletes participated in the study and were asked to complete a daily diary for eight consecutive days: once after waking-up, and once again at bedtime. After analysis these diary entries, the results demonstrated that there were positive relationships between: daily physical detachment and daily physical recovery, and also daily emotional detachment to cognitive and emotional recovery. When there were matches between these athletes': daily sport demands, recovery state, and detachment, moderating effects of daily detachment were prevalent, compared to when there was less or no match. Conclusions from the study indicate that both physical and emotional detachment is beneficial for elite athletes when used as recovery strategies. It is also important for the type of detachment utilised to match the specific efforts that the athlete has been engaging in, in order to produce the strongest effect.

Because of the lack of a clear and concise conceptualisation of rest across various disciplines, there has been an effort to understand the meaning of the term, in order to promote better practice. A pre-observational study conducted by Sullivan, Alla, Lee, Schneiders, Ahmed, and Mcrory (2012), investigated physical therapy students understanding of the term rest, specifically following a sport concussion. A total of 118 students participated in this study and provided 320 responses prior to a lecture on the identification and management of sport concussions, and 350 responses following the lecture, listing activities that should be avoided following a concussion. Each participant was able to choose a maximum of three activities that they believed were restful from a list of 20 activities. Results from the participants prior to the lecture expressed that the students identified rest as a concept relating to individuals' physical activities. However, following the lecture, students elicited a mixed conceptualisation of rest that acknowledged an increased importance in the individuals' cognitive functioning (Sullivan et al., 2012). These results demonstrate that rest

is still an underdeveloped concept even within the medical community, while cognitive activities associated with resting can be overlooked.

Another study that focuses on physiotherapists' perspective on their patients' dependence upon physical activity, investigates the therapies and strategies that these physiotherapists recommend for their patients to implement. In a study conducted by Adams and Kirkby (1997), twenty-four postgraduate sports therapists were interviewed and asked a series of questions concerning patients who could be seen as exercise dependent. A question that is of particular interest within this study asked, "What particular strategies do you have for the treatment of exercise dependent patients?" (Adams & Kirkby, 1997). A percentage of these physiotherapists responded to this question with valid methods such as: explanation/education strategies (42%), referral (20%), and alternate training methods (18%). However, there was only one physiotherapist who specifically stated that they would explain the value of rest to their patient, as a virtue of time to heal on a physiological level. This recognition of educating injured athletes during this period of time is important for them to get back to full health, but their needs to be a greater understanding and instruction of rest by medical professionals. Additionally, while physiotherapists are understandably more focused on their patients' physiological functioning, they should maintain knowledge of potential psychological practices that could aid these individuals during longer rest periods.

Coaches involved in athlete development pathways should be knowledgeable and informative of appropriate strategies which allow for effective rest periods for their athletes. A study conducted by Martindale, Collins, and Abraham (2007) interviewed 16 coaches, across 13 sports, that held significant expertise and experience in athlete talent development. This study was abductive in nature where themes were able to emerge from the data collected through the interviews. A key theme that emerged from this study identified the importance of education, integration, and the use of outside influences in achieving long-term goals.

While there are many other educational topics in sport other than rest, the ability for coaches, parents, and other influences upon these athletes to systematically and effectively share advice on how and why they should rest, can have a beneficial effect on their development. One way that was seen to help facilitate player development was to implement their own individual programmes. Some of the coaches in this study acknowledged that you have to judge athletes based on their individual needs and stage of development, and that their specific rest-recovery needs will vary from other athletes (Martindale et al., 2007). Lastly, coaches eluded to the importance of creating a balance within these young athletes' lives. Being able to develop an athlete's ability to cope with physical and mental stressors can be a valuable tool for them in order to prevent symptoms of burnout (Martindale et al., 2007). By maintaining a standard foundation of care for young athletes, the understanding of the importance of rest can be more easily conveyed in so far as the coaches are knowledgeable of effective strategies for rest.

Physical and Psychological Adaptations

Rest is commonly known to aid in enhancing physical and psychological adaptations; however, making sure that we attain adequate rest is something that can be easily overlooked, leading to maladaptive effects. In a consensus statement written by Bergeron et al. (2015), the authors detail the importance of maintaining an: inclusive, sustainable, and enjoyable participation for all levels of sporting achievement, which are outlined in the International Olympic Committee's (IOC) principles of youth athletic development. One of the main challenges to health, well-being, and performance, especially in youth sport, is due to an increase in the level of competition and professionalisation. This increase consists of additional physical training and competitions, with lesser allocations of time for young athletes to rest. This presents a potential negative impact on young athletes as overuse injuries from lack of rest and extensive training loads can derail a young athlete's sporting

career. Taking this into account, youth athlete development programmes, along with corresponding competition formats, should allow time away for sufficient rest in order to facilitate positive physical and psychological adaptations while promoting athletic development.

Further to this, De Salles et al. (2009) reviewed research studies of physical responses to resistance training following different rest periods between training sets. This review found that when training for muscular strength, it is more effective to maintain a rest interval of three to five minutes between sets of repetitions of weight training when the training load (i.e., weight lifted per repetition) is below 90 percent of a repetition maximum (i.e., the maximum weight you can lift, in one lift). A significant decrease in repetitions was found when there was a reduction from three-minute rest periods to one-minute rest periods between sets. Therefore, to avoid unwanted reductions in training intensity (the amount of repetitions performed until muscular failure) and volume of repetitions (the total amount of sets and repetitions), it is suggested that athletes adopt rest intervals lasting between three and five minutes. However, while some athletes might train for increased muscular strength, other athletes may have different training goals in mind. The review by De Salles et al. (2009) also revealed that muscular hypertrophy and muscular endurance are improved by the adoption of shorter rest intervals within their training sessions. Muscular hypertrophy is the increase in muscle mass and muscle size in association with increased weight training. Muscular endurance involves the capacity to sustain submaximal muscle actions over an extended period of time (De Salles et al., 2009). Therefore, considering different sporting contexts, the optimal duration of the rest periods between sets depends on the individual's training goals.

Additional research that utilises varying rest periods to examine differences in athletes' strength and volume gains in weightlifting has also been conducted. Willardson and Burkett (2008) recruited 15 trained male athletes for their study and assigned them to either a

two-minute or four-minute rest group as they completed three separate four-week cycles of squat training. The two groups completed the same squat programmes over these lifting cycles and both groups exhibited strength gains. However, the authors found that the group of athletes adhering to four-minute rest intervals were able to lift significantly higher volume during workouts that involved heavier weights (Willardson & Burkett, 2008). Therefore, additional minutes of rest within physical training sessions can allow for greater volumes of weight to be lifted. While athletes may want to maintain four-minute rest intervals during their workout to lift higher volumes of weight, strength gains were found to be dependent of these two separate rest intervals and squat gains can be achieved with a minimum of 2-minute rest intervals as well.

Focusing on how the variation of resistance training intensity and the manipulation of rest period length within workouts, Bibeau, Moore, Mitchell, Vargas-Tonsing, and Bartholomew (2010) examined the changes exhibited in anxiety, positive affect, and negative affect before and following exercise induction. Each of the 104 participants were assigned to a specific resistance training and rest period condition. These conditions included: (low resistance, long rest), (high resistance, long rest), (low resistance, short rest), and (high resistance, sort rest). It should also be noted that short periods of rest lasted 30 seconds while long rest periods lasted 90 seconds. The results demonstrated that all participants exhibited a higher positive affect five minutes after their workout compared to their baseline level. However, evidence of consistent trends between the control groups and changes in negative effect and anxiety were not found (Bibeau et al., 2010). This demonstrates that rest periods, dependent on an individual's choice to engage in physical activity, contributes to the spike in positive affect following the completion of a workout. While these results may not reveal a significant effect that variations of rest-periods have upon specific mood-states, it is

encouraging to see that rest is being treated as an independent variable within this study and is being examined directly.

Studies concerned with understanding the phenomenon of burnout have highlighted how burnout is characterised by exhaustion, which occurs in part because of a lack of sufficient rest. Although the term rest may not be directly referenced within burnout literature, factors that can prevent burnout can be seen as involving the cessation of activity. Freudenberger (1980) offers a definition of burnout as being a syndrome characterised by progressive disillusionment linked to psychological and physiological symptoms, resulting in reduced self-esteem. From this, it is understood that burnout symptoms are not solely applicable to an individual's physical cessation of activity as cognitive rest may also be needed to treat symptoms of burnout. As these symptoms potentially worsen, athletes' levels of motivation and enthusiasm for their sport may diminish as a consequence of not getting enough time away from their sport.

Further studies investigating the presence of burnout in sport teams has identified symptoms of withdrawal and rumination in overtrained athletes, making them less enthused to participate and perform in their sport. Through the use of interviews with fifteen professional rugby union players about their experiences of burnout, Creswell and Eklund (2006) found that physical and emotional exhaustion contributed to the athletes' experiences of burnout in this sport. These authors also proposed that an enduring experience of exhaustion, along with other psychological factors such as diminished professional efficacy, led to players devaluing their sport (Cresswell & Eklund, 2006). One aspect of this devaluation was that players spent much time thinking about the end of the season and resting. As elite athletes are exposed to constant stressors within their performance-based sporting environments, prolonged exposure and lack of control over their ability to rest can lead to negative rumination about their abilities and place within the team.

While there are strategies that can aid an individual's ability to adjust to the levels of stress that they endure based on their sports participation, the perception of burnout among young athletes is apparent within the social organisation of high-performance sport. In a study that involved interviews with fifteen adolescent athletes, Coakley (1992) investigated these young athletes who left high-performance sport programmes in a state of extreme duress, or "burnout cases". Of particular interest, athletes discussed their non-sporting experiences as if they were still tied-to or mediated by their sporting lifestyle (Coakley, 1992). Personal perceptions of constant engagement in sport presents the athlete with a certain lack of control in which they are unable to switch-off from the organisation and establishment of high-performance sport. This, in turn, makes it difficult for the athlete to generalise sport-specific experiences into other aspects of their life. When talking about their experiences prior to burning-out, athletes also noted that they felt "stifled" and "trapped" (Coakley, 1992). Because these athletes were heavily involved with their respective sports, they felt that they missed-out on other opportunities that their peers were involved with. By not having an appropriate time to rest away from their sporting environment, these athletes felt that they lost control over their decision-making abilities, and eventually lost interest in their sport.

In other literature regarding burnout, it has been offered that athletes should not be considered as being burnt-out solely based on the stressors of their sport, but more so the level of commitment that they exhibit towards their sport. In a study that adopts this perspective of commitment, Raedeke (1997) states that athletes' involvement within their sport can be either one of attraction or entrapment. Within Raedeke's study, 236 male and female age-group swimmers were asked to fill-in a questionnaire which assessed factors concerning their level of commitment and symptoms of burnout. A cluster analysis was able to distinguish four separate athlete profiles which included: enthusiastic, malcontented,

obligated, and indifferent individuals. Of these four groups, swimmers who were identified as malcontent or obligated had demonstrated characteristics of entrapment, while also maintaining a low perception of control and greater social constraints (Raedeke, 1997). Because of these factors, individuals within those groups unsurprisingly had the highest scores relating to burnout compared to the other groups. The significance that this framework of burnout presents is the inclusion of psychological characteristics specifically relating to entrapment. Athletes competing at an elite level may experience periods of unrest physically and psychologically, therefore addressing concerns within both disciplines should be considered so that athletes are able to maintain enthusiasm for their sport.

Although rest is not a term that is explicitly mentioned and discussed within burnout literature, athletes who experience symptoms of burnout may be suggested or prescribed to rest as a way to combat these deleterious symptoms. In this sense, because there is such a vague conceptualisation of rest in this context, there is a void in understanding of what specifically to do when: being told, or allowed time, to rest. For this reason, inserting a rest narrative into discussions of burnout literature may call attention to the need for clarification and advancement of the meaning of rest, so that athletes may adopt relevant strategies that prevent burnout symptoms.

In a review of literature in the area of sports medicine, Kellmann (2002) discusses the concept of recovery in a sporting context and also under-recovery and how it can be avoided, where the process of recovery is thought to involve rest among other things. Recovery is conceptualised as the compensation of deficit states of an organism along with the reestablishment of the initial state, in accordance with the homeostatic principle (Kellmann, 2002). One way to help make this balance attainable is through adequate amounts of sleep. Under-recovery is also considered to be a precursor to the overtraining syndrome. If athletes begin to experience symptoms associated with the overtraining syndrome, resting is

considered an effective strategy that allows for the maintenance of well-being and homeostatic state.

An additional review by Kellmann (2010) offers an in-depth look at overtraining and strategies to help monitor and prevent its symptoms. Poor rest has been cited by athletes as a frequent cause of physical overtraining (Kellmann, 2010). Because Kellmann's process of recovery is considered a proactive and self-initiated approach, the implementation and planning of rest days within regular training periods is important in preventing overtraining. Moreover, cooperation between athletes and related stakeholders in sport contributes to the implementation of rest periods between training sessions while also preventing symptoms of overtraining (Kellmann, 2010). By planning-out rest periods: cooperatively with other members within your sport, and systematically through the use of scheduling, athletes are less likely to display symptoms relating to overtraining.

Prior to the before mentioned reviews of overtraining literature, Kellmann (2001) created the Recovery-Stress Questionnaire for athletes (RESTQ-Sport) which is an instrument aimed at measuring the extent to which persons are physically and/or mentally stressed, and to which they use strategies that promote recovery. This questionnaire features 19 subscales that appraise stressful and restful events, along with their perceived quality of rest and effects, over the previous three days. Of particular relevance to rest are the subscales titled: "fatigue", and previous "disturbed breaks". These subscales assess the frequency and intensity of the effects caused by the lack of rest, and the quality of rest as perceived by the individual. Because the questionnaire measures these subscales over a period of time (i.e., over three days), these assessments are proposed to be less affected by longitudinal, less momentary, fluctuations in stress and recovery states.

In a theoretical paper, Hanin (2002) proposed that effective recovery from training and competition and competitive performance are measured by markers of different emotional and motivational states. These states are categorised using Hanin's Individual Zones of Optimal Functioning (IZOF) model which utilises a multidimensional description of optimal performance states by identifying factors related to motivational, emotional, cognitive, and somatic states. Of particular interest, specific barriers to achieving effective recovery and rest, within a work-recovery cycle, are proposed with regard to emotional and motivational states. A key barrier highlighted included underestimation of the critical role of systematic recovery and rest by athletes and coaches, who are sometimes influenced by work-related values held in certain sporting cultures emphasising the quantity of work (amount, intensity, and volume) over quality (Hanin, 2002). Furthermore, high performance standards that are enforced by the coaches in training are proposed by Hanin to contribute to an athlete's motivation to work to excess. Athletes who demonstrate a poor level of performance can continually work intensively to enhance self-confidence and avoid uncertainty about their future performance. In addition, highly successful athletes may be over-excited and express positive emotions to the point that they ignore signs of fatigue (Hanin, 2002). Individualised emotional attention and monitoring (e.g., emotional profiling) are thought to aid the balance between athletes' recovery and their level of performance throughout the course of a competitive season.

Additionally, within this theoretical paper, Hanin (2002) provides a summary, but not detailed results, of an unpublished survey of effective recovery strategies used by 12 elite cross-country skiers on the Finnish National team. On average, each of the skiers reported using approximately ten different strategies (5-17) for recovery following intensive training. Out of the combined 118 strategies that were listed, approximately one-third of the recovery strategies that were reported were categorised as bodily somatic and these included rest

(Hanin, 2002). Based on the results of the survey, Hanin proposed that recovery strategies should match the intensity of work in practice. While this study demonstrates the application of rest within an athlete's training schedule, conceptual confusion regarding the strategies for effective rest is apparent and are not categorised and described in any real detail.

The focus on physiological advantages that tapering addresses in the lead up to important competitions is prevalent in sporting performance literature. However, the presence and shifts of specific training periods can also affect athletes' perceived mood and sporting performance. In a longitudinal study conducted by Berger et al. (1999), eight elite level pursuit cyclists were administered several Profile of Mood States (POMS) questionnaires and undertook simulated four-kilometer pursuit performance tests over the course of a six-week period. Additionally, this six-week period was broken up into: one week of baseline training, three weeks of high-intensity (interval) training, and two weeks of tapering. These measures allowed for recognition of any shifts in Total Mood Disturbance (TMD) and increases or decreases in performance (time to complete 4km). The results of this study show that the participants demonstrated improvements in pursuit time and power output following this six-week period. Moreover, an assessment of the cyclists' POMS scores revealed that TMD levels increased following the completion of the overload period and decreased below baseline levels following their taper (Berger et al., 1999). Of particular interest, the total volume of time involved in the overtraining period was much higher than the amount of training time spent in the baseline and taper periods. Therefore, the high levels of TMD that were displayed during overtraining can be seen as occurring during a period where rest is less easily attainable. And, because TMD levels decreased below baseline levels following the overtraining period, more opportunities for rest within these tapering periods may contribute to lower levels of TMD.

Meeusen et al. (2006) reviewed research on the prevention and diagnosis of the overtraining syndrome. These authors propose on the basis of this review that athletes should take at least one passive rest day per week, where other days involve training, to avoid the occurrence of the symptoms of overtraining. Passive rest involves directing their attention away from sport but does allow them to pursue other interests, which has beneficial effects in terms of athletes' motivation for their sport (Meeusen et al., 2006). By implementing rest periods within their training schedule, athletes are able to minimise their own perceptions concerning negative physiological responses that might occur as a result of excessive training (Meeusen et al., 2006). The presence of rest, or lack of, can have a great impact on an individual's biological functions. In turn, lack of essential passive rest can impair athletes' effectiveness in future training sessions as well as their recovery process.

There is a considerable theoretical literature base concerned with what has become known as periodisation, involving the planning of physical training in order to achieve a high level of performance, which includes periods of time allocated for rest. In Tudor Bompa's book titled Theory and Methodology of Training: The Key to Athletic Performance (1999) the author proposes that, throughout their competitive seasons, athletes and coaches should incorporate various phases of training that focus on specific physical and biomotor abilities. This strategy assists with athletes' performance and development by using an organised and structured training programme. As these phases of training can be perceived as demanding by athletes, it is proposed that athletes adapt their training programme to their current physical condition and to rest during the phases that call for less physical activity. Within an annual periodisation programme, transition phases are incorporated at the end of the plan in order to facilitate athletes' biological regeneration and physical preparation (Bompa, 1990). These transition periods are proposed to last between three to four weeks and do not call for complete rest. Rather, the athlete enters a period of "active rest" where there is a substantially

lower level of training intensity and volume, but not to the point where athletes eliminate training from their schedule entirely

Furthermore, in a review of research conducted by Budgett (1990), periodisation is discussed alongside strategies and interventions relating to “active rest”, which can aid in preventing symptoms of overtraining. For most athletes, it is recommended that a regime of rest incorporated within a structured training plan involving non-competitive exercise with no measures of personal performance should be adopted. This allows for an emphasis to be placed on exercise as a therapeutic strategy helping speed up the rehabilitation of physical and physiological imbalances, more than a means to obtain a specific training effect (Budgett, 1990). Therefore, the allotment and allocation of rest periods should be apparent within an athlete’s training schedule. By creating this distinction between training sessions and “active rest”, athletes may be able to perceive the therapeutic benefit and rehabilitation effect of rest periods.

Unfortunately, as stated by Rhea and Alderman (2004) in an analysis of periodised training programmes, one of the weaknesses presented in research studies examining the advantages of periodisation training is that scheduled “active rest” periods are not explicitly mentioned or included in the training programme. Because the scope of many studies involving periodisation includes only a focus on specific and shorter periods of time within a season-long training plan, the effect of longer rest periods on training adaptations may not be taken into consideration. Therefore, the significance and physical improvement exhibited in periodised training programmes may not be representative of the entire training plan as periods of rest are not always extensively examined.

Specific periods of rest, in the form of decreased training volume, may be implemented in sporting teams’ and individuals’ training regime leading up towards

important competitions. Furthermore, tapering components may be utilised within a competitive season in order to reduce the training load of these athletes in the final days before an important competition, with an aim to increase sporting performance. In a meta-analysis of the effects of tapering on athletic performance Bosquet, et al (2007) offer an assessment that attempts to discover optimal strategies that can be used to alter training volume and intensity. Criteria that studies must have to be included within this meta-analysis were participants being competitive athletes, tapering interventions with all of the details about procedures used to decrease training load, competition-based performance data that assessed performance capacity including the necessary data to calculate effect sizes. Based on these criteria, twenty-seven out of 182 potential studies were used to analyse the effects of tapering. As a result of this meta-analysis, maximal gains were attained following a two-week tapering period without any modification of the athletes' training frequency or intensity but including a 41-60% exponential reduction in training volume (Bosquet et al., 2007). While the maintenance of the schedule and intensity of training sessions is seen to be beneficial during this tapering period, the actual reduction in training volume presents the athlete with more time to rest before and after these training sessions.

Prolonged periods of rest may also facilitate athletes' physical recovery. In a research study conducted by Koutedakis, Budgett, and Faulmann (1990), 12 underperforming Olympic level athletes, along with 12 matched control subjects, underwent physical and physiological tests pre- and post-rest periods lasting between three and five weeks. These tests included Wingate Tests that measure anaerobic power and capacity by requiring athletes to produce maximal effort over 30s on upper- and lower-body exercises. Cardiorespiratory tests were also conducted, and involved submaximal, to-exhaustion rowing, running, and cycling tests. There were no significant increases following testing in anaerobic performance for the treatment group compared to the control group, but there were significant increases

following testing in cardiorespiratory performance. However, while these findings represent physical improvement after a three to five-week rest period, it is still uncertain if these increases enable performers to return to their optimal level of performance.

In a study conducted by Kentta, Hassmen, and Raglin (2006), training-induced mood disturbances and the efficacy of recovery following both short and long rest periods were assessed with eleven elite kayakers during a three-week training-camp. These mood disturbances and recovery processes were recorded by the Profile of Mood States inventory (POMS) and completed by participants prior-to and after selected training sessions. The results of the study found that athletes did express symptoms of overreaching; however, there were no significant changes in the athletes' mood state that would produce staleness or overtraining (Kentta et al., 2006). Further results demonstrated by post-training camp assessment found that there was a consistent decline in the athletes' energy levels which were not being completely restored even after long periods of rest. Consistent with research on periodisation and compensation of deficit states (Bompa, 1990), competitive athletes should implement adequate rest periods within their training schedules in order to balance their mood states and optimise their recovery process.

It is commonly assumed that a lack of quality rest overnight can have a detrimental effect on individual sporting performance, mental functioning, and mood state. One study conducted by Mah, Mah, Kezirian, and Dement (2011), investigated these effects on a group of eleven competitive university basketball players by implementing a 5-7-week sleep extension period following a 2-4-week baseline. Additionally, the athletes' mood states and tiredness were monitored using the Epworth Sleepiness Scale (ESS) and the Profile of Mood States (POMS). The study found that athletes experienced significant improvements in their performance and mood characteristics during the period of sleep extension (Mah et al., 2011). As this study is explicit in finding the effects on the extension of sleep, rest and/or rest

periods are not mentioned. Therefore, further studies attempting to advance the understanding of rest should utilise time periods that may not be as defined in individuals' actions, such as sleep.

In an interview study of burnout in junior tennis players Gould, et al (1996) identified that balancing tennis with activities such as relaxing, and taking time off, can be considered as measures used to prevent burnout. All of these measures were seen as making tennis more fun and providing a balance in these junior tennis players' lives. By comparison, factors considered to contribute to burnout included: lack of enjoyment, motivational concerns, and unfulfilled expectations (Gould et al., 1996). These results demonstrate that burnout is not only caused by over-exposure to an athlete's sporting environment, but also by the lack of exposure to other environments that can be commonly perceived as restful. By being burdened in a specific sporting environment over extended periods of time, athletes can begin to exhibit symptoms of burnout, contributing to a diminished motivational state.

In a research project commissioned by the United States Olympic Committee, researchers Greenleaf, Gould, and Dieffenbach (2001) conducted interviews that examined the positive and negative factors that affected the performance of athletes and coaches during the Atlanta Summer Olympics in 1996 and the Nagano Winter Olympics in 1998. The results of this study revealed that overtraining was a significant factor negatively affecting athlete performance at the games. Kuipers and Keizer (1988) posit a definition of Overtraining as being either a short- or long-term condition that is created by an imbalance between exercise and physical recovery. As the recovery process inherently involves rest, this imbalance leads to prolonged physical fatigue. Specifically, athletes reported that they had not been provided with enough breaks between training sessions and competitions. This lack of breaks led to them being overtrained, in turn, affecting their performance at the games negatively (Greenleaf et al., 2001). Athletes competing at all levels are subject to challenging demands

within and away-from their sport. However, elite athletes who are perceived to be overtrained can view themselves as not receiving adequate rest periods to physically recuperate, and not being allowed enough time to engage in activities outside of sport.

Earlier research on the overtraining process has attempted to clarify and conceptualise overtraining's terminology. Kentta and Hassmen (1998) offer their conceptualisation of overtraining in a review article, where they distinguish between the different stressors that affect athletes, identify specific factors that have the ability to alter athletes' adaptability to training, and to clearly discern how the recovery process is structured. Additionally, the authors emphasise the framework of the Total Quality Recovery (TQR) process in order to measure the specific training processes of the athlete. The TQR process involves athletes' perceptions of recovery, individual and specific measures to aid in the athlete's recovery process and increasing the self-awareness of psychophysiological cues within the athlete (Kentta & Hassmen. 1998). Specifically, within the review, the authors identify rest as frequently being mentioned as a factor for enhancing recovery within other relevant literature. Furthermore, a definition of rest is offered as involving the engagement of no physical activity. However, in a separate section, the term active rest is mentioned as a recovery strategy involving training that utilises low volume and low intensity. In this way, conceptually, rest can involve inactivity and/or lighter amounts of training that aid in the recovery process of athletes.

In summary, athletes are subject to a multitude of physical and psychological adaptations as they continuously compete within their respective sport. Athletes who are unable to manage these adaptations effectively may experience deleterious symptoms which, if not acknowledged and addressed, can lead to negative physical and psychological conditions (i.e. burnout, overtraining). However, rest is mentioned sparingly and is not elaborated upon extensively in terms of the processes that constitute what resting is

specifically, or how athletes should rest. Therefore, further investigation is need in order to determine how rest is constituted and understood by athletes, so that practices involving these strategies can be utilised to prevent and manage negative deleterious symptoms.

Motor learning and Development of Expertise

In reviewing experimental studies on the effects of rest on movement learning Schmidt and Lee (2013) explain that, for most tasks, providing short rest periods (i.e., breaks from practicing the movements) leads to greater learning, as measured on retention tests. The objective of these retention tests is to analyse the participant's continued learning and control of a specific task. Within the context of a single practice session, athletes and coaches have the ability to distribute rest periods in a manner that allows for the enhancement of motor skill learning. These rest periods offer the learner time to evaluate their current movement performance and errors in movement and consider ways to improve on performance on the basis of these errors. The rest periods also offer the individual time to receive and consider feedback provided by their trainer or coach which also aids in learning.

While studies in the area of mainstream psychology often utilise rest periods within their testing methods, the examination of these rest periods is typically overlooked. In a study conducted by Coles and Tomporowski (2008), executive functioning and information processes of 18 participants were assessed via a set of visual switch tasks that tested cognitive functioning abilities. One part of the study involved implementing a 40-minute rest period in-between sessions during which participants were shown a film and documentary and were not allowed to perform any other tasks. Results revealed that when participants underwent this 40-minute rest condition in-between tasks response errors and recall time decreased when compared with the results obtained in the pre-rest condition. Additionally, mental performance was shown to increase during the post-rest testing condition (Coles &

Tomporowski, 2008). These conclusions suggest that rest is an important aspect of individuals' memory retention and consolidation between periods of activity. It is noted that these periods of rest should not be viewed as passive conditions and can help in improving mood conditions by providing individuals with a break from mentally challenging tasks. However, many studies within this field only acknowledge the concept of rest in a peripheral and trivial manner.

Mercer (2015) conducted an experiment on the effect of short-term wakeful rest on interference-based forgetting. A foreign language learning activity was administered to 87 participants, where they were shown English translations to foreign words and were examined based on their retention of the translations. Participants were assigned to one of two groups: the first group were provided with a rest period before an interfering distractor task, while the other group did not have a rest period until after an interfering distractor task, the rest periods in both groups were eight minutes in length. Following the rest period or distractor task, delayed recall tasks were administered to the participants. The results revealed that the participants who had the delayed wakeful-rest period were more susceptible to retroactive interference. Newly presented information causes older presented information to be forgotten (Mercer, 2015). In contrast, the rest periods that immediately followed the recall period helped reduce forgetfulness by allowing participants time for memory consolidation and to reduce susceptibility to retroactive interference. Furthermore, the implementation of rest periods can help prevent forgetfulness that may have been caused by interference (Mercer, 2015).

Similarly, in a study conducted by Craig and Dewar (2018), the authors investigated how and if memory consolidation during rest periods protects the intricate details of newly formed memories. Within the study, sixty adults were shown sixty photos of everyday items included within the Mnemonic Similarity Test (MST), before undergoing a test phase where

they were asked to recall those images. The initial images were shown within an encoding period where the participants experienced any one of the following events afterwards: no time delay before the task phase, 10 minutes of wakeful rest, or 10 minutes of a different perceptual task. The participants' memory of the images was then probed by using the MST and by being shown 90 photos which included: 30 similar, 30 new, and 30 identical photos of the ones that were shown during the task (Craig & Dewar, 2018). Results showed that participants who engaged in 10 minutes of wakeful rest after viewing the initial images were better at discerning the exact images from the visually similar images, compared to those who were asked to engage in the perceptual task in-between phases. This would suggest that when individuals are given rest between tasks to consolidate their memories, they are more likely to recall the finer details of that experience.

Furthermore, in a study conducted by Lim and Kwok (2015), various lengths of task breaks were used to discover the effect that it had upon individuals' attention and 'time on task'. The study consisted of 71 participants who were asked to complete an hour-long auditory oddball task that consisted of two resting opportunities. Within this time, participants performed three 15-minute segments of the task with two rest periods separating these tasks. The length of these rest periods was either: short (1 minute), medium (5 minutes), or long (10 minutes), with the six possible rest combinations evenly distributed to the 71 participants. The results of this study concluded that longer rest periods were associated with a more immediate improvement in reaction time, and that these rest periods allow for effort-allocation strategies and resource recovery (Lim & Kwok, 2015). Following the completion of a break period, regardless of time, participants demonstrated a restorative effect based on their increased recognition of auditory tones 'hit rate' and reaction time. Furthermore, a subsequent decrease in reaction time following the rest period was positively correlated to the length of the rest period; however, the performance or successful 'hit rate' of the task was not

demonstrated in the same manner. This effect that is demonstrated by shorter rest periods on reaction time demonstrates the restorative processes that rest has upon mental fatigue.

Ericsson, Krampe, and Tesch-Romer (1993) conducted an empirical study of the practice activities of skilled musicians and music teachers, revealing how rest periods were critical during periods of deliberate music practice. Within their research, deliberate practice was defined as activities that are effective in improving current levels of performance. These activities are characterised as requiring a high level of concentration and not being inherently enjoyable (Ericsson et al., 1993). Furthermore, because of the high level of concentration, deliberate practice is often undertaken alone, presumably to avoid distractions that can affect concentration. In the study, deliberate practice was limited to four hours per day and to one hour at a time, indicating that rest was required between challenging practice sessions. Practice alone was also seen by the violinists as requiring effort, which is consistent with the finding that the violinists engaged in restful activities to recover from practice sessions.

Decades following research investigating the role of deliberate practice that effects skilled musicians (Ericsson et al., 1993), Baker and Young (2014) evaluated the authors' original framework, while also reviewing literature in sport that supported their claims. In accordance with Ericsson's original work, effort towards a task requires an element of attention during practice and the need to balance this training time with appropriate time for rest (Baker & Young, 2014). By facilitating an individual's personal need to recuperate following some amount of high-level of training effort, these rest periods are necessary for the individual to maintain a balance between training and rest while improving their level of skill. This ongoing process of individuals adapting their time spent resting with regards towards possible increases in physical and mental stress is important for them to maintain a healthy well-being. With this being said, research in this area tends to focus on deliberate practice contributing to individuals' ability to acquire expert performance and not on rest and

recovery states. Future research that addresses the significance of studying the interspersing of rest within these practice activities can help account for the variance in performance beyond deliberate practice alone (Baker & Young, 2014).

Ericsson (2006) offers a review of literature that discusses the effects of deliberate practice upon individual differences when acquiring expert performance. Ericsson highlights that focus and concentration are required elements of deliberate practice which can be confined to specific amounts of time. These limited amounts of time being spent on skill acquisition can be seen to generalise throughout numerous domains of expertise as well. Previous research by Ericsson had found that expert performers involved in different domains had engaged in concentrated practice for approximately one hour, with this usually occurring in the morning when their cognitive functioning is sharp (Ericsson et al., 1993). Taking his previous research into account, Ericsson posits that individuals who are not able to sustain an adequate level of concentration will not be able to engage in a sustained level of deliberate practice (Ericsson, 2006). However, as rest has been described as being an essential practice involved with individuals maintaining and restoring equilibrium, individuals who do not have restrictions on their amount of daily deliberate practice can encounter progressive symptoms involved with overtraining and burnout.

While expert performance can be effected by individual differences in relation to factors that may restrict their concentration (Ericsson, 2006), he also states that accounting for an individual's unique, genetic endowment is not required in order to account for their development of expertise (Ericsson, 2007). It is argued that healthy adolescents' DNA contain dormant genes that are able to be activated when these elite performers maintain and intensify their deliberate practice actions. These mechanisms that contribute to improved performance can be captured and analysed further when studied under certain laboratory conditions. It is later mentioned that the development of expertise in sports performance can

be characterised by states of adaptations that allow for mediation by physiological mechanisms. And, that external factors such as: social support, access to training and mentors, and motivation can impact an individual's engagement in deliberate practice (Ericsson, 2007). Therefore, in relating these factors back to the need for periods of rest, without adequate facilities, training, and support to rest, athletes' development towards expert performance can be hindered. Therefore, the level of engagement in deliberate practice and the quality of resources present can either promote or constrain developing athletes' sporting progression.

I have discussed the direct effect that deliberate practice has on an athlete trying to achieve expert performance. Concrete figures such as 10 years and/or 100,000 hours have been established as the benchmark for achieving expert performance (Ericsson et al., 1993) and his been widely accepted as such. What we do not know is when, and how much, rest is needed within this 10-year period in order to facilitate athletes' development towards expert performance. In a review article written by Ward, Hodges, Williams, and Starkes (2004), the strength and reliability of the theory of deliberate practice is discussed, relating to its transferability and fit within the domain of sport. Specifically, it is discussed that regardless of athletes' age, elite athletes tend to arrange their time so that they engage in more amounts of deliberate practice compared to sub-elite athletes. As rest is inherent towards an athlete's expert progression, it can be inferred that athletes at an elite level will apportion their rest time more than other athletes in order to guarantee an optimal state going into their next training sessions.

As discussed in the previous sections, periodisation is a strategy of organising training sessions in order to develop and promote an athlete's physical performance over time. In a review article, Farrow and Robertson (2017) use this periodisation framework to promote systematic investigation into some of the acute and longitudinal effectiveness of skill

acquisition-based interventions. The authors utilised the SPORT acronym (specificity, progression, overload, reversibility, and tedium). These principles were then re-conceptualised and adapted to applicable skill acquisition principles (Farrow & Robertson, 2017). Relating to the principles of reversibility and memory consolidation specifically, the act of "offline learning" where an individual is not engaged in physical practice can be seen to contribute to their skill acquisition. Rest and recovery can be included within this process as they do not overlap significantly with athletes' physical practice and competitions. However, while rest has been mentioned in literature regarding skill acquisition and deliberate practice, it has not been investigated directly or in an applied manner. Therefore, by routinely monitoring athletes' skill acquisition, a better understanding of practice and scheduling methods and interventions can be derived. As this process of skill acquisition requires focused cognitive attention, organised scheduling interventions can also influence and promote rest between practice sessions.

Throughout the literature previously discussed, superior sporting performance can be seen as being task-specific and dependent upon continued exposure and extensive practice. Concurring with this, Yarrow, Brown, and Krakauer (2009) offer a review that attempts to link these deliberate practices with neural and cognitive processes that are imperative for an athlete to reach elite performance. Within their review, personal inter-individual differences and extensive practice can be seen to help distinguish the cognitive functioning between novice and elite athletes. Elite athletes are also shown to possess greater neuro-mechanical functioning than their novice counterparts. Because these elite athletes demonstrate higher-order mental functioning, planning, and decision-making processes, there should be analogous physiological changes to their brain structure and functioning. Sufficient rest periods in-between these extensive practice sessions are necessary for neurological adaptations to occur and to develop greater cognitive functioning.

In order to facilitate increased levels of sporting performance, some athletes may choose to utilise certain intervention techniques that can optimise physical and mental functioning. In an overview of literature discussing mindfulness and acceptance-based interventions for athletes, Gardner and Moore (2012) discuss the development of these practices, along with the efficacy of these intervention techniques. A specific paper within this review, also conducted by Wolanin, Gardner, and Moore (2003), revealed that competitive athletes who had participated in psychological skill-based intervention techniques perceived an increase in their task-focused attention and practice intensity. Another study conducted by Hasker (2010) found that athletes participating in these types of skill-based interventions displayed: abilities to describe internal experiences, increased experiential acceptance, and the ability to commit to behaviours related to them achieving their sporting goals. These advances in intervention techniques demonstrate the importance of these techniques in promoting greater sport performance, along with the importance of the specific mechanisms involved within these intervention processes. While this overview does not specifically mention rest as part of these mindfulness and acceptance-based practices, it was previously noted that rest periods have the ability to enhance individuals' task-oriented abilities (Ericsson et al., 1993). With this in mind, expressed symptoms from the attainment or deficit of rest can be a contributing factor to their ability in enhancing their performance.

This section has demonstrated some of the positive effects that implementing rest periods can have upon memory recollection and the development of motor control. Both of these aspects have key implications towards an athlete's sport performance as they continue to practice skills and study strategic aspects of the sport. It is also evident that while athletes do rest periodically from their specific tasks, their cognitive abilities continue to function which better prepares athletes for future experiences. However, results from these studies are based on rest periods that are mostly controlled and not necessarily real-life resting scenarios

that an individual might experience. Therefore, a greater understanding of what athletes choose to do when they are resting can aid in the further development of how various types of rest periods can contribute to athletes' motor learning abilities. The following section will discuss literature regarding Social and Environmental Influences and how they pertain to rest.

Social and Environmental Influences

Athletes involved in sporting development environments that involve a talent pathway are more susceptible to negative effects on their general well-being. Ivarsson et al. (2015), examined the effects of talent development environments (TDE) on the well-being of elite, young football players. Specifically, 195 Swedish youth academy players between the ages of 13 and 16 were studied using a longitudinal design and was administered to athletes at the beginning of the competitive season and two more times during the course of the year; at six months, and 12 months following the first assessment. Results expressed that higher levels of well-being were exhibited by the groups that expressed the highest level of TDE during the baseline tests and follow-up assessments (Ivarsson et al., 2015). This finding supports the notion that psychological functioning and well-being are important factors associated with effective talent development and attainment of expertise. Coincidently, individuals' personal perceptions of their environment can be seen to have an effect on their own stress-levels and maintenance of general well-being. However, the importance of young athletes' well-being within the discourse of long-term development is still largely overlooked.

In order for individuals to maintain a positive well-being and stay motivated they must satisfy their basic psychological needs. These needs have been outlined in Deci and Ryan's (1985) book introducing Self-Determination Theory. Within this theory, the authors offer a self-determination continuum which incorporates six stages of motivation, progressing from amotivation to self-determination. Individuals are able to identify with one of these

stages depending on their sources of motivation, regulatory style, and how their motivation is regulated. Both our intrinsic and extrinsic motivations push us to fulfill three basic needs presented in this theory which include: competence, autonomy, and relatedness. Competence refers to our ability to be effective when dealing with environmental factors, autonomy relates to have control over our lives, and relatedness refers to the need to have social relationships (Deci & Ryan, 1985). As rest assumes maintaining equilibrium over an individual's body and well-being, motivation becomes necessary for them to progress towards self-determination. Lack of personal consideration, along with imposing external factors, regarding these needs can present the individual with negative effects on their personal motivation and self-belief.

In further studies, these factors contributing to self-determination have been generally supported. A systematic review of these studies was carried-out by Li, Wang, Pyun, and Kee (2013), presenting the various relationships displayed between the basic motivational needs/ regulations, and burnout. These basic needs and regulations that were identified within the review were: amotivation, extrinsic autonomous regulation, controlled regulation, and intrinsic motivation. Specific keywords and inclusion criteria were used regarding self-determination and burnout to identify articles, with 18 studies meeting these criteria. Through the analysis of these studies, all of the basic psychological needs were found to have between a small to large effect on being able to predict burnout, except for controlled regulation which show weak relationships with the burnout subscales (Li et al., 2013). These results demonstrate that findings related to global athlete burnout generally support the structure of self-determination theory. As negative effects concerned with these basic psychological factors can be seen to contribute to symptoms of burnout, rest should be considered in order to aid the athlete in meeting their psychological needs.

In a review article written by Bartholomew, Ntoumanis, and Thogersen-Ntoumai (2011), the authors draw upon self-determination theory to explore the social-environmental conditions that satisfy, versus thwart, the psychological needs which affect athletes' functioning and well-being. Further analysis of previous studies identified that athletes' need satisfaction can be predicted by their personal perceptions of autonomy support, while need thwarting could be predicted by the level of coach control. Additionally, when athletes perceive their needs as being met, positive outcomes were predicted concerning their sport participation, while maladaptive outcomes were associated with athletes' needs being thwarted. Specifically, one aspect associated with athletes' perceptions of need thwarting involved the association with perturbed psychological arousal prior to training (Bartholomew et al., 2011). These seemingly unwanted social and environmental factors can initiate the athlete out of a cognitive restful state. There are important implications regarding athletes' perceptions of their needs being satisfied, with potential shortcomings presenting maladaptive outcomes. Because of this, sport coaches and other members within an athlete's support staff should be cognisant of their athletes' individualised interpersonal styles while also being accommodating to their unique psychological needs.

As some athletes will not have their needs met while competing under certain coaches, it can be understood that coaching behaviours can have an effect upon the intrinsic motivation of the athlete. Hollembeak and Ambrose (2005) investigated the relationship between athletes' intrinsic motivation and coaching behaviours while using a framework of self-determination theory. The authors tested whether athletes perceived: autonomy, competence, and relatedness presented any mediating effects within this relationship. A total of 280 male and female athletes were administered a questionnaire which assessed their own intrinsic motivation as well as their perceptions of their coach's behaviours. Results from the study determined that all three perceived factors (autonomy, competence, and relatedness)

contributed to mediating the relationship between coaching behaviours and athletes' intrinsic motivation (Hollembeak & Ambrose, 2005). As coaching behaviours consist of training and instruction, as well as automatic versus democratic coaching styles (within this study), it is appropriate to surmise that the ability and willingness of coaches to allow for adequate rest periods for their athletes also has a mediating effect on their intrinsic motivation.

Acculturation into high-performance sporting environments can be a difficult process for athletes in how they maintain their general well-being. Because of various sporting programmes' subcultures of specific traditions and beliefs, athletes may resist these norms initially, which can result in physical, psychological, and emotional imbalances. In a longitudinal study conducted by Tibbert, Andersen, and Morris (2015), one elite Australian football player was interviewed five times over the course of a 14-month period to investigate his personal experience as a rookie in a professional club. By conducting these interviews over a long period of time, researchers aimed to investigate how one culture's norms, traditions, and ideals can influence an individual's beliefs, behaviours, emotions, and attitude. After one particular training session, the participant recalled that "I am just so tired… I had been trying so hard, but then I just wanted to get out of there. I'm sick of it." This quote starts by suggesting that the athlete is lacking physical rest by training too much. But it also explains that the environment that the athlete has been subjected to has caused a disturbance to his own motivation. Although the athlete's perception of himself was that he was exhausted, he believed that all he required was a break in order for him to come back to the club with more determination the following year (Tibbert et al., 2015). This yearning for time away from this sporting environment explains the nonconforming culture that professional clubs may adopt in order to attain success. Furthermore, athletes competing at a professional level can find their social interaction to be limited to within their sporting environment which can contribute to increased stress and anxiety. Therefore, these subcultural ideals of mental

toughness and playing through pain can have a negative impact on an individual's physical and mental well-being.

