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Is mindfulness a part of the mental capacity in high-level Norwegian individual sport athletes?

An interview study about high-level ultra-distance triathlon athletes self-regulation during training and competition.

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Abstract

Introduction: The difference between success and failure has become increasingly smaller in sport (Birrer & Morgan, 2010). While sport psychology relied mainly on “second wave” cognitive-behavioural interventions for the last four decades, a new direction has recently been suggested. A “third wave” approach in sport psychology, including mindfulness, assumes that ideal performance is a state that is not based on self-control or change in behaviour, but rather a state that arises from recognition and acceptance of thoughts, emotions and bodily sensations (Gardner & Moore, 2004). Experiencing being in the moment, here and now, free from any form for evaluation.

Aim of the study: This research project investigated how elite-level triathletes use aspects of mindfulness in training and competition (e.g. Thienot et al., 2012b) such as meta-awareness, acceptance and refocusing strategies. Mindfulness in sports is a recent field and the contemporary tenets need to be tested for validity. This study assessed whether a mindfulness approach is in line with athletes’ practice, and tested how suitable a mindfulness definition may be suitable for sport.

Method: Five Norwegian ultra-distance triathletes ($M = 37,6$ years) competing at the highest level, were asked in a semi-structured interview to reflect on key aspects of self-regulation and self-awareness in training and competition. The athletes stories were analysed through case-focused and issue-focused analyses.

Results: Study findings yielded that high-level triathletes consciously and actively focused on being in the present. Meta-awareness and effective refocusing were identified as important factors in training and competition. Refocusing strategies used by the athletes varied based on the situation. Short-term goals and process oriented tasks we identified as strategies that kept goal relevant cues in focus. At the end of competitions and hard workouts self-talk and imagery were characterized as critical. Acceptance did not appear to be as important of a strategy for the athletes, and its function may not be as salient in triathlon.

Conclusion: High-level triathletes are mindful in training and in competition. Their degree of mindfulness is perceived to have a positive effect on performance.

Key-words: Ultra-distance triathlon, mindfulness, self-regulation, sport performance.

Table of Contents

| | |
|---|-----------|
| Abstract..... | 3 |
| Table of Contents | 5 |
| Acknowledgement..... | 7 |
| 1.0 Introduction..... | 8 |
| 1.1 Study Purpose | 9 |
| 1.2 Theoretical Framework..... | 10 |
| 2.0 Literature Review | 10 |
| 2.1 Mindfulness | 12 |
| 2.1.1 History of Mindfulness | 12 |
| 2.1.2 Mindfulness and Learning | 14 |
| 2.2 From “Second Wave” to “Third wave” | 15 |
| 2.3 Mindfulness in Sport | 16 |
| 2.3.1 Operational Definition | 16 |
| 2.3.2 Mindfulness-Acceptance-Commitment Approach..... | 17 |
| 2.3.3 Thienot’s Definition on Mindfulness..... | 19 |
| 2.3.4 Mindfulness in Sports | 19 |
| 2.4 Objectives | 23 |
| 3.0 Study Methodology | 24 |
| 3.1 Participants..... | 24 |
| 3.2 Develop an Interview Guide..... | 25 |
| 3.3 Confidentiality..... | 26 |
| 3.4 Procedures | 26 |
| 3.5 Data Analysis..... | 27 |
| 3.6 Validity..... | 29 |
| 3.7 Reliability..... | 30 |
| 3.8 Ethical Considerations | 31 |
| 4.0 Empirical Results..... | 33 |
| 4.1 Use of Mindfulness..... | 33 |
| 4.1.1 Meta-awareness | 34 |
| 4.1.2 Accept | 38 |
| 4.1.3 Refocus | 40 |

| | | |
|------------|--|-----------|
| 4.2 | Mindfulness in Training and Competition | 42 |
| 4.2.1 | Meta-awareness | 42 |
| 4.2.2 | Acceptance..... | 43 |
| 4.2.3 | Refocus | 44 |
| 4.3 | Degree of Mindfulness Components..... | 46 |
| 4.3.1 | Meta-awareness | 46 |
| 4.3.2 | Acceptance..... | 47 |
| 4.3.3 | Refocus | 48 |
| 5.0 | Discussion of the Results | 51 |
| 5.1 | Use of Mindfulness..... | 51 |
| 5.2 | Mindfulness in Training and Competition | 53 |
| 5.2.1 | Meta-awareness | 53 |
| 5.2.2 | Acceptance..... | 54 |
| 5.2.3 | Refocus | 54 |
| 5.3 | Degree of Mindfulness Components..... | 54 |
| 5.4 | Mindfulness Definition | 57 |
| 5.5 | The Need of Mindfulness..... | 58 |
| 5.6 | Discussion of Source of Error | 59 |
| 5.7 | Future Direction..... | 60 |
| | References | 65 |
| | List of Figures..... | 71 |
| | Abbreviations | 72 |
| | Appendices | 73 |

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1. Introduction

Common for top-level sport is the pursuit for that little extra element to increase performance (Gooding & Gardner, 2009). In today's professional sports the difference between winning and failure is becoming increasingly smaller (Birrer & Morgan, 2010). To enhance performance people often think about physical demands required to perform, but sport is multifaceted and also requires psychological abilities to enhance and optimise performance (Birrer & Morgan, 2010). Optimal performance has been described as the “the right combination of cognitive, affective and physiological conditions allowing well-learned skills to occur in a seemingly effortless and automatic manner” (Gardner & Moore, 2007, p.4). These past decades, sport psychology has significantly increased its influence in sport while searching for the ideal mental climate that enables athletes to perform at their best (Williams & Straub, 2010). Bannister was the first man to run a mile in less than 4 minutes, and after the run he said:

“My body had long since exhausted all its energy, but it went on running just the same. The physical overdraft came only from great willpower. This was the crucial moment when my legs were strong enough to carry me over the last few yards as they could never have done in previous years” (1955, p.192).

It adds to the old adage, winning athletes are the ones who crave victory the most (Noakes, 2001). Thus, athletes have given increasingly more attention to sport psychology, and mental coaching and training has grown as its own “discipline” within sports. We are still at an early stage when it comes to utilising and optimising mental training, compared to physical training. Almost forty years ago, Tutko and Tosi (1976) suggested: “although we are physically overeducated, we are emotionally undereducated” (p.11).

To enhance psychological skills, the cognitive-behavior approach is often used in sport psychology. The approach is an umbrella label based on cognitive and behavioural therapy (Hemmings & Holder, 2009). Postulating an individual's subjective perception of their own world emphasising interaction between current situation, cognitions, emotions and behaviour (Hemmings & Holder, 2009). During the last four decades, research has focused on the “second wave” to find cognitive-behavior interventions enhancing sport performance. Typically, it employs precompetitive routines such as imagery, self-talk, goal

setting and arousal control interventions (Schwanhausser, 2009). The focus is on creating ideal performance stated by self-control of internal processes such as optimal thoughts, emotions and bodily sensations (Gardner & Moore, 2004). Recent years researchers has questioned if positive thinking may lead to negative thinking, creating more fear than it dissipates in the suppression of thoughts (Tutko & Tosi, 1976). A new direction suggested athletes should detect and accept those thoughts, emotions and bodily sensation rather than letting them catch “fire” (Gardner & Moore, 2004). Mindfulness is an approach belonging to the “third wave” in cognitive-behavioral therapy that emphasises the experience of the moment here and now without evaluating every situation.

To get a step closer to an answer to this problem the current research project will assess mindfulness in Norwegian ultra-distance triathlon athletes, often referred to as Ironman distance or in some cases Xtreme Triathlon athletes. Ultra-distance triathlons are considered the toughest professional non-stop competitions, physically and mentally (more about triathlon in Appendix A). In competition, nutrition, physical capacity and tactical skills are important, but most of all the mental aspect plays an increasingly bigger role (in comparison to shorter distance races or time events). The athletes can be in good shape and have all preconditions in place, but if they suffer mentally it might affect the race performance significantly. The people studied in this project compete in Norseman, considered to be the hardest ultra-distance triathlon in the world. Through the process athletes needs strategies to deal with nutrition and the lack of appetite, fatigue, boredom, pain, performance anxiety, and negative thoughts experienced through training and competition (De Petrillo, Kaufman, Glass & Arnkoff, 2009). To deal with the total physically and psychologically challenge athletes search functional methods. This is where mental training is needed.