To investigate the concept of mental toughness in greater detail, Jones, Hanton, and Connaughton (2002) conducted a study addressing the fundamental problems concerned with the definition and attributes of mental toughness. Specifically, the authors suggest that the terminology of mental toughness has not been consistent and is lacking conceptual clarity. Using various qualitative methods, 10 elite-level athletes participated in this study to help better define mental toughness, as well as identify some necessary attributes that athletes must possess in order to be a mentally tough performer. After examination, the authors were able to offer a definition of mental toughness as having the natural or developed psychological edge that enables you to: cope better than your opponents with many demands, and be more consistent than your opponents in remaining determined, focused, confident, and in control under pressure (Jones et al., 2002). Furthermore, the authors identified and ranked the attributes that were found to be most relevant to an athlete's mental toughness. Of importance to my research, attributes included: switching a sport focus on and off as required, remaining fully focused on the task at hand, and regaining psychological control after uncontrollable events (Jones et al., 2002). These attributes all require a degree of cognitive activity in adaptation to their external environments. Therefore, rest can be supplementary in building athletes' mental toughness as it can provide cognitive recovery for when the athlete is not under-pressure and having to maintain their focus extensively.

While athletes who try to maintain their level of mental toughness within high-performance sport may experience a negative impact on their physical and mental well-being (Tibbert et al., 2015), mental toughness can also be a quality that is highly valued by fellow athletes and coaches within these high-performance environments. Coulter, Mallett and Singer (2016) conducted a study investigating the concept and value of mental toughness

within a high-performance Australian Football League team. Using a previous framework of organisational culture, the authors utilised focus groups and individual interviews to investigate mental toughness within the club. Nine participants which included players and senior coaches agreed to take part in the study. Results demonstrated that the participants had a substantial and consistent subcultural knowledge of their club and were able to exhibit their perceptions of mental toughness through their specific cultural perspective. Mental Toughness was also found to be a socially derived term that encompasses unrelenting standards and sacrificial displays, underpinned by select subcultural values reinforced within the club (Coulter et al., 2016). As a whole, mental toughness was perceived to be a cultural understanding, which epitomised and idealised masculinity. Within this specific environment, the concept of rest may not be as valued comparatively to other sports at various levels of performance. This is because there is a level of influence and control over the value of certain concepts and activities. Rest in sporting contexts will always remain culturally subjective as various clubs will perceive the concept differently.

Further research conducted by Woodman and Hardy (2001) investigated organisational stressors in elite athletes who have competed at the Olympic Games and/or a world championship. In addition to the athletes having competed in a major international competition, athletes were also selected based on their varying experiences involving their sport organisation and their participation within this structure. Fifteen athletes ended up participating in the study and were interviewed with regards to potential sources of organisational stress while preparing for a major competition. Four main issues involving organisational stress were studied which included: team, leadership, personal, and environmental issues. Analysis of interviews found numerous issues that arose within each of these sources. Environmental issues included: finances, training environment, and selection. Personal issues that were revealed were: goals and expectations, nutrition, and injury.

Leadership issues involved: coaching style, and coaches. And, team issues included: roles and communication, atmosphere, and support network (Woodman & Hardy, 2001). Just as these sources provide extra stress for these athletes to cope with, additional periods of rest could be implemented in order to help facilitate their preparation. At an applied level, this study also suggests that members of elite athletes' support and training staff should possess and utilise skills to manage stressors that these athletes experience.

As potential stressors may not always be expected, it is important to understand how athletes cope-with and appraise various scenarios. Dugdale, Eklund, and Gordon (2002) investigated differences in this coping and appraisal process within a group of elite athletes when presented with both expected and unexpected stressors. 91 athletes who were competing in the 1998 Commonwealth Games completed a set of questionnaires within the three-week period in which the Games were being held. 71 of these athletes were able to identify a stressful experience that happened before or during their most important competition within the games. Analysis of the questionnaires found that there were significant differences in how these athletes appraised these two types of stressors, with the unexpected stressors being perceived as more threatening and were less likely to be acted-upon (Dugdale et al., 2002). The occurrence of these additional stressors caused the athletes to employ a variety of coping strategies. As athletes set to compete in major international events will likely experience a new geographical environment and adapted schedule, their ability to prepare for these changes and the potentiality of stressors arising is vital for them to compete to the best of their abilities. Strategies that involve resting may be able to alleviate the effects of these physically and mentally strenuous events.

Along with the apparent cognitive demands, emotional demands are also prevalent to an athlete pre-competition and can be attributed to stressors that they experience. In a study conducted by Mellalieu, Neil, Hanton, and Fletcher (2009), the authors investigated the

perceived organisational and performance stressors that were experienced within a competition environment by elite and non-elite athletes. Six elite and six non-elite athletes were interviewed about the various demands that they had experienced in preparation for competition. The framework utilised within the study was able to find ten sources of stress, five stemming from performance-related stressors, and five from organisational stressors. Also, athletes from both groups displayed similar amounts of performance and organisational stressors, with some sources of stress being unique to that specific group (Mellalieu et al., 2009). As many external factors are out of athletes' control, it is important for them to understand that they may have no influence over these stressors and must try to maintain their focus. It is also important for supporting members within an athlete's social network to prepare the athlete for unexpected stressors within a competition environment. By doing this, the athlete may be able to use coping and appraisal methods to avoid emotional stress which will then lead to them feeling more rested before having to compete.

When participating in a higher-performance club and/or programme, athletes may experience an increased level of control and surveillance that is exerted upon them. In a study conducted by Manley, Palmer, and Roderick (2012), members of two professional sporting academies (football and rugby) were interviewed in order to reveal their individual perceptions, values, and interactions that culminate when exposed to their own sporting environment. Of specific interest, data collection and utilisation of athletes' quantifiable physical attributes, have made it easier for members of the coaching staff to identify strengths and weaknesses in their athletes' performance (Manley et al., 2012). As this network of data and surveillance assess athletes based on their attributes and performance, opportunities for rest utilised outside of this structure may not be prescribed or addressed, however athletes can still remain subject to the coach's appraisal and surveillance. It may seem that actions relating to athletes' quality of rest, outside the scope of their programme, would not be considered in

decisions such as team selection. However, because of advances in social media, social media insights involving athletes' actions, thoughts, and locations can now be used as surveillance to observe and report (Manley et al., 2012). This institutional control that is accessible by members of the support staff may lead to the internalisation of social data that the athletes may ordinarily share freely. However, it does not provide specific information on how or whether these athletes would take part in more restful activities away from their sporting environment.

In a specific study involving the relationship between athletes' emotion regulation and sport performance, Wagstaff (2014) conducted experimental trials with twenty endurance athletes consisting of four separate visits for each individual. Each visit was separated by at least a forty-eight-hour rest period and were given specific instructions concerning their hydration and meals. The athletes' visits involved the occurrence of one of four different types of conditions: a familiarisation, control, emotion-suppression, and nonsuppression conditions. The familiarisation control consisted of various body (internal/external) measurements and a 10-kilometer cycling time trial in order to assess self-regulation over the variables that are typically associated with physical endurance skills. The control condition utilised the same framework as the familiarisation condition. During the emotion suppression condition, participants were instructed and guided to fill out a Brief Mood Inspection Scale (BMIS). After this, they were asked to watch a "disgusting" three-minute film in order to provoke an emotional response from the athlete and completed another BMIS. Following this, they would complete a 10-kilometer cycling time trial. Lastly, during the nonsuppression condition participants completed the same tasks as the suppression condition, but during the video they did not receive any guidance regarding their own emotion suppression or regulation. Results of this study identified that participants experienced lower levels of power output, and peak heart rate during the suppression condition, while their perceived exertion

was significantly higher compared to the other conditions (Wagstaff, 2014). These results suggest that emotional events, confounded with specific demands of self-regulation, can hinder athletes' physical performance. While this study does not investigate rest specifically, it does exhibit that emotional suppression can pose as an interruption for athletes' well-being and performance.

Because emotional suppression can interrupt individuals' personal well-being and performance, it is important for them to draw upon various strategies to help cope with these potential ill-effects. Jones (2002) presents a review of literature discussing the role that emotions play in athletes' sport performance and the importance for them to be able to draw upon various strategies to regulate and enhance their emotional control. Jones outlines the strategies that aim to alter an athlete's cognitions, resulting in a different and more appropriate emotional response. These strategies include self-statement modification, imagery, Socratic dialogue, corrective experiences, self-analysis, didactic approach, storytelling metaphors and poetry, reframing, cognitive paradox, and the use of problem-solving skills. (Jones, 2002). Ideally, an athlete would be admitted enough time away from their sport and sporting environment to rest and not need to use these strategies intensively. However, if self-regulation is consistently required because of emotional events, these strategies may be more necessary for athletes to utilise in order to maintain a restful state.

In high-performance sporting environments, the construction of a squad's trainings and matches can have an impact upon the duration and quality of athletes' rest. In a longitudinal study of 16 elite male professional footballers conducted by Fullagar, Skorski, Duffield, Julian, Bartlett, and Meyer (2016), a series of questionnaires examining the athletes' subjective rest were employed over a three-week period. Within the athletes' schedules they were given one rest day per week and did not complete the questionnaire on one of these rest days. As a result of this study it was found that athletes': bedtime, sleep

duration, and sleep restfulness, significantly varied from when they had night matches, compared to when they would have either day matches or training days (Fullagar et al., 2016). The athletes experienced a reduction of perceived rest following these night matches. An additional aim of this study was to examine athletes' environmental factors and their impact rest. Consistent with other research, nervousness, unfamiliar sleeping environments, and strenuous matches were self-reported factors that athletes attributed to their lack of sleep restfulness. As this study targeted an audience of a similar sport and level of competitive play, further studies regarding perceived rest should be utilised with a larger and more diverse sample size.

Athletes' perceptions of rest periods can vary depending on the stage of development in their career. A qualitative study conducted by Durand-Bush and Salmela (2002), interviewed 10 Olympic and/or world championship gold medalists in order to discover the factors that had contributed to their development and maintenance of their athletic performance. After analysis of the data obtained, four specific stage of the athletes' development process were identified and defined chronologically as the: sampling, specialising, investment, and maintenance years. Athletes noted that within their stage of investment that they would have either one or two days off to rest per week. Furthermore, while most of the athletes did not engage in structured forms of relaxation techniques, they posited that they kept themselves balanced by limiting their interactions with other people within their environment (Durand-Bush & Salmela, 2002). This statement suggests that the athletes needed rest periods away from other individuals within their sporting environment in order for them to cope with potential stressors and experience peak performance. Correspondingly, athletes stated that short and long-term recovery periods during their maintenance stage were extremely valuable. Athletes had also mentioned that they wished for even more time to rest (Durand-Bush & Salmela, 2002). As these athletes maintained a

consistent elite level of performance for a long stretch of time, many of them believed that these rest periods were essential so that they could avoid burning out.

As it is important for elite athletes to adapt their rest periods based on their sporting development, youth sport organisations and their coaches should also incorporate and develop a positive climate for young athletes to excel. Smith and Smoll (1997) offer a review of the foundations and structures of team building within the disciplines of industrial and organisational psychology, while also evaluating the efficacy of such structures. By drawing upon empirically derived guidelines found in Coach Effectiveness Training measures it is recognised that developing a positive and cohesive team environment should be a primary objective for coaches. Coaching training in this area has demonstrated improvements in intra-team interactions, as well as positive outcomes for the athletes including heightened self-esteem, reduced performance anxiety, and lowered dropout rates (Smith & Smoll, 1997). With this in mind, coaches of youth sports teams should stress the importance of rest within these structures to ensure that their athletes can attain these positive outcomes stated. By ingratiating high values of rest upon athletes at a young age, they will be better equipped to self-regulate their emotional stressors when they are faced with them at higher levels of performance.

The importance of a positive and supportive surrounding environment for adolescents can be further evidenced by a longitudinal study conducted by Adams, Ryan, and Keating (2000). Their study investigates the influence of family and university environments upon students' ego and identity formation as they start university life. A total of 294 students participated in this study and were administered mailed surveys for them to complete throughout their first two years at university. Results of the study identified that intellectual and supportive academic environments and a democratic family are predictors of ego strength. Also, it was found that when students enter a new environment, their perceptions of

that environment may be formulated early and may remain stable for some time (Adams et al., 2000). Therefore, when looking at how rest is embedded within a sporting culture, it is important that coaches and other senior members within the club instill positive values within their young athletes, including values such as the importance of rest. The consequences for not instilling these values early and often can have a negative effect on the young athlete as they may be more susceptible to overtraining and burnout if rest is overlooked.

As you can see, the specific sporting culture can have a significant impact on an athlete's personality attributes and perceptions of their sport. However, the type of sport that the athletes compete-in can also have various effects on the athlete and their unique personality profile. Nia and Besharat (2010) conducted a study comparing numerous personality characteristics between athletes who are competing in either a team or individual sport. 134 athletes in total (92 team, 42 individual, 88 male, 46 female) completed two questionnaires, which included the: NEO Personality Inventory-Revised (NEO-PI-R) and the Sociotropy-Autonomy Scale (SAS). Individual athletes scored considerably higher on conscientiousness and autonomy compared to team sport athletes. On the other hand, team sport athletes maintained significantly higher scores on agreeableness and sociotropy compared to individual sport athletes (Nia & Besharat, 2010). These results demonstrate that there are in fact some differences in individuals' personality characteristics, dependent upon if they are competing in a team or individual sport. In relation to rest, individual athletes who have higher levels of conscientiousness and autonomy may be more open and willing to engage in various rest techniques and strategies. Whereas team-sport athletes who scored higher in agreeableness and sociotropy may be more conforming in their resting techniques in order to adapt with their team's specific subculture.

Athletes can also maintain differences in perceptions regarding their responsibility within a team based on the level of monitoring and institutionalisation within that specific subculture. In a study conducted by Long, Pantaleon and Bruant (2008) two separate groups of 18 adolescent basketball and soccer players were interviewed in regard to their responsibilities within their team. Athletes in the first group competed in their sport at an institutionalised level where their trainings and competitions were structured and official. While the athletes in the second group participated in their sport in a self-organised manner where they had to regulate their own responsibilities. Results from the study demonstrated that self-organised players described their responsibilities as being personal and moral, while the institutionalised athletes viewed them as being functional and contractual (Long et al., 2008). If we take the view that rest is a responsibility and necessity for athletes, those competing on sports teams that are more institutionalised and have multiple subcultural standards will feel obligated to engage in rest as they have additional pressures associated with their performance. Whereas, self-regulated athletes do not disperse their responsibilities to others within their sporting environment as much and rationalise these responsibilities personally. Therefore, athletes' perceptions of rest of rest can vary depending on the level of institutionalisation within their sporting environment.

Overall, athletes' interaction with their sporting environment is a process that can impact upon their perceived attainment of rest. Athletes competing in high-performing sport environments are likely to endure greater exposure to increasingly high demands and training times. This increased time within these sporting environments also contribute to the lack of time athletes are able to spend engaging in social interaction outside of a sporting domain. Additionally, coaches, family, and support staff members play a pivotal role in an athlete's development and maintenance of well-being. With this in mind, feedback received by athletes from these individuals is not taken lightly and can ruminate within the athlete's mind.

Therefore, managing athletes' level of exposure to consistent feedback, criticism, and input within a sporting environment, can allow athletes to ease their mind and recollect upon past experiences. The following sections will discuss rest and its relation within the fields of nutrition, sociology, and occupational literature, while also considering holistic considerations of rest.

Nutrition

Adequate nutrition plays a significant role in how individuals maintain their level of performance and well-being. While rest may be seen as an indirect concept in this context, the idea that athletes may have to organise their dietary intake carefully in order to physically and mentally replenish their bodies suggests that this action can facilitate well-being. A journal article written by Holway and Spriet (2011), outline the considerations that should be considered when implementing a nutritional programme for a sports team. Importantly, the structure of the sporting programme, including a sport science and coaching staff, should be knowledgeable of the nutritional requirements that their team demands following training and competition. For many sports, a free day usually follows match-days which allows athletes to further recover (Holway & Spriet, 2011). By implementing this off-day, the coaching staff recognise that this period of time is pertinent for athletes to replenish energy levels through proper nutrition. Some sport teams competing at higher levels of competition may also plan their pre-seasons at an off-site residence in order for athletes to recover from intense training sessions, where food may be seen as a source of gratification due to the rigorous training schedule (Holway & Spriet, 2011). This act of going away can affect an athlete's well-being as it may put them into an intense physical environment that harbours performance. Additionally, because food may be seen as a source of gratification, athletes may not find the environment and training as enjoyable, resulting in a negative impact on their mood. With

this being said, it is important to realise that an individual approach is necessary to cater to athletes' specific needs regarding nutrition and general well-being.

Strategies that athletes can put in place in order to plan and develop their dietary plan can pre-empt possible risk factors that may arise from their involvement in team sports. In a review of literature written by Mujika and Burke (2011), recovery in the form of refueling, rehydration, and adaptation activities is acknowledged as a priority for athletes between competitions and sessions. This suggests that optimal performance for athletes is more attainable through proper nutritional education and interventions. However, rest periods allowing for recovery methods to be utilised may be limited for athletes depending on their specific situation. For example, rapid refueling after the completion of matches or sessions can be more important where there is only a short rest interval before their next session (Mujika & Burke, 2011). For this and other relevant situations that athletes face before, following, or during competitive training, the preparation of the proper amount of nourishment is essential for optimal recovery.

Rest in Occupational Literature

Research that has discussed rest within occupational literature has revolved around an individual's ability to disengage from the factors and processes relating to their work. In one specific study concerning embitterment in the workplace, Michailidis and Cropley (2016) investigate how procedural injustice can lead to rumination, preventing employees to properly recover. The study involved three-hundred and thirty-seven participants: with the majority of participants working full-time. Additionally, the survey that was administered to the participants assessed the subjects': perceptions of organisational justice, supervisory control, embitterment at work, work-related rumination, negative and positive affect, job demand and social support. The results of this study found that the concept of rumination

correlated positively with embitterment, while detachment correlated negatively (Michailidis & Cropley, 2016).

In a specific study conducted by Roger and Jamieson (1988), the authors investigated the role that extraversion, neuroticism, and emotional control had upon heart-rate variability following stressful situations. As a part of their study, the authors define rumination as an individual's persistent thoughts caused by prolonged physiological arousal and delayed recovery from stress (Roger & Jamieson, 1988). Rest has been regularly mentioned as a physiological aspect of recovery but has not been studied to a great extent as a proxy for recovery in a psychophysiological manner. Therefore, if rumination within the workplace can be seen as persistent, cognitive, thoughts that are caused by physiological arousal, rest is a practice and concept that can also be applied for understanding an individual's ability to 'switch-off' from physical and psychological factors. 'Switching-off' is the process in which individuals effectively mentally and physically recover; however, it can be inhibited if these individuals are unable to disengage from their work after completion (Michailidis & Cropley, 2016). Therefore, even though the individual is physically removed from their workplace, their mind may continue to be engaged and ruminate over work-related thoughts. This is a key aspect in connection with performance sports, as athletes who are unable to manage sport-related ruminations outside of their sporting environment will maintain a lesser cognitive capacity when they are competing.

In order to better understand individuals' ability to disengage from their work after completion, another study written by Cropley, Dijk and Stanley (2006) investigated the association between teachers' job strain and sleep quality following their workday. Additionally, the authors assessed the participants' ability to switch-off from issues relating to work, and whether this ability mediates or moderates their relationship present between job strain and sleep quality. The authors asked the 143 participants to complete a record of all of

their thoughts relating to their work on the hour between 17:00-0:00 and then rate the quality of their sleep the following morning. Results generally demonstrated that teachers underwent a degree of work-related mental disengagement and unwinding in the evening. However, teachers with higher levels of job-strain were reported to ruminate more about work-related issues, taking them longer to unwind, while teachers with higher job-strain reported to have poorer sleep quality compared to teachers with lesser job-strain (Cropley et al., 2006). There was also no apparent correlation between work rumination as a mediating technique in relation to job strain and sleep quality. On the one hand, this study demonstrates that job-strain does have a negative effect on professionals' (teachers') rest overnight. However, rumination of these job strains did not present any mediating effects to aid in these professionals' quality of rest.

Further research has been conducted in regard to "switching-off", in which, it has been utilised to distinguish psychological detachment during the evening periods of time when professionals are not working. In particular, Sonnentag and Bayer (2005) conducted a study investigating the predictors and consequences of workers' psychological detachment from their occupations during times when not at work. Eighty-seven workers of numerous occupations were included within this study and were asked to complete questionnaires and daily surveys over a period of three days, in-line with their working days. Results from the study indicated that individuals' workload had a negative impact on their psychological detachment during the evening. Participants also maintained that having psychological detachment from their work contributed to higher mood and lower fatigue. The relationship between psychological detachment and lower fatigue was also strongest on days that included a greater workload and more time pressures (Sonnentag & Bayer, 2005). This relationship creates a clear need for physical and psychological rest following a day of work. However, if

the individual has been working longer, they may struggle to "switch-off", in turn, making their need for rest less likely to be attained.

Tucker (2003) reviews an array of literature concerning the utilisation of rest breaks of specific occupations that require a high level of alertness, and how it effects individuals' accident risk, fatigue and performance. Within this review, the utilisation of micro-breaks in some instances have been seen as beneficial. Specifically, a study conducted by Dababneh, Swanson, and Shell (2001) found that the inclusion of short rest breaks for workers in a meat-processing plant aided in preventing dips in performance. Therefore, in order to maintain this high-level of performance it is important for these entities to consider and plan-out rest periods for the employees. Within an industrial setting, two-hour rest breaks are common and have demonstrated themselves as a control for the accumulation of risk that is apparent when individuals are at work (Tucker, 2003). However, the inclusion of additional rest periods within an individual's timetable can allow them to rest when they experience high levels of fatigue and performance declines. Research on rest in industrial settings is still limited, but it is still evident that the concept is seen as beneficial across different contexts.

While many approaches to increasing an individual's performance centers on their cognitive capacity, a successful approach needs to account for the person as a whole. In a theoretical article written by Loehr and Schwartz (2001), they offer a model for a "corporate athlete" who demonstrates an ideal performance state and an improved quality of life. Within this structure, capacities for: physical, emotional, mental, and spiritual energy is imperative for individuals' general well-being. Physical capacities can be enhanced by implementing healthy nutrition and exercises rituals, while also planning rest periods effectively. Additionally, taking small breaks throughout the workday and occasional meditation practices can facilitate mental sharpness. To successfully integrate these strategies, a rhythmic stress and recovery "oscillation" becomes necessary so that the individual can

expend more energy when focused on stressful tasks and renew energy levels when they are not involved with these tasks (Loehr & Schwartz, 2001). The spiritual component of this structure involves "stepping off the endless treadmill of deadlines and obligations" that each individual must meet (Loehr & Schwartz, 2001). Individuals' ability to disengage from their routine of everyday life can allow for a rest period where they can reflect on past experiences and possibly re-connect to a sense of purpose. The culmination of all of these capacities demonstrates the individuals' need to set aside time to rest and re-new their abilities.

In a case study written by Etzel and Monda (2012), the identification of qualities pertaining to time-management in a semi-professional golfer is investigated. Through observation, identification of stressors, and the implementation of specific time-management skills, the subject found effective ways to organise his life events. One of these changes that the subject chose to implement was to give himself twenty minutes during the workday to rest and recover, while also devoting his time working in the mornings to higher-priority tasks. By doing this, the subject is maximising their efficiency so that they are able to achieve peak performance by engaging in their more important roles early on, and by setting aside time to recharge (Etzel & Monda, 2012). Therefore, it can be viewed that an individual's ability to set aside time to rest during the day as a significant part of effective time management. In turn, a subsequent lack of allotted rest time portrayed by poor time management skills can lead to distress and has the ability to negatively affect an individual's performance and well-being (Etzel & Monda, 2012). Although the term time management rest has been detailed in general terms regarding the tasks of everyday life, it can also be attributed as a transferrable life skill that anyone can utilise to make their lives less stressful. In this sense, the effective management and implementation of rest periods can assist in athletes' maintenance of well-being and performance.

Holistic Considerations of rest

Although it is inherent that rest is universally accepted as a basic human requirement, its lack of a clear definition and specificity for effective prescription, along with conceptual similarity to related terms, have caused difficulties in advancing further research in this area. In a review of rest, Bernhofer (2015) analysed 27 separate studies that included a definition and/or provided a prescription for rest, asking whether the concept of rest is mature enough to provide a basis solid enough for future research and practice. This investigation was conducted by using scientific literature from multiple disciplines while specifically seeking disciplines whose practitioners recommend rest as a treatment for their patients. These disciplines included: nursing, medicine, physical therapy, psychology and occupational therapy. The specific questions used to investigate this literature base were: How is rest described or defined? What are the benefits of rest? How is it determined that rest is necessary? And, for what purpose is rest described? The review of these studies found that the terminology of rest was inconsistent across the various disciplines and contexts of research and therefore that the conceptual basis for rest is immature. Furthermore, because rest was seen as being vague in its conceptual boundaries, contributing to confusion and overlap of similar terms such as sleep and relaxation. Despite the conceptual variations of rest in current literature, Bernhofer proposed a rudimentary definition of rest on the basis of this literature. Rest can be considered as a temporary, restorative, and beneficial state involving the cessation of physical, mental, or spiritual work. However, while this theoretical definition may prove useful to promote and challenge the conceptual development of rest, further qualitative measures must be utilised to validate and build-upon these findings.

Exploring rest as a health-related phenomenon, Asp (2015) interviewed 63 participants about their own lived experiences of rest. These interviews were conducted in two stages. The first stage consisted of 19 interviews where participants were selected based

on their principle of variations in experiencing rest. The second part consisted of 44 interviews that analysed people's own lived experiences of rest so that the concept could be refined and validated. Additionally, the overall of description of participants of this study varied regarding sex, occupation, age, and health situation. Analysis of these interviews led Asp to propose a conceptualisation of rest comprising opposing dualities of "rest" and "non-rest". "Rest" is identified as the feeling of being in harmony in motivation, feeling, and action while "non-rest" is described as being in disharmony with the same factors. Therefore, the concept of rest comprises the duality of these two conditions and constant movement between them. Furthermore, this constant duality implies that the type of rest that an individual requires must fit their own specific condition, and that these requirements are not necessarily the same for individuals under different conditions. Individuals may feel the need to rest from various physical, mental, and social factors that occur during their life, in turn allowing them to develop their own description of rest through lived experiences. By maintaining "rest" in accordance with these factors, an individual is more likely to achieve a "rest rhythm", which is implied in an everyday context by taking breaks and averting one's attention to tasks that are restful in order to recover. This type of "rest rhythm" seems to suggest that the consistent engagement in physically, socially, or cognitively demanding activities can require a recovery period that causes an individual to switch-off from specific tasks.

The lack of a specific and consistent understanding of rest has led to confusion concerning medical experts telling athletes to rest while nursing an injury or illness. In an ethnographic study conducted by Pike (2005), a group of female rowers were shown to experience a lack of medical care and an over-reliance on drug prescription. Part of the rowers' frustrations developed from the medical professionals' lack of care for their individual situation, and vague prescription of rest which implied a lack of activity and rehabilitation. Because of this, these women expressed reservations in continuing to see these

professionals and turned to more holistic and non-orthodox types of health care for their complications. Conclusions from this study posited that orthodox and non-orthodox therapies tend to maintain a general distrust between each other, making it difficult to share good practice (Pike, 2005). This can be seen as hindering the conceptualisation, development, and implementation of resting techniques as the duality of current medical prescription assumes rest as inactivity, whereas in other domains, there are active techniques that contribute to adequate rest.

While rest can be seen to enhance these task-oriented processes, specific meditation processes should be distinguished from generally stated rest periods. In a study conducted by Brefczynski-Lewis, Lutz, Schaefer, Levinson, and Davidson (2007), participants underwent 20-minute cycles where they were asked to alter their mental activity between states of meditation and states of rest. Participants included: 14 long-term Buddhist practitioners (classified as expert meditators, EMs), 16 age-matched novice meditators (NMs), and 11 other incentivised novice meditators (INMs), who were told they would receive a bonus if among the top-third in activating attention-related brain regions. Additionally, participants were instructed that the meditation state should involve them focusing all their attention on one object, and to keep it on that object. Correspondingly, the rest state was instructed to be a neutral state in which their eyes remained open, and their emotional state stayed neither pleasant nor unpleasant (Brefczynski-Lewis et al., 2007). Among all participants activation in attention-related regions of the brain significantly increased during the meditation state, compared to the rest state. Future studies can include and test a greater variety of restful activities as the specific description of the resting state within this study may not conform to individuals' personal perception of rest.

Rest in Sociology Literature

In beginning our discussion of the concept of rest within the discipline of sociology, it is pertinent to realise the inherent interconnectedness between the actions of the mind and body. In Gilbert Ryle's book titled The Concept of the Mind (1949), the author discounts the idea of body and mind being understood as a Cartesian dualism, in terms of the relationships between an individual's physical and mental processes. Instead, Ryle suggests that these processes work in tandem with each other and cannot function in isolation from each other. In the same way, rest cannot be understood as a concept where physical and mental rest are isolated from each other. For example, an individual's choice to rest physically will require a degree of thought and intention, which will then manifest into action. As individuals continue to experience and act upon different contextual situations, they will develop and define their personal motives (Ryle, 1949). Therefore, an individual's actions and choices that are made, regarding rest, has the potential to influence future behavior.

Intentionality and power of the human-self has been described as being a product of an individual's practices. In his book titled Outline of a Theory of Practice, Bourdieu (1977) posits that the idea of an individual's "practice" implies action upon other structures. By undertaking these actions, the individual is engaging in an activity which is directed towards a specific outcome (i.e. deliberate practice within your sport). Taking this into account, the institutions in which an individual is involved with (i.e. environment, rules) do not directly determine the action of individuals, as subjective interpretation of these institutions is required. These interpretations allow for the subject to create values within the interplay between these structures and their personal agency to decide what strategic action should be taken. Relating this idea to rest and in accordance to this theoretical framework, athletes are able to determine their resting activities following consideration of the rules and values that their sporting environment maintains.

This system of athletes making subjective decisions and holding dispositions and tendencies upon their actions is described by Bourdieu as the Habitus (Bourdieu, 1977). The Habitus is not a structure, but rather an invisible system that structures individuals functioning of regulated practices. In turn, the individual is able to maintain active agency and autonomy in their practices. As rest is a concept that is not discussed directly or extensively, even within sporting environments, the determination of how and how much rest an athlete needs can be largely left up to the individual to determine. Additionally, these athletes may employ a variety of strategies directed at their practice of rest as their personal interpretation of what it involves will differ.

Contrary to the theory put-forward by Bourdieu (1977), Michel Foucault wrote a book entitled The Subject and Power (1982) which outlines a different perspective regarding relationships of power between individuals and their surrounding structures. Foucault states that humans' subjects are determined by the state of power relations that surround them. While the subject is able to maintain personal self-awareness, they are also controlled by external influences of power (Foucault, 1982). Institutions within sport may have strict regulations that must be adhered to by athletes. Under this theory, these regulations would be able to exert power upon the athlete as if they are a subject of influence. This exertion of power is a process where individuals are being manufactured by their surrounding environment rather than there being a constant interplay of action between subject and structure discussed earlier (Bourdieu, 1977). Furthermore, individuals undergo a process where they are acted-upon by society (Institutions, culture), objectify and accept institutionalised norms, and express subjectivity by identifying themselves within larger structures (Foucault, 1982). In order for rest to be subjectively practiced by an individual, they must have gone through a previous experience that has exerted power in either permitting or limiting their ability to do so. Therefore, it is only through this process that

individuals are able to perceive the value of rest and to engage in further actions involving resting strategies.

As institutional power is being exercised upon individuals within high-performing sporting environments, it is important for these athletes to express subjectivity that is afforded to them. Not doing so can make the athlete subservient to their subculture, in turn, diminishing their agency and relationships outside of their sport. In Michael Robidoux's book titled Men at Play: A Working Understanding of Professional Hockey (2001), he documents the lives and routines of aspiring professional ice hockey players over a one-year period. A theme expressed within his work involves the athletes offering their full commitment to their team due to the constant turnover of players. By doing this, these athletes leave themselves vulnerable: physically by them wanting to display their masculinity within practice and competition, and culturally by not exposing themselves to practices occurring outside of their sporting environment. By narrowing their institutional exposure through their sporting careers, these athletes are more likely to be the subject of power relations and ill-prepared after leaving their sport, rather than being able to adapt quickly to their new environment. In this way, athletes' perceptions and values of rest can be influenced and controlled by their sporting institution, limiting their understanding of the concept within various cultures.

While it had previously been discussed that athletes perceive their responsibilities differently depending on their team's level of institutionalisation (Long et al., 2008), sport in a general sense involves activity allowing athletes to better realise their embodied intentionality. Howe (2003) discusses the role that sport should play within an individual athlete's personal development. Sport is an understandable means for athletes to realise the purposes of their bodies as they are able to achieve tangible results through physical activity. However, as athletes progress into more institutionalised cultures of sport, their original intentionality of sport participation can conform to specific subcultural values. Within these

high-performance environments, athletes may experience a diminished presence and appreciation of their "human self" as they take-on new and demanding situations (Howe, 2003). Over-exposure to institutionalised environments combined with the lack of personal autonomy can prevent individual athletes to identify their own personal intentions. The concept of rest can be applied within this discussion as it can be considered when making autonomous decisions and taking periodic breaks from institutionalised pressures.

Athletes' conformity to competitive sport institutions is further discussed in Eric Anderson's book titled Sport, Theory and Social Problems (2010). At its core, Anderson argues that western cultures have developed an institutionalised structure and culture that accommodates the privilege of heterosexual, white males. In doing this, sporting cultures are less reluctant to exclude individuals whose personal characteristics and associations are not significantly represented within their society. Anderson utilises many social theories to describe these disparities, but one concept that is relevant to this topic involves athletes' level of social conformity within these institutionalised environments. By conforming to the ideals and expectations of their current sporting environment, athletes yield some of their own personal autonomy in order to buy-in as a respected member of the team. Because athletes in these situations give-up some decision-making abilities, their response to "find what works best" in terms of their rest can be disallowed. It is also mentioned that coaches can have a controlling power that influences their athletes' decisions and actions. As athletes comply with their sporting culture's procedures coaches may also exert more authoritative power within their team environment. Unless the coaching staff understands the importance of rest and is able to effectively implement rest periods for their athletes, more authoritative power can lead to negative physical and mental adaptations as their need for rest in these areas are not being met.

By accepting sport as a sociological domain, sociologists have been able to examine the purpose and intent of human embodiment. Richard Guilianotti's (2005) book titled Sport a Critical Sociology, the author investigates a wide range of sociological theories and their application within sport. One argument that the author makes involves that advocation for a movement from sport pedagogy towards andragogy. As pedagogy is more of a monological type of learning where instruction is given by the coach and understood by the athlete, andragogy entails a less authoritarian approach that is more value-focused and is facilitated through various experiences (Guilianotti, 2005). As rest is not a term that has a clearly defined understanding, prescribed rest from coaches to their athletes may be perceived in an infinite amount of ways dependent upon their: physical and mental state, social interactions and physical environment. Because of this, it may be more important for sport coaches to instruct the value of rest so that the athlete can determine for themselves how to attain an optimal pre-performance state. By giving rigid instruction concerning rest, coaches may be implementing strategies that are not tailored to their specific athletes' specifications. This process also limits the athletes' feeling of autonomy and agency as the coaches are able to dictate some aspects and actions relating to rest.

In a separate study involving a subcultural analysis of professional Australian football players, Coulter, Ham, and Findlay (2016), employed a qualitative analysis that investigated the mental toughness in a professional club that had been recognised as having a working-class background. Individual interviews and focus groups with four coaches aged 31-44, and five senior players aged 24-26, who all maintained a familiarity with the club's history and traditions were used for this study. As a result, mental toughness was seen to be a socially crafted term that was defined by sacrificial displays. As a part of theses sacrificial displays, participants cited withholding emotions and putting their body on the line as frequent actions that they would take in order to benefit the club (Coulter et al., 2016). Therefore, if an

individual were to be able to keep personal problems to oneself and by being willing to play under the increased possibility of physical harm, then they would be associated as being mentally tough and would build-up "trust" within the club. However, if individuals did not exhibit these uniform values put in place, then they may be viewed as less valuable. Underpinned within the higher-order themes, subcultures that emphasised a desire for relentless effort and maintenance of an infallible image were also identified. These individuals exuded a "never give in" attitude and tolerance to both difficult emotional and physical circumstances. In this sense, while rest is not explicitly devalued in this context, placing an admiration towards suppressing the need for rest and playing through pain demonstrates the negative impact that specific sporting cultures can have on certain individuals.

Confusion regarding the conceptualisation of rest across multiple disciplines may be attributed by the apparent Cartesian-dualism of the term itself and its perceived relationship to inactivity. A discussion paper by Gold (1985) highlights the Cartesian-dualism in practice in modern medicine. It is stated that the medical paradigm that has been in use for the past hundreds of years has regarded the body as an object that is passive in nature and operated by mechanical causality. On the other hand, the mind is regarded as a sphere of intelligence able execute consciousness and motivation through the object of the body. With this Cartesian-duality of mind and body being stated, Gold argues for a "lived-body" paradigm that incorporates an individual's subjectivity of their body which includes their experiences, mood, expressions, and thoughts (Gold, 1985). In the same way, rest should be not be regarded as being strictly inactivity. Rather, it needs to be recognised that numerous physical and cognitive techniques and strategies can be utilised to enhance individuals' rest. The concept of rest must also be seen as a subjective process that can be influenced by the

specific factors required for the individual to restore their performance and well-being to equilibrium.

Further studies concerned with the organisation of sporting environments have revealed athletes' conformity to silence in regard to the power that is exerted upon them. In this Foucauldian study conducted by Manley et al (2016), 21 interviews were conducted with Premiership football academy members in order to examine the organisational control that they are confronted with. Within this culture, certain powers were exerted upon the athletes, and it was up to the athlete to internalise and become accustomed to these norms if they wanted to continue to be with the club. These power relations were legitimised and reinforced through constant interactions between the "role-holders" and the individuals who were being trained within this group (Manley et al., 2016). Therefore, if the athlete values the enhancement of their career within this sport-setting they will choose to stay silent in order to express their compliance with the culture. This may prove to be dangerous as some athletes may feel uncomfortable straying away from these norms, even if they are experiencing some sort of distress. While some displays of dis-identification may be deployed within these types of sporting cultures to create; a sense of relief, and social-distancing from these strict roles (Manley et al., 2016), athletes will still exhibit various personality traits and wish to disengage from these environments in different ways.

The under-development of the conceptualisation of rest can be partially attributed to the lack of focus concerning individuals' actual experiences and perceptions of rest. Analysis of individuals' personal testimony towards the rest that they are experiencing and have had can provide a rich description of their personal thoughts and feelings towards the term. In an article written by Roderick and Schumacker (2017), a thick and layered description is offered concerning a professional footballer's experience finding and maintaining a job in an extremely competitive sporting environment. While the football player interviewed in this

article does speak-on rest directly or extensively he does provide insight towards stressful experiences that he has encountered throughout his career. This stress was described by the participant as being "like ivy that grows in everything I did" (Roderick & Schumacker, 2017). All of the facets that were integrated into the overall decision-making process of the team selection played on the athlete's mind consciously and subconsciously. This constant cognitive activity made it difficult for the athlete to disengage from a competitive mindset, making it difficult for him to relax. Furthermore, this inability to "switch-off" along with the constant rumination of their work connects to previous occupational literature (Cropley et al., 2006; Michailidis & Cropley, 2016). This athlete's personal account demonstrates their difficulties "switching-off" from the pressures and uncertainties of being a professional athlete, making it extremely difficult for them to achieve peace of mind.

Finally, it is important to acknowledge the evolving cultures of sport and how shifts in perspective may impact the value placed on rest. Current Western cultures have adopted a performance standard which has imposed greater importance on competition and winning, which is attainable only via action; that is, constant training (Carless & Douglas, 2010). Taking this into account, rest has been neglected, even though it ultimately plays a critical role in achieving the success desired. Arguably, sport organisations, with their requirements to produce results, contribute to these action-oriented values, which might be considered a form of organisational stress (Woodman & Hardy, 2001).

Overall aim of the thesis

As previously stated, the overall aim of this thesis is to advance the current understanding of rest in sport, while also exploring rest from a sport psychology perspective directly and extensively. As seen within the review of literature, current academic conceptualisations of rest tend to be limited to specific academic disciplines relating to sport

(e.g., exercise physiology) contributing to conceptual confusion about the nature of rest. However, by collating this research from various disciplines together, all in one place, it will be easier to utilise findings from previous research and having it contribute to my current research. Furthermore, the identification of various athletes' (a) understandings of the term rest and (b) accounts of different types of rest breaks outlined in the current literature on rest will allow for a greater understanding of how athletes understand, value, and act upon their ability to rest. Throughout the upcoming chapters, these understandings and values of athletes' rest will be collected, quantified, and observed over time for potential variation.

CHAPTER TWO

Methodology

Overview of Methods Used

In addition to the sections discussed previously, I will also present a review of research that addresses the validity and utilisation of the various research methods that will be used within my studies. Various methods are strategically utilised within my research in order to identify and refine rest as a concept, as well as increasing the credibility of the results that were found. The individual studies along with their corresponding research methods will be briefly discussed in the following paragraph.

In the initial study, a grounded theory approach was used in order to abductively generate a theory of rest by gathering and analysing qualitative data relating to athletes' personal perceptions of rest. Semi-structured interviews conducted with one specific team were used for this study which contained open-ended questions regarding athletes' perceptions of rest, allowing them to be unhindered in their response and able to give a full and thick description of their personal thoughts. The second study adopted a quantitative approach that utilised standardised surveys administered to athletes at all levels of sport. Subsequently, the questions used within these questionnaires were created by the emerging themes concerning rest that were generated from the initial study. Statistical software (SPSS) was used to analyse the quantitative data collected, allowing us to identify statistically significant differences in how athletes perceive rest. From these results, questions were formed for the third study which utilised qualitative methods. This interview-based study maintained a longitudinal approach that identifies changes to athletes' perceptions of rest while in their sporting: Pre-season, within-season, and post-season. Six athletes specifically chosen due to their: sport type (team or individual) and competition level were chosen for this study and participated in all three of the interviews. Not only did this study identify athletes' perceptual differences throughout their season, but it also offers additional insight into how athletes of various sport types and competition level view and value rest. The benefit and

limitations of using these methodological approaches will be discussed in more detail in the following sections.

Throughout the studies that utilise qualitative methods within this document, four criteria of qualitative research were sought-out and attempted to be adhered-to throughout. These criterions, which are described as being necessary to ensure trustworthiness in qualitative research by Shenton (2004), include: credibility, transferability, dependability, and confirmability. By addressing these four key criterions, researchers are better equipped to present their qualitative work as being academically sound. Within the qualitative studies of my thesis, I will adhere to these criterions in order to enhance the trustworthiness of my research.

Study 1: A Grounded Theory Approach

As rest is not a concept that demonstrates current extensive theoretical frameworks in most academic disciplines, a grounded theory approach was adopted for the initial study in order to begin the process of creating a conceptual framework as it pertains to rest within a sport psychology domain. Within their book titled Basics of Qualitative Research (2015), Corbin and Strauss detail the process of a grounded theory approach and how it allows for explanations of concepts that are not embedded in current theoretical understanding. Because there is not an existing theoretical framework to guide the research, researchers are afforded the flexibility of addressing and examining the related topics and concepts from various angles. Additionally, this approach will enable myself as a researcher to unearth the hidden meanings and values of rest that underlie the multitude of actions that athletes might take in relation to their personal rest. This section will further address the grounded theory approach and the specific methods that it employs.