1.1 Study Purpose

What this new “wave” involves requires investigation to try to find out if athletes who accept and focus on present thoughts, feelings or bodily sensation perform better than athletes who try to change their mindset during competition. As a new area in sport psychology there is a need to find out if the new direction has a function in sport. This thesis will try to dig a step further into what extent mindfulness creates winners. It is suggested sport performance requires sustained attention on goal-related cues, and

disengage from disruptive stimuli to develop long-term athletic skills and optimal performance (Gardner & Moore, 2007). Mindfulness is supposed to regulate the competition necessary to perform, as well as commitment to valued goals necessary to stay in training processes.

Mindfulness is a growing mindset in sports, and the hypothesis is that to enhance performance, mindfulness must be integrated in training and competition (Birrer, Röthlin & Morgan, 2012). Science has tried to identify athletes “natural” reference for mindfulness, and what effect mindfulness had on their performance. To date, no context-specific instrument has been created that is able to correctly assess mindfulness skills among athletes (Aherne, Morane & Lonsdale, 2011; Gardner & Moore, 2007). To find out which aspects of mindfulness exist in sport, a need for a questionnaire based on sports situations has been identified. Thienot (et al., 2012b) have responded to this emerging need with a 17-item Mindfulness Inventory of Sport (MIS) questionnaire. This thesis will be based on their new definition of mindfulness in sport and MIS to find out if there is a link between theory and practice.

The objective is to identify the natural endowment of mindfulness in athletes, searching for mindfulness cues used by athletes in training and competition. 1). Anticipate an existing link between use of mindfulness under practice and results in competitions? 2). Are there different situations during training or competition when mindfulness is applied? 3). Are mindfulness components used in dissimilar degree? A hypothesis is that mindfulness may present different advantages for different sports, depending on the main subcomponents of performance (Bernier, Thienot, Codron & Fournier, 2009). Investigating the use of mindfulness will lead to answers whether the athletes live in the moment, and the study will hopefully enhance the understanding of mindfulness used in sport, and evaluate the future of mindfulness.

1.2 Theoretical Framework

Mindfulness in sport is a new setting and Thienot (et al., 2012b) has recently developed a new definition based on Bishop’s (et al., 2004) definition, Gardner and Moore’s (2004; 2007) definition, and studies on mindfulness and athletes. The definition includes meta-awareness, acceptance, and refocus. Mindful athletes are aware of thoughts, feelings and bodily sensation. They accept what is observed, and refocus with

strategies to keep goal-relevant cues in focus. The question is whether mindfulness makes the difference on performance or not.

2. Literature Review

2.1 Mindfulness

Mindfulness is seen as a method, a way of thinking and a theoretical construction with a long history, and various uses (Germer, 2004). Buddhism use mindfulness to cope with suffering, and later mindfulness is used in Western society to cope with distress, maladaptive behaviour and to enhance learning. In recent years it has been suggested as a method to enhance performance in several areas (Gardiner, 2012), including sports.

2.1.1 History of Mindfulness

Mindfulness as a concept has its roots from Buddhism. It is an Eastern contemplative tradition and a life philosophy. Buddhists think the world is occupied by suffering and people need guidance to be able to live with suffering. First they need to identify the inner cause of suffering, and to experience freedom from suffering one of the most important paths is mindfulness, “the heart of Buddhist meditation” (Wallace & Shapiro, 2006). It endeavours to master the mind through development of greater strength and greater happiness knowing the mind, shaping the mind and achieving freedom of the mind (Nyanaponika, 1962) through yoga and meditation. People are aware of the present and make it possible to achieve freedom of the mind and remove the pain (for more info on mindfulness in Buddhism see appendix B).

Defining Mindfulness

With roots in the Eastern world Western countries started to use mindfulness based on how they can live with suffering. Investigators have developed own definitions based on the setting they use the term, and there is no consistent description of mindfulness between researchers (Brown, Ryan & Creswell, 2007). Mindfulness has been described as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (Kabat-Zinn, 1994, p.4). In the thesis the present moment is recognised as the immediate experience (Bishop et al., 2004) at any given moment including thoughts, emotions, sensations, actions or surroundings (Mishra, 2004). Kabat-Zinn (2005) thinks that a mindful person prerequisite to pay attention non-reactively, nonjudgmentally and as openhearted as possible from moment-to-moment to be mindful. The theory is based on the assumption that mental and physical perceptions

such as thoughts, feelings, bodily sensations, positive or negative, are virtually impossible stimuli to turn off.