Before conducting research for the initial study, consideration and understanding of the methodologies of grounded theory and its implementation within my research was taken into account. A review paper offered by Holt and Tamminen (2010) examines the use of a grounded theory approach within sport and exercise psychology studies, with the attempt to suggest practices that exhibit knowledge of research methods, methodologies, and philosophies. This decision-making process is described within the review as methodological coherence which plans for the forward trajectory of the author's research. Along this trajectory, important issues at the micro-level need to be considered to better inform research decisions involving: ontology/epistemology, research question, participants, grounded theory variant, sample size, data collection, data analysis, interaction of collection and analysis, and the substantive theory (Holt & Tamminen, 2010). By accounting for the following issues within my qualitative research I will be able to efficiently plan the structure of the methodology of my studies. As they emerge, these issues will also be addressed and discussed within the relevant method sections of these studies.

Further examination of grounded theory has been offered by Weed (2009). In this article, the author investigated research conducted that had utilised a grounded theory approach and determined whether these individual pieces of research met the conditions of broader grounded theory methodologies. Weed searched the four sport and exercise psychology journals that held the highest impact rating for studies that adopted a grounded theory approach. From this search, twelve articles were found which were then examined extensively with regards to their research quality in abiding to a cohesive grounded theory methodology. Of the twelve articles discussed, only two represented the conditions needed at the micro-level, these conditions included: an iterative process, theoretical sampling, theoretical sensitivity, codes memos and concepts, constant comparison, theoretical saturation, fit work relevance and modifiability, and substantive theory (Weed, 2009). As

grounded theory is regarded as a total methodology, all of these conditions should be adhered-to by authors in order to maintain the quality of their research. Likewise, at the macro-level, only one article accounted for variants of grounded theory, while none discussed the possible application of their research to wider bodies of knowledge (Weed, 2009). A grounded theory approach must be employed under the assumptions of specific and transparent ontologies and epistemologies. Additionally, the contribution made by this type of research must be meaningful and apply to specific gaps in research areas. Throughout my initial study I will attempt to comply and address the elements of grounded theory at the micro and macro level.

My initial study utilised a grounded theory approach to analyse the data I had collected through interviews. This process of data analysis is explored by Kathy Charmaz in her book titled, Constructing Grounded Theory: A practical guide through qualitative analysis (2006). The author posits that one of the primary benefits of a grounded theory approach is the access to rich data. The accessibility of this type of data is absolutely necessary as the topic of rest as it is not a developed concept within most academic disciplines, thus there is not a concise and detailed understanding of the term. Unlike quantitative methods that can objectify data according to pre-determined concepts that may already have a substantial theoretical understanding, a qualitative grounded theory approach has much more flexibility. Additional pieces of data can be added during analysis making it viable to pursue emerging themes (Charmaz, 2006). Therefore, the diversity of data generated from multiple facets sharpens the focus of the research without neglecting the fine detail of recollected acts. This process is not bound and enables a fluid conceptual construction that can be re-shaped throughout the periods of data collection and analysis.

Another benefit of using grounded theory lies in the origin of analysis being initiated inductively. This aspect of grounded theory is discussed in David and Sutton's book entitled

Social Research: An Introduction (2011) and goes on to state that this initial inductive stage allows for data collection that is generally unstructured and focused on the emerging themes that are recognised. This means that this initial phase of analysis is not restricted by previous research, such as research conducted using a deductive approach. Instead, new information is being generated from participants' responses. However, the authors also state that this process begins to shift from an inductive process to a deductive process as additional data is being analysed (David & Sutton, 2011). There is not a definite process, therefore it can depend on the subjectivity of the researcher to determine the appropriate time to shift their approach from "discovery" to venturing into the "unknown". This shift incurs a change from a more passive unearthing of information towards a more direct analysis of emerging themes.

Because there is a level of subjectivity present within the researcher prior to any research even taking place, it is pertinent that I declare my research activities before the occurrence of any data collection. As I had an initial understanding of: these athletes, their sport, and what their perceptions of rest might entail, it can be posited that my experience as both an athlete and a coach myself has an impact upon the interpretations of rest that I gather. In line with this statement, my research adopts a constructivist approach which emphasises the elicitation of athletes' personal terms and experiences of rest before attempting to use my personal determination to unearth more implicit meanings and rules (Charmaz, 2006). As someone who has experienced and valued rest within a sporting context, my personal position and prior knowledge is central to how the meanings of rest are constructed within these studies.

This stance runs parallel to a relativist ontology which is adopted throughout this initial study. Within Sparkes and Smith's book titled Qualitative Research Methods in Sport and Exercise Health (2013), a relativist ontology is described as opposing a criteriological approach and hesitates to pass universal judgement criteria prior to the initiation of data

analysis. As rest along with the processes and contexts inherent to athletes attaining rest are not developed and under-researched, my role as a researcher will involve characterising individual athlete's experiences of rest and explain what they might do in order to rest. This differs from the adoption of an internal ontology as I am not relying on standardised criteria to base and determine what must be done by athletes in order for them to rest.

With this is in mind, the application of a predetermined data collection technique would be unfit for a study such as this which utilises a grounded theory approach. The interviews that were conducted involved open-ended questions and elaboration probes in order to facilitate deeper and critical thought from the athlete. By doing this, I am able to begin to identify patterns of how rest is perceived, thus generating and building-upon emerging themes and concepts. An integral part of this process involves the coding of data. For this study specifically, coding involved reading back-through interview transcripts and looking for passages that exhibited a shared meaning through the use of similar words and/or phrases (David & Sutton, 2011). This process begins at a lower thematic level; however, as themes emerge and become increasingly modified and developed with further data analysis, more solidified concepts take shape.

Throughout this coding process a method that is inherently adopted is that of constant comparison. This process entails the continuous checking and validating of words, sentences, codes, and concepts so that any emerging insights are grounded within the obtained data and ongoing analysis (Sparkes & Smith, 2013). Constant comparison allows for modification and the re-shaping of concepts, contributing to the increased understanding of the concept's dimensionality and depth in relation to other categories and the codes that were found to be associated with them. As a narrow range of sought-out data is more likely to comply with previous codes, the process of theoretical sampling involves the act of testing theories that have been constructed through initial data analysis to see whether further rounds of data

collection can challenge or build-upon current concepts (David & Sutton, 2011). Therefore, new information collected regarding a certain concept has the ability to reinforce or contradict the researcher's initial theories, resulting in the modification of that theory. Grounded theory stands-out from other qualitative methods as it is an iterative process that does not create a distinction between data collection and data analysis (Weed, 2009). Instead, this constant modification process continues until an in-depth understanding of emerging concepts is constructed.

At the same time as codes are being refined through constant comparison and theoretical sampling, the researcher can engage in memo writing to document their own personal thoughts concerning the development of concepts and the research process, more generally. By writing memos, the researcher is able to log their thoughts and connections that can contribute to the organisation and explanation of data (David & Sutton, 2011). As memos involve initial interpretations of data, they are not considered to be codes, however if the subject of these memos is being reinforced and reoccur then they do have the potential to develop into codes. The act of taking memos is continuous throughout the research process with the researcher being able to reflect and revisit previous thought and ideas. When the iterative process is no longer yielding theoretical modifications or advancing the dimensionality of concepts then the researcher has reached theoretical saturation (Weed, 2009). By reaching this point, a substantive theory will be created with concepts that can be clearly defined.

With all this being said, the purpose of my initial study was to identify what rest means to athletes and to understand what experiences of rest that athletes have had by utilising a grounded theory approach. Data was obtained through individual interviews and participants offered rich and detailed accounts of their personal perceptions of rest. By gathering and building upon this data set, concepts will emerge which can be applicable to

areas of research that have previously only investigated rest in an indirect and peripheral fashion. A theory of rest within this initial study can then be posited and maintained through its implications within academic disciplines and the various theories that encompass them.

To ensure that the conclusions made from quantitative studies are generalisable, the data that is obtained must be collected in a reliable and accessible fashion. By implementing a questionnaire where answers can be given through the use of a Likert scale and yes/no questions, the results could determine what, and the extent of what, rest meant to these athletes. However, it is important to note that, with my adopted epistemological position, the questionnaire that I have constructed is based on the original meanings and understandings of rest that were generated from my initial (qualitative) study. Additionally, as participants were asked to provide information regarding their: sport type (team or individual) and competition level, further distinctions can be made between these groups.

Study 2: A Descriptive Correlational Quantitative Design

The methodological approach to the second study utilised a descriptive correlational design that investigated the relationship between multiple variables specific to the athlete by using statistical analyses (SPSS). Because a significantly larger sample size was sought out for this study, a key advantage involved the generalisability of the conclusions formed through quantitative data analysis. Generalisability is defined within Martyn Denscombe's book, titled Ground rules for social research: Guidelines for good practice (2009), as applying the findings of your research beyond the bounds of the participants who are accounted for within the study. Moreover, generalisability is a specific quality within quantitative research that makes the findings: measurable, testable, and checkable. Thus, adhering to trustworthiness criterion that has previously been set out within this section (Shenton, 2004). Furthermore, as the previous study utilised a grounded theory approach that was unable to

adopt statistically generalisable methods, this study does what the qualitative methods study could not. As Smith (2018) states in his journal article, statistical generalisability is problematic within qualitative research as our approach of a relativist ontology would be compromised, and realities are uniform and subjective compared to quantitative methods. Therefore, the reliability of the research as a whole is greater when presenting studies alongside each other with qualitative and qualitative methods.

Adoption of a Mixed Methods Design

The fit of this type of study can be seen as appropriate following the previously conducted qualitative study. As the initial qualitative study has been conducted in conjunction with the following quantitative study, a mixed methods approach between the studies has been adopted. The benefits of using a mixed methods design have been previously echoed by Creswell and Plano Clark in their book titled Designing and conducting mixed methods research (2017). The authors posit that implementing a combination of both qualitative and quantitative methods will allow for the readers to better understand the research, compared to a design that just uses a singular method. In one specific mixed methods study, Mckim (2017) sought to better understand the perceived value of using mixed methods designs according to graduate students. 133 students participated in the quantitative phase, while volunteers from the first phase contributed to the second phase, which employed focus groups. Results from the quantitative phase demonstrated that participants scored passages using mixed method designs as being more valuable than passages that only used either a singular qualitative or quantitative design. Furthermore, results of the focus groups assessed participants perceptions of mixed methods and found that these studies provided a "deep meaning of the phenomenon" that was being studied (Mckim, 2017, p. 213). As myself and my peers understand the value of findings resulting from mixed method designs, along

with their strengths in methodological design and elicitation of rich data, I am confident of the quality of data obtained through both studies.

Just as there are approaches to individual (qualitative or quantitative) studies, a mixed methods approach utilises a specific approach dependent upon the chosen sequence and positioning of the multiple studies. In John Creswell's book titled Research Design: qualitative, quantitative, and mixed methods approaches (2009), it is outlined that there are numerous types of mixed methods designs. Of these numerous approaches, my research adopts the structure of an Exploratory Sequential Mixed Methods Design. Under this design, studies are conducted sequentially where the findings from the initial qualitative study are used to inform the questions and design of the second, quantitative study (Creswell, 2009). As the group of participants within my initial qualitative study consisted of an entire Women's University Hockey 1st team, the scope of my research focused on a population that shares similar: ages, academic work commitments, team environment, competition level, and performance expectations. Thus, the data obtained from this sample population is more concentrated than the data obtained from the population utilised within the second study. The second study was implemented to see if the results gathered from this specific group of athletes were generalisable to a larger and more diverse sample population.

In line with the description of an exploratory sequential mixed methods design, the concepts formed from the data in the initial study directly contributed to the quantitative method used within the second study. A qualitative study is able to yield various findings that can then become the focus of quantitative variables within the following study (Creswell, 2009). It is also important to note that interpretations are not made through the comparison of the differing databases used in each individual study, as the characteristics of the sample population can be quite different. However, the interaction between these two studies remains sequential and further validates the findings through the use of various methods. This

relationship between studies within a mixed methods design is further discussed in an editorial written by Creswell (2009), where studies can instead be viewed as "a set of interactive parts" rather than separate designs (Creswell, 2009, p. 104). This allows for a more expansive manner in conceptualising the research resulting in a greater combined effect compared to results produced from either singular study. Furthermore, as discussed in Denzin and Lincoln's book titled, The Sage handbook of qualitative research (2011), this synergistic approach helps regulate academic discussions over what type of (singular) research method is most effective by minimising the inherent methodological differences that these studies have. Thus, increasing the validity from the findings of the studies by accounting for one study's limitations in their methodological framework, with the other study's strength in that specific area.

With this being said, it is important that I state and understand the intricacies of my positionality as I conduct my research. In an article written by Bourke (2014), the author explains the potential opportunities and challenges that may arise depending on your personal positionality and interaction with your environment. An initial step in understanding your research personality is to reflect upon your role throughout the research process. A requisite for qualitative research is to have the researcher conduct themselves as the data collection instrument, while understanding that the researcher's own personal subjectivities will likely have an influence on the research and the reporting of findings (Bourke, 2014). Researchers are also able to reflect upon their research experience and determine whether they understood their positionality as being either an insider or outsider within that specific environment. Insiders can be seen to present with similar characteristics, values, and understandings as those in which they share their environment with, which can allow for greater elicitation of data. Therefore, as my expectations are that I will share similar positions as my participants,

it is vital for me to remain reflexive in my construction of knowledge, so that I am able to reflect upon the impact of my own personal subjectivities.

By viewing these studies as integral parts of a fluid and cohesive project, the validity of their mixed methodological construction is further validated. Described in Morse and Niehaus's book titled Mixed method design: Principles and procedures (2009), studies conducted within a mixed methods approach act as supplementary to each other, adopting different strategies, in order to address a singular line of inquiry that would unable to be understood by using one method of research alone. This idea of triangulating findings from several studies towards a more collective understanding is novel; however, guidelines for conducting and combining these studies should be thought-out so that potential methodological gaps can be identified. As stated in an editorial paper written by Morse (2009), establishing guidelines causes the researcher "to recognise the necessity for a mixed method design" that is able to build upon any methodological components that were missing in the previous study (Morse, 2009, p. 1524). As the participants are not the same throughout all of the studies, attention should also be paid in addressing potential shifts in participants' perspectives. Introspective attention should also be paid by the researcher in regard to shifts in their own perspectives of positionality throughout these studies.

Participant factors and researcher positionality are elements of my research that are addressed in each one of the studies presented. In a journal article written by Lincoln (2010), the author discusses the evolutions of qualitative and mixed-method research designs being increasingly hospitable towards interpretivist thought. As a researcher within a field void of extensive theoretical framework, my personal subjectivities will be acknowledged, accepted, and believed to have contributed to my understanding of rest throughout the research process. In this sense, I will be rejecting a positivist stance within my qualitative studies as objectivity will not be valued and/or required. (Lincoln, 2010). This sense of pragmatism will be utilised

when introducing my studies, as my personal subjectivities will be addressed and accounted for beforehand. Additionally, personal and external factors that may influence my adopted relativist ontology and constructivist epistemology throughout this thesis will also be recognised and discussed.

Personal characteristics from myself and participants within my research presents a variety of unique variables which can interact with how rest was perceived. An interpretive bricoleur is described, in a journal article written by Denzin (2012), as a researcher who "understands that research is an interactive process shaped by the personal history, biography, gender, social class, race, and ethnicity of the people in the setting" (Denzin, 2012, p. 85). Again, allowing myself to be subjective within my role as a researcher in this process allowed for a more interactive (qualitative) process which contributed to our interviewer-interviewee rapport. Building this rapport between participants proved beneficial in gaining detailed insights into participants' perceptions of rest that may have not been attainable through a pragmatic approach that attempts to maintain objectivity throughout the interview process. Additionally, by gaining an understanding of interpretive characteristics within a sporting context, my second (quantitative) study is able to account for a few of these characteristics (i.e. competition level, sport type). In constructing a design for the third (qualitative) study, equal representations of athletes with regards to their: age, sport type, and competition level were sought, to maintain generalisability and advance my interpretive research position. Research methods concerning the third study will be discussed in the following paragraphs.

Study 3: Content Analysis

A relativist ontological and constructivist epistemological approach was maintained going into and throughout the third and final qualitative study. While it may be argued that these approaches tend not to be paired with a study utilising qualitative analysis, I feel it is

appropriate to further develop the understanding of rest. A clear-cut definition of content analysis is offered by Weber in his Book titled, Basic Content Analysis (1990), as a process that "classifies textual material, reducing it to more relevant, manageable bits of data" (Weber, 1990, p. 5). As open-ended questions were formed according to the significant differences resulting from the second study, analysis of interview data will provide evidence and insight into why these aspects of rest are perceived variably within the quantitative study. These findings will then help organise and re-form overarching concepts that continuously occur throughout the research process.

There are various types of approaches to this type of content analysis; however, the conventional content analysis is best suited for what my research is trying to accomplish. This approach, as described in a review paper focusing on types of content analysis and written by Hsieh and Shannon (2005), account for codes that emerge from the text and cluster together, eventually forming a hierarchical structure. Relevant theories are then discussed in relation to the data afterwards, thus allowing for direct information to be obtained without having myself as the researcher impose personal perspectives. Analysis of interview data will be carried-out at a latent level. Thus, meaning that examinations will exceed what is directly referenced within the interview data in order to uncover and address greater underlying meanings (Sparkes & Smith, 2013). As stated in a research article on the content analysis process by Bengtsson (2016), latent analysis condones researcher immersion and interpretation of the acquired data to some extent, given that they do try to uncover hidden meanings within the text. After categories have been formed through an initial analysis, latent content will be expressed through emerging themes. The structure of this type of content analysis presents many strengths to the research being conducted, which will be discussed in the next paragraph.

As mentioned before, one aspect of the specific content analysis being employed is the inherent immersion of myself as a researcher within the data set. This process involves repeatedly reading over the interview text while also adopting an empathetic position when disseminating the data (Sparkes & Smith, 2013). This allows for patterns to be identified and further knowledge of specific categories regarding rest to be discovered. An additional benefit in using this type of content analysis is that it is very accessible to myself as a researcher, while also allowing data to be presented in a cohesive format that can be easily disseminated by academic colleagues (Sparkes & Smith, 2013). Again, demonstrating the findings of this content analysis study in a clear and concise manner will further strengthen the knowledge obtained and the construct validity of the theses as a whole.

I must also be aware that certain limitations can arise through the utilisation of this type of study. In a chapter discussing content analysis, Krippendorf (1989) details that this process can be limited by its ability: to generate statistically significant findings, maintain a replicability requirement, and contribute to social theory. Questions from this study were formed through the obtained statistically significant differences from the 2nd (quantitative study). Therefore, as a content analysis does not utilise quantitative data outside of coding and ordering themes, results from the 2nd study are able to supplement findings of this qualitative study. Additionally, this study is longitudinal and open-ended in nature encouraging exploration into the underlying themes of athletes' rest. Because of this, an adopted content analysis will allow for interpretations to be made by myself, as the researcher, to utilise unique follow-up questions that are relevant to a participant's responses. Previous analyses from the prior two studies have also embedded initial findings to previous research concerning rest, allowing for further findings to be relevant to established social theories.

Overall, the studies comprising this thesis have been amalgamated in such a manner that maintains trustworthiness and validity throughout the research process (Shenton, 2004), (Morse & Niehaus, 2009). By utilising mixed methods over the course of three studies, both quantitative and qualitative data can be collected, allowing the researcher to gain perspectives from various types of data (Cresswell & Plano Clark, 2017). With this being said the data from these studies will complement each other so that the findings are able to flow from one study and contribute to the next. This has been done within this thesis as results from the first and second studies have contributed to and helped structure the procedure and content of their subsequent studies. The accumulated data, themes, and concepts generated from these three studies have contributed to the overall construction of the conceptual model for rest, which can be seen in Appendix H. The various approaches that have been discussed within this section will be further elaborated upon within each study's respective methodologies.

CHAPTER THREE

Exploring athletes' experiences and perceptions of rest utilising a grounded theory approach

Abstract

The objective of this research study was to identify what rest means to athletes and understand what experiences of rest the athletes have. It is understood that the perceived presence of adequate amounts of rest in athletes can have a positive effect on their: skill acquisition, physical adaptation, and mood states, while signifying a healthy and proactive sporting culture. However, while rest has received peripheral research attention in sport and cognitive sciences, it is not a concept that has been studied directly and extensively. Therefore, an additional aim of my research will be to advance the current understandings of rest, specifically within these subject areas. The Durham University Women's Hockey first team performance squad, including coaches, was interviewed (N=22), and a grounded theory approach was utilised to conceptualise participants' perceptions and understandings of rest. From these interviews, athletes' perceptions of rest reaffirmed the prior understandings of how adequate rest can have a positive effect on athletes, while also acknowledging the: importance of physical and mental rest, variation in the ways individuals rest, organisation skills needed to obtain adequate rest, and how the affordance of rest periods can effect motivation levels. Future research involving quantitative methods with a larger sample size is necessary to attain a more generalisable sample that includes athletes of various, ages, sport, and competition level.

Introduction

Rest has been defined, within a sporting context, as the cessation of activity and can be conceptualised with regard towards various timescales. Additionally, rest can have diverse effects on individuals depending upon time and interval of the rest period (Eccles & Riley, 2014). Rest has been known to have an impact on sport performance and athlete well-being. However, rest as a concept has been underdeveloped and bound to specific sub-disciplines within the sport sciences, rather than being conceptualised across multiple disciplines. Furthermore, no study has sought to identify how various stakeholders in sport understand and value the different types of rest breaks outlined in the current academic literature on rest. Therefore, it is important to uncover these stakeholders' constructions of the rest. The current study is designed to advance the current understanding of athlete rest and its relationships with athlete performance and well-being, through identifying what rest means to stakeholders in sport, and what experiences of rest they have had.

Research Problem. Despite the apparent benefits of rest, rest has been a neglected concept in sport psychology and the sport sciences more generally. By comparison, the focus within many practitioner contexts has tended to be on activity, not the lack of it; that is, the acts of training and competing and not the inactivity inherent to rest. Consequently, there is much available detail about effective strategies for physical training and for mental preparation for competition. In comparison, however, there is little available detail about strategies for achieving effective rest and maximising its quality to ensure that the human systems, physical and psychological, are effectively repaired and recovered so that optimal training and performance can be achieved.

Multidimensional framework of rest. When used in a satisfactory manner, rest has been either shown empirically or theorised to enhance (a) movement and cognitive skill

acquisition (Schmidt & Lee, 2013), (b) physical adaptation following a physical training stimulus (Kellmann, 2002), (c) motivation and mood state in relation to the target sport activity (Eccles & Riley, 2014). Furthermore, it is important to acknowledge (d) the evolving cultures of sport and how shifts in perspective may impact the value placed on rest (Carless & Douglas, 2010). The following sections will elaborate on these concepts in order to contextualise and explain current understandings of rest.

The impact of rest on movement and cognitive skill acquisition. Implementing short rest periods in-between the practice of physical movements is often used by individuals in order to retain and learn those specific techniques being physically performed (Schmidt & Lee, 2013). Rest periods between training and competition can commonly be perceived as a time to physically regulate bodies; however, these periods of rest are also used as a time for cognitive self-evaluation. These periods of self-evaluation allow individuals to consider their performance and reflect upon the execution of specific movements. These deliberate thought processes within individuals' rest periods contribute to their own attainment of expert performance and skill acquisition (Ericsson et al., 1993). However, this is under the assumption that the athlete can positively evaluate their prior experiences and move towards new tasks. Other athletes may ruminate on negative external experiences and may not be able to effectively progress their skill as they become preoccupied with other thoughts. Therefore, while an individual's physical body may be at rest momentarily, their cognitive activity is still reflecting and processing their previous actions. These rest periods can be brief throughout the course of a day, or within an athlete's training session, and it is uncertain whether athletes perceive these periods of time to be restful. Therefore, understanding athletes' personal experiences regarding these rest periods will help determine the perceived advantages and disadvantages that they have upon their performance and well-being.

When disengaged from these deliberate and task-oriented processes, individuals may perceive themselves as being idle and possibly unproductive. However, research has suggested that even when individuals engage in rest, they enter a "default mode" of neural processing that allows them to reflect on previous experiences and plan-out future choices (Immordino-Yang et al., 2012). These opportunities to rest offer similar benefits as brief rest periods within training sessions, but do not require the full attention of the individual and can occur over longer periods of time throughout the day. The brain remains active during this time; however, different regions of the brain are activated that may not have been in use during deliberate task activity (Buckner & Vincent 2007). Because most of our time is spent away from tasks directly connected to sporting performance, I envisage individuals perceiving themselves as being inactive. Therefore, while athletes may perceive themselves as being idle and/or unproductive when they are not engaged in task-oriented processes, their cognitive functions are still fulfilling an essential role that prepares them for future choices.

Physical adaptation following physical stimulus. Academic literature discussing the physical recovery process expresses that the lack of rest can be detrimental to physical adaptation following training sessions and competitions. Kellmann (2002) defines recovery as being the compensation of deficit states in an organism that involves the process of reestablishing the initial state. Rest is certainly a key factor within this process as poor rest has been attributed as a factor towards individual athletes' cause of overtraining (Kuipers & Keizer, 1988). Overtraining is a significant condition that can negatively affect individual athletes' performance. Specifically, overtraining is created by an imbalance between exercise and recovery, which can be prevented through the implementation of appropriate rest periods within the individual athlete's training regime (Gould & Dieffenbach, 2002). Therefore, appropriate rest periods can and should be implemented within athletes' sporting schedules in order to off-set the potential negative effects that can be experienced.

Because of the possibility of athletes overtraining, it is even more important for themselves and support staff members to plan and implement effective strategies so that this state is never reached. From a physiological perspective, training sessions involving muscular strength can be adjusted in accordance to an individual's training goals. Certain resistance training programmes can employ lesser amounts of rest breaks with increased repetitions, which can lead to greater muscle fatigue and hypertrophy (De Salles et al., 2009) which may not be desirable at certain points within an athlete's competitive season. Therefore, it is important for athletes and their support staff to determine the optimal amount and duration of training sessions and to implement various phases of training throughout the season that target motor functioning (Bompa, 1990). This process known as periodisation assists in athletes' development as it creates a structured programme that can be adapted in accordance with their perceived physical state.

Rest on athletes' motivation and mood state. When gauging athletes' motivation and general interest in their sport, lack of rest has been identified as a key contributor leading to athlete burnout. Burnout is a syndrome that comprises of both physical and psychological symptoms, where the athlete becomes progressively disappointed with their participation and maintain a reduced self-esteem (Freudenberger, 1980). Athletes who experience continued experiences of exhaustion related to their sport are more likely to devalue their sport and are more likely to think about the rest they will attain when their season is over (Cresswell & Eklund, 2006). Because of this, it is imperative for athletes to balance out their activities evenly so that they are able to enjoy their sport and not be constantly exhausted (Gould et al., 1996). I expect that some of the athletes will express that the amount of training they do is excessive and not enough rest periods are given throughout the course of a season. As athletes' exhaustion can manifest itself as both a negative physical and psychological state, it

is important for athletes to identify and utilise coping strategies to help alleviate this feeling and to attain effective rest.

Sporting culture's effect on rest. It is important to acknowledge the evolving cultures of sport and how shifts in perspective may impact the value placed on rest. Current Western cultures have adopted a performance standard which has imposed greater importance on competition and winning, which is attainable only via action; that is, constant training (Carless & Douglas, 2010). Taking this into account, rest has been neglected, even though it ultimately plays a critical role in achieving the success desired. Arguably, sport organisations, with their requirements to produce results, contribute to these action-oriented values, which might be considered a form of organisational stress (Woodman & Hardy, 2001). These performance values can then be placed in a higher regard within these sporting subcultures and recognised as the norm, indirectly disregarding the importance and necessity of rest. As athletes become increasingly involved in higher levels of sporting performance, they have the opportunity to acculturate themselves into new sporting environments that have established traditions and values associated with their club. With these transitions, however, athletes may experience negative experiences as they attempt to adapt to the standards that are determined by the club.

Methods

Participants. The Durham University Women's Hockey first team performance squad consisting of 18 female players were recruited for this study. The squad competed in the Premier North Division of the British Universities and Colleges Sport (BUCS). In addition to the scheduled British Universities and Colleges Sport (BUCS) matches and in the National League's Women's Conference North. Their ages ranged from 19 to 24 years (M= 20.67) (SD= 1.47), and experience playing hockey ranged from 6-20 years (M= 12.78) (SD=

3.16). 17 athletes were from the U.K., and one was from the United States, and were all fluent English speakers. Furthermore, 11 of the athletes had prior and/or current experience of representing their country at an international and national level, representing their respective countries at either an: under-15, under-17, under-19, or senior level of competition. Four coaches involved with this performance squad also participated, comprising of the: head coach, assistant coach, strength and conditioning coach, and sport psychologist. All coaches were male, and their age ranged from 33 to 47 years (M= 37) (SD= 5.83), and coaching experience from 7-26 years (M=16.5) (SD= 6.73). Three of the coaches were from U.K., and one was from Australia. These four coaches were asked to participate because coaches often structure training programmes involving rest breaks. As a coach myself, I am able to understand that these coaches also have the opportunity to offer athletes guidance about when and how to rest, and as such they are an important source of information about this topic.

Interview Guide. The study involved the use of semi-structured interviews, which afforded rich data and an in-depth perspective on athletes' constructions of rest enabling explorations about how athletes define, think about, and interpret rest and its effects and functions. Of key importance, the participants were encouraged not simply to respond in general terms but also to draw on specific, actual experiences and stories of rest, which helped me "be there" and enter into the world of the athlete. By walking in their shoes, I was able to interpret what rest means to these athletes and how their understandings (or misunderstandings) and experiences affect them. Interview questions were open-ended and probes (e.g., elaboration probes) were used to "unpack" participants' responses. Examples of these elaboration probes were:

Can you tell me more about that?

When you say, [term or phrase], what are you actually doing?

Can you recall a real instance of this?

Can you describe this for me?

First, participants were asked what they consider rest to be, to allow the participant to provide their own interpretations of rest. This was done by asking the following question:

What does rest mean to you?

Second, participants were asked about their own opportunities for rest within a typical week during their competitive season. This information contributed to an analysis of their experiences of rest in relation to different types of rest identified in the literature (e.g., Eccles & Riley, 2014). Specifically, participants were asked about experiences of rest in relation to: (a) scheduled programme rest periods (e.g., rest days), (b) longer within-season breaks (e.g., the winter break in the university sport calendar), (c) the off-season break that occurs between any two consecutive seasons, and (d) longer career breaks.

Interview questions were not only informed by conceptualisations of specific rest time periods. They were also informed by literature concerned with multiple dimensions of rest (e.g., Kellmann, 2002). Participants were asked about their experiences of rest in relation to each of these dimensions, which included (a) social rest, where an athlete seeks time away from teammates and others associated with their sport (b) physical rest, where the individual seeks to restore homeostasis (c) motivational and emotional rest, where an athlete seeks a break from certain feelings (e.g. stress, boredom) associated with their sport (d) cognitive rest, where the athlete seeks to stop thinking about, and concentrating on aspects of their sport.

Questions were also asked about experiences of attempts to achieve effective rest. In particular, they were asked about barriers to achieving effective rest, and strategies used in an attempt to get effective rest. Finally, participants were also asked for their perceptions of the

value placed on resting effectively within their sports team, and the organisation (i.e., university programme) more broadly.

As all participants within this study compete for the same team, the ability to investigate an entire sports squad at an in-depth level allows for an encompassing understanding of how the athletes and support staff members operate within this environment. Furthermore, because these athletes share similar surroundings, it will be easier for myself to familarise myself with the structures and standards that are a part of their daily lives. On the other hand, the scope of this sample is specific to one team which presents some limitations. Because these athletes are of similar: age, gender, sport, sport type, competition level, and academic standing, the findings attained from this study will be specific and not generalisable to a larger athlete population. Furthermore, because the athletes within this study are student-athletes, they will likely have a specific experience regarding the achievement of both their sporting and academic goals. As such, many other athletes outside of this community may not be able to relate to the idea of balancing university studies while competing in a performance sport.

Procedures. Ethical approval was attained for the study from the host institution. Four pilot interviews were conducted to test the design of the interview guide and length of time of the interview. Interviews lasted between 42 and 77 minutes (M= 60.73, SD= 9.24). A purposeful sampling strategy was employed for this study to attain a rich and in-depth account of one performance squad's perceptions of rest. The rationale for a purposeful sampling strategy was due to: the level of high performance that the squad exhibited, the ability to collate data and establish a rapport with the athletes by meeting them in person, and because this was a complete and intact squad which allowed me to get to know the team well. The gatekeepers were as follows. Permission to conduct this study with this performance team was attained through the Director of Sport at the University, who then introduced the

researcher to the Head Coach. The head coach organised a meeting with the athletes where it was made clear that participation (or otherwise) in the research project was not compulsory and unrelated entirely to coaches' decisions about team selection. Following the meeting, each participant was given a participant information sheet providing information about the study and were invited to an interview at their own convenience. All 22 participants agreed to an interview and all interviews were conducted in a public but quiet location in the University's sports facility. Written informed consent was provided prior to the interview. All interviews were audio-recorded using an Olympus VN-741 PC voice recorder. Interviews were transcribed to an electronic document verbatim, and recordings were permanently erased after the interview was transcribed. References to real names and locations were removed from transcriptions for reasons of confidentiality.

Analysis. The analytical approach involved a grounded theory approach that allowed for abductive reasoning processes. By collecting data and seeing what emerged from the acquired information, this approach allowed for the production of values and explanations of rest in contrast to testing existing theories (Sparkes & Smith, 2013). The data analysis process began as soon as the first set of data was collected, using "constant comparison" methods (David & Sutton, 2011). As raw themes, concepts, and links between concepts began to emerge from early data, they were compared against other athletes' personal accounts of rest. For example, many participants mentioned the term "switching-off" as a method for them to attain rest in initial interviews. By utilising elaboration probes, I would find that participants' own perceptions of and actions involving "switching- off" varied and did not always comply with other participants' explanations. This method of "theoretical sampling" allowed for additional rounds of data collection which built-upon and challenged concepts that emerged from initial participants' accounts (David & Sutton, 2011). Data collection was a cumulative process in which five to six participants were interviewed over the course of a week.

Following a week of interviews, at least a full week was utilised for transcription and data analysis where attention was paid to the recognition of common themes, allowing for the reformulation of interview questions. As the analysis proceeded, attention was paid to "saturation" in relation to emerging themes and concepts, where later accounts of participants' perceptions of rest tended to confirm initial accounts.

Additionally, my positionality throughout this research process assuredly affected the manner in which the data was collected. Because this study utilises a grounded theory approach, I was eager to not base interview questions explicitly on prior academic understandings, in order to establish a new and unique understanding of what rest means to athletes. However, as the interview process continued and interview questions were refined, in order to avoid saturation, there is no doubt that my previous and personal knowledge of rest shaped the direction in which the interview questions were delivered.

Secondly, my positioning in accordance with the interviewees was also likely to shape the understandings of the obtained data. Being a white student-athlete from the same University who regularly frequents the University sport facilities, while also conducting the interviews at those facilities, I am an "insider". This position did allow me to build a rapport and obtain information from these athletes that may not have been possible if I did not maintain this "student-athlete" identity, in part due to their apparent lack of hesitancy when answering interview questions. However, this was not the case for the support staff members as they primarily viewed me as an "outsider", while being more reluctant to divulge any specific experiences of athlete rest, out of the interest of their athletes.

Results

Overview. The key themes that emerged from analysis of these data were: Distinction between physical and mental rest, variability in rest behaviours, time management and

organisation, and the effects of rest periods on athletes' motivation. All 22 participants provided reports evidencing each theme. While other terms were presented by participants, data involving the key themes listed previously were recognised universally among a majority of the participants. The premise of these acknowledged themes, along with associations between them will be explained.

Recognition of Physical and Mental Rest. All of the athletes proposed that rest meant a lack of physical and/or cognitive activity. All of the athletes acknowledged rest as having both physical and mental components. Likewise, all of the support staff members acknowledged physical and mental components as well. The participants regarded the physical components of rest as "a time where you are not doing any kind of training". These perceptions point towards an understanding by the athletes of a need for time during which they were not undertaking some form of physical activity. Athletes reported that these periods of time, which were typically full days, allow their bodies to "recover" and "recuperate" physically so that they will be prepared for the next training session or competition. The following quotes provide examples of how rest can afford physical recovery.

> "Rest from performance for me would be just not physically playing hockey. It would be not doing some sport or just not playing some exercise if that makes sense. So, rest always involves... not doing hockey or the gym that we do." (Athlete 17)

> "Physically… when I haven't used the days to rest, I've noticed it. So, we play a match on a Wednesday and I train on the Thursday, and I'm supposed to be resting. On the Saturday, it's like my muscles my legs just feel tired sometimes, so like I'm trying to sprint past someone, and I just won't be able to because I won't have the kind of energy." (Athlete 10)

The following athlete describes how lack of physical rest can have negative consequences.

> "If you're like actually running and your legs are like achy, I'm like ya I shouldn't be doing this, like this is my body telling me no not today. Go in there and put your feet up." (Athlete 7)

> "In my first year I remember how kind of my shin-splints I could feel them getting really bad, I had a trial with the England U21's, and I had them for those 4 matches over like a Friday to Tuesday… came back, played the Wednesday match and then played for the 1's on Saturday, and then he wanted me to play with the 2's on Sunday, and I was like ok I'm going to struggle with that I've had what 8 games in like 8 days or something like that. And he was like oh ok but then I still played like 70 minutes and was exhausted and then I hurt as I would do if I'm playing in that such high of volume." (Athlete 6)

In addition to the negative physical consequences that were acknowledged by athletes, mental rest was perceived as being an important factor in their recuperation process. Furthermore, these athletes displayed a perception of mental rest as "having time to yourself" and "not thinking about work or sport". This activity, or inactivity, allows the participant to voluntarily disengage cognitively from their sport, and suggests that constantly thinking about their sport can be fatiguing cognitively. However, many athletes distinguished this form of sport-specific, mental, disengagement from other physical or cognitive activity. In other words, they were still able to be active mentally or physically, but the important part of mental rest was that it was rest from their sport specifically. Furthermore, being able to shift attention to non-sport specific environments and stimuli helped reduce the chances that the athlete would keep thinking about their sport. The following quotes provide examples of how athletes' cognitive functioning and well-being are perceived to be renewed following rest periods.

"Just being able to not have to think about anything hockey related because over Christmas… I kept up my physical training, it was part of our programme, so I think it is just switching-off… Things weren't going too well for our team at the end of last season, and I got a bit mentally down about performance, whereas when we're back after Christmas it was like… that's all gone now." (Athlete 5)

"I think some of it is getting away from the intensity so that you do have time to wind-down and do other things… I think you do need that break because the intensity kind of causes it to be mentally draining… so you need that time to recover from that." (Athlete 6)

Additionally, the following quotes suggest that some of the athletes have experienced difficult circumstances that hindered their mental rest.

"There always seems to be something… This week it was I bumped into someone's car and now I've got to fix that, so that's taken quite a bit of time off things, and I then had to like not do things that I wanted to do, because I've got to catch up on my academic work and spend a certain amount of time doing that… it's something that's usually like fine and then something goes a bit wrong and then you start to think about it and then it's kind of there all the time when you're trying to do stuff, when you're trying to have a rest." (Athlete 7)

"When you're feeling a bit under the weather or you're a bit ill you're not going to achieve that high-quality rest that you need… Therefore, you're going to have to use that time more for working then for resting. So, if you're feeling stressed about academics or sport related things then that's not going to help high-quality rest in a week, if you know you have a lot on it's hard to relax and rest because you're

constantly feeling like you need to do something or that something has to be done." (Athlete 17)

The amount of time that is given to these athletes to rest has also influenced the extent in which they are able to disengage both physically and cognitively. Some athletes acknowledged having "complete rest", within an entire day or throughout the off-season, which was described as a "turn-off from everything and a break from hockey and academics". When this larger amount of time was not afforded to these athletes, many of them distinguished their own ability to "switch-off" from certain aspects and stresses of their lives while still being involved in other physical or cognitive processes. While maintaining the ubiquity of "switching-off" as a mostly cognitive process, athletes' ability to shift their mindsets in accordance with their specific environment helps with not becoming too cognitively and emotionally distressed. The following quotes demonstrate athletes' perceived inability to obtain complete rest from all of the demands of being a student-athlete.

"I'd say that my time when I'm not playing hockey, I've always got something else to do whether it's work or whatever. So, no I don't feel like I get time to have like kind of complete rest. Just because there's always stuff that I've got to do whether it's oh I don't have hockey today I've got to stay up late and do my essay or whatever." (Athlete 7)

"I rarely get like a full day just completely to myself where I'm not doing… you know whether it be like, work, uni work, or playing hockey… you're never fully, I don't know I never feel like I'm fully relaxed" (Athlete 2)

Other athletes alluded to the challenges of switching off that make it difficult to achieve complete rest.

"You are exhausted after a tough session, and you're also mentally tired because you're trying to concentrate, and it's also kind of being able to switch-off or switch to something different. It's quite hard and takes its toll a bit." (Athlete 4)

"I suppose that's like the main rest time… is like switching off from everything, but I don't have much time to switch-off because I have so much to do. Like if I like went away to Exeter and got back at 4 AM, I then have 9 AM labs and some labs the whole of Thursday and the whole of Friday, so I don't really have time to switch-off. And then I have a lab report due in on the Monday, so switching-off… it's more of just… changing what I'm doing in order to rest." (Athlete 15)

Due to the challenges that these athletes face in achieving complete rest, many athletes shared their own methods concerning how they are able to effectively switch off.

"The most effective way for me is to just take time away from everything, if you have time to take a fun day off, no work, just do what you want to do. It's just sitting watching TV all day, going for a walk, like whatever, I think taking a day off to do whatever you want to do with that day that's the best way to like effectively achieve rest. That is switching-off from everything and making sure that you're not thinking about anything else apart from just relaxing." (Athlete 15)

"For me it's having a quiet mind. So, when I've got lots going on in my head, or lots going on and I'm thinking about it a lot, I find it really hard to rest even when like I'm in bed and I'm by myself… so I think when I haven't got a lot to think about and your mind's quiet and you're just in your room and you are just completely comfortable… for me it's like I can have a bath, come home, have a bath, make sure like you know you're not hungry, and then you can just start to just go to bed and chill out." (Athlete 2)

> "I think getting away from the environment in which you are not resting in and surrounding yourself with people that aren't associated with it as well… so if I have less work, then I feel that I am more able to relax because I don't feel like I should be doing something else, or like that guilt or that stress that's associated with it that almost counteracts the ability to rest. So… if I'm not thinking about other things, or I'm not as busy with those external factors that are putting pressure on me then I feel I'm able to rest properly." (Athlete 8)

Undoubtedly these athletes believe that rest involves a period of time where they are not participating in strenuous training sessions and if they were to train, they would be able to control the intensity of their workout. Furthermore, the consensus among this group of athletes maintained that the ability to rest constitutes a change or counteraction of activity that can alleviate strenuous cognitive activity. Mental rest is a theme that resonated with these athletes as well, as they were afforded some time to not have to think about hockey or academic work. This temporary disengagement allows these athletes to shift their attention to other matters that are different, and possibly less mentally strenuous. When athletes expressed specific examples that had a negative impact on their mental rest, they for the most part, were circumstances that were out of their control (i.e. sickness, car trouble). Other times when athletes were not able to attain "complete-rest", they often cited the lack of affordance of time as a significant factor. As the structure of academic courses and sport-related obligations are not decided by the athletes, some individuals were unable to control the quality and quantity of their rest periods.

Variation in extent to which athletes engage in rest. A common narrative that was expressed through the interviews were the athletes' perceived variation in how each other rest. These athletes understand that "different people have different types of resting", which was expressed by the athletes in the following quotes:

"I guess everyone does in different ways. So, some people may like to be on their own a lot and rest and relax, some other people might want to surround themselves with loads of people, so I think there's just a big difference and people I guess manage it in their own way." (Athlete 4)

"I think everyone's quite personal about how they like to rest and everyone knows what they need to do to rest and get themselves ready to go. So, it ends up being quite individual but we do chat about it a bit just to make sure that if… someone who hasn't been exposed to anything like that, there's information if they had thought about it." (Athlete 15)

"Some people have a lot of stuff, a lot of hockey this summer… there's someone playing for Scotland, there's a couple of girls playing for England… people always want the rest… so, I think as long as people come to preseason and are prepared and still want to play then I think everyone's alright with letting people rest how they want to rest, as long as they are ready to go within season." (Athlete 16)

Because of this, the majority of these athletes acknowledged that it is important for each individual to figure out "what they need and what works for them" (Athlete 6) both personally and performance-wise so that they are able to attain high-quality rest.

"Trying to find something that… works for you. So, for some people… resting is socialising, but like for other people, especially for me, I need to be by myself… I know for some people that on a rest day, so a Thursday, they can go for a jog and be fine the next day, but after a game on a Wednesday I would need a whole recovery day." (Athlete 5)

"Someone might want to sleep-in until really late and then just get up and watch TV… it just depends, or someone might be like oh I just want to get up and go for a

walk and go into town and have a nice lunch, it just depends on what everyone likes to do, it's quite personal." (Athlete 15)

In analysing interviews with these athletes, a variety of terms and phrases were used to describe what the athletes actually do in order to attain rest. Each athlete provided multiple examples of strategies and activities that they engage in to achieve rest. Therefore, athletes' strategies and techniques for achieving rest were counted in more than one category. A list of these terms was compiled and are represented in figure 1, and further description of these resting activities is presented below.

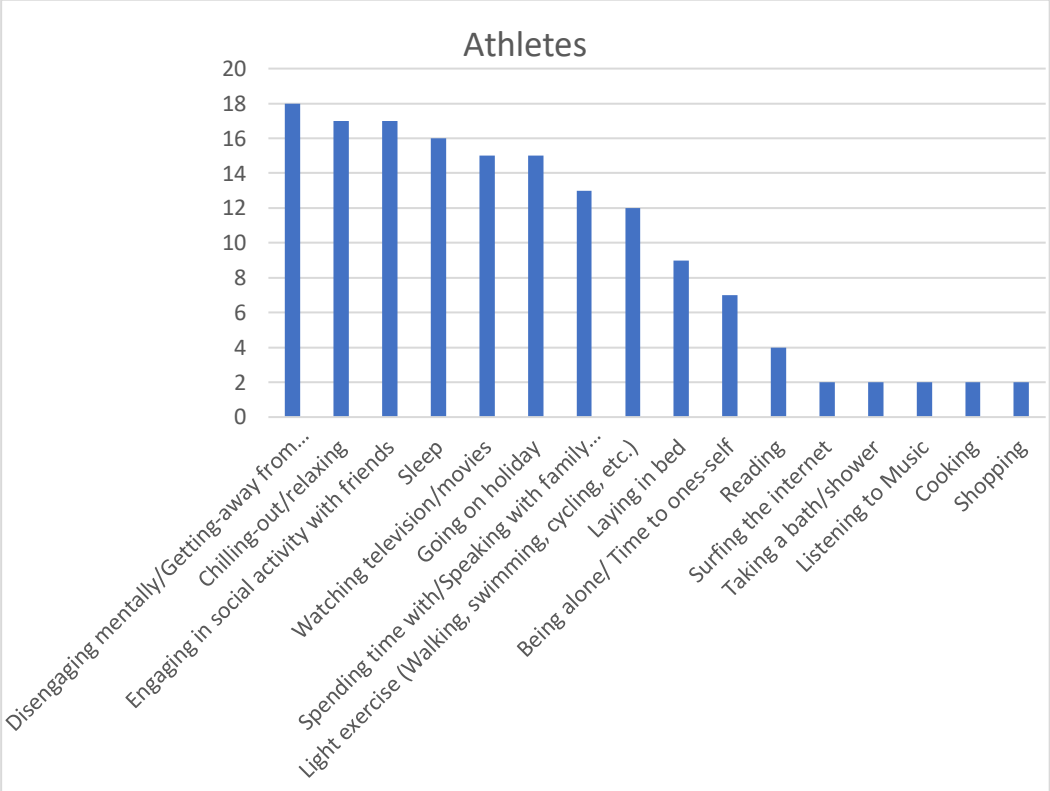


Figure 1. Amount of activities that athletes engaged in that they considered rest. The number of athletes that reported these activities is also depicted.

Disengaging from Hockey-Related Activities. All eighteen of the athletes noted that they disengaged and got away from hockey-related activities in order to rest. This disengagement involved both a physical and mental rest from the structure of the hockey

programme. Athletes reported that rest, for them, meant getting away from the physical environment of their hockey training sessions and switching-off from a hockey-related mindset. While this temporary switch in surroundings can provide a period of time to rest from the previously exposed environment, athletes maintain that this disengagement from their sport can entail switching to "other things" in their lives that may require their focus and attention.

> "Because you're surrounded by the environment so much, it's very intense on and off the pitch… But, from the whole performance atmosphere I think that's something that you definitely need to get away from and kind of put everything into perspective… like you do have other things in your life and it's not all-surrounding" (Athlete 5)

Chilling-out/Relaxing. Seventeen athletes reported that they specifically "chill", "chill-out", or "relax" in order to attain rest. While these terms can be vague when describing the activities that they are involved with when resting, most of the athletes alluded to these periods as idle time where they were able to do what they wanted. As the athletes who participated in this study are all students, athletes of other ages competing may not have the same amount of "free" time that these participants have.

> "Rest is more nothing… so, you're still doing bits but it's more of a nothing approach so… you're putting your feet up, you're relaxing sort of thing and you're not doing the sport." (Athlete 8)

> "You're letting your body kind of chill-out and it's not working hard or anything… And, you're able to think about other things that are important as well." (Athlete 4)

Engaging in Social Activity. Seventeen athletes also reported that they would engage in some sort of social activity with "friends" in order to rest. These "friends" could be other members of the hockey programme or people not affiliated with the club. The emphasis of

why social activity was considered restful was that they are generally fun activities that are outside of the expectations and stress of a performance-sport environment.

> "Spending time with friends outside of hockey… I think it just gives you other priorities and means that you're not constantly focused or getting worked-up on hockey." (Athlete 9)

> "When I'm with my college friends who don't play hockey, it's like completely different. We talk about other meaningless rubbish… it's quite nice to just have that complete break, I kind of lose my way with it sometimes just because it's so intense." (Athlete 7)

Sleep. Sixteen athletes stated that sleeping was a strategy in achieving effective rest. These times when athletes engaged in sleep were described as being longer periods of time where they were not focused on any other activities.

> "Getting an early night sleep. It's quite a big thing… Like tonight, before I have something important like an exam or hockey match or something like that, I want to be completely stress-free and able to get to bed early and do everything I need to do." (Athlete 16)

Watching TV/Movies. Fifteen athletes stated that watching TV and/or movies is a strategy to achieve rest. This statistic was independent of social inclusion; therefore, it was not taken into account whether these athletes were involved in this activity with other people, or if they were by themselves.

> "I would probably say that if you are just chilling, watching a TV show, your mind is kind of active because you are watching something but if you don't really have to

fully concentrate on it and you're not fully focused as you are when you're playing, then that would count as rest." (Athlete 12)

Going on Holiday. While the athletes were typically unable to engage in going on holidays within the competitive season, fifteen of the athletes reported that going on holiday during the off-season was a way for them to rest. This privilege and affordance of holidays is specific to the participants of this study and may not be evident in other athletes of various ages who compete in sport.

"I always book a holiday for when I'm not playing… I mean you can't do anything anyway if you're in a different country or you're not here. Even if you know you can't do anything anyway, you've got no choice but to do… nothing really. So ya, I always go on holiday in the off-season." (Athlete 2)

Spending Time with Family. Thirteen athletes reported that spending time with family members was a way for them to rest. Due to constraints during the season, meeting with family members was difficult for some athletes. Therefore, talking over the phone or through video-chat were also included in this statistic.

"When you are spending so much time with certain people… because they are linked to hockey, it's hard to like separate it. So, it's nice to have your friends, your family, from different areas of life to just again separate yourself from hockey, so it's not like it becomes everything, because that would be a bit much." (Athlete 4)

Light Exercise. Twelve athletes stated that light exercise such as: walking, swimming, and cycling were considered as rest. Because these activities can be considered strenuous if done in excess, athletes noted that these specific activities do not involve the same level of physical strain as their hockey training sessions.

> “Even if I'm going for like a 20-minute jog every day, that is what I would class as time-off, because that running isn't very intense but you're still trying to keep your fitness. And, obviously, they say if you go half an hour a day, you're still keeping the same fitness you were before, so that's what I would class as rest. Doing your own thing but also still getting that little bit of fitness in there.” (Athlete 14)

Laying in Bed. Nine athletes reported that laying in bed was a strategy for them to rest. This activity does not involve sleeping, rather the individual is still awake while engaging in this activity. Many of the athletes said that they would engage in other activities (watching TV) while laying in bed as well.

> “I could've been more effective in the way that I rest… but, I didn't which made me stiff and I don't think I use my rest effectively ever. I think I felt tired so I just went to bed and laid around and did nothing rather than thinking about what I could be doing to actually make myself better for the next day.” (Athlete 14)

Being Alone. Seven athletes reported that being alone and having time by themselves was a way for them to rest.

> “I also live by myself which is quite nice because I can come back and just like shut the door at the end of the day and if I want time alone, like that that's what I can have, which is sometimes what I need.” (Athlete 2)

Other Activities Athletes Engage in to Rest. Four of the athletes reported that reading a book was a way for them to rest. Additionally, two athletes reported that: surfing the internet, taking a bath or shower, listening to music, cooking, and shopping were considered as rest.

> “I… just watch a bit of tv, do a bit of surfing on the internet, read a book if it's the holidays and I’ve got a bit more time. I suppose just think about like other life stuff,

like plans for the holidays or whatever. Stuff that's not hockey and not work." (Athlete 3)

Most athletes acknowledged that their teammates have a perceived understanding of the importance of rest, but do not always take it as seriously as they knew they should due to work-related obligations or social pressures. However, because these athletes have constructed their own conceptualisations of what rest is, it is easier for them to identify any deviations in not being able to attain effective rest. The following quotes convey athletes' specific stories of not being able to attain adequate rest due to these obligations and social pressures.

> "I get to the end of the week and I'm just exhausted because I actually haven't had any time just sitting, and not doing much… So, if I've got a lot of work to do then I'll spend the time that I want to spend resting, doing my work, and not sitting, reading and properly having to focus on work." (Athlete 5)

> "When you're in college and you just want to like switch-off and just not talk to anyone… but then everyone's around you. Literally all your friends or anyone you could want to talk to is just right outside your door basically. So, it's quite hard to stay away and not be social." (Athlete 14)

> "It's quite hard when you're at Uni because you want to go out with your friends, and because you spend a lot of time with hockey people, some nights… you probably know that you shouldn't go out because you need the rest but you haven't gone out with your college friends for the entire week, so you want to socialise with them. So, you do that and obviously that kind of impacts badly." (Athlete 18)

Furthermore, most athletes proposed that the amount and type of rest a person needs is very individualised and that some individuals' perceived requirement for rest may differ.

This perceived discrepancy in how athletes may require different amounts of rest time is expressed in the following quotes.

> "Being able to rest in those time periods are really good, but I feel as a player… I only need a certain amount of rest. And, I think the amount of time that theoretically I could put aside for rest… is probably too much. So, I suppose as a player you can manage your time and maybe work on an aspect of fitness that you want to improve on, so utilising that time to still be performing well in hockey." (Athlete 12)

> "I need more sleep than most people and I need to switch-off and try not to think about work too much, but it doesn't affect me as much as it did. But it's just making sure that you don't relapse into that… with all of the international stuff as well, like… I had to stop." (Athlete 8)

Because there is a universal recognition of individual differences in rest, the support staff for the hockey squad does not prescribe how their athletes should rest. Specifically, "so many different personality types in team sports" makes it more important to not be prescriptive in how athletes decide to utilise their designated rest periods, such as rest days. Instead, support staff members allow athletes to "get them to come up with their own strategies and their own solutions" to rest.

> "There's certain personalities that… need to be social and they need to be around people and that's how they actually switch-off, whereas there are other types that they need to be by themselves and they need down-time for them to switch-off. So, I think having a non-prescriptive way probably is better… Whereas, if you are being very prescriptive about it… it suits a portion of your team but doesn't necessarily work for everyone, so ya being not as prescriptive is in the long-term… more beneficial." (Support Staff Member 19)

> "November, for example is a significant period where there's a drop in levels of performance which come from a variety of things which sit outside of just the programme… Therefore, you need to kind of build-in your change of a programme, or build-in additional rest periods in order to give them that additional re-charge at that period of the year. So, it's up and down in terms of significant roller-coaster parts of the journey that you kind of know when you have peaks and when you have troughs, and how do you adapt in order to actually hit those areas. So, in tough periods, how do we change it, how do we add more rest. During peak periods, how do we actually maintain and just keep the standard at that level over time, which is a difficult thing to do, and certainly needs to be done on an individual basis." (Support Staff Member 21)

> "It's about empowering them and giving them… the skills to be aware of how they understand their current state and then what is needed for them to get back to close to being optimal performance in such a small period of time." (Support Staff Member 21)

This hands-off approach by the support staff in explaining exactly what rest means and exactly how to rest was affirmed by reports provided by the athletes. Typically, the athletes view support staff members as "indirectly" advising them to rest. By allowing this time for the athlete to "do what they feel best", the athlete is "given time away" from the structure of the hockey programme and the demands that come with it. The athletes' actions in relation to rest within these circumstances appeared to depend on specific experiences in their lives that may have an impact on their physical and mental functioning.

> “He kind of said things like… re-charge, get ready for the next season, but not anything specific it was just kind of use the time over Christmas to get ready because we've got another half of the season left, so it's quite important.” (Athlete 4)

> “This really came to light in the second term when I was obviously ill… and no coaches really took note and thought, oh I should tell her to get some rest and not come to training, and stuff like that. Obviously, it's up to me, I am an adult, I’m meant to go to the coach and be like no I can't do this right now I need to rest, but I didn't do that. But then, at the same time none of the coaches really took any initiative and came over to me and were like you should rest. But, also at the same time you have to remember that we are adults and we are meant to look after ourselves.” (Athlete 14)

> “I think you just have more time on your hands so then you can do other things. For instance, like socially you have more time to be social. Like when we were at Boston College, when our season ended, we had "who cares" week which is just like who cares because you're not being held accountable for like your body or your mind, so you just like go around and party all week. You're like should I go out tonight? Oh, well it's who cares week, so you just go out.” (Athlete 1)

Athletes were able to identify and assert that rest is individualised and is dependent upon other athletes’ perceived construction of what it means. This idea of individualised methods for resting was also expressed by the coaches, as they believed being less prescriptive about how their athletes should rest would be more beneficial. However, there is a significant difference in perspective and power between the support staff and athletes. Members of the support staff have complete control over the timings of sessions and matches that are administered to the athletes. Additionally, these student-athletes may see hockey as an activity that is secondary to their education, while support staff members are inclined to

prioritise the performance aspect of the programme and drive their athletes to perform at the highest level. As the collective involvement and performance of the team improves, competition becomes more prevalent among the athletes creating a culture of greater expectations. Athletes become increasingly obliged to take part in all sessions and may be more likely to suppress their own feelings of self-preservation. This feeling may be deferred as athletes move into longer off-season rest periods as they are not being held accountable to the structure and expectation of this performance-sport culture.

Time Management and Organisation. By facilitating certain times to rest within their structured schedules, participants reiterated the importance of maintaining adequate time management and organisational skills. Most athletes viewed the organisation of their time, and other aspects of their life leading up to upcoming days or weeks, as important in facilitating effective rest. From a nutritional aspect, one of the ways that athletes exhibited this trait was when they said that they "have to plan meals out" in advance. The following quotes demonstrate the role that time management plays in order for these athletes to effectively facilitate rest periods.

> "It comes down to the kind of time management… not knowing that you've got to do something else. So, if you do all of the stuff that you know you need to do… then you can kind of rest properly…Like I said it's over a period of time where, if you do need to do stuff later, you've got to separate a period of time" (Athlete 3)

> "I try and be organised with my work so that I can either, in the evenings go out and see friends, or have a good night's sleep if that's what I need. And ya just organise my time well so that I can factor in time to get rest." (Athlete 9)

Furthermore, athletes and support staff members cited that getting proper nutrition should also be organised in association with time constraints, and that this preparation, or lack of, can have an impact on their performance.

> "I think my life is very much like a time management exercise… I think especially when we've got away matches, you're thinking on Monday about how you're going to have Wednesday's lunch. So, it ends up kind of… I have made Tuesdays lunch, and I have made Wednesdays lunch before I have made Tuesday night's tea… I think it forces you to be more organised with your time and then it tells in your performance if you haven't prepped properly" (Athlete 6)

> "I suppose the main things we emphasise is like the timing of the nutritional component. So, getting a sufficient amount of micro-nutrients in those periods after training, and then obviously rehydrating… some of these girls are losing like a litre of fluids… just through sweat loss during a session. So, a lot of their focus should be on hydrating as quickly as they possibly can… just doing everything they can to kind of restore themselves back to their optimal functioning and being ready for competition or ready to train again." (Support Staff Member 20)

Additionally, organising and maintaining a sensible time to get to bed at night was a universal strategy that contributed to perceived levels of athletes' rest. While most athletes posited that they attempt to maintain a reasonable bedtime, it is interesting to account for the individualised nature and thought process that is exhibited by these athletes. These athletes are able to demonstrate that there is a personalised reasoning behind the choices they make regarding their rest periods.

> "I think just having bedtimes. So, if I if there's an evening where I'm not out, I'm not doing anything, I'm actually making sure that I'm going to bed at a reasonable hour

and I'm not up until one in the morning when I have got to be up early the next day.

"Also, sometimes even if you have got work but you know you're tired, almost saying… there's no point in you trying to do this now because you're not going to be efficient working… and for now just let yourself relax and do whatever you want… or even just go to bed." (Athlete 12)

"I make sure I do get my 7 and a half to 8 hours of sleep a night, I mean if I know I've got something and I know that I've got to get up early the next morning, I've got that little app thing on my phone that tells you when to go to bed and tells you when to get up, to make sure you get your 8 hours. And, I've got my Fitbit and I get really upset at myself if my Fitbit doesn't go green, because I haven't had enough sleep." (Athlete 7)

According to the athletes, abiding to their organised schedules for when they get to bed at night was also seen as more prevalent and imperative within the competitive season, compared to within the off-season.

"When you're playing the matches and things, there's more pressure so people are more tuned in to like… oh I have to do this… I have to go to bed early because I have a big game tomorrow. Whereas in the off-season, you don't have that as much so you're… maybe not tied-down but you don't have the constraints or the commitments that you have." (Athlete 17)

"After you've finished your exams and stuff you can have as much sleep as you want... I think from a student point of view when you're at home you've got your parents to like help you out with your cooking and cleaning. So, you have that bit of extra slack that you don't have at Uni." (Athlete 6)

Additionally, deficiencies in the participants' rest overnight were seen as affecting their mental focus which lead to a decrease in perceived levels of involvement and performance.

> "I had planned to go to bed early and get a really good night's sleep and that just didn't happen… it's almost that when things start to go wrong in the game, then I thought back to it and was like… I should've gotten more sleep last night. And, I think it does just like, warming-up or in the team-talk, it's just being able to properly focus." (Athlete 5)

> "I won't play as well as I could do if I'm tired if that makes sense. So, even if it just means that I've not been able to use my rest time effectively, I've not been able to get to sleep the night before, or something like that. I feel like my performance would be affected the next day… especially if there's been like a build-up of being tired and not getting enough rest and then getting a little bit of rest but not quite enough and then playing again… your level, just keeps going down until you suddenly hit a breaking point." (Athlete 12)

Many factors that did account for dips in perceived levels of rest were unexpected occurrences that "crop-up" and/or times that overlapped with deadlines or revision. It was difficult for these athletes to manage these unexpected events as they had not prepared for them during the previous days or weeks. During these times some athletes expressed that they need an emotional break from this hectic structure in order to cope with all of the stress that they are enduring.

> "There always seems to be something. Something always happens. This week it was I bumped into someone's car and now I've got to fix that, so that's taken quite a bit of time off things, and I then had to like not do things that I wanted to do because I've

got to catch up on my work and spend a certain amount of time doing that... you wouldn't have planned for it." (Athlete 7)

"Most the time if you're tired and I've left that period of time for just relaxing or watching a TV show or whatever I can do that, and it's only from time to time when things crop-up… like you've got to be somewhere at that time, you have a meeting, or things like that, that you can't really plan for… sometimes those affect how much rest time you have." (Athlete 12)

I had quite a stressful, emotionally inconsistent, week and I remember being like, I want to go home, and our coach was like, okay I think that's a good idea. So, I had a few days at home where I was just able to be away from everything and just relax." (Athlete 17)

On the other hand, cancellations of training on short-term notice was seen to help facilitate athletes' rest from the viewpoint of the support staff members and the athletes themselves.

"If we got told in advance that we were going to train on this day then I probably would organise to do something else. Whereas, if it got canceled that day then I feel like that would probably be more restful because I wouldn't organise anything else. So, I would probably just go home and have a proper rest and put my feet up, as opposed to planning on probably doing something if I knew I was going to have that day off." (Athlete 16)

"If we feel like we didn't necessarily perform to the level we could and we believe that was because of fatigue then we'll factor in more rest time. So, we might cancel some training sessions or put in recovery sessions… mainly through performance both as a team and as an individual." (Support Staff Member 19)

For some of these athletes, the structure of the hockey programme presents an instability in what sessions and games they will be participating in and how they plan their time around those sessions. Because athletes can be moved between the 1st and 2nd teams, for example, some of them have a "plan A" and a "plan B" when it comes to organising their weekly schedule.

> "So, I play for the 1st team but I'm eligible to play for the 2's as well. So, a few times I thought I would have rest days but then they've asked me to come and train with the 2's and play with them as well… So, I ended up filling in quite a lot, because the 1's didn't have hockey, so I lost quite a bit of rest. (Athlete 9)

> "So, when the ones finished playing their season before Christmas there was a rest time for quite a lot of us, but at the same time some of the freshers had to play for the two's team at the same time, which wasn't a problem but just meant that we had less of a rest than they did, and we still have to go to the training, and we still have to play in the game…It was a little bit difficult at first because it's like we felt we had other stuff to do as well, but at the same time I think that's sort of how it works." (Athlete 16)

Because of this instability, more effort must be put into managing their time as fluctuations in their weekly schedule is somewhat expected.

> "I have to be really on it, on what I'm going to do in two different ways, like there is a plan A and a plan b, like with work and everything. I do have a lot of Uni work to do every week and either I'll do it… and then I've also got a full day of lectures on a Friday so going to the Friday morning training like it will knacker me for those and lectures which means I won't really concentrate in them. So, if I knew that I was going to do Friday morning training, I would allocate a time to go over those lectures

as well but if I just had Thursday night training I don't really have to change that much to my week." (Athlete 14)

These athletes were not reluctant to acknowledge the importance of their own time management and organisational skills. An importance on the nutritional aspect, along with maintaining consistent and sensible bed times were also stated by the athletes and reinforced by support staff members. Because academics and sport fall within the same time period for these athletes, individuals implement their own measures of control so that they can perform. These measures can be something as easy as a personal rule, but can also be monitored by electronic devices, or certain perceived pressures of meeting expectations. Although support staff members do not directly advise these athletes individually on how they should manage their schedule, it is in part dictated by the schedule and culture that is upheld. As certain players may find themselves playing for multiple teams (either other university hockey teams, and/or international, or national league teams) they can feel decreased levels of control over their schedule. These fluctuations can create stressful scenarios for the athletes, but they note that it is somewhat expected because of the nature of the club.

Effects of Rest Periods and Affordance of Rest on Motivation. Individuals who have had the opportunity to "get away" from this demanding student-athlete environment were seen to be remotivated when they return to this position. This correlation suggests that without allocated rest and break periods within a competitive week and following the completion, athletes may experience diminished levels of motivation for their sport. The level of emotion that can be caused by the pressures of being a student, while simultaneously being involved in their performance-sport environment, underscores a decrease in intrinsic motivation involving their sport which can be re-established through rest periods.

> “I was just at a point where… I needed like a fresh start really… I just needed a fresh outlook on things… I was ready for something new, and it was class because I love my hockey again now which I never thought I would get that back.” (Athlete 2)

> “I found even since finishing the season… I felt as though I want to be back out there and it's only been three weeks…and I was just like I want to get on the pitch and go play… it kind of comes back to your love of the sport, like it kind of makes it feel like it's not a burden.” (Athlete 14)

Without this ability to temporarily “disengage” from their sporting environment, support staff members perceive these athletes as having a decline in performance levels and increased emotional frustration.

> “I think there are times where… we've worked quite hard to try and alleviate that stress that an individual may have around things like confidence… motivationally it is very difficult as well in this environment because we are here for so long, it does become difficult too when you get into November and it's minus 3 outside on the pitch. We have to keep trying to find ways to make things as serious... you now as a performance programme at times we need to try and find ways to alleviate that stress in terms of… win, win, win, and we need to think more about the longer-term. The fact that we are looking at these players being better developed by the time that they leave the programme, and that's all aspects: physical, psychological, technical, tactical, we have to think that sometimes it's better not to train than to force the training.” (Support Staff Member 22)

Athletes also recognised that, when given adequate “down-time” to rest, they returned “refreshed” and eager to take part in sessions.

> “I think rest is really important to maintain like your level of like motivation. So, even if I didn't need any physical rest… You know I could have trained the next day or I could've had a meeting the next day, I'd still think rest is important not necessarily for me to recover but for me to just maintain my level of enthusiasm as such.” (Athlete 11)

> “There's definitely been times where I'm like it's too much… I need to get away even if it's just like an hour. Or, if I have… a little bit of a rest from it… you can kind of step back and reevaluate and then get back into whatever you were doing just a bit more refreshed and a bit more with it, because I think you can get sucked into stuff and you just need to get out of it.” (Athlete 16)

> “It's the hockey culture… it's the pressure of being at a world-class university with a high-performance sports programme, which I guess is just a natural given that that's going to add some pressure. So, the feedback that I’ve had from the athletes has been that when they've been able to do that, it has just given them a little bit of breathing space to relax and then to go again. So, it's almost like a fast-track re-charge isn't it.” (Support Staff Member 21)

In turn, the presence of these changes in perception of their emotional state represent a correlation between the athletes’ dip in intrinsic motivation and their explicit motivation for recognition of their sporting achievements. As the athletes’ get further into the competitive season, approaching the knock-out stages of competition, the opportunity for more rest is more important because it “really impacts people’s games” (Athlete 14). The following quotes from an athlete and support staff member address this effect.

> “There was a time… where my teammates and I had an off-campus house and we got in trouble basically for having a party… So, emotionally it really messed us up like

we were all crying the entire week, like stressed so badly…and that was going into our tournament, and then when I was at the tournament during one of the games… I was just like I feel exhausted right now, just like drained. Like I know that feeling, but I knew I wasn't physically drained it was just all emotional because leading up to that week it was just so stressful, and I know it affected my performance from there… It was a lot of our teammates too that were involved so… I knew that not only I was effected by it, but like my teammates were too." (Athlete 1)

"You do need that time, same for me, I need that time where I can just switch-off in thinking about oh what formation are we going to play, who's going to be selected, what about the 2nd team… because otherwise you just become... drained because our season is very long and it's very different to any other of the university sports because we come back on the 21st of August and we... So, it's a long season where you're doing multiple sessions per week in the gym, on the pitch, and that's what I mean by that kind of switching-off period as well… they don't have to be thinking about anything" (Support Staff Member 22)

Therefore, when individuals' levels of performance are not impaired, they are more likely to exhibit a yearning for personal growth and recognition for proficiency in their sport.

"It is so intense towards the end of the season, you're kind of like why do we even do this anymore. So, it is definitely good to have a space where you can just realise why you're doing it… like you begin to miss it and you reflect on that kind of reason to get back into why you are doing it, so that way you go back as an athlete wanting to do it again and wanting to get better." (Athlete 17)

"I do get very angry at the game, so it's good to have days off in-between games so that I don't think about what just happened. It's quite hard because I dwell quite a lot

> on my last game, so like having a day off really gives me a break between to forget about it. If I was in training I think I would be frustrated at the game, and then I'd be frustrated at training, and then I'd be frustrated at the next game and it would just go on and on. So, I wouldn't be as productive as I could be." (Athlete 14)

Athletes that are able to disengage from hockey perceived that their motivation and emotional well-being will be refreshed following rest periods. Therefore, it is implied that motivational and emotional levels of the athletes can be degraded over time if they are not supplemented with adequate periods of rest. By having rest periods available, athletes are not burdened with the constant control of the hockey training structure and can maintain a positive emotional relationship with hockey. This effect was acknowledged by support staff members, and they noted that it is difficult for them to manage the programme so that individual athletes can maintain an equilibrium with their levels of stress, confidence, and motivation. Other factors occurring outside of the scope of the hockey programme structure, socially, were also posited to have the ability to negatively affect athletes' emotional well-being, which translated into depreciated levels of performance in the matches. Overall, athletes withheld a consistent perception that their personal well-being and emotional growth would not be impaired if they were afforded rest periods where they can "get away" from the pressure and intensity of the hockey programme.

Summary

To summarise, athletes were able to identify and distinguish different ways of resting, along with the manners in which various individuals choose to rest. Time management and organisational strategies were also seen to aid in the facilitation of rest, while the availability or unavailability of rest breaks was shown to have an impact on athletes' general well-being and motivation.

A key theme manifesting in each of the four categories discussed is the apparent lack of control that these athletes have when situated within the structure and obligations of a student-athlete. Significant hindrances upon athletes' physical and mental rest were caused by unexpected occurrences, which were seen to have an impact on the athletes' rest quality and quantity. Athletes also displayed less control over their resting time periods as they were obliged to conform to the structure and culture of the hockey programme. With this being said, there were also differences in perspective between the main priorities expressed by the athletes and support staff members regarding their individual and team performances.

While there certainly is a control placed on these athletes by their support staff members, the athletes themselves place limits on their specific actions regarding rest periods. Many athletes placed limits in their daily schedule in order to ensure and maintain consistent and adequate amounts of rest. Any negligence of these limits by the athletes were seen to have a direct negative impact on their own motivational and emotional well-being. Opportunities that were not afforded to athletes by support staff members, or were not generously placed within the hockey schedule, were perceived as impairing their own love for the sport.

Discussion

The purpose of this research study was to understand what rest means to athletes, and what experiences of rest these athletes have. By attempting to fulfill this purpose, a constructivist grounded theory approach was implemented to organise the data that was being collected in order to understand what athletes perceive rest to be.

The potential of athletes' inability to effectively mentally "switch-off" can also lead to increased rumination and inhibit their cognitive functioning (Michailidis & Cropley, 2016). This idea was commonly expressed among the athletes within the interviews, as they

perceived lack of rest as negatively impacting their ability to focus on tasks involving their university work and sport. However, being able to "switch-off" for these athletes was not perceived as a period of time where they were devoid of activity. Consistent with the research of Asp (2015), athletes undergo periods of "rest" and "non-rest" which comprise the duality of an individual's mental functioning. By establishing this duality, individuals are able to structure a "rest rhythm" involving periods of demanding cognitive tasks followed by a recovery period where the athlete is able to recover and reflect upon their past experiences. The athletes within this study regarded even the smallest rest periods (i.e. rest periods within training sessions, and throughout the day) as being important to their cognitive functioning as they were seen to aid in memory retention both within their sport and with their university work, which has been discussed previously (Coles & Tomporowski, 2008). An importance is placed on these short rest periods by the athletes and are often perceived to be utilised effectively by themselves. These periods present the athletes with a window to temporarily "switch-off" from their current mental state and channel their thoughts to other, possibly less distressing, matters. Therefore, this perceived duality of the athletes' mental state concerning rest, tends to focus on the negative effects incurred through constant rumination instead of the positive cognitive adaptation that will be achieved through "switching-off".

Furthermore, the ability to rest is not singular, in that the way athletes rest is noticeably individualised and was seen to vary between the athletes participating in this study. This was represented by the sixteen different resting activities that the athletes utilised and were recorded as data as part of the results section. Previous research had enlisted competitive athletes to list multiple techniques that they used to recover from their session specifically (Hanin, 2002). Rest was one of these techniques; however, the specificity of the consistency of rest was not studied, allowing an interest to further study athletes' personal perceptions of rest in-depth. As a collective, the participants within my study perceived rest

as not having a complete and inclusive conceptualisation of specific resting activities. This lack of a clear definition of rest has been noted across multiple disciplines of research (Zijlstra et al., 2014), and stresses the importance of this study investigating athletes' personal perceptions of rest variability.

As evidenced by the variety of ways that the athletes choose to rest, participants were quick to note that their personal techniques that they utilised were influenced by the structure of their schedules. The duties of the support staff members require them to structure a training programme/schedule that is uniform and not always compliant with athletes' other activities outside of the hockey programme. Because of the expectations and norms that are enforced by the coaches and through the hockey structure, which include: not going out the night before a match, attending all team training sessions and matches, and maintaining a consistently high-level of fitness, some athletes may feel the need to disengage from this environment in their own, specific, ways (Manley et al., 2016). This idea seems to be recognised by the support staff members as they are admittedly "less prescriptive" about the manner in which their athletes choose to rest; however, they are able and willing to offer them general guidance if asked.

While descriptions from both the athletes and support staff confirm that being less prescriptive about resting techniques is beneficial, athletes were clear in stating the prioritisation of support staff members to establish and maintain the performance-sport aspect of their club. Previous studies have explored sport subcultures and they attempt to promote increased desire and effort towards their sport (Coulter et al., 2016). While the sporting culture being studied is not performing on a professional level, it still demands a great deal of dedication from the student-athletes. This pressure placed on these athletes can limit the variation in which they would like to use their rest period. Furthermore, because of the high demands and compliance of this environment, athletes are more likely to silence their own

personal preferences involving rest in order to sustain their current position with the team (Manley et al., 2016).

These measures of suppression utilised by athletes seem to be more prevalent with the individuals who noted that their squad selection for the first team is not always guaranteed and there is a chance that the coaches can move them between teams. This existential worry surrounding the team selection process of support staff can play on the athletes' conscience and subconscience, leaving them uncertain about their own place within the club. Additionally, the stress caused by the anticipation of these selections can cause stressful situations making it difficult for the athlete to cope (Roderick & Schumacker, 2017). To aid in preventing these negative factors, athletes were seen implementing their own time management and organisational techniques to effectively handle the uncertainty of their sporting schedule.

Time management and organisational techniques that were elicited by these athletes revolved around them prioritising important and time-sensitive tasks, usually involving some type of academic work. By engaging in these higher-order tasks before they are set to train or compete in a sporting environment, these athletes are able to optimise their efficiency and allow themselves additional rest periods if they are needed (Etzel & Monda, 2012). On the other hand, athletes provided specific experiences where their time management and organisation was not adhered to, leading to negative consequences. Athletes cited: leaving work until the last minute, going out socially, and going to sleep too late as choices that have led to their mismanagement. This collection of athletes' habits and dispositions towards their personal rest can manifest as a habitus (Bourdieu, 1977), which is further reinforced or altered dependent upon their subsequent actions. Research has also shown that a lack of time provided for rest can cause additional stress for the athlete, while negatively affecting their general well-being (Etzel & Monda, 2012). Foresight of these consequences were recognised

by these athletes and many acknowledged the use of schedules, alarms, and consistently meeting deadlines as contributing to their personal maintenance.

Pressures that are produced and maintained within this sport programme also have the ability to directly affect the involved athletes' well-being. For example, Cresswell & Eklund (2006) found that both physical and emotional exhaustion can contribute to the accumulation of distress and may lead to the athlete experiencing burnout in their sport. Additionally, athletes' reduced self-esteem can be caused by their own experiences of negative psychological and physiological symptoms (Freudenberger, 1980). Although the athletes as a whole were clear in identifying their passion for hockey, they were able to draw upon previous experiences and express their own perspectives when experiencing these symptoms and offered their own thought process in how they deal with these stressors. They displayed a yearning to "get away" and "disengage" from all hockey related activities so that they can alleviate any emotionally charged stressors that had started to cultivate throughout the course of a demanding season. By maintaining a consistent balance of activities over longer periods of time, these athletes have the ability to stay motivated and avoid the possibility of burning-out (Gould et al., 1996). Athletes expressed that they were able to maintain this balance when allocating and spending appropriate amounts of time within their; academic, social, and sporting lives.

With the focus of research attending to the negative effects caused by lack of rest periods among athletes, attention must be paid to the benefits that these rest periods allow individuals when they are allocated properly. Specific studies have shown that athletes' talent and development of expertise are attributable to their personal psychological functioning and well-being (Ivarsson et al., 2013). By the personal account of athletes participating in this study, rest periods give the athletes a "fresh start" and the ability to "maintain a level of enthusiasm". There was also a general perception among the athletes that emotional growth

and general well-being would be maintained if they were given adequate rest periods. When competing in a high-performance sporting culture, many times the athlete perceives that all they need is a rest from this environment. With this larger amount of time available to them, these athletes will maintain the belief that they will return to competition with a greater amount of determination (Tibbert et al., 2015).

In our findings, a theme of control, or lack thereof, is manifested through the apparent adherence to the structure that has been established by the members of the hockey club. Power relations between support staff members and the athletes are a constant occurrence in these performance sport environments and cause distress to the athletes if rest periods are not administered appropriately (Manley et al., 2016). Athletes within this type of environment are likely to maintain their own personal perception of being constantly engaged and trapped because of their involvement with their sport. This type of prolonged exposure and the inability to rest from their sporting environment can make the athletes feel like they have lost control and possibly make them lose interest in their sport (Coakley, 1992). These symptoms of athlete burnout can cause the athlete to quit their sport altogether if they are not identified and mediated appropriately.

While control can be placed on these athletes just from the sporting structure that has been put in place, other research acknowledges the specific controls that may be placed upon them by support staff members and themselves. Research has reported that different leadership styles are created by the behaviours that support staff members display, which can influence the emotional and motivational climate of a team (Smith & Smoll, 1997). Correspondingly, behaviours of control satisfying the needs of athletes is seen as acceptable, while thwarting the needs of their athletes can cause negative affect and symptoms of depression (Bartholomew et al., 2011). Athletes within this study were also able to acknowledge the control that they had to place upon themselves in order to maintain their

emotional state. Even when individuals mentioned that they were “emotionally inconsistent” at times, they still needed to carry-on with their upcoming competitions. Because emotional arousal can affect physical and mental functioning, athletes have the opportunity to use strategies that could optimise their emotional control. Strategies such as imagery, and self-statement modification can aid in emotional stability when used appropriately (Jones, 2003). Therefore, even if athletes are experiencing levels of institutional and interpersonal control, there are specific individual strategies that can be employed to help to achieve rest for their mind and body.

CHAPTER FOUR

Examining various athletes' perceptions of rest from the "Rest and its effects on general well-being and sports performance" Likert-scale Questionnaire: A quantitative study utilising descriptive statistics and one-way ANOVA analyses to determine differences of resting and organisational techniques

Abstract

The main objective of this study was to examine athletes' perceptions of rest from a larger and more generalised population and to quantify the values that athletes place upon resting activities. A quantitative design was used which utilised a standard questionnaire to determine the athletes' scores. In total, 236 athletes participated in this study, comprising of athletes from a wide-ranging variety of sports and competition levels. Statistical Analyses were undertaken using SPSS software to determine descriptive statistics for all of the questions, along with significant differences between the pre-determined groups of athletes. Results from the analyses showed that athletes maintained a general agreement towards the questions regarding: rest's absence from physical and/or cognitive activity, the variability of their personal rest, utilisation of specific techniques to facilitate rest, and regaining motivation to perform by resting. A majority of the resting techniques listed were also agreed-upon as contributing to rest, while scores concerned with these techniques' use and frequency of use varied. Statistical differences were also found between various athlete population groups. Many significant differences between sport type (team or individual) and competition level were also recorded. These statistical findings provide analytical generalisability when paired with the qualitative results generated from the initial study. Further research upon this topic can aim to capture how athletes' perceptions of rest can change throughout their competitive seasons.

Introduction

Rest as a general term within academic sports literature has been defined as the cessation of activity, with there being positive results in performance for appropriate utilisation of rest, while negative outcomes are due to inappropriate applications of rest (Eccles & Riley, 2014). Because of the positive results that can be attained through appropriate rest periods, it has been recommended that athletes undergoing extensive training periods should implement "time-out" periods in order for them to not become too preoccupied with their sport and too encourage any other passive interests that they have (Meeusen, 2006). Thus, allowing them enough time to cognitively disengage from the problem-focused task they experience within their sport.

Taking these two definitions into account, it is evident that rest can have both a physical and/or cognitive impact on the athlete dependent upon its appropriateness and application. However, results from the previous study suggests that athletes' perceptions of rest can be encompassing of various types of activities and experiences. Therefore, viewing rest as a Cartesian duality between various physical and cognitive experiences would not be appropriate. Individuals' perceptions can be constructed from their own subjective realities and pertain to a multitude of "lived-body" experiences (Gold, 1985), which will be addressed in the questionnaire with regards to the athletes' activities and techniques they utilise in order to attain rest. Because athletes can be subjective in their responses to whether rest is more attributable to physical or cognitive components, asking this question to a large and diverse sample of athletes will create a quantifiable result that will encourage further discussion.

As athletes' perceptions of rest are subjective, a certain level of power and control can be exerted upon and by the individual to the type of rest that works best for them. According to Foucault's specific form of power, individuals become subjects when; they are predisposed to others' control, and when their conscience ties them to their own identity (Foucault, 1982).

Athletes are positioned as subjects under the instruction of coaches and support staff members that can alter the way in which they value rest and utilise resting techniques.

While Foucault's theory places power between and within-subjects, it does not necessarily emphasise the interaction between individuals and their cultural constructs. This aspect is included in Bourdieu's theory of power and is described as the constant interplay between structures and agency resulting in habitus, or the act of habits and dispositions being instilled in one's mind through constant reciprocity (Bourdieu, 1977). As agency can be described as a persons' individuality in making their own choices, this capacity of thought has the ability to be restructured according to the cultural norms and structure of their sporting environment. Therefore, athletes' agency in expressing how they think and value rest may be altered by strong, shared beliefs maintained by their team. If athletes do try and find "what works best for them" to rest, their judgement and understanding of rest can be clouded by their own level of conformity to the role of "an athlete" (Anderson, 2010). Additionally, by conforming to the present interplay within their sporting environments, athletes may narrow their social exposure to just their team members, while also limiting cultural influences that may give them a more diverse way of thinking (Robidoux, 2001, as cited in Anderson, 2010). Because individual athletes have their own unique interplay between their sporting environment, they may require a wider range of techniques in order for them to feel rested, by their own standard. By athletes having the ability to utilise and understand their own ways of resting, they are able to maintain power over their agency within an environment that may apply pressure to conform to cultural norms.

How athletes value rest can also depend on their coach or coaching staff, who can act as conduits regarding information and values of sports performance and personal well-being. Depending on their sport and competition level, athletes may have multiple or no coaches to aid in their sporting practice. Coaching is a unique practice as it does not require the

individual to be an expert in their specific sport in order to coach; however, their legitimacy of being a coach can be validated by their players if they are perceived as being experts (Anderson, 2010). To avoid this dilemma many sport teams now have multiple members on their coaching staff who specialise in a variety of areas. By having these other authoritative members, athletes are more informed in regard to their own maintenance and well-being, while also limiting one coach's ability to be perceived as having absolute power over the team. However, as rest still lacks a clear and concise understanding in the sport sciences, how and if rest is prescribed is a question that needs to be examined further. Returning to the interconnectedness of the mind and body, coaches have the ability to reduce the actions of their athletes to routine tasks, which are practiced until it is an athlete's own intuition to physically repeat those actions (Guilianotti, 2005). Therefore, athletes may relinquish some of their own agency regarding their personal perceptions of rest in order to conform to the values and expectations held by their coaching staff. On the other hand, athletes who do not have coaches and/or authoritative sporting members close to them, may be able to express their individual perceptions of rest more freely and without critique.

In essence, athletes possess the innate ability to determine their own commitment and perceptions towards their methods of attaining rest. The process of "ontological synchronisation" where intention is seamlessly translated to effect and purposeful cognitive intervention is implemented for improved performance, gives individuals control over their actions. Therefore, they are able to achieve an ontological unity that is required to express their own embodied intentions (Howe, 2003). Because athletes have this ability of embodied expression towards specific facets of their respective sport, there is interest in analysing athletes': use, frequency of use, and contribution to rest of specific techniques and interventions that they may use. Athletes who value some resting techniques but do not

physically complete these actions consistently, do not achieve this mind-body unity and can be perceived as lacking elements of self-control.