What happens when people are mindful? Recent studies consolidate existing theoretical findings and neurophysiology. The results imply that important mechanisms in a mindfulness mode are attention regulation, emotional regulation, body awareness and perspective of oneself (Hölzel et al., 2011). The figure below illustrates how a mindful person, through meditation, directs attention to a chosen object, and then focuses the awareness on internal experiences, approaches and exposes oneself for all the ongoing emotional reactions. The person act nonjudgmentally and with acceptance, lets oneself be affected and refrain from internal reactivity. The last important mechanism is the dynamic perspective on the self.

| Mechanism | Exemplary instructions | Self-reported and experimental behavioral findings | Associated brain areas |
|---|---|--|---|
| 1. Attention regulation | Sustaining attention on the chosen object; whenever distracted, returning attention to the object | Enhanced performance executive attention (Attention Network Test and Stroop interference), orienting, alerting diminished attention blink effect | Anterior cingulate cortex |
| 2. Body awareness | Focus is usually an object of internal experience: sensory experiences of breathing, emotions, or other body sensations | Increased scores on the Observe subscale of the Five Facet Mindfulness Questionnaire; narrative self-reports of enhanced body awareness | Insula, temporo-parietal junction |
| 3.1. Emotion regulation: reappraisal | Approaching ongoing emotional reactions in a different way (nonjudgmentally, with acceptance) | Increases in positive reappraisal (Cognitive Emotion Regulation Questionnaire) | (Dorsal) prefrontal cortex (PFC) |
| 3.2 Emotion regulation: exposure, extinction, and reconsolidation | Exposing oneself to whatever is present in the field of awareness; letting oneself be affected by it; refraining from internal reactivity | Increases in nonreactivity to inner experiences (Five Facet Mindfulness Questionnaire) | Ventro-medial PFC, hippocampus, amygdala |
| 4. Change in perspective on the self | Detachment from identification with static sense of self | Self-reported changes in self-concept (Tennessee Self-Concept Scale, Temperament and Character Inventory) | Medial PFC, posterior cingulate cortex, insula, temporo-parietal junction |

Figure 2.1: Components Proposed to Describe the Mechanisms Through Which Mindfulness Works (Hölzel et al., 2011, p. 539)

Research on Clinical Mindfulness

There are hundreds of studies on Mindfulness-Based Stress Reduction (MBSR) giving an impression on how the mind affects the body, and how mindfulness can be used to enhance personal well-being. People experience different psychological and physiological challenges during life. Yoga and meditation used by the Buddhists inspired Kabat-Zinn's intervention, starting a clinic at the University of Massachusetts in 1979 to treat patients with insurable illness or people who suffer from chronic pain, using MBSR (Aherne, Moran & Lonsdale, 2011). In later years, MBSR has been used as a mind/body and integrative recovery medicine for both psychological and physical problems (Davidson et al., 2003). For example, a study on patients with different clinical problems improved their functionality and well-being, and reduces their physical symptoms and psychological problems (Reibel, Greeson, Brainard & Rosenzweig, 2001).

The mainstream of Western psychologists uses Kabat-Zinn's definition. Since Kabat-Zinn started to use mindfulness in clinical situations, multiple other methodologies has developed to learn skilfully responses to mental processes that contribute to emotional distress and maladaptive behaviour (Bishop et al, 2004). Mindfulness has demonstrated to function in cultivating healthy, human adaptive functioning with different objectives (Brown, Ryan & Creswell, 2007). The objective of Mindfulness-Based Cognitive Therapy is to prevent relapse of major depressive episodes (Teasdale, Segal & Williams, 1995). Dialectical Behaviour Therapy is used on people with borderline personality disorders (Linehan, 1993). Individuals suffering from substance abuse use Relapse Prevention (Marlatt & Gordon, 1985). All the methods include processes directed to 'describe' 'accept' or 'acknowledge' the problem, a method that seems more promising than processes directed to solve the problem (Teasdale, Segal & Williams, 1995).