However, elements of athlete self-control are not solely dependent on their individual thoughts and actions. Athletes' sporting culture, along with all members present within their team, can have a significant effect on the agency and responsibility that they express within this environment. Relinquishment of an autonomous position and conformity to norms contributes to this diminished agency exhibited, where athletes yield their own responsibility and comply with orders made by more authoritative members of their team (Anderson, 2010). Specifically, athletes may not use or value certain resting techniques or interventions that are not valued within their sporting environment. Self-organised athletes may exhibit higher levels of self-control and responsibility in accordance to contextual factors, compared to other athletes who are exposed to a more rigid and institutionalised sport setting (Long et al., 2008). Therefore, in addition to internal intentions and execution, external cultural factors have the ability to alter athletes' personal control and value of resting techniques.

Certain external factors that can occur outside of the athletes' control can have an additional negative effect on the attainment of rest as it can lead to elevated levels of stress, while challenging the mental fortitude of the individual. Athletes demonstrate a higher perception of threat when confronted with unexpected occurrences, compared to expected occurrences. Because of this, athletes are more hesitant to react upon these stressors (Dugdale et al., 2002). As these occurrences were not previously accounted for in their day, these acts can happen completely outside of the athletes' control. Appraisal and coping strategies may be used to deal with these occurrences, therefore the athletes' expectation of attaining rest may be put into jeopardy. The addition of these difficult situations can also challenge the discipline and mental toughness of the athlete. One element that athletes have perceived as contributing to their mental toughness following uncontrollable events, more specific to pre-

competition, is the ability for them to regain psychological control (Jones et al., 2002). In the moment, this presence of psychological control can give you an advantage over your opponent. Moreover, mental toughness is a characteristic that demonstrates enhanced self-regulatory skills in the athlete. Even when athletes are confronted with unexpected occurrences, their ability to react positively and remain mentally tough can aid in their coping and appraisal towards these stressors, effectively determining if they are able to maintain a restful state of being.

Athletes can possess and express additional levels of self-control and discipline by being able to cognitively "switch-off" from various tasks and shift their attention elsewhere. While athletes may intuitively think of "switching-off" as solely focusing on their upcoming competition and tuning other thoughts out, "switching-off" can extend beyond their sporting lifestyle and apply to their general thought process and well-being (Jones et al., 2002). This ability to switch-on and off between mentally challenging demands is an attribute of mental toughness. It is also known that "switching-off" within a professional work environment, following a working-day, contributes to greater feelings of well-being as it results in increases in individual mood while reducing fatigue in the evenings following work (Sonnentag & Bayer, 2005). The inability to psychologically detach yourself from work after your workday after it has finished can lead to higher levels of stress, especially on days where there are greater levels of perceived pressure.

By not being able to psychologically disengage from their sport, athletes can perceive themselves as being entrapped by their sporting environment. This prolonged exposure to this environment can be psychologically exhausting and can lead to athlete burnout. Of particular interest, previous research has shown that perceived lack of control and high social constraints are two elements that can contribute to athletes feeling entrapped (Raedeke, 1997). This feeling of entrapment can cause the athlete to devalue their sport and, if

psychologically and socially entrapped for an extended period of time, can cause the athlete to withdraw from their sport entirely (Gould et al., 1996). As this type of entrapment is caused by the combination of personal and situational factors, even mentally-tough athletes who are placed in highly-demanding sporting environments can elicit symptoms of burnout and may require periods of rest to alleviate stressors and restore levels of motivation. Therefore, the allowance of athletes to have time away to rest and disengage from their sport psychologically can be used as an important intervention for them to maintain high levels of motivation to participate in their sport.

External constraints that limit athletes from attaining rest can have an adverse effect on their motivation as they may feel that their rest is being regulated. For athletes who perceive their rest as being regulated and out of their control, their motivation to achieve extrinsic rewards may diminish (Weinberg & Gould, 2014). Because of this lack of control, athletes will not be able to implement regulatory measures to aid in effectively maintaining motivation levels. Influences and factors leading to athletes devaluing their own: competence, autonomy, and relatedness of their personal rest can also lead to lowered levels of intrinsic motivation (Weinberg & Gould, 2014). Athletes who are knowledgeable of "what works best for them" to rest, who can maintain control of these periods of time effectively, all while reciprocating this understanding with their peers, will be able to become self-determined (Deci & Ryan, 1985). In this sense, deficits in athletes' rest that are perceived to have an impact on the before-mentioned fundamental sentiments can result in changes in athletes' levels of motivation.

While practitioners in sport advocate for athletes to attain adequate amounts of rest, the techniques and activities that are involved with rest have not been examined extensively and developed. Therefore, the lack of knowledge that sport practitioners have at-hand concerning athletes: use, contribution, and frequency of use of various resting techniques

limits our understanding of how athletes perceive rest. For example, Kellmann (2001) developed the RESTQ-sport questionnaire that implemented 19 scales assessing the impact of athlete stress in order to facilitate improved strategies for recovery. However, while many of the scales aimed to identify athletes' scores were similar to rest, the impact or understanding of rest was not specifically investigated. As previous research has endeavoured to explore skills that involve rest only in a more peripheral manner (i.e. relaxation, recovery, sleep), one of the main objectives of this study is to investigate rest as a distinct term and to understand athletes' general perceptions what rest means to them. The need for rest is universally accepted as being important for all athletes; however, the identification of specific resting techniques, along with the extent to which these activities' use and effectiveness contribute to performance and well-being has not been studied.

Apart from just understanding various athletes' personal understandings and values of rest, a further objective of this study is to differentiate the scores obtained according to the current level of competition that the athlete is participating in. Three different levels of competition will be given for the athlete to identify with, which consist of either: novice/amateur, university/national league, or professional/international. While our understanding of athletes' values of rest between these groups is largely unknown currently, the process of skill acquisition in building towards expert performance inherently involves periods of rest. Expert performers need to navigate through the constraints of deliberate practice and value the inherent need for rest (Ericsson, 2007). In this respect, you might expect that athletes competing at higher levels will utilise resting techniques more frequently and to a greater effect. This can be derived from an athlete's individual actions, as they would ideally like to avoid physical overuse and burnout. Additionally, by appropriately understanding the mechanisms that mediate an athlete's physiological and mental adaptations, sport practitioners can safely guide their athletes on a path of expert performance

(Ericsson, 2007). Therefore, in referring back to Bourdieu (1977), individuals maintaining involvement within this pathway towards expertise will reciprocate dispositions of rest that are being imposed onto their own agency by other constructs of power. It can be assumed that (expert) sporting environments that are more professionalised may have more structures in place to produce impositions upon athletes' values of rest, but that is not to say that those impositions would be inherently negative.

As athletes look to attain increased expertise in their respective sport, research has attempted to identify the factors that contribute to athletes' quality, quantity, and importance of deliberate practice. Generally speaking, athletes who have accumulated more time practicing in their sport, and practice with an increased level of quality can be regarded as having a higher level of expertise (Ward et al., 2004). However, while it can be understood that it may be desirable for athletes to undertake increases in exposure to their sporting environments, it must also understand that athletes must process a measured cognitive trade-off between the amount of time that they are involved in motor-skill activities (Yarrow et al., 2009) and rest. This can of course vary between different sports and their specific sporting environments in maintaining an appropriate balance between physical activity and rest. Additionally, rest is not necessarily emphasised as a measurable skill compared to various physical or technical skills an athlete may use during training sessions. With this in mind, the complexity of an implemented model towards an expertise of rest would need to be tailored to the current knowledge and techniques of rest that the athlete holds.

As athletes involved in individual sports are more likely to have a lesser amount of social presence in their sporting environment, it can be argued that they are able maintain a greater sense of autonomy in deciding how they should rest without having to conform their values to others (Anderson, 2010). By having fewer social influences on how rest is valued, athletes may posit that "finding what works best for them" contributes to their attainment of

rest. Additionally, individual athletes may display higher scores involving their own self-regulation as they are less likely to conform to others' beliefs. Athletes competing at an individual level have also been reported to have higher motivation profiles than team-sport athletes (Hollembeak & Amorose, 2005). Specifically, individual athletes undertaking solitary training more frequently has been seen as a significant indicator between athletes' level of expertise in individual sports (Ericsson, 2006). In this sense, individual athletes reporting higher levels of motivation can demonstrate their ability of self-regulation skills which can consist of resting techniques. This can be a product of more direct information from their coaches, as they would assumedly receive more critiques of their practice. With this information they may adapt their activities away from sport in order to prepare for future training sessions and competitions, ensuring that they attain adequate rest.

Methods

Participants. This research employed a cross-sectional survey design, with the target population being inclusive of athletes of all ages and experience. In the end, a group of 236 athletes (M age = 23.58) participated in this survey. As part of the survey, these athletes self-described their level of competitive play at either a: professional/international, performance/university, or recreational level. There were 46 professional/international athletes, (M age = 23.41 years, with 24 males and 22 females), 128 national/university athletes, (M age = 22.84 years, with 60 males and 68 females) and 62 recreational athletes (M age = 25.39 years, with 30 males and 32 females). The professional/international group of athletes specifically consisted of professional athletes and/or athletes who have represented their country at an international level. National/university athletes were defined by their participation on a University's sport team that regularly competed at a high level (1st teams), or by competing in a sport's national league. Recreational athletes were distinguished as

participating in their sport casually. Of the 236 participants represented, 88 were classed as individual sport athletes while 148 were classed as team sport athletes.

Questionnaire. This study involved the use of the "Rest and its effects on general well-being and sports performance" survey, which was developed after the completion of my first study regarding athletes' perceptions and conceptualisations of their own rest periods. This survey was structured into five separate sections. First, a general description of the study was offered to the participants, and they were asked background information regarding their: age, sex, sport, and level of sporting experience. The questions following this section comprised of activities that were assessed on a rating scale from 1-5 (1 being strongly disagree and 5 being strongly agree, or 1 being never and 5 being always), and a few questions that asked the participants to rank resting activities that they may undertake in regards to their effectiveness, frequency of use, and the extent to which they get enough of that resting activity.

The second group of questions enquired about the athletes' own recognition of the physical and mental components of their life that may be positively or negatively correlated towards the ability to attain sufficient rest. All of the athletes acknowledged to some extent the importance of attaining rest; however, participants presented a varied response to how they viewed their own rest as being either more physically, or mentally prioritised. Examples of these types of questions were:

To what extent do you think that rest involves a lack of physical activity?

To what extent do you think that lack of cognitive rest leads to negative consequences?

To what extent are you able to attain complete rest, pertaining to all of the demands of being an athlete?

Third, participants were asked a series of questions regarding the variation in which they engage in rest activities. From their answers it can be determined that athletes of all ages, across a variety of sports, and different levels of competitions, affirmed that different athletes vary in the type of resting activities they do, and that they do what works best for them. Examples of these questions included:

To what extent do you implement your own methods in order to achieve effective rest?

To what extent do you believe that different people need more or less rest than others?

Participants were also asked to score a selection of potentially restful activities in accordance with whether they utilise these activities, whether they frequently engage in these activities, and to what extent these activities contribute to their rest. Some examples of these resting activities included: disengaging from sport-related activities, watching television, going on holiday, and listening to music.

Fourth, participants were asked about their own time management and organisational skills, and how their ability or inability to do this affects their facilitation of rest periods. Many of these questions asked about the athletes' abilities to create and follow-through with their own structured schedule, and to account for unexpected occurrences that can bite-into their resting time. Examples of these questions included:

To what extent are you able to effectively organise and manage your time in order to facilitate effective rest?

To what extent does your coaching staff allow you to come-up with your own strategies and solutions to rest?

To what extent do unexpected events negatively affect your rest, because it was not organised and taken into account beforehand?

Additionally, a list of time management and organisational techniques were provided to the participants so that they could score the terms according to their: use, contribution, and frequency of use. Some examples of these strategies included: making a daily schedule, managing your social life, meal preparation, and keeping a diary.

Lastly, participants were asked about the effect that rest periods have upon their motivation to keep competing in their sport, and if given ample time to rest from their sport, does this rest period re-motivate the athlete to return to competition and training. Overall, the athletes demonstrated that these rest periods do help re-motivating themselves to compete again and perceive themselves as more likely to perform better and exhibit a yearning for growth and development in their respective sport. The full interview guide for this study can be seen in Appendix G.

Procedures. The survey took approximately 10 minutes to complete, and all participants were administered an information sheet form obtaining their consent before they began. All surveys were administered electronically to participants via e-mail or through direct messaging services. Furthermore, the participants were informed that their likeness would remain anonymous and that the data will only be disclosed to myself and my supervisory team. Also, it was made clear to the participants that ethically there would be no penalty for a non-response.

Aims and Objectives The first and main objective of this study is to examine perceptions of rest from a large and generalised sample of athletes, while also quantifying the values that are placed upon resting activities. Through this main objective, I will also aim to understand whether athletes' perceived recognition and attainment of rest will positively

correlate to both the lack of physical and cognitive activity. Furthermore, it will be determined whether athletes perceive themselves as attaining enough rest by finding what works best for them, as their coaching staff may or may not prescribe specific resting strategies. Athletes will also perceive themselves as being organised in managing their own rest periods, while expressing that their rest periods can be affected by unexpected occurrences. Lastly, the ability for these athletes to be given enough rest and disengage from their sporting environments will allow them to be more motivated to compete in their sport.

The second objective of this study is to analyse descriptive statistics of the use, frequency of use, and effectiveness of the resting and organisational activities scored within this study. As the list of activities includes twenty-seven items in total, I expect many differences in scores between the techniques used. Differences in the overall scores of these items will be listed within the results. Further examination of these scores will be investigated in accordance with the athletes' sport type and level of competition. These results and any significant differences of scores will be acknowledged and listed within the sections that follow.

Through the use of one-way ANOVA analyses, two additional objectives will be sought within this study. The third objective of this study will be to examine whether athletes maintain different understandings and values of rest dependent upon their competition level played. While the fourth objective of this study will examine whether athletes competing in a team sport exhibit different scores on the questionnaire compared to athletes competing in a sport individually. As a result of these analyses, any significant differences found between these groups will be included within the relevant tables.

Results

Descriptive statistics were calculated for all of the participants' responses. A summary of these descriptive statistics will be given in the first section, highlighting the specific questions that were analysed in accordance with the first objective. Further, these responses were then studied through the use of analyses of variance (one-way ANOVA) in order to determine any possible differences that were dependent upon competition level and sport type. There were a few significant differences in responses across these specific variables and a statement of these differences will be given in the following sections.

Athletes Perceptions of rest. Table 1 portrays the mean score and standard deviation of the participants' Likert scale responses to the statements given in the first section. Participant responses demonstrated a general agreement towards the statements "Rest involves a lack of cognitive activity", and "Rest involves a lack of physical activity". However, there is a noticeable difference in the average score between these two statements. The results from Table 1 suggest that, on average, athletes agree more with the statement of rest involving a lack of physical activity, then rest involving a lack of cognitive activity. Statements of "I need to rest from my sport specifically", and "I am able to attain adequate amounts of rest" maintained a similar score between "neither agree nor disagree" and "somewhat agree". In contrast, the statement "I find it difficult to mentally 'switch-off' from the demands of my sport" was agreed upon the least among this group of statements and was the only one to have an average score less than 3.

Table 1 Descriptive statistics of rest's association with physical and mental activity

	N	Max	Min	Mean	Std. Deviation
Rest involves a lack of cognitive activity	236	1.00	5.00	3.27	1.10
Rest involves a lack of physical activity	236	1.00	5.00	4.06	1.10

I need to rest from my sport specifically	235	1.00	5.00	3.74	1.10
I am able to attain adequate amounts of rest	236	1.00	5.00	3.56	1.09

Descriptive statistics from the second set of questions regarding athletes' perceptions regarding the variability in their own and other athletes' attainment of rest were recorded and are demonstrated in Table 2. On average, athletes agreed that "finding what works best for me" contributed to their own attainment of adequate rest. Furthermore, athletes maintained a slight disagreement when asked if their "coaching staff prescribes how me and my teammates should rest". However, while it can be seen that the prescription of rest from coaches is not agreed upon, athletes did maintain a general agreement about their coaching staff allowing them enough time away from their sport in order to rest. Additionally, athletes maintained a modest agreement to the statement "athletes that compete in the same sport as me get enough rest".

Table 2 Descriptive statistics of athletes' perceived attainment of rest

	N	Min	Max	Mean	Std. Deviation
Athletes that compete in the same sport as me get enough rest	235	1.00	5.00	3.22	.98
My coaching staff prescribes how me and my teammates should rest	234	1.00	5.00	2.61	1.28
My coaching staff allows me enough time away from my sport to rest	234	1.00	5.00	3.65	1.04
Finding what works best for me contributes to my attainment of adequate rest	236	1.00	5.00	4.16	.77

Table 3 provides scores of the athletes' perceived ability to utilise time management and organisational techniques in order to facilitate rest. Athletes demonstrated a general agreement in their ability to organise and manage time in order to facilitate rest. Moreover, athletes perceived themselves as utilising time management and organisational techniques in order to facilitate rest. While both of the scores were similar, it is worth noting that the athletes agreed to the statement regarding their ability to organise their time for rest more than their perceived use of organisational techniques in order to facilitate rest. Athletes also demonstrated a high-level of agreement to the statement "unexpected events affect my rest", which cannot necessarily be accounted for by using time management and organisation techniques. Lastly, a strong agreement to the statement regarding a lack of rest overnight affecting the athletes' mental focus was posited.

Table 3 Descriptive statistics of athletes' ability to utilise time management and organisational techniques

	N	Min	Max	Mean	Std. Deviation
I am able to organise and manage my time in order to facilitate rest	236	1.00	5.00	3.64	1.06
I use time management and organisational techniques in order to facilitate adequate rest	236	1.00	5.00	3.29	1.16
I believe that a lack of rest overnight affects my mental focus.	236	1.00	5.00	4.64	.61
Unexpected events affect my rest	236	1.00	5.00	4.21	.76

In response to the fourth set of questions regarding the athlete being able to disengage from their sporting environment in order to be more motivated to compete in their sport, athletes held a general agreement that rest has a positive impact on their motivation to play their sport. Athletes provided an average score between "agree" and "strongly agree" for the

questions that involved their own perceptions towards being more motivated to return to their sport following a period or periods of rest. To a lesser extent, these athletes agreed that; they were given enough rest to return to their sport refreshed, and inabilities to disengage from their specific sporting environment can contribute to declines in their performance. These results are displayed in table 4.

Table 4 Descriptive statistics of athletes being able to disengage from their sporting environment

	N	Min	Max	Mean	Std. Deviation
Rest periods re-motivate me to go back to my sport	236	1.00	5.00	4.19	.89
Inabilities to disengage from my sport contributes to performance declines	236	1.00	5.00	3.32	1.19
I am given enough rest, so that I am refreshed and eager to return to my sport	236	1.00	5.00	3.78	1.04
I believe that I am more motivated to perform in my sport when I am rested	236	1.00	5.00	4.31	.87

Descriptive Statistics for Resting and Organisational Techniques. Descriptive statistics for resting and organisational techniques were analysed and can be seen in tables 5 and 6 below. Table 5 shows athletes' average scores in response to the resting techniques presented to them in the survey. For these athletes, activities such as: disengaging from sport-related activities, relaxing, engaging in social activity, watching tv/films, laying in bed, surfing the internet, taking a bath/shower, and listening to music were all scored positively in their use, contribution to rest, and frequency of engagement. Three techniques that included: going on holiday, reading, and cooking were generally not used to rest and were not engaged in frequently; however, athletes did perceive them as contributing to rest. Spending time with family was also seen as contributing to rest, but athletes' use and frequency of engagement in

this technique were not scored positively. Meanwhile, being alone was scored generally as not being used by these athletes even though it maintained slightly positive scores associated with its contribution to rest and frequency of engagement. The final two techniques of shopping and exercise scored negatively in their use and contribution to rest. However, exercising had a positive score regarding frequency of engagement, while shopping did not.

Statistics for organisational techniques are collected and portrayed in a similar fashion as the resting techniques. Of these techniques, five of them including: meeting deadlines, setting alarms, setting aside time for work, managing their social life, and not leaving things until the last minute, were all positively scored according to their use, contribution to rest, and frequency of engagement. Making a schedule for the week was the only technique that maintained a negative score on its use but positive scores on its contribution to rest and frequency of engagement. Four techniques that included: maintaining a consistent bedtime, making a daily schedule, organising rest periods, and meal preparation were generally not used and not frequently engaged in, but they were recognised as contributing to rest. Lastly, keeping a diary was the only technique that averaged negative scores in all three categories.

Table 5 Average scores of athletes' responses towards resting techniques

	Use (1=yes, 2=no)		Contribution to rest (1-5)		Frequency of engagement (1-5)	
Techniques	Mean	SD	Mean	SD	Mean	SD
Disengaging from sport-related activities	1.36	.48	4.00	.99	3.31	.96
Relaxing	1.16	.37	4.50	.74	3.75	.84
Engaging in social activity	1.36	.48	3.78	.98	3.67	.83
Sleep	1.08	.27	4.73	.64	4.24	.81
Watching TV/ films	1.25	.43	4.04	.90	3.45	.94
Going on Holiday	1.65	.48	3.22	1.23	2.34	.86
Spending time with family	1.50	.50	3.47	1.07	2.93	.98
Exercise	1.69	.46	2.74	1.19	3.13	1.13
Laying in bed	1.38	.59	3.85	1.12	3.46	1.12
Being alone	1.57	.50	3.37	1.01	3.09	1.01
Reading	1.57	.50	3.49	1.08	2.79	1.10
Surfing the internet	1.45	.50	3.50	1.0	3.43	.99

Taking a bath/shower	1.37	.48	4.06	.95	3.80	.98
Listening to music	1.32	.47	3.98	1.01	3.77	1.04
Cooking	1.67	.47	3.14	1.17	3.00	1.17
Shopping	1.85	.36	2.42	1.16	2.13	.90

Table 6 Average scores of athletes' responses towards organisational techniques

	Use (1=yes, 2=no)		Contribution to rest (1-5)		Frequency of engagement (1-5)	
Techniques	Mean	SD	Mean	SD	Mean	SD
Meeting deadlines	1.34	.47	3.81	1.10	4.16	.93
Setting Alarms	1.24	.43	3.83	1.10	4.06	1.02
Setting aside time for work	1.40	.49	3.81	1.01	3.75	.97
Maintaining a consistent bedtime	1.63	.49	3.44	1.25	2.94	1.17
Making a schedule for the week	1.59	.49	3.48	1.20	3.10	1.27
Making a daily schedule	1.68	.47	3.35	1.21	2.83	1.27
Organising rest periods	1.76	.43	3.31	1.11	2.83	1.11
Meal preparation	1.58	.50	3.26	1.23	2.94	1.26
Managing my social life	1.40	.49	3.63	1.04	3.45	.97
Not leaving things until the last minute	1.47	.50	3.75	1.17	3.48	1.11
Keeping a diary	1.65	.48	2.90	1.39	2.53	1.54

Difference of scores dependent upon level of competition

Athletes' scores on the survey were then sorted and analysed according to their level of competition played in their sport. Athletes were able to identify themselves as either: pro/international, national/university, or novice. Descriptive statistics and a one-way ANOVA were used to identify any significant differences in scores between these groups. Additionally, a post-hoc Tukey test was used to identify where the significant differences are apparent between these three groups. These scores and analyses are shown in tables 7 and 8 below.

A one-way ANOVA found that six statements were seen as significantly different when analysed according to the three stated levels of competition. Two of these differences

concerned the frequency of use of engaging in social activity and sleep, while three other significant differences were found in: setting alarms, organising rest periods, and meal preparation's contribution to rest. The one other significant difference was found in athletes' response to how inabilities to disengage from their sport contributes to personal declines.

Through the use of the post-hoc Tukey tests it is plain to see where these significant differences lie between the three groups. It is apparent that pro/international athletes are significantly less likely to frequently use engaging in social activity as a resting technique compared to national/university athletes. Likewise, national/university athletes are significantly more likely to sleep more frequently as a resting technique compared to novice athletes. Concerning the contribution to rest of the three previously stated organisational techniques, novice athletes were found to perceive organising rest periods and meal preparation as contributing to rest significantly less than pro/international athletes. However, novice athletes did maintain a significantly higher score in setting alarm's contribution to rest compared to national/university athletes. Finally, pro/international athletes held significantly higher scores than both novices and national/university athletes in response to if inabilities to disengage from their sport contributes to personal declines.

Table 7 One-way ANOVA analyses of athletes' responses based on competition level

		N	Mean	Std. Deviation	Sig.	df	F	(η_p^2)
Engaging in Social Activity (frequency of use)	Pro	45	3.38	.94	.031	(2, 233)	3.51	.029
	National	124	3.75	.81				
	Novice	67	3.70	.74				
	Total	236	3.67	.83				
Sleep (frequency of use)	Pro	45	4.24	.91	.006	(2, 233)	5.30	.044
	National	124	4.38	.72				
	Novice	67	3.99	.86				
	Total	236	4.24	.81				
setting alarms (contribution to rest)	Pro	45	3.91	1.10	.028	(2, 232)	3.64	.030
	National	123	3.66	1.16				
	Novice	67	4.09	.88				
	Total	235	3.83	1.09				

Organising rest periods (contribution to rest)	Pro	45	3.56	1.06	.041	(2, 229)	3.24	.028
	National	120	3.37	1.07				
	Novice	67	3.04	1.17				
	Total	232	3.31	1.11				
Meal preparation (contribution to rest)	Pro	45	3.60	1.19	.048	(2, 230)	3.08	.026
	National	123	3.27	1.23				
	Novice	65	3.02	1.21				
	Total	233	3.26	1.23				
Inabilities to disengage from my sport contributes to performance declines	Pro	45	3.82	1.15	.006	(2, 233)	5.21	.043
	National	124	3.21	1.18				
	Novice	67	3.18	1.14				
	Total	236	3.32	1.19				

Table 8 Post-hoc Tukey test on one-way ANOVA analyses of athletes' responses based on competition level

Dependent Variable	(I) level of competition	(J) level of competition	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Engaging in Social Activity	Pro	National	-.37*	.14	.026	-.708	-.037
		Novice	-.32	.16	.102	-.696	.048
	National	Pro	.37*	.14	.026	.037	.708
		Novice	.05	.12	.919	-.244	.341
	Novice	Pro	.32	.16	.102	-.048	.696
		National	-.05	.12	.919	-.341	.244
Sleep	Pro	National	-.13	.14	.597	-.462	.193
		Novice	.26	.15	.213	-.104	.622
	National	Pro	.13	.14	.597	-.193	.462
		Novice	.39*	.12	.004	.109	.680
	Novice	Pro	-.26	.15	.213	-.622	.104
		National	-.39*	.12	.004	-.680	-.109
Setting alarms	Pro	National	.25	.19	.371	-.190	.695
		Novice	-.18	.21	.666	-.668	.311
	National	Pro	-.25	.19	.371	-.695	.190
		Novice	-.43*	.16	.024	-.817	-.046
	Novice	Pro	.18	.21	.666	-.311	.668
		National	.43*	.16	.024	.046	.817
Organising rest periods	Pro	National	.19	.19	.587	-.264	.642
		Novice	.51*	.21	.043	.012	1.010
	National	Pro	-.19	.19	.587	-.642	.264
		Novice	.32	.17	.134	-.073	.717
	Novice	Pro	-.51*	.21	.043	-1.010	-.012
		National	-.32	.17	.134	-.717	.073
Meal preparation	Pro	National	.33	.21	.262	-.168	.831
		Novice	.58*	.24	.037	.029	1.141
	National	Pro	-.33	.21	.262	-.831	.168
		Novice	.25	.19	.366	-.187	.693
	Novice	Pro	-.58*	.24	.037	-1.141	-.029
		National	-.25	.19	.366	-.693	.187
Inabilities to	Pro	National	.61*	.20	.008	.134	1.091

disengage from my sport contributes to performance declines		Novice	.64*	.22	.013	.113	1.173
	National	Pro	-.61*	.20	.008	-1.091	-.134
		Novice	.03	.18	.984	-.387	.448
	Novice	Pro	-.64*	.22	.013	-1.173	-.113
		National	-.03	.18	.984	-.448	.387

Scores from team sport athletes compared to individual athletes. To find the differences in scores of athletes competing at a team level and an individual level, descriptive statistics of the athletes' responses were recorded. Significant differences in the data were then found by using one-way analysis of variance (ANOVA). Because there are only two options for the sport type variable, the specific differences being expressed between these two groups can be seen through the results of the descriptive statistics.

Table 9 demonstrates the descriptive statistics for the athletes who compete at a team level and those who compete on an individual level. As there were many questions that were analysed between these two sub-groups, the descriptive statistics displayed in the table are all statistically significant ($P<0.05$).

Athletes competing at an individual level scored significantly higher in their ability to attain adequate amounts of rest than athletes competing in team sports. Furthermore, individual level athletes rated the prescription and allowance of rest by their coaching staff significantly higher than athletes competing in team sports. Lastly, individual athletes produced a higher score when asked if "finding what works best" contributes to their attainment of adequate rest.

All of the other significant differences displayed were in relation to the resting and organisational techniques that were listed. Athletes competing in team sports produced significantly higher scores than individual athletes in the: use, contribution to rest, and frequency of laying in bed. Team sport athletes claimed to use engaging in social activity, watching tv/films and laying in bed as a resting technique more than individual athletes. On the other hand, individual athletes scored significantly higher in the: use, contribution to rest,

and frequency of reading. Additionally, individual athletes have frequented going on holiday more than athletes competing in team sports. Concerning organisation techniques, individual athletes scored significantly higher in the: use, contribution to rest, and frequency of maintaining a consistent bedtime. These athletes also scored higher in the use of making a daily schedule and keeping a diary's contribution to rest. Athletes competing in team sports maintained higher scores in the: use, contribution to rest, and frequency of setting alarms. They also claimed to use techniques to manage their social lives more than individual athletes

Table 9 One-way ANOVA analyses of athletes' responses based on sport type

		N	Mean	SD	Sig.	df	F	Effect Size (g)
I am able to attain adequate amounts of rest	Individual	88	3.77	.956	.018	(1, 234)	5.73	.326
	Team	148	3.43	1.14				
My coaching staff prescribes how me and my teammates should rest	Individual	86	2.86	1.25	.023	(1, 232)	5.23	.306
	Team	148	2.47	1.29				
My coaching staff allows me enough time away from my sport to rest	Individual	86	3.92	.87	.002	(1, 232)	9.68	.421
	Team	148	3.49	1.10				
Finding what works best for me contributes to my attainment of adequate rest	Individual	88	4.38	.68	.001	(1, 234)	11.27	.466
	Team	148	4.03	.79				
Engaging in social activity (Use)	Individual	88	1.45	.50	.020	(1, 234)	5.50	.316
	Team	148	1.30	.46				
Watching tv/ films (Use)	Individual	88	1.36	.48	.002	(1, 234)	9.99	.423
	Team	148	1.18	.39				
Spending time with family (Use)	Individual	88	1.40	.49	.020	(1, 234)	5.47	.302
	Team	148	1.55	.50				
Laying in bed (Use)	Individual	88	1.55	.50	.000	(1, 234)	18.08	.575
	Team	148	1.28	.45				
Being alone (Use)	Individual	88	1.68	.47	.006	(1, 234)	7.61	.368
	Team	148	1.50	.50				
Reading (Use)	Individual	88	1.41	.49	.000	(1, 234)	13.47	.496
	Team	148	1.65	.48				
Spending Time with Family (Contribution)	Individual	86	3.74	1.05	.002	(1, 232)	9.64	.422
	Team	148	3.30	1.04				
Laying in Bed	Individual	85	3.54	1.23	.001	(1, 231)	10.37	.438

(Contribution)	Team	148	4.02	1.01				
Reading (Contribution)	Individual	87	3.87	.90	.000	(1, 232)	19.20	.588
	Team	147	3.26	1.11				
Going on Holiday (Frequency)	Individual	87	2.60	.84	.000	(1, 232)	13.50	.504
	Team	147	2.18	.83				
Spending Time with Family (Frequency)	Individual	87	3.24	.99	.000	(1, 233)	14.93	.525
	Team	148	2.74	.93				
Laying in Bed (Frequency)	Individual	85	3.13	1.15	.001	(1, 231)	11.80	.466
	Team	148	3.64	1.06				
Reading (Frequency)	Individual	85	3.27	1.02	.000	(1, 231)	28.12	.722
	Team	148	2.52	1.05				
Setting alarms (Use)	Individual	88	1.34	.48	.004	(1, 234)	8.56	.381
	Team	148	1.18	.38				
Maintaining a consistent bedtime (Use)	Individual	88	1.49	.50	.001	(1, 234)	12.00	.463
	Team	148	1.71	.46				
Making a daily schedule (Use)	Individual	88	1.80	.41	.003	(1, 234)	9.14	.411
	Team	148	1.61	.49				
Managing my social life (Use)	Individual	88	1.53	.50	.001	(1, 234)	10.46	.436
	Team	148	1.32	.47				
Setting alarms (Contribution)	Individual	87	3.41	1.18	.000	(1, 233)	21.99	.631
	Team	148	4.07	.96				
Maintaining a consistent bedtime (Contribution)	Individual	87	3.72	1.22	.008	(1, 233)	7.19	.357
	Team	148	3.28	1.24				
Keeping a diary (Contribution)	Individual	86	3.22	1.33	.007	(1, 231)	7.43	.373
	Team	147	2.71	1.39				
Setting alarms (Frequency)	Individual	88	3.78	1.12	.001	(1, 233)	11.10	.453
	Team	147	4.23	.91				
Maintaining a consistent bedtime (Frequency)	Individual	88	3.28	1.08	.000	(1, 233)	12.80	.484
	Team	147	2.73	1.17				

Discussion

Rest has previously been studied in the sport sciences as a peripheral subject with a lack of clear and extensive understanding of its subjective perception and understanding. Because of this, it is important to examine individual athlete's personal understandings and values placed upon the construct of rest. By utilising a large sample of participants, the results of the sample have become more generalised with regards to their: gender, sport type,

and competition level. The present study has examined the values and importance that athletes place on rest and the actions associated with rest.

The first objective of this study was to examine athletes' perceptions of rest from a large and generalised sample, while also quantifying the values that are placed upon resting activities. To do this, the values of the athletes' scores were recorded, analysed, and demonstrated using descriptive statistics. As a result of this, it was found that athletes perceived rest as lacking both physical and cognitive activity. Athletes' mean ratings of rest, involving the lack of physical activity, reported a score of (4.06), while rest involving the lack of cognitive activity reported a score of (3.27). These scores are consistent with definitions of rest constructed within the sport psychology discipline (Eccles & Riley, 2014; Meeusen et al., 2006) as athletes perceive this period of time as involving the cessation of activity while also limiting excessive rumination. Therefore, conceptually, physical and cognitive rest should not be viewed as opposing dualities, but rather a "lived-body" experience that is subjective to the athlete and unifies their-own physical and cognitive characteristics (Gold, 1985). From this, rest can be understood as a multi-faceted concept that can be perceptually manifested according to the individual's personal understanding.

A key theme that has been investigated within this study is the ability of the athletes to maintain power over and control their rest periods. Athletes posited a general agreement over statements of being allowed enough time away to rest by their coaching staff (3.65), and "Finding what works best" for them to attain rest (4.16). By exercising their own agency in deciding how they rest, these athletes are reinforcing their own pattern of understanding through interaction (Bourdieu, 1977). Furthermore, athletes maintained a slight disagreement (2.61) over the statement stating that their coaching staff prescribe how they and their teammates should rest. This is also consistent with interview data obtained as part of the initial study. This may be due in part to the lack of pressure of; compliance and high demands

that the specific sports club exudes (Coulter et al., 2016). On the other hand, because rest has not been expanded upon in an applied sense for sport practitioners, specific prescription for resting can be irresponsible as they might not fully understand what rest entails. Additionally, sport practitioners will likely hold personal values of rest themselves, which may not be compatible with the values of rest that their athletes maintain.

Furthermore, athletes within this study demonstrated a perception of themselves as being organised in managing their own rest periods, generally. From these results it can be interpreted that these athletes are able to maintain their own embodied intentions regarding their personal rest (Howe, 2003). Because athletes have already agreed that they receive enough time to rest from their coaching staff, and they "find what works best" for them to rest, it can be understood that the rigidity of their sporting cultures is not necessarily restrictive to how these athletes choose to rest (Long et al., 2008). Furthermore, by demonstrating an autonomous position when it comes to choosing how they manage their rest away from their sporting environment, these athletes maintain that they do not have to have their resting preferences fully comply with the values held by more authoritative members within their sport (Anderson, 2010). Thus, these athletes are able to maintain a sense of self-control over the type and frequency of rest techniques that they deem appropriate.

As athletes believed that the lack of rest overnight affects their mental focus, while also agreeing that the presence of unexpected events affects their rest, it can be understood that these external events can limit their personal control during these situations. Instead, these athletes may have to employ a number of coping strategies to deal with these factors (Dugdale et al., 2002) which can disrupt their previous organisation of their rest periods. The presence of these occurrences and the subsequent use of coping methods can test the individuals' ability to maintain mental toughness. Therefore, as these events unfold, it is important for these athletes to regain psychological control over the event and implement

appropriate mental skills at a high level of ability (Jones et al., 2002). Athletes who demonstrate this ability to utilise mental skills effectively will be more likely to have their rest periods affected to a lesser extent. Whereas, athletes who do not possess these psychological controls and mental skills have a greater chance of their rest periods being compromised.

Athletes who are allowed to disengage from their sport have led them to feeling more motivated. In general, athletes agreed that inabilities to disengage from their sport contributes to performance declines, while also conferring that rest periods allow them to feel more motivated to perform in their sport. As athletes' motivation to achieve extrinsic awards within their sport is linked to their own ability of self-regulation (Weinberg & Gould, 2014), expressed autonomy involving personal rest periods is important for them to maintain their levels of motivation. Additionally, because these athletes posited that they are given enough time away from their sport, they are less likely to display burnout-related symptoms in relation to their sport (Gould et al., 1996). By being able to mentally disengage from sport-specific processes, athletes are also demonstrating their own power to "switch-off", which has been shown to contribute to the preservation of their own physical and mental health (Sonnentag & Bayer, 2005). Overall, the presence and ability to utilise rest periods has been seen to refresh athletes, while motivating them to return and compete in their sport.

This study also examined whether athletes competing in different levels of sport maintained different understandings and values of rest. From these results, it can be seen that professional/international level athletes maintained that inabilities to disengage from their sport contributes to personal declines. Additionally, these elite level athletes scored significantly lower than the other two groups of athletes in engaging in social activity as a resting technique. Due to the commitment level that these elite athletes exhibit within their sport domain, they presumably will have less of an opportunity to disengage from their sport.

However, with these more elite athletes, a trade-off between practice and personal rest time is needed, as over-exposure to these demanding sport environments can lead to burnout symptoms. This trade-off may manifest itself by elite athletes having to sacrifice time for social activity in order to attain rest through other methods.

Further significant results found between athletes at different levels of competition demonstrate that novice athletes were found to perceive organising rest periods and meal preparation as contributing to rest significantly less than professional/international athletes. Athletes who strive to become experts in their particular sport make deliberate efforts to increase their performance by including problem solving and utilising better methods to perform their tasks (Ericsson, 2007). These higher-level athletes must exhibit increased levels of self-control and organisation regarding personal rest away from their sport, so that they can engage in deliberate practice that will lead to enhanced skill acquisition within their sport. Expert performers are also shown to have increased preparation and organisational knowledge, especially during their personal leisure times (Ericsson et al., 1993). This demonstrates that more highly skilled elite athletes do not spontaneously demonstrate techniques that can contribute to their rest. Rather, these techniques are deliberately thought of by the athlete and are implemented within their daily routines to help them attain increased expertise.

The final objective of this study was to understand whether athletes demonstrate differing values of rest depending on whether they compete in an individual or team sport. As a result of these analyses, individual athletes scored significantly higher in attaining rest by "finding what works best" for them, while also rating the prescription and allowance of rest by their coaching staff higher than team-sport athletes. Additionally, individual athletes scored significantly higher in their ability to attain adequate amounts of rest. These findings are consistent with previous research that has found individual-sport athletes to be more

conscientious and autonomous compared to team-sport athletes (Nia & Besharat, 2010). Because individual-sport athletes can have a lesser social and cultural influence being imposed upon their resting habits, they are more likely to develop their own methods of resting. Also, as team-sport athletes will have a larger coach-to-player ratio, individual-sport athletes can develop a more direct and personalised strategy for their rest.

Additionally, individual and team-sport athletes demonstrated many differences between their: use, frequency of use, and perceived contribution to rest, of various activities and organisational techniques. Interestingly, team-sport athletes scored significantly higher than individual athletes in engaging in social activity and using techniques to manage their social lives. This is consistent with previous findings that have posited that team-sport athletes are more sociotropic than individual athletes (Nia & Besharat, 2010). As team-sport athletes are exposed to a more socially inclusive sporting environment, their activities and techniques for rest can conform to their collective (team) values of rest. Furthermore, if individual athletes are deliberately undertaking more solitary resting techniques in order to enhance their performance, it can be understood that they may achieve a higher level of sporting expertise (Ericsson, 2006).

There are a few limitations to this study that should be addressed. As the design of the study was to administer questionnaires with a cross-sectional approach, it was made possible to obtain a collective snapshot of these athletes' perceptions of rest. However, during this time these athletes may have been at various chronological stages in their sporting season, which may have influenced their scores. Therefore, future research should utilise longitudinal studies in order to gauge the fluctuation of athletes' perceptions of rest over the course of a season. Additionally, while these questionnaires warranted an abundance of information, athletes' perceptions of rest cannot be fully accounted for by questions using a numerical scale. Further research can build upon this study by utilising qualitative methods that attempt

to capture the unique intricacies of athletes' conceptualisations of rest, and testing techniques/activities, over periods of time.

CHAPTER FIVE

Perceptual variances of athlete rest over the course of a competitive season: A longitudinal qualitative study

Abstract

The objective of this final study is to understand how athletes' perceptions of rest change throughout their competitive season. As the duration and intensity of sporting activities may vary dependent upon the athletes' time of season, we will investigate the specific aspects of their rest that have been affected or altered. This study uses a qualitative approach to build upon the findings of the two initial studies and further develop an understanding of athletes' rest. Six athletes of various: genders, sport type (individual or team) and competition level were interviewed for this study three separate times throughout their competitive season, concerning their understandings and experiences of rest. A content analysis was utilised to identify emerging themes and concepts within the data set. Results from the study acknowledged that athletes experience variation in their "restful state of being", and that they do experience perceptual changes in their personal rest throughout the season. Athletes may have trouble "switching-off" and may have to adapt their resting techniques and/or compensate for certain rest deficits that they experience. Furthermore, other variations of athletes' rest were found to be dependent upon their sport type and/or competition level. This study identifies various perceptual changes concerned with athletes' understandings and values associated with rest, throughout their competitive season. These findings which demonstrate fluctuations of athletes' cognitive state can offer generalisability towards research topics relating to psychological detachment, burnout, and recovery.

Introduction

Rest has been seen as a contributing factor in how athletes achieve physical and cognitive balance in a number of various domains. Within these domains, rest can be seen to contribute to an individual athlete's performance and/or general well-being, but can also be associated with: skill learning and the development of expertise (Shea et al., 2000; Ericsson, et al., 1993), the recovery process (Kellmann et al., 2018; Hanin, 2002), and as a potential treatment for symptoms of or relating to athlete overtraining and burnout (Meeusen et al., 2006; Li et al., 2013). The following paragraphs will discuss these domains along with their extension and relevance to the current study.

Literature concerning motor learning has involved the utilisation of rest periods in conjunction with consistent practice. Research studies have typically asked individuals to complete fairly straight-forward mental tasks, to better understand the process of memory consolidation and how it can be effected positively or negatively by the implementation of rest periods (Craig & Dewar, 2018). Studies have generally shown that, by having these periods of rest between tasks, participants' memory retention and consolidation demonstrated improvement while between periods of activity (Coles & Tomporowski, 2008). These findings are maintained across longer periods of time as well, as individuals engaging in distributed practice across days, rather than minutes, leads to enhanced learning compared to amassed practice times, where little or no rest is available between sessions (Shea et al., 2000). Thus, demonstrating the positive effects of regularly and structurally implementing rest periods into your schedule.