2.1.2 Mindfulness and Learning

Mindfulness is not only used for treating people with maladaptive behaviour. Langer uses a different definition of mindfulness in learning situations, where it was defined as the ability to present every situation as novel and unique (Langer, 1997). By flexibility, creativity and openness to new information, one can see the world actively from different perspective, and new categories can be created primarily built on external

situations based on own values (Langer, 1997; Langer 1989). Studies imply mindful learning affected alertness, heightened participation and well-being (Langer & Rodin, 1976), enhanced cognitive flexibility and the ability to see the world from different and creative perspectives (Langer & Piper, 1987), and increased cognitive activity and memory (Langer, Rodin, Beck, Weiman & Spitzer, 1979) among other.

2.2 From “Second Wave” to “Third wave”

To learn skills acquired through control or change in cognitive content “second wave” is the prominent approach in sport psychology employing precompetitive routines as imagery, self-talk, goal setting and arousal control with a purpose in mind (Schwanhausser, 2009; Bernier, Thienot, Codron & Fournier, 2009). Based on research in other performance domains suggesting clear benefits to use a mindfulness approach to avoid maladaptive outcomes, created a growing interest appear in sports to use new strategies to address various arousal issues that may affect athlete performance. Imagery is in use when athletes self-consciously recreate sensory and perceptual stimulus that are known to produce activity (Richardson, 1969) to prepare training or competition, learn new skills or experience scenes and solutions of tasks at hand (Pensgaard & Hollingen, 2006). Self-talk is referred to as: “automatic statements reflective of, and deliberate techniques (e.g. thought stopping) athletes use to direct, sports-related thinking” (Hardy, Oliver & Tod, 2009, p.38). Self-talk affect cognitive, motivational, behavioural and affective mechanisms to build self-efficiency, learn new techniques or handle non-performance related issues (Hardy, Oliver & Tod, 2009). There are three different types defined in the literature: outcome goal (focus on result), performance goal (focus directed on improvement to past performance) and process goal (focus on skills and strategies to integrate effective task execution) (Kingston & Wilson, 2009). Goals are used to direct all energy the athletes possess in a certain direction (Pensgaard & Holling, 2006). At last, arousal control, an intervention athletes use in search of a appropriate mixture of arousal-related states that lead to best performance (Gould & Udry, 1994). The idea of the precompetitive routines is to create ideal performance stated by self-control of internal processes such as thoughts, emotions and bodily sensation (Gardner & Moore, 2004). However, there is not much data to backup their efficiency to enhance athletic performance (see Moore, 2003, in Schwanhausser, 2009). Critique is that every athlete experience stressful situations and it is the coping response to the experience that affects the outcome (Crocker, Alderman & Smith, 1988). “Both positive and negative

emotions may exert beneficial or detrimental effect depending on their idiosyncratic meaning and intensity” (D.Urso, Petrosso & Robazza, 2002, p.174.).

Possible outcome of anxiety reduction and minimisation of negative cognition may be overly cognitive activity rather than meta-cognitive activity; reduced capacity to automatically engage in previously developed athletic skills, respond suitable to contextual cues and maintain optimal performance (Gardner & Moore, 2004). Another perspective suggests that decline in performance can occur amongst top-athletes who evaluate their cognitive anxiety, combined with physical arousal and low self-confidence (Edwards, Kingston, Hardy & Gould, 2002). In other words, it is possible to question whether the athlete hadn't evaluated the level of anxiety, physical arousal and self-confidence, would the performance than have been increased? Mindfulness is a technique proposed to help athletes regain a state of mind where goal-oriented behaviour and automatic goal-focused processes are facilitated (Birrer, R othlin & Morgan, 2012). Researchers assume that cognition, emotions and physical sensations are natural endowment presented, and change or elimination is not in need for optimal performance to occur (Schwanhausser, 2009). Mindfulness sets the ground for a new direction in research, the “third wave” in cognitive-behavioural therapy (Gardner & Moore, 2004).