Furthermore, while most research tends to focus on cognitive activity when individuals are engaged in active, problem-focused tasks, there is not as much research attention paid to the cognitive processes that occur while the individuals are experiencing

down-time. These times are still important to investigate as most of an athlete's time is spent not in direct relation within their competitive sporting environment. Therefore, during these periods of time away from their sporting environment, cognitive activity still occurs which aids in memory consolidation, preparing the individual for future decisions they must make (Buckner & Vincent, 2007). These periods of down-time have also been recognised as an individual's "default mode" of cognitive processing, which is normally supressed when individuals continually interact with their external environment (Immordino-Yang et al., 2012). However, there are limitations of these periods of rest when attempting to conceptualise the multiple processes that may be associated with rest. Typically, these periods of rest are constrained by the apparent lack of (physical) activity. But, resulting from the findings of the initial two studies, athletes may perceive themselves as being rested while engaging in (other) activities within their external environment. Therefore, this study will attempt to realise both; the effects associated with not having rest periods readily available at various points throughout their competitive season, while also understanding the importance of how and why other external activities are deemed restful, that exist away from the athlete's sporting environment.

Concurrently, for athletes to strive towards expertise and mastery within their sport, athletes must commit an extensive amount of deliberate practice towards the development of their motor skills. Most famously, this concept has been recognised by Ericsson, et al (1993) in his study of deliberate practice in expert musicians. Furthermore, it has been expressed that individuals who are not able to direct and sustain consistent attention towards the desired activity will not be able to effectively engage in deliberate practice (Ericsson, 2006). However, there is a limit to how much deliberate practice can be engaged-in at any one period of time. In order to avoid the negative effects of exhaustion, while also being able to continually engage in deliberate practice, individuals should allow themselves rest periods

after no more than four hours of deliberate practice without a rest period (Ericsson et al., 1993). As most research in this area focuses on the (active) deliberate practice aspect of the development of expertise, not as much attention is paid towards the processes that are naturally involved within the rest periods that are mentioned. This issue has been recognised by more recent research regarding deliberate practice (Baker & Young, 2014), which maintains that studies of deliberate practice must account for other variables outside of attentive practice times. Rest is one of these variables that are mentioned, expressing a need for a greater understanding of the term.

Within the domain of recovery, rest has commonly been associated with the lack of any type of physical activity (Kellmann et al., 2018). Failure to effectively recover by individuals limiting their bodies to continuous physical activities has been seen to have a negative effect upon their body's ability to maintain physical homeostasis after experiencing fatigue (Kellmann, 2002). If experienced consistently, these experiences have been seen to contribute to the onset of the overtraining syndrome. Experiences pertaining to the overtraining syndrome can include: mood disturbances, consistent fatigue, declines in individual's performance (Meeusen et al., 2013). Because of the potential for all of these negative effects, periods of "complete rest" can be suggested as the only effective solution to prevent the overtraining syndrome occurring (Hausswirth & Mujika, 2013). However, as recovery and rest are extremely similar concepts, it is often difficult to distinctly differentiate and conceptualise rest individually. As many studies recognise and separate the two terms (Bergeron et al., 2015), others use the terms interchangeably (Hausswirth & Mujika, 2013), causing conceptual confusion. Likewise, as the concept of recovery has been examined much more than rest, the latter has often times been seen as a peripheral concept that has been mentioned within other areas of academic literature, but has not been studied directly or extensively in terms of its relation to athletes.

Furthermore, athletes' ability to attain rest should be seen as an important aspect of athletes being able to cognitively disengage from their sporting environment. However, currently there is a lack of research on the implications of athletes who are able/unable to do this (Lemyre et al., 2013). If athletes remain subject and vulnerable to their sporting environment for extended periods of time, they may begin to experience a lack of motivation and fulfilment, while also have depreciated levels of motivation (Gould et al., 1996). However, even after the athlete is removed from their sporting environment negative mental experiences may persist. Therefore, it is also important for individuals to "switch-off" cognitively from the demands of their sporting/working environment in order to avoid preoccupation and constant rumination (Michailidis & Cropley, 2016). This is in part due to the understanding that psychological detachment is associated with cognitively breaking-away from the stressors one may experience during work (Sonnentag & Fritz, 2015). Rumination of these thoughts can lead to deleterious psychological symptoms within the individual if not addressed. However, as the presence of detachment has made itself known within this context, studies have not been able to examine what processes go into the individual choosing or trying to cognitively disengage. Within this study, the ways in which athletes accomplish and/or attempt to cognitively disengage from their sporting environments will be investigated.

While there is a peripheral basis of knowledge of rest within a number of domains, the extent and scope of this research tends to not focus on rest, thus it remains an under-researched topic within academic literature and within the sports sciences more specifically. Therefore, it was important to investigate what contributes to athletes being able to attain rest, while also seeing if athletes perceive themselves as undergoing any alterations in their rest as they progress through their competitive season. This investigation will be aided by the current understandings of rest posited within literature relating to the before-mentioned domains, as

these can offer further analytical generalisability throughout this process (Smith, 2018), while offering practical real-life applications for athletes that are able to relate with these experiences of rest.

The interview questions included within this study were specifically chosen as they either: were seen to be statistically significant in regards to their difference in scores between different groups of athletes within the 2nd study (Chapter 4), or were consisting of a group of questions that related to important higher-order themes discussed in both the 1st and 2nd studies (Chapter 3 & 4). This will allow for new accounts and understandings of rest to be heard, while also verifying results found in the previous studies. It is important to note that we distinguished the links found within this study to associations with rest and not sleep, as sleep has been researched considerably more in regards to its impact on general well-being and sporting performance (O'Donnell et al., 2018). As interviews took place on three separate occasions, the aim was to examine rest on a larger scale (days-weeks), compared to smaller amounts of time within the day (seconds-minutes). Additionally, one athlete did maintain that they were rehabilitating from a sports injury; however, special attention was not specifically paid to their resting in order to recover from their injury.

Methods

Participants. Six athletes competing in various sports at different levels of competition participated in this study. Gender was represented equally as three participants are male while the other three are female. Participants also equally represented three different classifications of competition level which included either: Novice, University/National, or Professional/International. Sport type was also equally represented by the participants as three athletes competed in team sports while the other three competed in their sport at an individual level. Specifically, the sports that these athletes represented included: rugby,

tennis, volleyball, badminton, swimming, and ultimate frisbee. The ages of these athletes ranged from 19 to 36 years (M= 24.17) (SD= 5.61), and their years of experience competing in their sport ranged from 3 to 20 years (M= 12.33) (SD= 5.44). All participants were citizens and residents of the U.K. and were fluent English speakers. Additionally, one of the athletes is currently training and competing for their country at an international level.

Design. For this qualitative study, methods included the utilisation of semi-structured interviews that provided rich and in-depth detail concerning the difference between athletes' considerations of rest, which emerged and were conceptualised within the initial qualitative study and were found to be statistically significant in the following quantitative study. A relativist ontology and constructionist ontology were employed within the study. Thus, I recognise that an independent understanding of rest as a concept is present, without my participation as a researcher. However, I also understand that my actions and subjectivities as a researcher are part of my individually constructed perspective. Furthermore, by maintaining a double hermeneutic perspective I acknowledge that the understandings and analyses of rest generated from this study are molded by my interpretations of the participants' personal understandings of the concept. In addition to the pre-conceived questions that were produced, open-ended questioning and the use of elaboration probes within this interview contributed to the richness of data that was obtained. By conducting an additional qualitative study, new areas of discovery concerning rest are able to be explored in a flexible manner that allows for new insights of athletes' perceptions of rest. These insights have the potential to build-upon previously created conceptualisations mentioned and/or provide new and unintended paths of conceptual exploration. Before beginning the interview, participants engaged in conversation regarding their sport in order to build a rapport. Subsequent interviews also utilised these initial discussions which largely involved an update on how their sporting season was going.

Interview Guide. The interview guide that was used for this study utilised open-ended questions that were based on the statistically significant findings exhibited within the second study. By basing these questions on findings from my previous studies within the thesis, they avoid explicit influences from prior research findings. This allows for continued exploration of the coneptualisation and perceptions of rest without having to conform to pre-determined understandings of concepts and themes related to rest. Following these questions, elaboration probes were often used to further unpack the information that was elicited by the participants.

The questions were categorised into two separate sections. The first section accounted for broader conceptual questions in regard to the athlete's specific experiences and perceptions of rest. For example, the following questions were administered to participants:

Do you feel that you are able to attain a restful state of being?

Does your coaching staff and sporting environment influence how you and your teammates should rest?

Do you feel motivated to perform in your sport when you are rested?

Edits to the interview guide were implemented after conducting two pilot interviews with a former international volleyball player. The wording of some questions were altered as they were perceived to be somewhat superfluous and confusing. Additionally, it was brought-up and deemed necessary for the questions to be specific to the current stage of the athlete's competitive season. To do this, supplementary phrases were added to the beginning of questions, which included:

At this point in time…

At this stage in your competitive season…

In the second section of the interview guide participants were asked a series of questions relating to specific strategies/techniques associated with rest, that were first recorded in interview data from the first study. Questions from this section included:

Do you consider spending time with family as being restful?

Do you consider reading as being restful?

Does maintaining a consistent bedtime help you attain rest?

All questions listed within the interview guide were followed-up by elaboration probes. These additional queries aimed to discover further insight into the specificity of the athlete's process and how this pattern of thinking may alter depending on the context of their: time of season, type of sport, and competition level. Some of the probing questions that were used were as follows:

Can you recall any specific experiences where this happened?

How has this changed throughout your season?

Could you explain that more, please?

Participants were encouraged to freely discuss these questions of discussion with minimal hindrance from the interviewer. As the primary objective of this study is focused on the psychological aspects of rest, elaboration probes exploring this area were utilised frequently and appropriately when responses warranted further unpacking.

Procedure. As previously stated, pilot interviews with one participant allowed for testing of the initial interview guide that was formed. Minor changes were made to the wording of some questions along with the addition of time-specific phrases at the beginning of all pre-determined questions. The changes that were implemented were discussed and reviewed by myself and my supervisory team prior to the second pilot interview. In addition,

ethical approval to conduct this study was granted by Durham University prior to the initial pilot interviews taking place.

In order to recruit specific types of athletes, a purposeful sampling strategy was utilised. Also, to keep a balanced representation of athletes, participants were equally selected based on their: gender (3 male, 3 female), sport type (3 team, 3 individual), and level of competition (2 pro/international, 2 national/University, 2 novice/recreational). Participants' sporting backgrounds provide insightful similarities and/or differences in athletes' perceptions of rest specifically in regard to their: sport type, and/or level of competition that may arise. In order to meet and interview some athletes, the University's Director of Sport acted as a gatekeeper and introduced me to the athletes who were competing at a professional/international level. All participants were contacted via email in order to arrange their initial interview. Participants were made aware that their involvement with the study would include three separate interviews throughout the course of their competitive season. An information and consent form were also administered to all participants so that they were aware of their anonymity throughout the research process and any data obtained would be handled confidentially. All 6 participants agreed to these terms and were interviewed at a local café or at their training facility. Interviews lasted between 36-69 min ($M = 52.56$, $SD = 9.24$) and were transcribed verbatim. To further protect anonymity, personal identifiers of the participant were removed. The end product of the entire interview and transcription process resulted in x pages of single-spaced interview data. Audio recordings were collected using an Olympus-741 PC voice recorder and afterwards all interviews were transferred to my laptop to be transcribed. Recordings of these interviews were then permanently erased from the recorder and laptop following the transcription process.

Analysis. For this study, a hierarchical content analysis of the transcribed interview data was utilised. By using this type of analysis, patterns in the data are able to be identified,

compared, contrasted, and described so that a general understanding of topics relating to rest can be further developed (Smith & Sparkes, 2012). Although my adopted relativist ontology and constructionist epistemology throughout the qualitative studies normally does not support a content analysis, the immersion of myself as a researcher within this context and identification of themes and concepts warrants this approach. Within this type of analysis, concepts are able to emerge from raw data, through the identification and labelling of themes contextually, in each individual case. Clustering and ordering of themes occur within this process as well, effectively categorising the hierarchical structure of the coded data. These constructed higher-order themes were then cross-checked with the raw data to ensure the quality of the information that was represented. All contextual data presented by the participants underwent inspection and quotes relating to rest were read-through intently. Further analysis of these quotes relating to rest lead to the identification of over-arching, higher-order, concepts. Upon continued inspection, with these over-arching concepts in mind, the identification and development of preliminary concepts took place. For example, quotes such as "I knew that there was this massive five-week break that was coming up and I sort of pushed myself… I can push myself a little bit more because I know that I'm not going to play for a few weeks. Then I can catch up on that rest later." allowed for the formulation of the following topics: (a) Adaptation of resting techniques and practices throughout a competitive season, and (b) Deficits of rest can be endured for extended periods of time and compensated for during a later time. These and other concepts that were formed were connected and modified as further data analysis took place. Regarding the preliminary concepts previously stated, further analysis revealed evidence for athletes' social surroundings being affected by the specific point in time of their season, thus influencing their perceptions of how they should rest. For example, "Over the holidays no one really speaks to each other and sees each other because everyone lives so far away… Everyone has to focus on their work now, so

there is no pressure to compete." Concepts identification and expansion were enhanced by taking notes during interviews and throughout the transcription process, memo writing follow interviews, and informal drawings of conceptual hierarchies.

Reflexive methods were utilised to increase the range of understanding being derived from the textual data. As an athlete myself, I naturally have my own personal perceptions and values of the topics being discussed. Recognising that the valuation of data is an iterative process that involves an interplay between the obtained data and my personal perceptions, an interpretivist understanding of themes and concepts was sought. Therefore, it was imperative for me to openly take into consideration participants' personal accounts and then reflect upon these accounts during the analysis of interviews. Furthermore, two participants from the study offered to take part in a member reflection interview, discussing the results that were obtained. These member reflections only involved two participants as the other participants were not in the area and lasted approximately 45 minutes. I was also able to utilise the services of a critical friend, a fellow PhD student and former student-athlete, who was able to provide critical feedback on the interpretations that I produced from the interview data. These methods allowed me to be receptive towards other interpretations of the data that was obtained, therefore increasing the reflexivity of the study. Being a former student-athlete themselves, this critical friend was able to give valuable insight and detail regarding how athletes' resting experiences can change throughout the season.

Interviewer Positioning during Research Process. Corresponding with the methodological approach that was established prior to data collection, it is undeniable that my role within this research process has shaped the resulting conceptual model (Appendix H). While this study's methods and interview guide is based and builds-upon the results from the prior two studies, it is inevitable that my personal awareness from my review of previous literature and study analyses has influenced the way in which this study has been carried-out.

As this is a longitudinal study including three separate interviews throughout the participants' competitive season, I conjectured that participants would provide different answers to the same question from previous interviews. This is likely due to my recollection of prior research and the assumption that athletes' perceptions of resting techniques may be altered in correspondence to an infinite number of factors in these athletes' lives. Because of this level of conjecturing, further follow-up questions were asked (when appropriate) to "recall any differences" in how they felt, when responding to the question that was asked.

Furthermore, the positioning between myself and the interviewees throughout the research process has also likely construed the constructions that were produced. As a current student-athlete at the university most of the athletes currently attend or had attended, along with regularly wearing university colours and frequenting similar areas around the university, my position within this process was that of an "insider". My presence may have aided my ability to establish a rapport with these athletes; however conversely, they may have felt hesitant about discussing any difficulties they have been experiencing regarding their personal rest. Lastly, my interpretations formed from the interview data were shaped by personal knowledge of the various academic disciplines and how they relate-to and mention rest. For instance, my knowledge of burnout influences the established conceptual framework of rest as a process necessitating individuals to rid themselves of stress in order to avoid complete exhaustion.

Results

Throughout the analysis there were a select number of concepts that were identified. In order to elaborate upon the concepts listed within this study, specific excerpts from the participants are included and displayed within the box quotes (Smith & Sparkes, 2016). As a researcher, this method allows me to explicitly demonstrate the language that was collected from the participants, followed by my personal conveyance of meaning that I have derived

from the excerpt. I have chosen to describe the conceptual hierarchies that were found through text instead of tables. Thus, maintaining a clear and effective means of communicating the results. Quotes that are included within the results below will be prefaced with either an "I" for myself as the interviewer, or a "P" for participant. The number of the participant will follow the "P" (i.e. "P3").

2.1. Restful state of being. The ability for athletes to effectively attain and maintain a "restful state of being", according to their own perceptions, inherently varies throughout their competitive season. While athletes consider feeling rested as consisting of feeling both cognitive and physical reprieved, the focus of this study focuses on the mental aspects. Previous studies have focused on physical elements of the resting process; however, the perceptual changes that athletes experience regarding rest over-time has not been explicitly researched.

When discussing their own ability to attain a "restful state of being", athletes who were not able to achieve this state posited that there was "something else to worry about", and that their "schedule is very full-on". At times, some of the athletes stated that they were able to maintain this state, mentioning that there are "alternatives to rest" (work, social life, sport), and that "having less options to think about" could aid in their ability to feel rested. On the other hand, athletes who said that they are able to attain a restful state of being, attribute this feeling to their "environment". While athletes competing at a novice or university level stated that being away from their sporting environment entailed "no pressure" of having to perform in their sport, the professional athletes held a different view of their environment. These athletes believed that their environment encapsulates multiple aspects of their life, so that "rest is part of my training". They also place a greater importance on "planning" various aspects of their schedule in order to ensure that they maintain this restful state, to the point where it becomes "more of a routine".

There is no simple answer in telling athletes how they can manage this state of feeling rested. Rather, it should be thought of, and is acknowledged as, a fluid process that is determined by how well you are able to "balance" numerous tasks and activities. Many times, athletes are able to mentally "switch-off" from their previous tasks in order to put their mind at ease, or "switch-on" to a new task or activity. At other times this process may be more difficult, especially if these previous tasks are considered a "priority" and keep the individual pre-occupied, even when they are not actively engaged in this activity. Athletes competing at a more professional level may choose to "accept" not being able to switch-off from their sport as it can be a much larger and more significant part of their life. In so far as, they do not feel like they are "supposed to switch-off" from their respective sport. This does not necessarily mean that they are unable to attain a restful state of being while still "switched-on" to their sport; however, their rest periods are perceived as being already accounted-for and "planned-out" in accordance with their schedule.

2.2. Perceptual changes of rest throughout a competitive season. Within an athlete's life there are many variables present that can influence their personal ability to rest, throughout the course of their annual sporting-cycle. Although this inherently involves their ability to physically rest (sleep), I will focus on modes of resting that includes their ability to rest while being physically awake and conscious. The actions and cognitions associated with rest are dependent upon the individual athlete's level of engagement in these processes (Eccles & Kazmier, 2019). This is different from sleep, as the latter is a more passive process that would not require the same amount of cognitive attention as resting. Within this section, the focus will be directed towards three separate perceptual changes of rest that may change throughout the course of their competitive season. These changes include: (a) Adapting personal resting techniques and practices, (b) enduring extended periods of time with rest deficits, and compensating for this deficit at a later time, and (c) being able to mentally

"switch-off" from specific tasks and environments. These changes will be discussed in regard to specific conditions that have been manifested within the contextual data. These conditions include but are not limited to the time of season, social factors, external/internal controls, and thinking about one's sport. Box quotes will be included within this section to validate the abovementioned areas of discussion.

2.2.1. Adapting personal resting techniques and practices. Willingly or unwillingly, athletes spend a significant amount of time thinking about their sport. Much of this cognitive attention revolves around the structural components of their personal schedule and how they will be able "fit everything in". This process of adapting and balancing one's daily activities has been perceived as a significant contributor to whether athletes are able to maintain a restful state of being throughout the course of their competitive season. Furthermore, as the amount of activities, as well as the cognitive attention required during these activities, tend to steadily increase as their competitive season progresses, their ability to initiate effective adaptations during this time will prove to be even more important to their rest. One facet of rest that athletes should consider and adapt throughout their season, is their ability to engage in social activities (away from their sporting and academic/work environment).

> P1: I'm spending four nights a week at my friends' house and probably go out one night. It used to be once or twice a week that I would go over and spend time with them, but it's more and more when the pressure starts building, like stress relief in a way.

In this example, the participant expresses their need to socialise as a form of stress relief, while also feeling like they need to increase their social activity during times where they are experiencing more pressure. This also alludes to the athlete's allocation of night-time

as being a period for social interaction, compared to other parts of the day where they are presumably engaged in work, sport, or other facets with lesser opportunities for socialising. Furthermore, during times throughout the competitive season where time constraints are an issue, athletes believe that finding/making time for social interaction is extremely important in maintaining a restful state.

> I: Do you still feel like you are able to attain social rest now that you are in-season? P3: I think it looks very different. I have much less time to just hang out with people or just lay-back. It's that half-hour or hour each day while eating (with friends), that's where I get my social rest from. So, I would still get rest, but just in a different way, rather than going to someone's house and hanging out, just sharing a meal together.

The opportunities for social activity, along with the specific amount of time available, are decreased within this scenario, leaving the athlete to adapt their schedule accordingly. Athletes understand that maintaining a balance of social activity within their everyday lives is necessary, as not doing so can cause deleterious effects. For example, if no actions are placed in an effort to resolve this need for more social activity, symptoms of burnout can begin to develop creating vulnerabilities for the individual's sport and work/academic performance.

The ability for social activity within pressurised periods can also extend and restore control (at least temporarily) in the individual's decision-making process.

> I: Do you think being around others helps you attain a restful state of being? P2: I think so, because when you are around others your mind is not controlled by other people and I don't overthink things when I'm with others, just enjoying conversations and having fun with people. Whereas, it can be a lot harder to do that by yourself.

Without a balance of social activity allowing for their minds to disengage, athletes may fall back into a default thought process that revolves heavily around their sport and

academics/work. For individuals to maximise their perceived rest during times allowing for social activity, they must acknowledge their own authority over their thoughts and be able to set aside ruminating thoughts in order to enjoy the company of others. This concept known as "switching-off" extends beyond social activity and will be discussed in length later in this chapter. As there are many aspects of an athlete's life where they must sacrifice and conform to established norms and schedules, being able to maintain control over the other decisions that can be made outside of these realms will contribute to a perceived restful state. This is demonstrated by one of the athletes who was going through rehab during their pre-season:

> I: Do you think that those setbacks caused pressure for you internally? P5: Yeah… I had a return to play date which was in October and my physio, who knows me quite well, tried to not let me have a recovery date because she thought that would add pressure…I went back to see the consultant and they decided that they wouldn't let me run which therefore slows everything down. So, after that I just decided that I will return when I return, because it's nice to have a day that you think that things are going to be fixed… but, I've done that in the past and it's been really bad for me mentally when I have missed that marker.

While many athletes may experience tedium throughout their season due to their constant engagement with their sporting environment (Eccles & Kazmier, 2019), this specific athlete is experiencing tedium in the opposite way, as they are mentally tired of their rehabilitation environment. Mentally, this athlete has a positive outlook on their sport and exhibits behaviours suggesting that they are motivated to return. However, the healing process for significant injuries such as this require specific amounts of time for a complete recovery. The athlete mentions that they have experienced this sense of tedium in the past, when recovering from injuries, and mentions that it is probably not healthy for their mental state to think in this manner. Therefore, in the same way as healthy athletes need to disengage

from their sport periodically during the season, athletes nursing injuries must create and adapt expectations for their recovery. If these expectations are realistic and are adhered too, there is a lesser likelihood for them to experience deleterious cognitive effects.

2.2.2. Experiences of perceived rest deficits and subsequent courses of action. It is common for athletes to experience a perceived lack of rest towards the middle and latter parts of their competitive season. As was discussed in the previous section, adaptations can be made in specific areas in order for the athlete to avoid deleterious effects. However, some elements of an athlete's environment remain out of their control and cannot be altered, no matter how much personal influence has been used. Because of this environmental and institutional rigidity that surrounds them, athletes perceive themselves as having to either: "push" through this rest deficit, or "break-away" from the structure of their prolonged surroundings. The following quote demonstrates how one of the athletes has endured through a prolonged state of rest deficit during the middle of their competitive season.

> I: So, for you currently, have you been able to take your mind off of things when you are not physically in your badminton environment? P3: Nowadays, I think that badminton is constantly on my mind especially in the middle of the season when I couldn't get some players to play… Each week you still have to constantly be thinking about it and it was quite stressful…It was constantly on my mind and that was a period of time here I got really stressed-out about it because we weren't doing well in our leagues.

This athlete in particular may have more of an obligation to think about the multiple facets of their sport, as they do hold a leadership role within their club. There are a number of responsibilities that they have agreed to do in order for their club to succeed, which may also be amplified in importance as it was recognised that their teams were not performing well.

Although the athlete was able to navigate-through these issues, the effects of always having to be thinking about their sport, coupled with unexpected issues arising, led to a perceived increase in stress. During these intense and trying times, athletes are having to "push" themselves mentally and physically (sometimes beyond their perceived limits) and persevere through adverse circumstances.

> P6: I was in the States playing and competing and losing in the first round of qualifications most weeks and ending up training the whole week just waiting for the next tournament, which was brutal… that is the only period where I have felt really pushed, really stressed-out, really mentally fatigued, and really physically fatigued.

The performance demands for this athlete are extremely high and being able to continually compete while trying to maintain a consistent standard of performance is a difficult task. Additionally, athletes experiencing fatigue in so many areas of their sporting performance are at a greater risk of burnout and overtraining. So, why would an athlete subject themselves to such significant rest deficits? Later in the interview, this athlete goes on to explain his competitive mindset and what pushes him to compete, even through exhausting times.

> I: Do you think tennis is always going to be on your mind, and are you always going to have some type of engagement with tennis? P6: It's my passion, it's something I love doing and I want to be involved with it my whole life whether that's my job or continuing to play socially…There will always be some bad days after losses, that's the only negative… the failure or rejection from losing. The enjoyment is pushing through that and coming back and being better and stronger.

By being able understand the struggles that go hand-in-hand with competing in tennis, this athlete is able to rationalise their own personal adversity as being a contributing factor to

their future success. Furthermore, the athlete demonstrates an underlying love for tennis and the process of incrementally improving by exposing themselves to competitive situations where there are "failure or rejection from losing" is a possibility. Although there are easier routes where "pushing through" adverse circumstances is not necessary in order to compete, there are (performance) opportunity costs for this athlete if they were to not continually try to improve. On the other hand, athletes who push themselves too hard physically and mentally reduce their ability to engage in opportunities outside of their sport that may aid in alleviating accumulated fatigue. Failure to maintain a healthy balance of these activities along with the inability to address stress and fatigue can have an opposite effect as well and cause the athlete to halt their sporting routine to cope with these rest deficits.

> I: Looking toward the future, what are our plans for swimming? P4: I am not planning on swimming, but potentially in the future… I am planning on traveling and I need a break from it, I have been training full-on for 7-8 years of my life so I think I need a break…You need a bit of time just not having that intensity of training throughout the week. As you can't do that unless you have the nature and drive to do it, and I don't have it at the moment.

While this athlete does not specifically mention deleterious effects that they have experienced throughout the past 7-8 years of competing, they do state that they require a break from that type of performance sport lifestyle and constant routine. This athlete certainly possesses a level of desire and drive to compete, having competed for such an extended period of time; however, this desire can wane at times throughout their competitive career. This is not to say that athletes will remove themselves from their sport entirely, as this athlete mentions that they will likely return to swimming in the future (likely in more of a recreational capacity). Because many athletes feel that they need breaks from competing in their sport at times throughout their season, it can be understood that, at these periods of time,

the athlete's perceived value of their sport drops below values of other opportunities. Furthermore, for these athletes to persevere through this devaluation of their sport, while experiencing deficits of rest, makes them vulnerable to significant deleterious effects upon their physical and mental health.

2.2.3. Ability to "switch-off". While it has been previously discussed that the necessity for larger breaks of rest for some athletes throughout their competitive season, there are also more temporary needs and means of resting that athletes will experience. "Switching-off" is a term that many of the participants within this study often mention to describe the process of discontinuing one cognitive function in order to either, focus on another function, or leave their mind in a more relaxing (idle) state. Inabilities to effectively "switch-off" can leave the athlete preoccupied with certain thoughts that cannot be acted-upon in their current environment. This ability becomes more of a need during the middle and latter stages of the athlete's season, as they should have more cognitive demands and responsibilities to manage. Determining how well these athletes are able to balance these variables, through their own personal recollection and elicitations, then allows us to understand some of the struggles that they face when trying to maintain and/or achieve a restful state of being.

One element that is perceived to impact on athletes' abilities to "switch-off" is their positioning within their physical environment. Certain environments have been demonstrated to influence athletes' cognitive thought processes in a way that sees their focus and attention over-applied to select topics.

> I: What works best for you (to rest) that's away from that rugby circle and outside of that environment? P5: Sometimes playing a different sport or just going to watch a different sport I think gets you a little bit of (mental) recovery. But, because I am a coach and rugby player, I will watch another sport and think 'Ohh that would be

> really cool to put into rugby'. So yeah, sometimes I don't switch-off when I think that what I'll be doing is going to be a switch-off rest.

Although this athlete is not positioned within their specific sporting environment, their instinct and disposition as a coach and tactician keeps their mind switched-on about rugby. It can be understood that this athlete would be thinking of rugby in a less attentive and focused manner; however, it can be assumed that this peripheral concentration on the application of tactics can contribute to a decreased cognitive benefit, compared to a full "switch-off". In this situation it is also apparent that the athlete does not remove themselves from the competitive domain. By spectating at a competitive event (albeit not in their chosen sport), they are likely to experience physical and cognitive symptoms similar to that of what they would experience when they compete; however, to a lesser extent. This effect can also be influenced by the time of the athlete's season, as environmental and competitive triggers can have an increased effect towards these symptoms if the athlete was nearing an important event. However, there are other situations where athletes are completely removed from their sporting and competitive environments and still ruminate over their sport.

> I: Have you ever had any experiences in the last month where laying in bed has not been restful? P4: I think it's usually restful, but I potentially can't switch-off completely from my sport, especially over the first couple of weeks where you are questioning whether you are fit enough or whether you've had too much of a break over the summer, and you think that was wrong of you."

This example shows that athletes can feel guilty and question their previous training sessions when ruminating over their sport, even when they are completely removed from their sporting environment. These athletes will find it harder to "switch-off" as they are worried about their current performance and dwell upon previous opportunities they had to

avoid this situation. By having their minds wander onto these topics consistently during (idle) times designated for rest, these athletes demonstrate decreased levels of cognitive control and additional stress. As their competitive season continues and more cognitive re-direction is required to cope with accumulating demands, athletes may experience diminished levels of cognitive attention, so much as the athlete forces themselves to "switch-off" from that specific activity.

> I: Do you feel like you are still having to multitask with other events mentally? P2: Yeah… most of the time I feel like that and I kind of move from one thing to the next. But, it's only when I know that I've got a tight turnaround that then I am having to think 'Oh I need to make sure that I am here by this time'… That's when the other thoughts start. That is what then forces me to think about multiple things.

With a wide variability of cognitive demands, athletes must transition between these activities quickly in order to ensure a healthy balance of cognitive activities. As these experiences of transitioning cognitive thoughts are continually repeated, an understanding of the process along with a successful routine can be established. While the thought of "switching-off" itself is commonly perceived by athletes as a relatively passive transition of thought, it proves to be a more complex process that does require some level of mastery. Without this skill, athletes will struggle to facilitate their direction of focus towards; facets of their life that are unrelated to their sport, and/or activities that do not require an extensive amount of cognitive thought.

2.3. Variability of rest depending on athletes' competition level. As sport becomes more professionalised, the increase in demands associated with athletes' participation can affect their ability to maintain a restful state. Because of this, one of the objectives of this study was to further explore the differences in athletes' ability to attain rest, taking into

account their current level of competition. In the previous study, there were a number of significant differences found when comparing the answers posited by athletes participating at various levels of competitive play. By using these significant differences as a base for performing the content analysis, a deeper and more-detailed understanding of these differences can be understood. Three differences that will be discussed further in the following sub-sections include: Novice/recreational athletes utilising less organisation and structural approaches to achieve rest, professional/international athletes apparent inability to disengage from their sport compared to athletes at lesser competition levels, and professional/international athletes using social-engagement as a resting technique less than athletes at other competition levels.

2.3.1. Lesser organisation and structure of rest periods demonstrated by novice athletes. In the second study, novice athletes posited that they utilise lesser amounts of organisational techniques to attain rest compared to athletes who have competed at an international/professional level of competition. This finding can be (partly) attributed to novice athletes' apparent reduced need to develop and comply with self-imposed resting structures. Because they are only competing as a novice at a more recreational level of sport, their need to consciously remove themselves from their sporting environment and "switch-off" from sporting demands does not manifest itself as a serious issue. For example, one of the athletes competing as a novice in their sport presented the following quote:

> P1: It's just the pressures of writing a dissertation and doing a report, finishing off the year and getting a good grade… that's the sort of stuff that's going on in my head. Whereas, for my sports life I'm not worried about anything. I just go out and have fun. So, it never stresses me out, I never feel… I always feel relaxed when it comes to sport… even when it comes to winning games, like winning a league or something, I don't get stressed about it. Like I will just go play and whatever happens happens.

On one hand, this novice athlete inherently places a priority on their academic life and their achievements while studying at University. By being primarily "switched-on" towards their academics and future career prospects, novice athletes are less likely to be preoccupied with any type of performance demands regarding their sport. Because of this, novice athletes will tend to utilise sport participation as a "switch-off" from their current rigours and obligations that they may be experiencing within their academic, occupational, and/or personal lives. However, for many athletes competing at an international/professional level of sport, they may not have this same ability to clearly distinguish and transition through multiple aspects of their lives. Because they have chosen to pursue an identity as a high-performance athlete, applications and structures for pursuing and maintaining this identity will manifest themselves in multiple aspects of their lives. Additionally, as international/professional athletes have chosen to pursue sport as their occupation, and in most cases have completed a basic standard of academic knowledge, they are presented with more time to organise rest periods around their sporting schedule.

> P6: It was only towards the end of my university career that I started taking tennis more seriously… Well, not more seriously but everything became more professional, like I wasn't drinking, my training and structure was much better. Whereas, through university it was more… I just kind of transitioned during my last year of university, which I kind of had to anyways because there was no way I could continue the way that I was at university. You know, hardly getting any sleep, bad diet and not training properly almost.

Therefore, adopting a more structured and regimented approach towards their sport was perceived to be necessary for this athlete, in order for them to pursue tennis "more seriously". Additionally, this enhanced level of sporting performance would not be feasible if they were to maintain the detrimental performance activities that they had engaged-in while

at University. This transition mentioned by the athlete infers that there will be a higher degree of cognitive attention required for further exposure to increased competition within their sport. Thus, causing the athlete to factor-in the sport-performance ramifications that arise through actions throughout multiple aspects of their lives.

Due to additional performance requirements that extend past their sporting environment, professional/international athletes perceive themselves as needing to maintain a greater level of self-control when accounting for periods of rest. As athletes become more professionalised, they develop a better understanding of how their sporting schedule is designed, allowing themselves to perceive themselves as having a greater sense of self-control concerning what they can and cannot do. This idea of "finding what works best for you", in terms of athletes attaining rest, gives athletes the freedom to assess their personal needs even whilst in an extremely organised, demanding and professionalised sporting environment.

> I: Does the phrase "finding what works best for you" apply to how/if you are able to attain rest? P5: Yeah, and I think probably the older I've got, or the more experienced I've got, the more I've realised that. I think sometimes you get caught up thinking that more is better, as in more training. We have quite a strict protocol of we need to do this many weights sessions, this many running sessions, this many club sessions, and if you put all of that into a week and a full-time job on top of that, there would be no time to rest. So, over the last couple of years I have personally taken out some of those sessions in order to have some kind of recovery in-between because it's impossible to work full-time and to train full-time. But I didn't used to do that, I used to try and ram them in and I thought that if I completed all sessions that I was supposed to complete, that would make me better, but it doesn't because you just end

> up being exhausted. And then, the performances on the pitch were reduced. So yeah, I've definitely learnt to listen to myself about that, and trust myself as well.

This action of "listening" to ones-self or "listening" to their bodies is a process that is mentioned frequently by competitive athletes. This cognitive process is within the individual athlete's self-control and involves rumination of various opportunity costs concerning their physical and mental state. This athlete offers a specific past experience where they would overload their schedule with sporting commitments and full-time work, only to end-up feeling "exhausted" before going into competitions. Later in their career, they now have a better understanding of how their body functions and what actions need to be taken/not taken in order to sustain consistent performance. As athletes maintain self-control by internally rationalising their decisions on a consistent basis, they will begin to develop a "trust" in themselves to make appropriate decisions for themselves personally. This process has been seen to be more prevalent in professional/international athletes compared to novice athletes, as the former are likely to have a more rigid schedule with increased hours of sporting activity.

Because of the ramifications placed upon athletes' actions, deliberate thought is required for many aspects involving their sporting performance. By continuing this process of deliberate thought, these athletes will develop (cognitive) performance routines which will become easier to carry-out through increased exposure and practice. Perfecting this process can be considered restful if adhered-to and executed properly by athletes.

> I: In that same sense, does keeping that routine of proper nutrition, proper cooking, is that relaxing in a sense? P6: Yeah, I just think it creates positive emotion if it is something that you enjoy doing… sticking to your routines, it's also kind of relaxing, like a ritual almost… I just think it keeps you focused and keeps you set on your

goals. These routines are not just random routines, they are all done for a specific reason going towards what I am striving to do.

By engaging and completing these routines, professional/international athletes may experience a sense of self-fulfilment. On the other hand, if left incomplete, this feeling could be replaced by a sense of guilt and/or inferiority, causing a depreciation in motivation. By maintaining constant engagement and focus while completing their routines, athletes can develop a mastery of their utilised techniques; creating a more restful routine, while being able to facilitate further rest periods. As elite athletes' schedules are naturally more structured and intensive than novice and/or national level athletes, their adherence to a set-routine allows them to maintain consistent focus on multiple aspects contributing to their performance. In turn, this allows the athlete to feel in-control over their own actions and sustain their level of motivation to continue to compete.

2.3.2 Inability of professional/international athletes to disengage from their sport. Results from the second study found that professional/international athletes demonstrated a significantly lesser ability to disengage from their sport compared to athletes competing at a lower level of competition. Relating to this apparent inability to disengage, there are a few subtopics that have been revealed from the interview data from this study. These involved the professional/international athletes': increased performance demand, professional livelihood being at stake, and their personal choice not to disengage.

As athletes begin to progress and transition into higher levels of competition, they may perceive themselves as having to live-up to a higher standard of performance and preparation. Because of this, these athletes may choose to not engage in activities that they now deem to be unprofessional and that present hindrances to; their ability to rest, and their sporting performance. Maintaining this mind-set throughout a professional competitive

season makes it more difficult for the athlete to justify any types of implementation of rest breaks.

> P6: I got my first world ranking point in November 2016, and I saw myself as this professional and I thought that there's a lot of things that class myself as professional and have to live by certain rules. I have to have zero alcohol, I have to be completely clean in everything I did. But… I found out about 6 months to a year later that it wasn't the best thing for me.

Eventually, this athlete came to the realisation that some periods of disengagement from their sport are necessary for them to ensure personal interest and consistent performance. This initial period of time of choosing not to disengage from their sport can be seen as being influenced by the athlete's perceived performance demands and professional livelihood being in jeopardy, as referenced in the following quotes.

> P6: I need certain things to be able to play and sometimes I don't want to spend so much money on shoes. So, there might be unrest on deciding on price. Generally, if I have to do something I do it, but in the past, I would hold off… For example, if I want new string but need to spend $100 on it I won't order it, but if I need it, I will do it straight away, seeing things as more of a priority where as in the past I would let things hang longer.

> P6: I applied for the army to be an army officer… That's actually not a possibility anymore because I have a mild peanut allergy. So, I was rejected and can't actually get into the army... It's a difficult sort of situation for me because: One, I'm not earning money from tennis at the moment in terms of sustaining a living. So, naturally I have been thinking about careers and future jobs…But, does it help attain rest? I guess if you have a plan, like having what I thought was the plan with the army, I did

> actually feel quite good because I knew that I could focus on tennis until I: either did really well in tennis and the army was just the backburner, or it didn't go well and I had the army as a backup. But now I don't have that.

In this specific athlete's case, the performance element of their sport has become increasingly important as they have transitioned to the professional level. There is a greater "priority" and/or urgency placed upon even the more finite details of the athlete's preparation for competition, as seen by their choice to purchase new strings. By mentioning that these aspects would be allowed to "hang longer" earlier in their career, it can be understood that they do not warrant immediate cognitive attention. Even though the athlete still possesses an awareness of having to attend to these issues at some point, it is inferred that they are able to temporarily disengage from these issues.

Furthermore, this increased prioritisation of the athlete's actions involving their performance can also be affected by their current job security and whether or not they have a contingency plan if their sporting career stalls. In this case, this athlete's "backburner" career that they were expected to transition into eventually, became an impossibility due to their food allergy. While the athlete could feel as if their sole focus can be now directed towards their tennis career, they express some doubt in this idea because of their current financial earnings. So, to compensate for this uncertainty, they exercise some of their cognitive attention towards searching for new career-paths. But, as the athlete mentions, this process of temporarily disengaging from their sport may only be perceived as restful if they are able to effectively develop a "plan" towards these potential careers.

In contrast, other professional/international athletes may exercise their choice not to disengage from their sport. This choice to not disengage can also be perceived by these athletes as not having a significant negative impact on their ability to rest.

I: And, is that (rugby) necessarily something that you want to switch-off from? P5:, I feel like I'm supposed to switch-off from it, like that's what I am told I should do, but because I work in rugby and play in rugby it makes it quite hard to stop thinking about rugby. Yeah, so I probably don't switch-off completely as much as I should...Because I enjoy my sport, I enjoy watching it as well. I probably don't get away from it unless I do something completely different.

Athletes whose lifestyles and professional careers are ingratiated within their specific sport may exercise the option to disengage from their sport less than other athletes at lower levels of competition. As you can see, part of this decision involves the athlete's perception that they are not "supposed to" disengage from their sport. As this mindset has been formed in-part through what this athlete is "told" that they should do by others involved in their sport, their perceived personal choice to not disengage can be seen to be influenced by their colleagues and peers. However, this choice is not perceived by the athlete to hinder their personal rest. It is also clear that this athlete "enjoy(s)" being heavily involved in multiple facets of their sporting environment, allowing them to stay constantly engaged, unless allowing themselves to be completely removed from their rugby environment.

2.3.3 Less engagement in social activity by Professional/International athletes.

The final variability that was accounted for between professional/international athletes and other (less-competitive) athletes, is the decreased amount of social interaction displayed by professional/international athletes. One aspect contributing to this variability is the perceived increased amount of time that is afforded to athletes competing at a lower level of competition. Furthermore, professional/international athletes believe that they are provided with lesser opportunities to engage in social activities because of time restrictions. This understanding that athletes competing at a lesser competitive level are afforded more time to rest is evidenced by the following quote.

> I: So, what's going through your mind when your coaching staff does say that you get this long weekend off where you aren't playing volleyball? P2: I think it's like 'Oh what can I do now because I haven't got these trainings to try and schedule everything around'. So, it's almost like a blank slate… It means I can have other social commitments. So, I might have social stuff with my church that I'll be able to go to because we haven't got training. Basically, I think it just opens up some time to be able to do more… allows me to do other social stuff.

Throughout their competitive season, this athlete had been given extended weekends where no training or practice sessions had been scheduled. By having these extended rest periods in place, the athlete is clearly able to contemplate multiple options with their available time and hints at their disposition to engage in social activities. Because this athlete views these periods of time as a "blank slate" they are able to decide for themselves how to best utilise their time to rest. Moreover, this would include compensating for various activities that they were not able to participate-in in previous weeks throughout their season. Concurrently, professional/international athletes may not be given these similar amounts of time to rest, as referenced below.

> P6: Throughout the year it's quite a heavy season in terms of tournaments because the season pretty much runs from January all the way to December…You could play every week of the year and not have any rest, but you definitely need a block of tournaments, training blocks and then time away from tennis, which is what I did over Christmas…So, that period of being home and being around friends, yeah just catching up with family because I spent most of the year abroad or not at home. So, for me that was really important.