2.3 Mindfulness in Sport

2.3.1 Operational Definition

A problem with Kabat-Zinn's definition of mindfulness is that it does not include a method for testing psychological processes involved in mindfulness. Eleven key researchers in the field of mindfulness gathered in Canada to establish a definition and test methods to find out what psychological processes are involved in mindfulness (Bishop et al., 2004). They ended up with a point of view where mindfulness is seen as a meta-cognitive skill consisting of monitoring and control. They suggest a two-component model of how people monitor the stream of consciousness, and control cognitive processes through self-regulation. (1) The first component includes three methods to self-regulate attention in the moment; thereby increase the person's ability to recognise mental events, allowing for increased control of the person's cognitive processes. (1a) Sustained attention enhanced the awareness of current thought, feeling and bodily sensation as they occur in the stream of consciousness, therefore also

increased the level of attention. Thoughts, feelings and bodily sensation have the potential to distract people from the present, (1b) switch attention from one stimulus to another, and having the ability to switch back can be necessary. The experience here-and-now is important, and a way to experience that situation and information in a new way is done by (1c) inhibition of elaborative processing relating the meaning; the last part of the first component. (2) The second component in the model involves monitoring the stream of consciousness. To be (2a) curious about where the mind wanders, (2b) accept every moment, and be (2c) open to whatever happens in the present affect the ability to self-regulate and set the stage for intensive self-observation. Together, these six mechanisms work through a mindfulness approach.

2.3.2 Mindfulness-Acceptance-Commitment Approach

Gardner and Moore (2007) wrote a practical book about the use of mindfulness in sports, based on their experience with athletes. The book is written for athletes and other high-level performers pursuing higher performance and well-being (Gardner & Moore, 2004, 2007). The idea behind the theory is that increased cognitive activity makes it harder to inhibit elaborative processes, while a reduction in cognitive activity may result in optimal performance, because the energy is directed on the present (Gardner & Moore, 2007). Gardner and Moore adopted their approach from Hayes, Strosakl and Wilson (1999) Relational Frame Theory (RFT), and Acceptance and Commitment Theory (ACT). RFT is the fundament in the theory, and illustrates how harmful the relationship between the actual task (external) and internal experience (thoughts) can be on performance, even with cognitive fusion and experiential avoidance. With experiential avoidance, the athletes remain in contact with the experiences (e.g., bodily sensations, emotions, thoughts) in the present moment, and are willing to change the frequency of these events and the contexts that occupies their mind (Hayes, Wilson, Gifford, Follett & Strosahl, 1996). To target these processes, ACT tries to create an open and accepting relationship to all thoughts, feelings and emotions to improve the psychological health; even if they are formally “negative”, “irrational”, or even “psychotic”. It encourages athletes to embrace an interest in adhering to own values that gives a meaningful life. To commit to own values is easier when the person is open for there not being one objective truth to life; all people know the world through their interaction with it, and the historical and contextual limitation. The antonym for experiential avoidance is experiential acceptance; a self-regulatory

process that accept internal experiences as something that normally occurs, the athletes are willing to persist and they focus on the environmental tasks in order to increase performance (Gardner & Moore, 2007). MAC has a goal to decrease experiential avoidance and increase valued directed behaviour necessary for quality on practice, intense training, and long-term development of athletic skills (Gardner & Moore, 2004).

Gardner and Moore (2007) developed the Integrative Model of Human Performance (IMHP) comprising a 3-process guide, assessing the foundation of MAC to approach optimal performance in sport. It addresses central and critical skills, disposition, environmental, and self-regulatory issues/obstacles confronting the performer to promote performance and well-being. To optimise self-regulation during performance, the composition of dispositional characteristics, environmental stimuli, and performance demands is crucial. During performance, self-monitoring, self-evaluation and corrective action are all central to enhance behavioural self-regulation and task execution. Together, preperformance and performance characteristics, affects the post-performance response. Either the athlete maintains competitive performance, reengages after a brief dysfunctional period or disengages from the activity covertly or overtly.