As this professional athlete plays in various tournaments around the world, with smaller amounts of time in-between these tournaments, their opportunity for social activity away from their sporting environment is restricted. Additionally, because the availability of tournaments is perpetual throughout the calendar year, the athlete must decide on which blocks of time to take away from competitive play. In this sense, these athletes can undergo extended periods of time away from close friends and family members, with them trying to compensate for this deficit in social activity when they do take an extended break from their sport. This also presents a tough decision for the athlete as they have to account for the opportunity costs related to their career progression, if they do choose to take time away from their sport for social engagement.

> P6: There's more important things in life… There's other things going on you know, and family and friends are more important. It would be tough for me to make decisions about something in tennis, but if it was family and friends, they would always come first.

> I: What is the process like for you to recuperate mentally from all your revision? P4: I think it is having stuff during the day or having time where I am completely not thinking about revision. (It) doesn't have to be long but hanging with friends… just where revision doesn't come up and I am not trying to think or solve anything in my mind just enjoying being with other people.

Again, opportunity costs must be taken into account when contemplating the decision-making process of when and whether to engage in social activities away from their sporting environment. There is an understanding from both athletes that there is definitely a need for social engagement in order to recuperate mentally. Additionally, fulfilling this need for social engagement (either with friends or family members) seems to always take precedence over

having to take action and make decisions in regard to their sport. This is evidenced more specifically with (P6); however, (P4) also alludes to this opportunity of being able to cognitively switch-off from their revision, while spending time with friends throughout the day. The difference lies in what the different athletes are having to sacrifice in order to engage in these social activities. For (P4), they are sacrificing time to revise for their studies which could assumedly be easily compensated for at a later period of time, if their exam/essay is not quickly approaching. However, (P6) had mentioned that they could have tournaments every week if they chose to enter. Thus, the amount of time spent within their training sessions leading up to their next competition can be perceived as very valuable and can directly influence the outcome. Therefore, professional/international athletes are faced with a more difficult decision on whether to spend time engaging in social activities compared to athletes competing at lower levels of competition.

2.4 Variability of rest depending on Sport type. The nature of an athlete's type of sport has also shown to have an effect on their ability to attain a restful state of being. For the purpose of this study the athletes' type of sport, depending on their participation in an individual or team sport, was distinctively differentiated.

2.4.1 Increased engagement in social activity and resting techniques by team-sport athletes. For team-sport athletes, they may be more likely to acknowledge their wanting to engage in social activities more than athletes competing in an individual sport. In some ways, it can be seen that team-sport athletes have a greater opportunity for social engagement as they can seek-out their teammates' company if in need of social interaction. As teammates go through the same rigors of participating in their team-sport, they are able to relate to each other's personal situation and any possible struggles that they are having to endure. On the other hand, their teammates can be understanding if some topics of discussion should be bypassed if they have the potential to be distressing.

> I: And, for finding what works best for you, has that changed at all since the last time we spoke? P1: I don't think so… I certainly use the same techniques to feel rested. I would just be doing more of it though. So, now I'm spending four nights a week at my friends' house, and I would probably get a night out. It used to be once or twice a week that I would go over and spend time with them, but it's more when the pressure starts building, like stress relief in a way.

The previous quote demonstrates this team-sport athlete's level of comfortability in seeking out social rest to relieve some of the stress that they are experiencing. As well, they express their personal consistency in adhering to the techniques that they utilise and have utilised throughout their competitive season. On the other hand, individual-sport athletes can perceive taking extended social rest breaks as taking too much time away from their sport. This may be due to an abrupt shift in social culture where they are not accustomed to being in such close proximity with friends and family members.

> I: Do you ever feel like if you spend too much time with your family it won't be restful? P6: Yeah, I think that's completely right.... I: And, what do you feel when you around them too much? P6: I think being home and being around them for too long… it's not where I want to be in terms of… I feel like if I stay there for too long there's kind of a culture… Like most of my friends kind of settle down, they've got their mortgages, they've got jobs that they've had from school, so it's like… I don't want to get myself sort of settled.

This shift in social exposure is also perceived as impeding the ability to rest by this individual-sport athlete, if they are exposed to this environment for prolonged periods of time. Part of this is accredited to the fact that the athlete does not value the goals and expectations of being "settled down", which are assumed by their long-time friends.

Furthermore, because the athlete is removing themselves from their individual-sporting environment to return home, they do not have the same ability to relate with friends and family members in the same way as they would have with their fellow competitors.

Discussion

The main objectives of this study were to: understand how athletes' perceptions of rest change over the course of their competitive season and to provide qualitative data to complement the statistically significant findings derived from the second study. To do this, an analysis of athletes' perceived rest throughout the season was formed through the utilisation of interview data from six selected athletes. The qualitative analysis confirms the perceptual variance of rest that athletes experience throughout their competitive season. The themes that have emerged through the analysis of data will now be integrated with relevant and applicable academic theories relating to rest, within this section. The implications of rest that are discussed will be further accompanied by recommendations for future research, along with an acknowledgement of limitations that this study has faced.

It has been discussed that athletes' perceptions and understandings of rest being dependent upon their personal ability to attain a "restful state of being". Athletes' ability to attain this restful state is attributed to them being able to disengage from the pressures of their sporting environment and/or effectively managing pressures that they regularly experience. This ability to disengage is comparable to previous research concerning recovery within occupation literature, explaining how psychological detachment implies not thinking about work or other issues relating to one's job (Sonnentag & Fritz, 2007). Likewise, individuals are less likely to experience psychological disengagement when faced with tasks and scheduling with increased time pressures (Sonnentag & Bayer, 2005). As all the athletes within this study have had to balance their sporting careers with either their academic or

occupational development, their abilities to cognitively disengage from their sporting environment can prove to be difficult. Having to maintain a balance of multiple facets of their lives, athletes can perceive themselves as being subject to increased pressures. Specifically, for athletes who are transitioning into situations where their sporting careers are now combined with other (occupational/educational) endeavours, their performance demands can add to these perceived pressures (Wyllemann & Lavallee, 2004). Thus, creating a need for the athlete to engage with peers and surroundings outside of their sport, in order to cope with these pressures and maintain this "restful state of being".

An athlete's ability to disengage from their sporting environment was frequently mentioned throughout the interview process and is attributed as being an integral part of them attaining a restful state. In recovery literature, this disengagement from sporting environments can present a psychological benefit that can act as a buffer to symptoms of burnout and depression which helps restore athletes' levels of motivation and concentration (Kellmann et al., 2018). Therefore, sustaining a competitive level of performance while tending to their personal well-being.

However, literature in other areas do not always attribute environmental disengagement as contributing to athletes' performance and development of expertise, albeit for more elite athletes. Athletes that are within-season have viewed time away from their competitive environment as negatively affecting their performance and contributing to boredom (Pain & Harwood, 2007). Additionally, athletes may experience guilt by not being able to demonstrate their sporting ability and/or dedication, which can threaten their self-esteem and lead to deleterious effects (Winsley & Matos, 2011). While rest is mentioned as a critical contributor to continued deliberate practice (Ericsson et al., 1993), it often focuses on the importance of maintaining a presence within environments that are conducive to skill development. Environments that are solitary and void of any distractions have been shown to

be more conducive for individuals' deliberate practice and performance (Plant et al., 2005). However, any beneficial effects of disengaging from these demanding and intensive environments are not discussed specifically or extensively.

Another aspect described by athletes as hindering their ability to attain a restful state involved them being pre-occupied and worried about other things that they need to complete and/or having a "full-on" schedule. Similar to these findings, research regarding cognitive interference in athletes suggests that the cognitive evaluation process demonstrated by athletes is similar to the processes that individuals experience in academic settings. As such, these cognitive processes involve negative self-evaluation and worrying about their performance or upcoming competitions. While another effect involved ruminating over irrelevant thoughts and statements (Hatzigeorgiadis & Biddle, 2000). Concurrently, athletes' pre-performance anxieties have been seen to be associated with interfering thoughts within competition. Thus, causing the athlete to be preoccupied during competition, which can negatively affect performance (McCarthy et al., 2013). As these cognitive interferences have the potential to divert the athlete away from a restful state, coping mechanisms can also be used to mediate preoccupation. For example, certain (dispositional) mindfulness techniques have been seen to reduce rumination and psychological distress in athletes (Josefsson et al., 2017). This finding coincides with similar quotes from the study indicating that "having less options" could contribute to their attainment of a restful state, as mindfulness would attempt to diminish ruminating and stress-inducing thoughts. Furthermore, athletes maintained that they were able to maintain a restful state by utilising "alternatives to rest". Relating to this idea, research pertaining to self-determination theory (SDT) has investigated the importance of "novelty" and proposes this term as a basic psychological need (Gonzalez-Cutre et al., 2016). Therefore, athletes who seek various alternatives to rest, away from their regular

routines, will have a greater ability to satisfy their psychological needs, while maintaining personal motivation and a restful state.

Athletes who have been performing at a higher level of competition stated that there is a greater degree of organisation and planning needed to attain a restful state, while also noting that rest is integrated into their training schedules. This type of strict and rigid thinking that performance athletes can maintain in organising their schedule, may be influenced (controlled) by coaches choosing to reinforce the structure of their training environment. Essentially meaning that a coach's methodology can manifest itself as a behavioural instrument which can shape their athletes' conscience (Denison & Mills, 2014). By having coaches maintain power over the practice schedule, athletes have to plan and work-around the current commitments that are in place. Additionally, as some athletes maintained that rest is a part of their training programme, it is possible to infer the process of "program creep", where coaches exercise their ability to schedule activities on rest days, which promote cognitive thought for the athlete towards their sport (Eccles & Kazmier, 2019). However, for the athlete to have the greatest potential to sustain this restful state, a balance of control between themselves and external factors (i.e. coaches, schedules) should be maintained. It is suggested that pre-determined rest periods accompanied with discretionary rest breaks determined by the individual can result in a fatigue counter-measure (Tucker, 2003). Therefore, athletes competing in a performance sport environment will have greater abilities to attain a restful state if: challenged to organise and plan around institutionalised schedules, while also being given the individual ability to choose how and when to rest when experiencing fatigue.

Athletes' perceived changes of rest throughout the course of their competitive season involved them having to adapt their personal resting techniques and practices. Social Psychology literature has offered a series of motives that encompass the processes of adaptation which include: belonging, controlling, understanding, enhancing self, and trusting

(Fiske, 2004). Adaptation initially involves a shift in environmental conditions, followed by the individual to search-for and execute an adaptive response dependent upon their inherent motives (Schinke et al., 2012). Presented within this study's data, athletes sought-out social activities and rearranged their social schedule throughout their competitive seasons in order to maintain a restful state. This response is understandable as specifically student-athletes experience stress-related symptoms when faced with a lack of social support and companionship (Kimball & Freysinger, 2003). However, while socialising has been seen to elevate mood in the short run, the act of conscientiously socialising can be seen to have a delayed contribution to an individual's mental fatigue (Leikas & Ilmarinen, 2017). This suggests that while the athletes are fulfilling their motives by socialising, they are still consuming their cognitive resources. However, athletes may not perceive this process as being a detriment to their rest as they are experiencing an elevated emotional state.

There are several benefits that may be gained by athletes if they are successfully able to adapt their social schedule to emerging demands throughout their competitive season. The ability to detach and maintain control has been seen to show negative relations towards: emotional exhaustion, sleep disturbances, and need for recovery (Sonnentag & Fritz, 2007). Having control over one's scheduling can deter these negative effects while also allowing the athlete to maintain clarity in their decision-making process. However, it is understood that athletes cannot comprehensively plan their actions in advance, instead it should be anticipatory and cumulative of both their personal information sources and the external environment (Araujo et al., 2006). A decision-making process to adapt personal strategies to rest is dependent upon athletes' pursuing a goal of attaining rest, while having to navigate and react to the external constraints that emerge. Furthermore, athletes within autonomy-supportive sporting environments demonstrate a weaker correlation of socialisation while expressing anti-social behaviour (Hodge & Lonsdale, 2011). Thus, reinforcing the benefits of

athletes being able to exercise self-control and autonomy over how they adapt and choose their personal rest techniques and practices.

Within this study, athletes also posited that they experienced perceived rest deficits throughout the course of their competitive season. Because of this, two distinct courses of action emerged in reaction to these rest deficits including: pushing-through periods of time while experiencing rest deficits, or breaking-away from the structural surroundings of their sport. The decision to push-through these periods can be influenced by athletes' ability to effectively utilise coping strategies, especially when faced with unexpected factors that can negatively impact performance (Dugdale et al., 2002). Effective employment of coping strategies has also been seen to be linked to increased athlete resilience within a competitive season, allowing athletes to adapt to the possible challenges and failures that they may experience (Secades et al., 2016). Furthermore, cultural influences may also reinforce the importance of athletes to remain mentally tough in situations where rest periods are not readily accessible. Athletes within competitive sporting environments may feel the need to persevere through these times as there are expectations for them to conform to the unrelenting, uncompromising, and selfless standards established by their club (Coulter et al., 2016). Likewise, this process of conforming to institutional standards can involve a sacrifice of individuality and personal vulnerability (Tibbert et al., 2015), making it even more important for athletes to maintain a balance of activity that prevents potentially harmful effects upon their physical and mental health.

On the other hand, another course of action that athletes have been seen to take is breaking-away from the current structural surroundings of their sporting environment. If the athlete is able perceive themselves as having control over their disengagement, versus being forced-away from their sporting environment, they can be seen as having a better ability to successfully transition to other areas of life, away from sport. Likewise, athletes competing at

increased levels of competition have been seen to undergo “identity limbo” during this period of disengagement, more so than athletes who had a lesser sporting identity (Lubker & Etzel, 2007). It has also been found that athletes who disengage from their sport on a more permanent basis, do so because of a perceived loss of social networks and feelings of rejection from teammates (Butt & Molnar, 2009). In turn, these factors can influence athletes’ personal valuation of their sport. As competitive sporting environments have been perceived as psychologically controlling, exposure to performance-based social pressure and rewards can also lead to further devaluation (Isoard-Gautheur et al., 2015). If this devaluation of sport drops below the value of other opportunities, then the athlete must decide on what activities to continue/discontinue. This opportunity cost can consist of factors relating to athletes’ potential ability to: have more fun in other surroundings, and/or regain lost opportunities to accumulate skills and knowledge in areas outside of their sport (Zhu & Chen, 2013). Therefore, a combination of athletes losing interest and missing out on other potential opportunities can influence their decision to disengage from their sporting environment.

Throughout the course of the season, athletes have also expressed the need to “switch-off” from their sporting environments. A distinction between disengagement and switching-off can be made as the latter inherently involves the athlete having to “switch-on” to an additional cognitive task. Athletes expressed a need for “switching-off” as there are perceived to be more cognitive demands within-season. For example, within a working environment, individuals who are able to mentally switch-off after leaving their work place may wish to employ relaxation techniques, leisure activities, or any other activities that reduce the cognitive workload (Sonnentag & Bayer, 2005). Therefore, new cognitive activities away from their sporting environment can be engaged-in, in order to enhance current performance. It can also be understood that as athletes’ seasons can be repetitive in structure, coupled with constant stressors, they can be pushed to their psychological limits (Nedelec et al., 2015).

These limits along the perceived need to switch-off can also depend on individual cognitive characteristics that athletes exhibit. As individuals who express higher levels of rumination have blurred boundaries of work and personal life, whereas individuals with lower rumination have distinct boundaries that do require a "switch-off" from one activity to the next (Cropley & Millward, 2009). These examples demonstrate the apparent need for some athletes to have access to their own personal rest periods where they can switch-off from repetitive activities.

Athletes' ability to switch-off throughout their competitive season has also been linked to the amount of exposure they have to their physical sporting environment. The "competition environment" is acknowledged as a factor that contributes to intrinsic stressors that athletes can experience when engaging in a sports lifestyle (Fletcher et al., 2012). The makeup of this type of competition environment inherently varies depending on when upcoming competitions occur. This is because, within the sporting arena environment, performance stressors are more noticeable and become an amplified factor of athletes' stress experience (Fletcher et al., 2012). Thus, by managing their exposure to various sporting and non-sporting environments athletes can attempt to balance personal levels of stress, effectively contributing to their ability to cognitively switch-off.

Athletes' coaching staff can do their part in creating a more hospitable (motivational) environment for athletes to develop a balanced cognitive approach/skills within their sporting environment (Gould & Dieffenbach, 2002). As athletes naturally experience stressors within their competitive season, continued communication and collaboration between coaches and players, assessing rest periods/availabilities to switch-off, become more important to their cognitive development. Furthermore, athletes' risk of dropping out of their sport has been seen to be affected by various physical factors within their environment. As athletes who are: amongst the youngest in the group, and do not have a close friend within the squad, have a

greater likelihood of dropping-out (Fraser-Thomas et al., 2008). Therefore, these physical factors have the potential to cause the athlete to undergo further cognitive stressors, affecting their ability to switch-off from sport.

Switching-off is not a process that all athletes can execute seamlessly at any given time. Rather, the process of switching-off is perceived as a skill that is complex and can be enhanced through time and practice. As touched-upon before, athletes must choose to focus their concentration towards specific decisions and tasks. It is only through this deliberate cognitive transitioning process that athletes can invest mental effort into their performance, in turn leading to effective practice (Moran, 2008). This transition process does not happen accidentally, and athletes can master this complex technique by giving it deliberate thought. The effects of deliberate practice when done continuously and without prolonged lack of exposure to cognitively attentive environments can also be seen as being more beneficial to athletes' cognitive development. As athletes who have not been subjected to these competitive environments regularly or recently (possibly due to injuries or personal matters, for example) may not know how to deal with the psychological responses that they experience, when they do return to the competitive arena (Wadey et al., 2012). Therefore, just as physical and cognitive skills can be enhanced through deliberate practice, if left unattended and unpractised, the ability to transition attentional focus can depreciate in effectiveness.

One of the objectives of this study was to further investigate some of the significant differences that were manifested within the 2nd study. A few of these differences were seen to involve the variability of athletes' perceived rest and its association with their current level of competition. Other studies within sport sciences literature has used completion level as a fixed variable; however, none have targeted rest as a main topic of investigation or discussion. Instead many studies have tended to focus on athletes competing at elite levels, where rest is associated with primary research topics peripherally (i.e. overtraining, burnout,

and coping strategies) (Dugdale et al., 2002; Berger et al., 1999; Greenleaf et al., 2001). Likewise, other research designs have adopted objectives looking to find differences between elite and non-elite athletes, but again rest is not examined directly or and/or extensively (Arvinen-Barrow et al., 2007; Mellalieu et al., 2009; Cleary & Zimmerman, 2001). The perceived differences of rest between athletes at varying competition levels is important to understand as certain techniques/appraisals can be more prevalent or important. Further insight into the variability of perceived rest dependent upon athletes' competition level will be discussed further in the following paragraphs.

One element involved in this variability of rest dependent upon competition level, is the apparent lesser amount of organisation and structure of rest periods demonstrated by novice athletes, compared to elite performers. Because novice athletes do not have the same amount of competitive demands as elite athletes, they do not perceive themselves as having to organise how and when they are able to rest. This is supported by research that explains that for individuals to become experts in their field, they must advance through three stages which include: starting early, select specialisation and increase participation, and full-time commitment (Ericsson et al., 1993). Likewise, it has been found that athletes who advance through these stages and go on to perform at an elite level demonstrate an increased amount of time in their sport-related practices and activities, compared to athletes who did not go on to compete at an elite level (Ford & Williams, 2012). Therefore, novice athletes may not perceive themselves as being as organised, due to their current time spent disengaged in sport. Instead, by participating in sport as a novice, these athletes can perceive sport as being an escape from the current structures, dynamics, and stressors that they experience in everyday life (Giorgi & Boudreau, 2010). Novice athletes perceive themselves as having to be less organised with rest periods because, in a way, their participation entails a disengagement (rest) from demands concerning their occupational and/or personal lives.

Novice athletes have also been found to employ more emotional focused coping strategies (EFC's) to regulate their emotional experience, while athletes (assumedly under more pressure) exhibit more problem focused coping strategies (PFC's) to address the actions needed for current tasks that they are experiencing (Calmeiro et al., 2014). For novice athletes engaged in EFC, they are likely to experience a positive mental state while being able to utilise a simple cognitive processing structure, allowing for more simplified information processing (Bless, 2005; Bless et al., 1996). Because elite athletes tend to use more PFC strategies, they can experience added pressures to confront and address their personal organisation of rest. However, novice athletes tend to address and regulate current emotional imbalances by simplifying their cognitive activity, allowing them to break-free of any current physical and/or organisational stressors.

Partly due to elite athletes' increased activity associated with PFC, these athletes perceive themselves as having more difficulty disengaging from their sport. This is because, in contrast to PFC strategies, athletes who reduce their behavioural efforts to overcome experienced stressors and/or express denial about their stressors entirely, utilise avoidant coping strategies which allow the athlete to disengage from the coping process (Hill et al., 2010). However, because elite athletes are more focused on the current task-at-hand, their understanding and ability to employ an avoidant coping style, even temporarily, can be more difficult. As elite athletes progress into higher levels of competition they may also perceive themselves as engaging in more deliberate practice time (Ford et al., 2009), which inherently requires the athlete to have greater abilities concerning PFC strategies. Elite athletes can also perceive their personal motivations and expectations of themselves as contributing to their inability to disengage. This has been seen in research on athlete perfectionism, as athletes labelled as non-perfectionists (non-elite) express lower levels of personal standards compared to perfectionist athletes (Gucciardi et al., 2012) However, having higher standards of

performance, compared to other athletes, is not necessarily problematic unless it is coupled with being overly self-critical of your personal performance (Stoeber & Otto, 2006). For elite athletes sport is a massive part of their lives, therefore they may maintain higher criticisms of themselves because there is more risk involved for them personally.

Furthermore, because elite (professional) athletes compete with their career and livelihood on-the-line, they feel like they must take their engagement with their sport very seriously. This can be attributed to the apparent threats that can prove to be devastating to athletes' careers (i.e. injury, poor performance), resulting in significant potential for losses involving: identity, finances, and reputation. Concerning poor performance, athletes who consistently have to fight for selection on their respective match-day squad will fear for their future job security (Roderick & Schumacker, 2017). Furthermore, athletes who compete at a higher level, but who are also at an age where they may begin to think about transitioning into a career, can have trouble combining their sporting career and professional career (away from competing) together. Research has found that athletes in this situation who present with: extensive sport engagement, inability to explore other career goals, and the belief that their actions do not affect their career outcomes, are connected to lower self-efficacy in making decisions upon future career plans (Brown et al., 2000). Essentially the athlete can be so wrapped-up in their sporting careers, making them unable to effectively prepare for their career prospects after they are done competing in their sport. This is not to say that the athlete does this negligently. As some athletes may accept the risks of directing all their (career-based) focus into sport, knowing that if it does not progress as planned, they may have minimal career options to fall-back on.

Athletes competing at a professional/international level were also seen as engaging in less social activity compared to athletes competing at lower levels. One aspect of this finding included the affordance of more (free) time for the athletes competing at the lower levels. It

has been demonstrated that individuals who have an increased amount of working-time (time working away from sport), are less likely to engage in another time-intensive activity or sport (Breuer et al., 2011). As elite athletes are less likely to have as much time spent working away from their sport, it can be inferred that novice athletes are more likely to engage in less time-intensive social activities, compared to elite athletes who may use their additional time engaged in their sport. However, it can also be noted that elite athletes do not engage in as much social activity because of the increased time constraints that are determined by their sporting environment. This is evidenced within literature, as athletes progressing into higher levels of competition must make sacrifices and compromises regarding their: academic, sporting, and social spheres (Miller & Kerr, 2002). Therefore, maintaining that these spheres can be tended to or neglected accordingly, athletes who wish to compete at the highest level possible in their sport must make sacrifices regarding their academic and social lives.

Furthermore, because of this additional time afforded to athletes at lower levels of competition, these available times are perceived as a "blank slate" where they are freely able to decide on their activities and actions. By having this ability to choose their actions away from sport, these athletes can avoid any potential maladaptive psychological adaptations from prolonged exposure to their sporting environment (Cresswell & Eklund, 2006). Taking this possibility of burnout symptoms to occur, these athletes will attain a heightened sense of autonomy as they are not restricted by as many external regulations (Li et al., 2013), allowing them to maintain independence over any structural constraints exerted upon them. Often times this autonomy of choice can be directed towards any physical or cognitive deficits that they are currently experiencing, so that they are able to effectively recover (Kellmann, 2002). However, while there is more choice and less time constraints associated with athletes at lower levels of competition, the same cannot be said for more elite athletes.

Athletes who are competing at a pro/international level were found to display lower levels of engagement in social activity, partly because of the restrictive nature of their sporting schedule. Because of the timings of trainings and competitions, athletes posited that they are obligated to spend more time away from their friends and family members. During adolescence, athletes who are improving and developing their sporting abilities may be restricted by their parents regarding their engagement in activities outside of sport, such as social outings (Wolfenden & Holt, 2005). Thus, they are having to make sacrifices at an early age, which has the potential to turn into habitual behavior as they progress into adulthood and keep competing. At a later stage, when highly competitive athletes begin to build-up their trainings in preparation for upcoming competitions, they must spend a significant amount of their time focused on their sporting progress and maintenance (Durand-Bush & Salmela, 2002). However, even with the additional time requirement for elite athletes, they still understand the importance of allocating time to spend away from their sport. By developing a recovery strategy plan for personal and away-from-training activities, athletes are able to alleviate any monotony and boredom that they experience with their sporting schedule (Macquet & Skalej, 2015). This type of proactive implementation of social activity allows athletes to maintain a healthy psychological balance of activities by disengaging from the constant pressures and demands from their sporting environment.

Juggling social engagement with trainings and competitions is something elite athletes will always have to account for. Because of this, their ability to equate opportunity costs of various activities becomes important to their attainment of a restful state. By accepting that there are consequences for these athletes' choices, they must make decisions based upon their competing priorities. These subsequent decisions will also have a wider impact upon their own life as well as the lives of their significant other (Lamont et al., 2011). This is a similar yet more drawn-out and socially based process as seen in (Yarrow et al., 2009), where

athletes' specific motor decision movements have trade-offs attached to their action. In this sense, there is a cost and reward for their actions; however, the decision-making process can be developed and conditioned so that that athlete determines the action with the highest predicted reward outcome in (Yarrow et al., 2009). On a more cultural level, athletes who do not conform personal actions in relation to the demands of their sporting environment, may be excluded or ostracised based on the group's required expectations (Carless & Douglas, 2013). Resisting these types of expectations can be a significant cost to the individual's identity as an athlete within this specific team/group. Likewise, if competing at a professional level, athletes in this situation would be jeopardising their selection within the team along with financial support.

Lastly, this study further investigated the variability of rest depending upon the sport type of the athlete. Additional data validated a finding from the second study that team-sport athletes maintain an increased level of engagement in social activities and resting techniques compared to individual-sport athletes. Specifically, team-sport athletes engaged in social activities more because they are presented with a greater opportunity to do so. The ability to create opportunities for positive peer socialisation can be seen as beneficial to athletes' social and personal skills (Macdonald et al., 2011). Likewise, team-sport environments offer a setting in which relationships and interactions are encouraged, making it less difficult for social bonds to be formed (Eys et al., 2019). Presumably, these friendships formed within their specific team-sport environment would extend into social activities experienced outside of this competitive environment as well. Teammates of team-sport athletes also tend to be more sociotropic than athletes competing in individual sports. This is in part due to the increased necessity for interpersonal trust and compliance within team sports in order for a team to be successful (Nia & Besharat, 2010). Therefore, the social interplay within team-

sport environments is more apparent, while the reciprocal (altruistic) support that athletes receive from each other can be seen as inviting towards potential incoming members.

Athletes also demonstrated a certain level of social comfortability when discussing the group dynamic within their team-sport environment. This could be associated with type of the responsibility that the athlete assumes when included within this environment. Along with the social processes that are apparent within team sport environments. On the other hand, individual athletes can perceive themselves as taking too much time away from their sport to engage in more social activity. For these athletes it is then possible for a fear of failure to start developing leading to more perfectionist qualities. This entails the athlete to be cognitively preoccupied with their performance to the point where it can undermine their performance and create a tendency to be dissatisfied with their performance (Flett & Hewitt, 2005). These deleterious effects have the potential to be further exacerbated by lack of choice in engagement, various other competing pressures, and low levels of social support (Gotwals, 2011). This can also contribute to the findings regarding (more competitive) individual sport athletes not wanting to "settle" or be too far away from their sporting environment. Therefore, largely due to the social nature of the individual sport environment, coupled with the perfectionist traits that are reinforced, these athletes are less likely to engage in social activities compared to team sport athletes.

One of the aims of this study was to investigate how the resting experiences of six purposefully selected athletes changed throughout the course of their competitive season. Therefore, this study provides insight towards the experiences of athletes who: are of different gender, compete at various levels of competition, and compete in different sport types (team, individual). Although this study by itself presents the advantage of providing rich and in-depth detail about athletes' personal accounts of rest, it is limited in its generalisability due to the amount of personal accounts recorded. Longitudinal studies also

present the risk of not being completely reliable as participants can unknowingly alter their responses based on their perceived notion of the researcher's objective. However, by combining and considering the methods and subsequent results of the following three studies, there is a balance of quantitative generalisable data, along with descriptive, rich, and in-depth qualitative data. Further research regarding rest can seek to employ a mixed-methods approach to provide increased research validity in this area. Likewise, additional research is required to extend the results from these cumulative studies. I believe this can be done through more diverse methods of inquiry which may include the utilisation of: peer group research, personal diary accounts, and visual aid methods.

In conclusion, in order to better understand the perceptions and values of rest that athletes hold throughout their competitive season, longitudinal and qualitative methods were used to capture the individual nature of athletes' personal experiences of rest. This study also helps comprise the overarching conceptual model of rest that is an accumulation of the three studies within this thesis (Appendix H).

Within this study specifically, it has been posited that athletes maintain and strive for a "restful state of being" which is a fluid process where they attempt to attain cognitive equilibrium. Throughout their competitive season, athletes will experience perceptual changes in their attainment of rest by: having to adapt their personal rest techniques/strategies, experiencing rest deficits, and variations in their ability to "switch-off". These processes can be experienced through: cognitively directing attention away from sport, disengaging from their sporting environment, and pushing-through rest deficits while compensating for them at a later time. It was also imperative for this study to investigate the statistically significant between-group findings generated from the second study. Through this, detail was provided concerning the variability of rest depending on athletes' competition level. Specifically, it was discussed that athletes competing at a more elite level of

performance demonstrated: more organisation and structure of their rest periods, inabilities to disengage from their sport, and less engagement in social activity, than more novice athletes. Further investigation examined the variability of rest depending on sport type and found that team-sport athletes engage in more social activity to rest compared to individual-sport athletes.

Overall, it is maintained that the findings from this study may offer generalisability through its significance and interest involving a variety of contexts within sport science literature. Moreover, literature involving the concepts of: expertise development, recovery, and burnout, to name a few, have been referenced throughout this study. Additionally, these concepts are included within the conceptual model as they understand the need for the cessation activity, while also sharing similar effects and implications upon sport performance and general well-being. Further research within these and other fields of study is needed in order to better understand and clarify rest as a concept.

CHAPTER SIX

General Discussion

Thesis Overview

The primary aim of this thesis was to advance the current understanding and conceptualisation of rest within sport. Further, more specific aims of this thesis included exploring rest from a sport psychology perspective directly and extensively, while also accounting for understandings of rest throughout other academic disciplines. Because of this, studies within this thesis employed qualitative methods in order to understand a collection of individual athletes' understandings and experiences of rest. Another study utilising quantitative methods was employed to identify significant differences between athletes' perceptions of rest, while maintaining generalisability between all three studies. As previous academic understandings of rest have been vague and its reach limited within singular disciplines, this thesis has attempted to alleviate confusion surrounding the term by presenting a psychological understanding of rest. These meanings were analysed in accordance with the personal accounts gathered from three separate studies. As an initial model for accounting for athlete's perceptions and experiences of rest, this thesis identifies some of the perceived effects concerning how rest can affect athletes' sports performance and general well-being.

Understanding rest. Results generated from the studies within this thesis evidence qualitative and quantitative structures of understanding, concerning how various athletes perceive rest. From the 1st study, it can be understood that when athletes choose to rest, they are more likely to transition from a cognitively-intensive activity towards an activity or environment that does not require the same amount of cognitive focus and attention. Thus, the athletes must exercise their ability to "switch-off" from demanding cognitive tasks in order to attain rest. These initial findings were tested quantitatively to utilise a larger and more generalised sample of athletes. Many methods of resting that were collected from the initial study were confirmed as: having been utilised, having been frequently utilised, and

considered restful by the athletes via descriptive statistics. Further quantitative analyses also found significant differences between athletes' perceptions of rest dependent upon their: sport type (team vs individual), and competition level (novice, Uni/national, Pro) (Chapter 4). Purposefully sampled athletes were then interviewed to refine significant findings from the previous two studies, while investigating how athletes' perceptions of rest are altered throughout the course of their competitive season (Chapter 5). Athletes' actions and surrounding environments were seen to contribute to their personal "restful state of being". Furthermore, athletes have to adapt their personal resting techniques depending on what time of the season it is, while also having to experience periods of time where being able to rest is limited, due to other tasks and/or commitments (Chapter 5).

Exploring rest directly and from multiple disciplines. There was an awareness of rest having applicability in numerous different academic disciplines and research within these areas influenced and contributed to discussions within the thesis. Specifically, rest in association with physical recovery and cognitive rest practices are taken into account (Chapter 3); however, in order to create the distinction between physical recovery and cognitive rest, further studies focused on the latter. But this is not to say that athletes did not perceive recovery methods as being restful and that deficits of physical recovery did not contribute to symptoms relating to overtraining and burnout. An association was also discovered between rest and athletes' motor learning and development of skill expertise (Chapters 3 & 5). It is clear that athletes perceive deliberate practice as being a primary contributor to their personal sporting development, but then why cannot deliberate thought, focused upon rest, contribute to athletes' effective attainment of a restful state? This thought is conveyed within the thesis (Chapter 5) and athletes have perceived that cognitive abilities to switch-on and -off from various tasks can be practiced, leading to greater efficiency and potentially mastery. It has also been seen that athletes' rest is influenced by the specific social

and environmental factors that they are exposed to (Chapters 3, 4, & 5). These surroundings can potentially present additional stressors for the athletes, making it more important for a consistent rest equilibrium, allowing them to stay self-determined and maintain a healthy general well-being.

Main Findings and Theoretical Similarities

Findings relating to rest's effects upon athletes' sports performance. Findings from this thesis have made new discoveries into how rest, along with the ability to attain rest is able to affect athletes' sports performance in both a positive and negative manner. Athletes that perceive themselves as attaining adequate amounts of rest have demonstrated that this can contribute to greater sports performance in a number of ways. Although this thesis focuses on rest as a cognitive type of disengagement, initial perceptions from the majority of participants recognise rest as a lack of physical and/or physiological activity (Chapters 3 & 5). These perceptions are recognised by findings within recovery literature, as the perceived lack of rest periods can correlate to imbalances in athletes' equilibrium and symptoms of the overtraining syndrome (Kellmann, 2002). Therefore, by athletes' implementing periodic rest periods throughout their daily and weekly schedules, they are more likely to experience lesser physical fatigue and greater levels of performance (Dababneh et al., 2001). Therefore, it can be seen that there is a clear connection between rest, the recovery process and athletes sporting performance, as athletes' personal rest periods are perceived to contribute to physical and physiological homeostasis.

Aside from physical rest, the ability to cognitively disengage has been seen to be a key factor in contributing to improved sport performance. The process of "switching-off" has been discussed specifically within this thesis (Chapter 5) and is a process which can be improved through increased experience within these situations. Therefore, athletes who have

dealt with having to manage multiple cognitive thoughts can potentially limit unwanted rumination and preoccupation prior to training and/or competition, compared to less-experienced athletes. Relating to research concerning this "switching-off" process, individuals who do not perceive themselves as having adequate rest periods to switch-off have reported that it has a negative impact on their ability to focus on other tasks (Michailidis & Cropley, 2016). This transition of switching-on and –off from certain cognitive thoughts has been described as a "rest rhythm", where the individual constantly moves between states of rest and non-rest (Asp, 2015). This transitory balance between these two states can be regarded as restful, as these periods of time can contribute to memory retention and reflection upon past experiences. Ultimately, if during athletes' sport training a great deal of mental attention is required, these periods of time can be beneficial in developing future performance.

Furthermore, athletes' ability to physically and psychologically disengage from their sporting environment has been perceived to lead to greater sporting performance. Exerted power of scheduling from sport coaches and support staff members can cause distress in athletes which may lead to symptoms of burnout and overtraining with the athletes (Manley et al., 2016). This power inherently means that the athletes have diminished control of where they need/want to be and where their attention should be directed. Over-exposure to these pressurised environments without adequate rest periods can cause lower levels of intrinsic motivation within athletes (Weinberg & Gould, 2014) as they are not able to maintain complete autonomy over their decisions. Therefore, as seen from data sets within this thesis (Chapter 4), athletes generally perceive themselves as being more motivated to perform when given rest periods. On the other hand, inabilities to disengage from their sport has the potential to lead to performance declines.

Findings relating to rest's effects upon athletes' general well-being. It must be noted that in one way or another rest will always affect an athlete's well-being prior to its manifested effect on sports performance. Sporting performance cannot be seen as independent of how an athlete is feeling: physically, mentally and emotionally. Therefore, the presence of rest, or lack thereof, will always influence how athletes perceive their well-being, whether it is consciously thought about or not.

Literature within the domain of physical recovery highlight the need for rest as it pertains to the lack of any physical activity (Kellmann et al., 2018) and thus allowing the physical body to return to homeostasis (Kellmann, 2002). Failure to implement physical rest periods into their schedule can cause athletes to endure multiple deficits impacting upon their well-being, as seen in data collected within chapters 3 and 5 specifically. These deficits have seen to be associated with fatigue and mood disturbances, which are pre-cursing symptoms of the overtraining syndrome (Meeusen et al., 2013). Therefore, what has been suggested up to this point is that athletes seek "complete rest" in order to prevent and avoid these symptoms from occurring (Hausswirth & Mujika, 2013). While there is still no extensive understanding for the prescription to physical rest, the suggestion of physical inactivity presents as an option to prevent increased sport-related fatigue and/or emotional imbalance.

Improving individual motor processes and skill mastery through deliberate practice is consistently discussed alongside sustaining physical practice while exercising high levels of attentional focus in academic literature. However, the processes needed to sustain this improvement are only vaguely mentioned (Ericsson et al., 1993) and the presence of these practices are not directly discussed in relation to its effects upon individual's general well-being. Findings from this study have demonstrated that athletes who are able take their mind off cognitively attentive tasks and activities associated with their sport, find this process restful and, in general, feel like they need these periods of time to re-establish an equilibrium

with their physical and cognitive capacities. This is mirrored in research in occupational literature, as individuals who choose to take an extended rest period show immediate and positive improvements in a multitude of factors concerned with their well-being (Fritz & Sonnentag, 2006). Therefore, as a result of this thesis it is possible to understand that rest periods can have a positive effect upon athletes' general well-being as they are routinely engaged-in deliberate practice.

Lastly, the thesis resulted in new findings regarding the effect that removing an athlete from the environmental/sport surroundings, as a rest period, has upon their general well-being. Many athletes throughout these studies have claimed that being able to "get away" from the intensities and stressors of their sporting environment presents an opportunity for them to cope and manage challenges that may be detrimental to their well-being. This is echoed by current literature that mentions that being able to "switch-off" can extend past their sporting involvement and has applications upon their health more generally (Jones et al., 2002). To do this, it has been seen that athletes seek-out separate social environments and interaction (specifically depicted within study 3). Interaction within these types of environments has been seen to be beneficial for developing individuals' social and personal skills (Macdonald et al., 2011), allowing additional social bonds to be formed which can have a positive effect on athletes' well-being. Overall, athletes can choose to disengage from their sporting environments and choose to rest in order to maintain their current interest levels within their sport, while deciding to not miss-out on other (social) opportunities.

Methodological Strengths

A primary methodological strength of this thesis was the implementation of a grounded theory approach within the first study in order to account for rich and raw perceptions of rest from athletes, unembedded by previous research on the subject. By

choosing to use this method, I have also attempted to adhere to the conditions required (Weed, 2009) to maintain a substantive quality of research. Results of this methodological process allowed for the emergence of themes which are perceived to be contributing factors towards their personal rest. These findings proved to be valuable as they contributed to the construction of questionnaire and interview questions represented in the 2nd and 3rd studies (Chapters 4 & 5).

Another one of the main strengths of this thesis is its utilisation of a mixed-methods approach, allowing for the increased validity of findings from the project as a whole. Numerous sets of qualitative and quantitative data were able to be tapped-into, allowing myself as the researcher to gain multiple perspectives (Cresswell & Plano-Clark, 2017) on how athletes understand and experience rest. While mixed-methods designs are not a new and/or uncommon strategy utilised within research currently, using mixed-methods upon a concept that is relatively unclear and undiscovered has presented itself as a great opportunity to identify and validate new findings that have emerged through analysis.

Strengths and Limitations of the Thesis

Strengths. At face-value, rest can be perceived as a simple term; however, because of the lack of a clear and extensive understanding across multiple academic disciplines, a deliberate and complex approach can be utilised to investigate its meaning. Furthermore, because rest is not grounded extensively in previous research and theory, the freedom to utilise an interdisciplinary approach can be considered as the greatest strength of this thesis. Thus, allowing the researcher to gain valuable insight into a relatively undiscovered subject without maintaining a narrow literary focus. The initial study within this thesis was designed specifically so that emerging information could be collected, through a grounded theory approach. While the following study quantified these initial results while increasing the

validity of the research by making the findings more generalisable, leading to the third study which utilised select variables to determine how rest is perceived by different athletes and changes over time. As a result of the strengths represented within this process, future directions and recommendations have great potential in further developing the conceptualisation of rest.

Delimitations. It should be reinforced that the results generated from this thesis were constructed via a relativist ontological perspective. Therefore, given my inherited knowledge and position within the research process it must be noted that the development of the conceptualisation of rest is a product of multiple shared perceptions. Thus, these results are not conveyed as truths, but the product of methodological approaches utilised by myself as a researcher. This research also focuses most of its attention towards athletes' perceptions of rest rather than perceptions withheld by various other stakeholders in sport. A few coaches and mentors were interviewed within the first study; however, the differences in their perceptions of rest compared to the athletes was not investigated as part of the research aims. Future research could look to discover the different understandings and experiences of rest posited by other stakeholders in sport, in comparison to current athletes.

Limitations. Given my adopted relativist ontological and constructivist epistemological position throughout this research study, it is important to note that my subjectivities and positionality throughout the research process has provided the opportunity for unique, rich, and in-depth data to be collected and interpreted. For this reason, this accumulation of data and findings derived cannot be replicated in any other settings. The effect of my presence as a researcher allowed me to create strong bonds with participants which allowed for greater disclosure of their personal perceptions and values of rest. This valuable information would likely not be experienced by another researcher who chose not to build a strong rapport with the participants and ingratiate themselves within the research

environment. Therefore, an understandable limitation of this research is that the methods and findings cannot be directly transposed to athletes in other various sporting contexts, but rather provides a unique and in-depth contribution to sports psychology research where rest has not been studied in a direct and intensive manner.

While utilising a grounded theory approach within the first study, I found it difficult to separate my personal understandings and values of rest from the initial set of interview data that was collected and analysed. This would be problematic if not addressed appropriately, as personal biases integrated within the construction of findings could compromise the credibility of the findings. In order to prevent this from occurring, I consulted with my supervisor regarding the emerging themes and conceptualisations originating from the data. This event slightly delayed the research process; however, it was necessary in order to maintain an organic and unbiased construction of what rest means to athletes.

A further limitation present within the qualitative studies that were conducted included the similarity of expressed demographic variables of the participants. Most of the participants within these studies were: white, upper/middle-class, and university-educated athletes. Throughout these studies, the potential for differing demographic factors influencing athletes' perceptions of rest and how it can impact upon their sports performance and well-being was not specifically addressed. However, it is understandable that various other athletes outside of this specific community can identify with other demographic factors and may have vastly different experiences of rest. Therefore, it would be unwise not to recognise that demographic factors can play a part in how athletes would answer these questions concerning rest.

Another limitation of this study relates to the reliance on self-report methods, specifically in study 2. As there is quite clearly a physical and cognitive element involved with the experience of rest, more scientific measures associated with cognitive and physiological activity could be utilised to record accurate (non-self-report) quantitative data of rest within these disciplines. Self-report scores within this thesis may have been misconstrued through the use of standard Likert scale measures, as their understandings of rest may not be easily and directly applicable to numbers on a scale. Thus, participants may not have expressed complete honesty and/or patience when completing these self-report measures.

Ethical Considerations

All studies within this thesis attained ethical approval through the academic department's ethical approval process. Appropriate ethical considerations were adopted throughout the research process, with only a few very minor ethical issues cropping up. These issues concerning the potentiality of minor interviewee distress were noted within the ethical approval forms, as a few athletes became emotional when discussing and recollecting their past and current experiences of rest and how it has affected their sporting performance and well-being. The occurrence of these issues was recognised during the initial study and were addressed with sensitivity in order to limit the severity of their emotional distress. During the following interview study (Chapter 5), a greater rapport between the interviewees was established as the longitudinal design ensured three separate interviews throughout their season. Apart from this, participants were informed that they have the right to withdraw from the study at any given time and that they would be participating in the study on the basis of informed consent. Furthermore, participants' anonymity within the research process was maintained throughout, while questionnaire and interview questions were examined and

constructed to ensure the exclusion of any language that could be deemed discriminatory and/or offensive.

Recommendations and Future Directions

Applied Recommendations. A clear and constructed understanding of what rest means within a sporting context can impact how athletes and various other stakeholders in sport apply this practice with their team(s). Notably, sporting organisations have taken a stance that highlights the importance of athletes being able to experience: inclusive, sustainable, and enjoyable participation within their sport, at all levels of competition (Bergeron et al., 2015). In order to adhere to this stance, it must be understood that athletes require time away from their sporting environments and training to maintain a physical, cognitive, and emotional equilibrium.

Furthermore, it remains of utmost importance that athletes are educated on both the positive and negative effects of rest in association with their sporting involvement. When confronted with unwanted stressors, athletes (especially young/unexperienced athletes) who have not been able to effectively develop coping and appraisal strategies (Dugdale et al., 2002), will find it more difficult to keep themselves at ease physically and cognitively. Also, if these situations persist without proper intervention or instruction, athletes can begin to experience symptoms relating to burnout and overtraining (Cresswell & Eklund, 2007). Further exposure without rest and intervention could possibly lead the athlete to withdraw from their sport entirely. Therefore, educating athletes concerning when and how they can rest, in accordance with their personal physiological and cognitive states, will allow them to maintain enjoyment and participation in their sport.

Future Directions. In order to further develop the conceptualisation of rest, quantitative, psychometric tests associated with resting techniques and activities must be

constructed and employed. Within recovery literature, this has been done to measure athletes' physical and mental stress (Kellmann & Kallus, 2001). Likewise, psychometric tests have been conducted to measure individual differences pertaining to individuals' levels of deliberate practice (Grabner et al., 2007). As rest can be viewed as being ingrained within both disciplines, along with disengagement from sporting environments, I believe this merits development of psychometric tests involving rest specifically and directly.

Further insight from self-reports concerning the personal perceptions of the processes involved in athletes' rest should also be an aim for future studies. Much like in research concerning deliberate practice, which has involved individuals longitudinal self-reports of time spent engaged in practice (Ericsson et al., 1993), self-reports given to athletes throughout their competitive season can help determine: the amount of time in which athletes rest, along with the usage rates of various resting techniques and strategies. This research will be useful to determine athletes' individual differences in their resting methods, in association with their lifestyle choices.

Concluding Statement

Rest as it exists currently within sport literature is not a concept that is clearly, directly, and extensively understood in relation to existing concepts and theories. The mixed-methods approach utilised within this thesis makes the first steps towards connecting personal accounts of athletes' rest to established academic constructs. Through extensive analysis, rest can be seen to have interactions within the fields of: recovery and overtraining (Kellmann, 2002, 2010; Kellmann et al., 2018), burnout (Gould et al., 1996; Creswell & Eklund, 2006), motor learning and the development of expertise (Schmidt & Lee, 2013; Ericsson et al., 1993; Shea et al., 2000), and social and environmental factors (Manley et al., 2016; Carless & Douglas, 2013). Results demonstrate that rest has an affiliation within all of these disciplines

as a peripheral term; however, future research concerning rest requires additional clarity in its practice and application. Furthermore, it can be understood that rest has posited an impact upon both athletes' sporting performance and general well-being. Findings from this thesis generate numerous avenues for future research on rest within the subject-areas previously listed. A clearer understanding of rest within sport can contribute to the application of effective and beneficial techniques and practices for athletes and coaches.

Appendix A

Alexander William Kazmier, BA, MA
Newcastle upon Tyne, England - +44 7709 589071 - a.w.kazmier@durham.ac.uk

Education

- **PhD Candidate in Sport Sciences** – The Department of Sport and Exercise Science, Durham University
  Thesis title - The Understanding of "rest" and its effects upon athletes' sport-performance and general well-being
- **MA Socio-Cultural Anthropology (December 2015)** – Department of Anthropology, Durham University
  Dissertation title - The Impact of Drought on Napa Valley's Wine Industry: An Anthropological Perspective
  Received a mark of a 2:1
  Subjects of Interest included: Socio-Cultural Theory, Fieldwork and Interpretation, and Ethnography.
- **BA Social Ecology (December 2013)** - University of California Irvine, Irvine, California, USA
  School of Social Ecology: Social Ecology (major)
  Obtained a minor in Psychology and Social Behavior
  Subjects of Interest included: Psychology, Education, Research Methods
  Obtained a 3.09 GPA
- **El Diamante High School**, California Distinguished School, Visalia, California, USA

Awards & Recognition

2017: Most Outstanding Water Polo Player in the BUCS National Championship
Earned this award for my water polo performance in the 2017 BUCS National Championship

2014-2017: BUCS Water Polo National Champions, Durham University
Led my water polo team to three consecutive BUCS National Championship titles during these three years.

2014-2017: Nominated for Durham University's Sportsman of the Year
Received nominations for sportsman of the year for three consecutive years at Team Durham's annual Palatinate Ball.

2014-Present: Team Durham Postgraduate Scholarship Recipient
Received a one-year scholarship for my sporting and academic ability covering my Masters tuition fees in full (2014-2015), and received a three-year PhD scholarship for my sporting and academic ability covering my PhD tuition fees in full (2015-2018).

2014: BWPL Water Polo Winners of Championship 1, Team Northumbria
Led Team Northumbria to an undefeated record and were crowned champions of the British Water Polo League's Championship 1 division.

2011-2013: MPSF All-Academic Team (Water Polo)

Maintained a cumulative 3.0 gpa while competing in at least fifty percent of our team's water polo matches.

2010-2013: UC Irvine Scholar Athlete

Maintained a cumulative 3.0 gpa while a part of the water polo team.

2009: El Diamante High School, Scholar Athlete of the year

Awarded our high school's scholar athlete of the year for a high-level of sporting performance in three sports (water polo, football, swimming), while also achieving consistent academic marks.

Activities/Experience

Director of Water Polo Operations, Durham University: (2019-present)

Currently ensuring that all aspects of the Durham University Water Polo Programme runs smoothly in a multitude of areas. This includes organisation of: Durham University's six BUCS teams, along with two BWPL National League squads.

Team Durham Administration Assistant, Durham University: (2019-present)

Currently assisting with administrative duties specific to Postgraduate student-athlete recruitment.

Assistant Coach, City of Sheffield Water Polo Club: (2019-present)

Currently an assistant coach for the Sheffield Sharks women's water polo team who compete in the first division of the BWPL.

Durham City Water Polo Senior Head Coach: (2018-present)

Currently in charge of coaching Durham City's senior youth team. During sessions, fundamental techniques of water polo are taught and reinforced.

Seminar Teacher: Introduction to Sport Psychology, Durham University: (2018-2019)

Led first year seminars discussing topics such as: goal setting, motivation, team building, and coping strategies.

PhD Student Durham University: 2015-present

Currently working on completing my Thesis, having conducted numerous studies that investigate athletes' rest and its perceived impact on sport performance and general well-being.

President of the Durham University Water Polo Club: 2015-2018

Was responsible for the organisation of all aspects of the Durham University Water Polo Club. These responsibilities included: ensuring pool availability, organising fixtures, liaising with Team Durham, and leading the club in a fair and impartial manner.

Durham University Water Polo: Player/Coach 2014-2019

Competed as both a player and lead coach for a Durham University water polo squad. Organised team practices and assisted with the men's second team who won their league and gained promotion into a higher tier.

Team Northumbria Water Polo: Player/Coach BWPL 2014-2018

Competed for Team Northumbria as a player while also acting as an assistant coach during practice sessions and fixtures.

Newport Beach Fire Department Internship (2013)

Advanced knowledge on community preparedness, while sharpening time management skills by promptly completing tasks.

Publications

Eccles, D. W., & Kazmier, A. W. (2019). The psychology of rest in athletes: An empirical study and initial model. *Psychology of Sport and Exercise*, *44*, 90-98.

Appendix B

Durham University
School of Applied Social Sciences

REVISED RESEARCH ETHICS AND RISK ASSESSMENT FORM, MAY 2015

SECTION A: INTRODUCTORY INFORMATION

A.1. Name of researcher(s):	Alexander William Kazmier
A.2. Email Address(es) of researcher(s):	a.w.kazmier@durham.ac.uk
A.3. Project Title:	Rest and its Relationships with Athlete Well-being and Sports Performance
A.4. When do you intend to start data collection?	October 2016
A.5. When will the project finish?	October 2018
A.6. *For students only:* **Student ID:**	000632966
Degree, year and module:	Sport Psychology, PhD Candidate year 2, Thesis Study
Supervisor:	Professor David Eccles

A.7. Brief summary of the research questions:

There are several research questions within this study which include: "What does rest mean to you?" What are athletes' understandings and experiences of rest? What are athletes' accounts of the different types of rest periods (e.g., rest periods between training sessions, breaks within a season, post-season, etc.)? What are athletes' perceptions of the benefits of rest? How do athletes know if they are achieving effective rest? What are the barriers to and facilitators of effective rest? To what extent is rest "taken seriously" within the organisational and team culture? What are the most effective ways that athletes can rest? In what ways do athletes perceive rest as being different from recovery? Through the use of open-ended interviews, participants will be asked to describe their lived experiences of rest, and how they believe it has affected their well-being and sporting performance.

A.8. What data collection method/s are you intending you use, and why?

An open-ended interview technique that will begin with the question "What does rest mean to you?" This will be followed by a series of more specific open-ended questions about periods of rest proposed in the research literature (e.g., rest days in weekly training programmes). Elaboration probes will be used to gather more detailed information based on participants' lived experiences and perceptions of rest. Sampling will be purposeful and convenience based. Specifically, the sample will be drawn from current players and coaches of the Durham University women's first team field hockey squad. I have easy access to players and coaches within this programme as an athlete myself, and the performance standard of the players and coaches within this programme is reasonably high, which means that rest will be an important factor affecting athlete performance and well-being.

SECTION B: ETHICS CHECKLIST

While all subsequent sections of this form should be completed for all studies, this checklist is designed to identify those areas where more detailed information should be given. Please note: It is better to identify an area where ethical or safety issues may arise and then explain how these will be dealt with, than to ignore potential risks to participants and/or the researchers.

	Yes	No
a). Does the study involve participants who are *potentially vulnerable*[i]?	☐	☐
b). Will it be necessary for participants to take part in the study without their knowledge/consent (e.g. covert observation of people in non-public places)?	☐	☐
c). Could the study cause harm, discomfort, stress, anxiety or any other negative consequence beyond the risks encountered in normal life?	☐	☐
d) Does the research address a *potentially sensitive topic*[ii]?	☐	☐
e). Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?	☐	☐
f). Are steps being taken to protect anonymity and confidentiality?	☐	☐
g). Are there potential risks to the researchers' health, safety and wellbeing in conducting this research beyond those experienced in the researchers' everyday life?	☐	☐

SECTION C: METHODS AND DATA COLLECTION

C.1. Who will be your research participants?

The study sample will comprise of current players and coaches within the Durham University women's first team field hockey squad.

C.2. How will you recruit your participants and how will they be selected or sampled?

A convenience and purposeful sampling strategy will be used. Participants will be recruited personally by me based on their participation within Team Durham's women's first team hockey squad.

C.3. How will you explain the research to the participants and gain their consent? (If consent will not be obtained, please explain why.)

An information sheet and consent form will be provided to all participants prior to their involvement with the study. These forms will explain the purpose of the study to the participants before also acquiring their consent. Participants will be interviewed individually; that is, on their own and one at a time.

C.4. What procedures are in place to ensure the anonymity and confidentiality of your participants and their responses?

The participant's name and other personal information will never be disclosed beyond the research team, which comprises me and Prof. David Eccles, who is my PhD supervisor, and will never be associated with the interview data provided; instead, an anonymous participant number will be used to index the interview data. Interviews will be audio-recorded and once an interview has been transcribed (i.e., typed into a document), the recording will be erased. Until that time, the recording device will not be accessible by anyone other than me. Any names or places mentioned in the interview will not be transcribed; instead, the word "blank" will be added to the transcript. Any results of the study that include quotes from interviews undertaken within the research will not make mention of any name or place and thus will be anonymous. If within one week following an interview, the interviewed participant would like the data they provided in the interview to be destroyed, they can simply contact me and I will do this immediately; participants will not need to provide a reason for this request.

C.5. Are there any circumstances in which there would be a limit or exclusion to the anonymity/confidentiality offered to participants? If so, please explain further.

No.

C.6. You must attach a participant information sheet or summary explanation that will be given to potential participants in your research.

Within this, have you explained (in a way that is accessible to the participants):	Yes	No
a). What the research is about?	■	☐
b). Why the participants have been chosen to take part and what they will be asked to do?	■	☐
c). Any potential benefits and/or risks involved in their participation?	■	☐
d) What levels of anonymity and confidentiality will apply to the information that they share, and if there are any exceptions to these?	■	☐
e). What the data will be used for?	■	☐
f). How the data will be stored securely?	■	☐
g). How they can withdraw from the project?	■	☐
h). Who the researchers are, and how they can be contacted?	■	☐

SECTION D: POTENTIAL RISKS TO PARTICIPANTS

You should think carefully about the risks that participating in your research poses to participants. Be aware that some subjects can be sensitive for participants even if they are not dealing explicitly with a 'sensitive' topic. Please complete this section as fully as possible and continue on additional pages if necessary.

What risks to participants may arise from participating in your research?	**How likely is it that these risks will actually happen?**	**How much harm would be caused if this risk did occur?**	**What measures are you putting in place to ensure this does not happen (or that if it does, the impact on participants is reduced)?**
1. Possibly low levels of discomfort, perhaps from recalling instances when not achieve enough rest was obtained.	Likely	Temporary and low levels of discomfort.	As stated in the information sheet, participants will have the right to withdraw from the interview at any time and without providing a reason; they are also able to ask for their interview data to be destroyed within one week after the interview date and without providing a reason.
2.			
3			

SECTION E: POTENTIAL RISKS TO RESEARCHERS

You should think carefully about any hazards or risks to you as a researcher that will be present because of you conducting this research. Please complete this section as fully as possible and continue on additional pages if necessary. Please include an assessment of any health conditions, injuries, allergies or intolerances that may present a risk to you taking part in the proposed research activities (including any related medication used to control these), or any reasonable adjustments that may be required where a disability might otherwise prevent you from participating fully within the research.

1. Where will the research be conducted/what will be the research site?

.

In a quiet and confidential location at The Graham Sports Centre (aka Maiden Castle) on Stockton Road. This is the university's sport complex.

What hazards or risks to you as a researcher may arise from conducting this research?	**How likely is it that these risks will actually happen?**	**How much harm would be caused if this risk did happen?**	**What measures are being put in place to ensure this does not happen (or that if it does, the impact on researchers is reduced)?**
1. None			

SECTION F: OTHER APPROVALS

	Yes, document attached	Yes, documents to follow	No
a). Does the research require ethical approval from the NHS or a Social Services Authority? If so, please attach a copy of the draft form that you intend to submit, together with any accompanying documentation.	☐		■
b). Might the proposed research meet the definition of a *clinical trial*[iii]? (If yes, a copy of this form must be sent to the University's Insurance Officer, Tel. 0191 334 9266, for approval, and evidence of approval must be attached before the project can start).	☐		■
c). Does the research involve working data, staff or offenders connected with the National Offender Management Service? If so, please see the guidance at https://www.gov.uk/government/organisations/national-offender-management-service/about/research and submit a copy of your proposed application to the NOMS Integrated Application System with your form.	☐		■
d). Does the project involve activities that may take place within Colleges of Durham University, including recruitment of participants via associated networks (e.g. social media)? (If so, approval from the Head of the College/s concerned will be required after SASS approval has been granted – see guidance notes for further details)		☐	■
e). Will you be required to undertake a Disclosure and Barring Service (criminal records) check to undertake the research?	☐	☐	■
f) I confirm that travel approval has or will be sought via the online approval system at http://apps.dur.ac.uk/travel.forms for all trips during this research which meet the following criteria: **For Students travelling away from the University, this applies where travel is not to their home and involves an overnight stay.**	Yes ☐		No ■

SECTION G: SUBMISSION CHECKLIST AND SIGNATURES

When submitting your ethics application, you should also submit supporting documentation as follows:

Supporting Documents	Included (Tick)
Fully Completed Research Ethics and Risk Assessment Form	YES
Interview Guide (if using interviews)	YES
Focus Group Topic Guide (if using focus groups)	-
Questionnaire (if using questionnaires)	-
Participant Information Sheet or Equivalent	YES
Consent Form (if appropriate)	YES
For students only: Written/email confirmation from all agencies involved that they agree to participate, also stating whether they require a DBS check. If confirmation is not yet available, please attach a copy of the letter that you propose to send to request this; proof of organisational consent must be forwarded to your Programme Secretary before any data is collected.	-

Please indicate the reason if any documents cannot be included at this stage:

(Please note that any ethics applications submitted without sufficient supporting documentation will not be able to be assessed.)

Signatures

Researcher's Signature:

Date:

Supervisor's Signature (PGR students only):

Date:

Please keep a copy of your approved ethics application for your records.

If you decide to change your research significantly after receiving ethics approval, you must submit a revised ethics form along with updated supporting documentation before you can implement these changes.

PART F: OUTCOME OF THE APPLICATION

Reject The application is incomplete and/or cannot be assessed in its current format. Please complete the application fully.	
Revise and Resubmit The application cannot be approved in its current format. Please revise the application as per the comments below. Please complete the application fully.	
Approved, with Set Date for Review The application is approved and you may begin data collection. A date for further review of the project as it develops has been set to take place on: _____ The anticipated nominated reviewer will be:_____	
Approved The application is approved and you may begin data collection.	

Comments:

I approve this Ethics and Risk Assessment application and I have no conflict of interest to declare.

First Reviewer's Signature:

First Reviewer's Name:

First Reviewer's Role:

Date:

If applicable:

I approve this Ethics and Risk Assessment application and I have no conflict of interest to declare.

Second Reviewer's Signature:

Second Reviewer's Name:

Second Reviewer's Role:

Date:

Appendix C

Information Sheet

Alexander Kazmier, a.w.kazmier@durham.ac.uk

PhD Candidate, Sport Psychology Dissertation Research

Supervisor: Professor David Eccles

- Study Title
  Rest and its Relationships with Athlete Well-being and Sports Performance

- Purpose of this Research Study and Information about the Confidentiality of the Data Collected within the Study

  The purpose of this research is to advance the current understanding of athlete rest and its relationships with athlete performance and well-being, with considerations of how rest is understood by various stakeholders in sport operating at the individual, organisational, and cultural levels.

  Your participation in this study has been sought based on your participation with Durham University's women's hockey 1st team. The high-level of performance exhibited by your team along with the substantial squad size will allow for the collection of a rich data-set. You will be interviewed in this study and the interview is most likely to last between 30 and 90 minutes. Your name and any other personal information you provide will never be disclosed beyond the research team, which comprises me and Prof. David Eccles, who is my dissertation supervisor, and will never be associated with the interview data you provide; instead, an anonymous participant number (e.g., P1) will be used to index your data. Your interview will be audio-recorded and once your interview has been transcribed (i.e., typed into a document), it will be securely stored onto my computer and kept password protected. Until that time, the recording device will not be accessible by anyone other than me. Likewise, no one will be granted access to the interview transcriptions stored on my computer other than myself and the research team. Any names or places that you mention in the interview will not be transcribed; instead, the word "blank" will be added to the transcript. You are able to withdraw: prior to, during, and at any time up to seven days after the interview, and without providing a reason. The risks to you of participating in the interview are low but it is possible that you may experience some anxiety discussing issues concerning your sport that are important to you; again, if you wish to stop talking about any issue or want to stop the interview altogether, please simply say so. Any results of the study that include quotes from interviews undertaken within the research will not make mention of any name or place and thus will be anonymous. Permission will be sought to retain recordings and transcriptions securely based on the possibility for future re-use; however, if within seven days following your interview you would like the data you provided in the interview to be destroyed, simply contact the researchers who will do this immediately. Thank you in advance for your participation.

Consent Form

Have you read the Information Sheet?	Yes/No
Have you had an opportunity to ask the research any questions you may have about the study?	Yes/No
Were the answers to your questions satisfactory?	Yes/No
Do you feel as if you have received a sufficient amount of information about the study?	Yes/No
Are you aware that your interview may be recorded with a recording device, and if so do you give consent to the researcher to use this information?	Yes/No
Are you aware that you have the right to withdraw from the study, and without having to give a reason for withdrawing?	Yes/No

Signed……

Date…….

(Name in Block Letters)……..

Appendix D

Study 1 Interview Guide (The guide wording here is tailored for players, not coaches; slight wording changes will be made when interviewing coaches, but no meaningful changes will be made to the questions/probes, etc.)

Purpose of this Study

"The purpose of this research study is to identify what rest means to athletes, and what experiences of rest athletes have."

Part 1. Participant's Constructions of Rest

1. What does rest mean to you?
    a. Allowing the interviewee to provide their own interpretations of rest.

        [Elaboration probes will be used; along with prompts for participants to recall real experiences]

        Elaboration probes

        - Can you tell me more about that?
        - Can you give an example?
        - When you say, [term or phrase], what are you actually doing?
        - What do you mean by [term or phrase]?

        Prompts to provide recall of specific experiences

        - Can you recall specific memories of this happening?
        - Why does this specific moment stand out?
        - Can you recall a real instance of this?
        - When was the last time this happened?
        - Can you describe this for me?

Part 2. Rest within a typical competition week

Now I would like to ask you about opportunities for rest within a typical week during the competitive season. Typically, these opportunities include the time between individual training sessions and/or matches, which sometimes include an entire rest day or rest days.

1. First, can you tell me about what opportunities you have to obtain rest within a typical competitive week?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

2. How do these opportunities for rest help you as an athlete?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

3. When you are getting some rest in a typical week, what exactly are you resting from, would you say?

   [Elaboration probes and prompts will be used to recall real experiences, specifically involving the following four key areas]

   i. Social rest, where an athlete seeks time away from teammates and others associated with their sport.
   ii. Physical rest, where the individual seeks to restore homeostasis.
   iii. Motivational and emotional rest, where an athlete seeks a break from certain feelings (e.g. stress, boredom) associated with their sport.
   iv. Cognitive rest, where the athlete seeks to stop thinking about, and concentrating on aspects of their sport.

4. What do you actually do in order to get some rest?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

5. To what extent are you given directions from your coach or other sports staff about what rest means and thus exactly how you should rest?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

6. What is the most effective way to achieve high-quality rest, in your experience?
   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

7. What are barriers to achieving effective rest within a typical competitive week? In other words, what "gets in the way"?
   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

8. How do you try to make sure you rest effectively, if you try at all?
   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

9. How do you know when it is time to get some rest?
   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

10. To what extent would you say that rest is taken seriously by your coach, in the same way that I assume training is taken seriously?
    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

11. To what extent is rest taken seriously by your teammates?
    [Elaboration probes and prompts will be used to recall real experiences]

12. Can you recall any specific experiences where you feel you were able to achieve effective rest?
    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

13. Can you recall any instances where you feel you were unable to achieve rest effectively?
    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

Part 3. Rest within the off-season

For many athletes, it is often considered that the off-season provides opportunities to rest that are not available in either the pre-season or the competitive season. I will now ask you about this larger opportunity for rest that is the off-season.

1. First, can you tell me about what opportunities you have to obtain rest within the off-season?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

2. How do these opportunities for rest help you as an athlete?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

3. When you are getting some rest in the off-season, what exactly are you resting from, would you say?

   [Elaboration probes and prompts will be used to recall real experiences, specifically involving the following four key areas]

   i. Social rest, where an athlete seeks time away from teammates and others associated with their sport.
   ii. Physical rest, where the individual seeks to restore homeostasis.
   iii. Motivational and emotional rest, where an athlete seeks a break from certain feelings (e.g. stress, boredom) associated with their sport.
   iv. Cognitive rest, where the athlete seeks to stop thinking about, and concentrating on aspects of their sport.

4. What do you actually do in order to get some rest following the completion of the competitive season?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

5. To what extent are you given directions from your coach or other sports staff about what rest means and thus exactly how you should rest during the off-season?

[Elaboration probes will be used; along with prompts for participants to recall real experiences]

6. What is the most effective way to achieve high-quality rest in the off-season, based on your experiences?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

7. What are barriers to achieving effective rest within the off-season? In other words, what "gets in the way"?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

8. How do you try to make sure you rest effectively after finishing your competitive season, if you try at all? How does this change, if at all, compared to rest within your competitive season?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

9. How do you know when it is time to get some rest during the off-season?

   [Elaboration probes will be used; along with prompts for participants to recall real experiences]

10. To what extent would you say that rest is taken seriously or acknowledged by your coach in the off-season, in the same way that I assume that rest may be taken seriously in the competitive season?

    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

11. To what extent is rest taken seriously by your teammates in the off-season?

    [Elaboration probes and prompts will be used to recall real experiences]

12. Can you recall any specific experiences where you feel you were able to achieve effective rest in the off-season?

    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

13. Can you recall any instances where you feel you were unable to achieve rest effectively in the off-season?

    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

Final Question

We have been talking about rest during the competitive season and the off-season. In talking about rest in these contexts, a term used in relation to rest is “recovery”. In your mind, how is rest different from recovery, if they are different at all?

[Elaboration probes will be used; along with prompts for participants to recall real experiences]

Appendix E

Effects of rest on athletes (copy)

Page 1

Introduction

It is believed that the ability of athletes to attain adequate rest contributes to their physical and mental functioning. However, few studies investigate athletes' personal perceptions of their own resting techniques and strategies. Your participation in this study will help to develop an understanding of rest as a specific topic.

1. This survey is expected to take between 10 and 15 minutes to complete, and consists of five sections. All responses will remain anonymous and will never be disclosed beyond the research team and will remain confidential in accordance with the ethical standards of the School of Applied Social Sciences at Durham University. By agreeing below, you consent to take part in this study.

- I agree

Page 2: Background information

Please fill in the following information about yourself.

2. Sex:

3. Age:

4. Main sport (e.g., basketball):

5. Highest level of competition played:

Page 3: Recognition of physical and mental rest

6. Please select the response which is most appropriate for you.

Please don't select more than 1 answer(s) per row.

	1 = Strongly disagree	2 = Somewhat disagree	3 = Neither agree or disagree	4 = Somewhat agree	5 = Strongly agree
Rest involves a lack of cognitive activity.	☐	☐	☐	☐	☐
Rest involves a lack of physical activity.	☐	☐	☐	☐	☐
I need to rest from my sport specifically.	☐	☐	☐	☐	☐
I am able to attain adequate amounts of rest.	☐	☐	☐	☐	☐
I find it difficult to mentally "switch-off" from the demands of my sport.	☐	☐	☐	☐	☐

Page 4: Variation in extent to which athletes engage in rest

7. Please select the response which is most appropriate for you.

Please don't select more than 1 answer(s) per row.

	1 = Strongly disagree	2 = Somewhat disagree	3 = Neither agree or disagree	4 = Somewhat agree	5 = Strongly agree
Athletes that compete in the same sport as me get enough rest.	☐	☐	☐	☐	☐
My coaching staff prescribes how me and my teammates should rest.	☐	☐	☐	☐	☐
My coaching staff allows me enough time away from my sport to rest.	☐	☐	☐	☐	☐
Finding what works best for me contributes to my attainment of adequate rest.	☐	☐	☐	☐	☐

Page 5: Variation in extent to which athletes engage in rest continued:

8. Which of these techniques do you personally use to rest? (Check all that apply)

- [ ] Disengaging from Sport-Related Activities
- [ ] Relaxing
- [ ] Engaging in Social Activity
- [ ] Sleep
- [ ] Watching TV/Films
- [ ] Going on Holiday
- [ ] Spending Time with Family Exercise
- [ ] Laying in Bed
- [ ] Being Alone
- [ ] Reading
- [ ] Surfing the Internet
- [ ] Taking a Bath/Shower
- [ ] Listening to Music Cooking
- [ ] Shopping
- [ ] Other
- [ ]
- [ ]

8.a. If you selected Other, please specify:

Page 6: Variation in extent to which athletes engage in rest continued:

9. The following activities contribute to your personal rest.

Please don't select more than 1 answer(s) per row.

	1 = Strongly disagree	2 = Somewhat disagree	3 = Neither agree or disagree	4 = Somewhat agree	5 = Strongly agree
Disengaging from Sport-Related Activities	☐	☐	☐	☐	☐
Relaxing	☐	☐	☐	☐	☐
Engaging in Social Activity	☐	☐	☐	☐	☐
Sleep	☐	☐	☐	☐	☐
Watching TV/Films	☐	☐	☐	☐	☐
Going on Holiday	☐	☐	☐	☐	☐
Spending Time with Family	☐	☐	☐	☐	☐
Exercise	☐	☐	☐	☐	☐
Laying in Bed	☐	☐	☐	☐	☐
Being Alone	☐	☐	☐	☐	☐
Reading	☐	☐	☐	☐	☐
Surfing the Internet	☐	☐	☐	☐	☐
Taking a Bath/Shower	☐	☐	☐	☐	☐
Listening to Music	☐	☐	☐	☐	☐
Cooking	☐	☐	☐	☐	☐
Shopping	☐	☐	☐	☐	☐

Page 7: Variation in extent to which athletes engage in rest continued:

10. How often do you engage in these resting activities?

Please don't select more than 1 answer(s) per row.

	1 = Never	2 = Rarely	3 = Sometimes	4 = Often	5 = Always
Disengaging from Sport-Related Activities	☐	☐	☐	☐	☐
Relaxing	☐	☐	☐	☐	☐
Engaging in Social Activity	☐	☐	☐	☐	☐
Sleep	☐	☐	☐	☐	☐
Watching TV/Films	☐	☐	☐	☐	☐
Going on Holiday	☐	☐	☐	☐	☐
Spending Time with Family	☐	☐	☐	☐	☐
Exercise	☐	☐	☐	☐	☐
Laying in Bed	☐	☐	☐	☐	☐
Being Alone	☐	☐	☐	☐	☐
Reading	☐	☐	☐	☐	☐
Surfing the Internet	☐	☐	☐	☐	☐
Taking a Bath/Shower	☐	☐	☐	☐	☐
Listening to Music	☐	☐	☐	☐	☐
Cooking	☐	☐	☐	☐	☐
Shopping	☐	☐	☐	☐	☐

Page 8: Time management and organisation

11. Please select the response which is most appropriate for you.

Please don't select more than 1 answer(s) per row.

	1 = Strongly disagree	2 = Somewhat disagree	3 = Neither agree or disagree	4 = Somewhat agree	5 = Strongly agree
I am able to organise and manage my time in order to facilitate rest.	☐	☐	☐	☐	☐
I use time management and organisation techniques in order to facilitate adequate rest.	☐	☐	☐	☐	☐
I believe that a lack of rest overnight affects my mental focus.	☐	☐	☐	☐	☐
Unexpected events affect my rest.	☐	☐	☐	☐	☐

Page 9: Time management and organisation continued:

12. What time management and organisation techniques do you use in order to facilitate rest? (Check all that apply)

- [ ] Meeting deadlines
- [ ] Setting alarms
- [ ] Setting aside time for work
- [ ] Maintaining a consistent bed-time
- [ ] Making a schedule for the week
- [ ] Making a daily schedule
- [ ] Organising rest periods
- [ ] Planning-out meals (Meal Preparation)
- [ ] Managing your social life
- [ ] Not leaving things until the last minute
- [ ] Keeping a diary
- [ ] Other

12.a. If you selected Other, please specify:

Page 10: Time management and organisation continued:

13. The following activities contribute to your personal rest.

Please don't select more than 1 answer(s) per row.

	1 = Strongly disagree	2 = Somewhat disagree	3 = Neither agree or disagree	4 = Somewhat agree	5 = Strongly agree
Meeting deadlines	☐	☐	☐	☐	☐
Setting alarms	☐	☐	☐	☐	☐
Setting aside time for work	☐	☐	☐	☐	☐
Maintaining a consistent bedtime	☐	☐	☐	☐	☐
Making a schedule for the week	☐	☐	☐	☐	☐
Making a daily schedule	☐	☐	☐	☐	☐
Organising rest periods	☐	☐	☐	☐	☐
Planning-out meals (Meal Preparation)	☐	☐	☐	☐	☐
Managing my social life	☐	☐	☐	☐	☐
Not leaving things until the last minute	☐	☐	☐	☐	☐
Keeping a diary	☐	☐	☐	☐	☐

Page 11: Time management and organization continued:

14. How often do you engage in these activities?

Please don't select more than 1 answer(s) per row.

	1 = Never	2 = Rarely	3 = Sometimes	4 = Often	5 = Always
Meeting deadlines	☐	☐	☐	☐	☐
Setting alarms	☐	☐	☐	☐	☐
Setting aside time for work	☐	☐	☐	☐	☐
Maintaining a consistent bedtime	☐	☐	☐	☐	☐
Making a schedule for the week	☐	☐	☐	☐	☐
Making a daily schedule	☐	☐	☐	☐	☐
Organising rest periods	☐	☐	☐	☐	☐
Planning-out meals (Meal Preparation)	☐	☐	☐	☐	☐
Managing your social life	☐	☐	☐	☐	☐
Not leaving things until the last minute	☐	☐	☐	☐	☐
Keeping a diary	☐	☐	☐	☐	☐

Page 12: Effects of rest periods and affordance of rest on the motivation of athletes

15. Please select the response which is most appropriate for you.

Please don't select more than 1 answer(s) per row.

	1 = Strongly disagree	2 = Somewhat disagree	3 = Neither agree or disagree	4 = Somewhat agree	5 = Strongly agree
Rest periods re-motivate me to go back to my sport.	☐	☐	☐	☐	☐
Inabilities to disengage from my sport contributes to performance declines.	☐	☐	☐	☐	☐
I am given enough rest, so that I am refreshed and eager to return to my sport.	☐	☐	☐	☐	☐
I believe that I am more motivated to perform in my sport when I am rested.	☐	☐	☐	☐	☐

Page 13

This is the end of the survey.

Thank you for your participation.

Appendix F

Information Sheet

Alexander Kazmier, a.w.kazmier@durham.ac.uk

PhD Candidate, Sport Psychology Dissertation Research

Supervisor: Professor Martin Roderick

- Thesis Title
  Rest and its Relationships with Athlete Well-being and Sports Performance

- Purpose of this Research Study and Information about the Confidentiality of the Data Collected within the Study

  The purpose of this research is to advance the current understanding of athlete rest with considerations of how rest is understood by various stakeholders in sport operating at the individual, organisational, and cultural levels. This study adopts a longitudinal design in order to observe possible changes in athletes' perceptions of rest over time.

  You will be interviewed three separate times for this study and the interviews are most likely to last between 20 and 30 minutes each. Your name and any other personal information you provide will never be disclosed beyond the research team, which comprises me and Prof. Martin Roderick, who is my dissertation supervisor, and will never be associated with the interview data you provide; instead, an anonymous participant number (e.g., P1) will be used to index your data. Your interview will be audio-recorded and once your interview has been transcribed (i.e., typed into a document), your interview recording will be erased. Until that time, the recording device will not be accessible by anyone other than me. Any names or places that you mention in the interview will not be transcribed; instead, the word "blank" will be added to the transcript. You are able to withdraw from the interview at any time and without providing a reason. The risks to you of participating in the interview are low but it is possible that you may experience some anxiety discussing issues concerning your sport that are important to you; again, if you wish to stop talking about any issue or want to stop the interview altogether, please simply say so. Any results of the study that include quotes from interviews undertaken within the research will not make mention of any name or place and thus will be anonymous. If at any time following your interview you would like the data you provided in the interview to be destroyed, simply contact the researchers who will do this immediately. Thank you in advance for your participation.

Consent Form

Have you read the Information Sheet?	Yes/No
Have you had an opportunity to ask the research any questions you may have about the study?	Yes/No
Were the answers to your questions satisfactory?	Yes/No
Do you feel as if you have received a sufficient amount of information about the study?	Yes/No
Are you aware that your interview may be recorded with a recording device, and if so, do you give consent to the researcher to use this information?	Yes/No
Are you aware that you have the right to withdraw from the study at any time, and without having to give a reason for withdrawing?	Yes/No

Signed……

Date…….

(Name in Block
Letters) ……...

Appendix G

Interview Guide

It is recognised that athletes have perceptions of rest that may not be equally shared by athletes of varying: gender, sport type, and competition level. However, the fluctuation and value of these specific athletes' perceptions concerning rest has not been studied directly over the course of their competitive season. I will now ask you about your perceptions of rest that you currently hold at this point in time in your competitive season.

11. Are you able to attain adequate amounts of rest?

    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

12. Does your coaching staff prescribe how you and your teammates should rest?

    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

13. Does your coaching staff allow you enough time away from your sport to rest?

    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

14. Does finding out what works best for you contribute to your attainment of rest?

    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

15. Do inabilities to disengage from your sport contribute to performance declines?

    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

16. Do you believe that you are more motivated to perform in your sport when you are rested?

    [Elaboration probes will be used; along with prompts for participants to recall real experiences]

17. Do you consider spending time with family as being restful?

[Elaboration probes will be used; specifically, probes addressing the: usage, contribution, and frequency of use of these techniques will be utilised]

18. Do you consider laying in bed as being restful?

[Elaboration probes will be used; specifically, probes addressing the: usage, contribution, and frequency of use of these techniques will be utilised]

19. Do you consider cooking as being restful?

[Elaboration probes will be used; specifically, probes addressing the: usage, contribution, and frequency of use of these techniques will be utilised]

20. Do you consider shopping as being restful?

[Elaboration probes will be used; specifically, probes addressing the: usage, contribution, and frequency of use of these techniques will be utilised]

11. Do you consider reading as being restful?

[Elaboration probes will be used; specifically, probes addressing the: usage, contribution, and frequency of use of these techniques will be utilised]

12. Does setting alarms help you attain rest?

[Elaboration probes will be used; specifically, probes addressing the: usage, contribution, and frequency of use of these techniques will be utilised]

13. Does maintaining a consistent bedtime help you to achieve rest?

[Elaboration probes will be used; specifically, probes addressing the: usage, contribution, and frequency of use of these techniques will be utilised]

14. Does setting aside time for work help you attain rest?

[Elaboration probes will be used; specifically, probes addressing the: usage, contribution, and frequency of use of these techniques will be utilised]

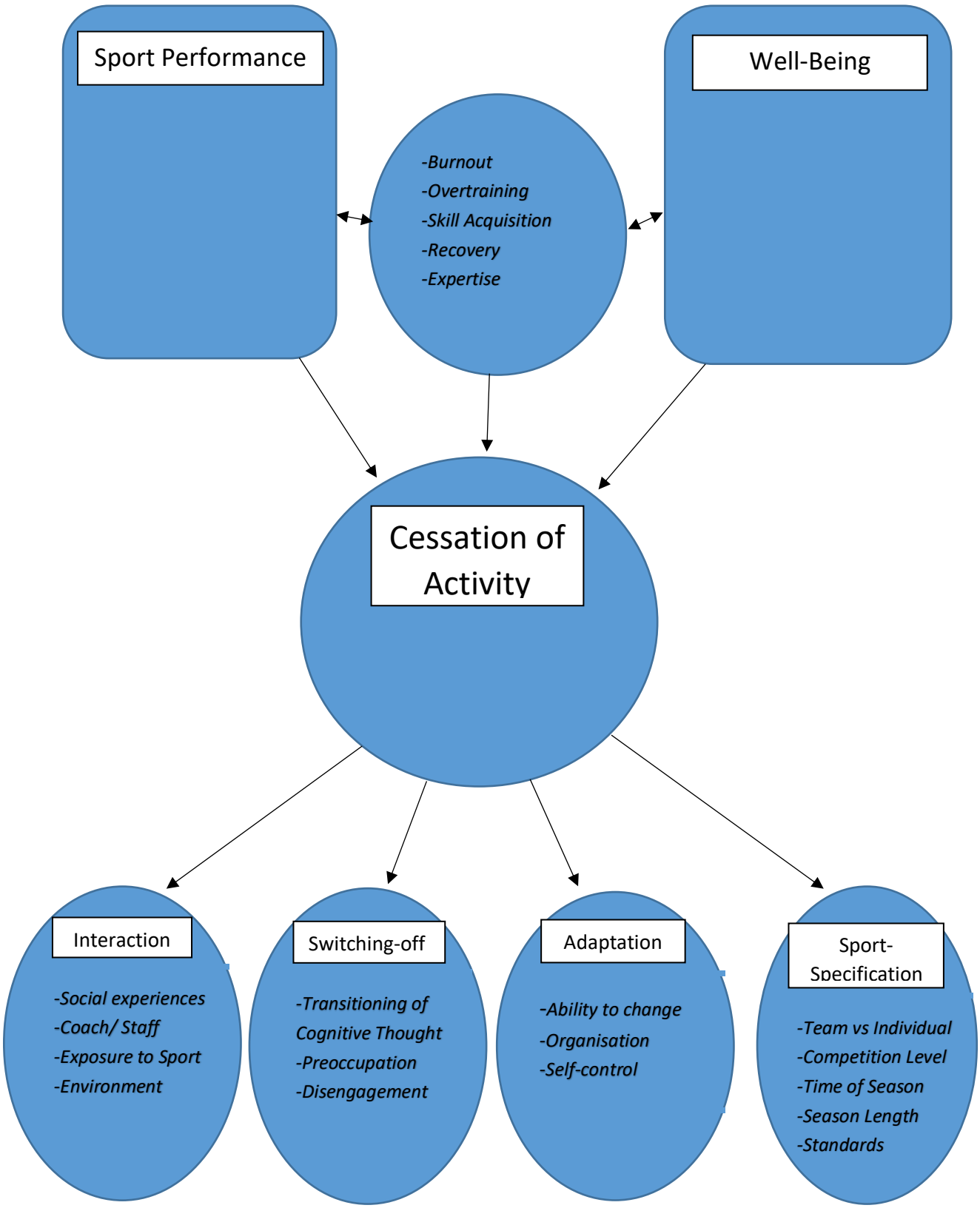
15. Does making a schedule for the week help you attain rest?

    [Elaboration probes will be used; specifically, probes addressing the: usage, contribution, and frequency of use of these techniques will be utilised]

16. Does keeping a diary help you attain rest?

    [Elaboration probes will be used; specifically, probes addressing the: usage, contribution, and frequency of use of these techniques will be utilised]

Appendix H


Sport Performance
Well-Being
-Burnout
-Overtraining
-Skill Acquisition
-Recovery
-Expertise
Cessation of Activity
Interaction
-Social experiences
-Coach/ Staff
-Exposure to Sport
-Environment
Switching-off
-Transitioning of Cognitive Thought
-Preoccupation
-Disengagement
Adaptation
-Ability to change
-Organisation
-Self-control
Sport-Specification
-Team vs Individual
-Competition Level
-Time of Season
-Season Length
-Standards

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