To perform, the athlete must meet the requirement from life and competition decision-making, problem solving and behavioural processes in day-to-day life. It depends on: (1) metacognitive processes/meta-awareness or said in other words: “mindfulness”. Meaning the person is aware, and observes current thoughts, emotions and bodily sensations just as they are. Mindfulness promotes greater behavior flexibility, and attention directed towards aspects of the performance needed. (2) The second functional performance is “acceptance”. Athletes need an attitude that is non-judgmental when it comes to internal experiences such as thoughts, emotions and bodily sensations. This does not mean that every thought or experience has to be approved, but the athletes have to accept the thought or experience. (3) The third is: “Commitment”, to actively focus attention on ever-changing situations in life in order to fully engage in an activity based on values and goals that really matter. Optimally the athlete’s metacognition attends to own relevant aspects of self-behavior and systematically utilises reference points to evaluate and adjust the behavior to meet established standards.

2.3.3 Thienot's Definition of Mindfulness

The only difference between Bishop's (et al., 2004) operational definition, and Gardner and Moore's (2004, 2007) definition is the intention to focus on goals and life values. Thienot and colleagues (2012b) searched for a definition of mindfulness used in sports to develop a universal understanding of mindfulness. After collecting data they developed an understanding of mindfulness that combine Bishop (et al. 2004), and Gardner and Moore's (2004, 2007) definitions. Mindfulness involves: (1) Meta awareness, (2) acceptance and (3) refocus. (1) Meta-awareness is described as the ability to closely observe one's thoughts, feelings and bodily sensation, trying to detect disruption to optimal state. The component can be seen linked to Bishops (et al. 2004) first component in self-regulation of attention, to maintain attention in the present, and in addition Gardner and Moore's (2007) understanding of metacognitive processes. (2) Acceptance was the second component, involving athletes' thoughts, feelings and bodily sensation. It helps develop a non-judgmental attitude towards distractions experienced during competition and training. From Bishop's (et al., 2004) definition it was inspired by a curious, open and accepting attitude, and how Gardner and Moore (2007) understand acceptance of mindfulness. (3) The last component, refocus, include both switching attention from Bishop (et al., 2004) and commitment from Gardner and Moore (2007); athletes must refocus to keep goal-relevant cues in foci. Together the three components give an impression of different mechanisms acting when being in a mindfulness mode.

To evaluate athletes level of mindfulness in sport, Thienot (et al., 2012b) developed a Mindfulness Inventory of Sport (MIS). The objective was to identify the natural endowment level of mindfulness, searching for mindfulness cues used by athletes in training and competition. The questionnaire consists of 17-items about athletes experience of meta-awareness, trying to identify how non-judgmental they are and about refocusing strategies they utilise. It is the first questionnaire directed towards mindfulness in sports.

2.3.4 Mindfulness in Sports

Mindfulness in sports is a new direction, even though the first study on mindfulness training on U.S. Olympic Men's Rowing Team was conducted in 1984 (Gould, Eklund, & Jackson, 1992). The amount of studies is limited and they don't complement each

other, it varies in definitions, interventions, culture and targets. Together it gives an impression of what have been studied, and this thesis will now try to address the results from previous studies.

The purpose of research on mindfulness is to identify whether mindfulness has a positive effect on sports performance. Case studies on MAC collected empirical evidence on performance enhancement based on results from implementing MAC. A case study on a 22-year-old male intercollegiate swimmer was conducted (Gardner & Moore, 2004). After 12 weeks with MAC intervention acceptance of internal state improved, he enjoy athletic experience more, were consistent with valued goals and workout improved, not the competitive performance. A four-week extension of the intervention improved competitive performance. An additional case study was completed on a 37-years-old master level female power lifter through a 12-week protocol (Gardner & Moore, 2004). The post-test showed increased performance during practice and competition. Another case study tested MAC during 9 sessions directed on a 12-year-old male high-level springboard and platform diver (Schwanhausser, 2009). Through pre- and post-tests the scientists saw an increase in level of mindfulness and improvement in performance in training and competition. The results indicate that mindfulness techniques and acceptance-commitment methodology can be effectively applied to a competitive population desiring athletic performance enhancement. It can be questioned whether MAC would have the same effect on a group of athletes within the same discipline when MAC isn't individually adapted. Eliminating potential personal prerequisites, thirteen collegiate field hockey and volleyball athletes were divided into two subgroups (Wolanin & Schwanhausser, 2010). The experimental group participated in a 7-week MAC protocol compared with a control group. The results showed a small performance increase for the athletes in MAC intervention compared to the control group. It adds the suggestion that MAC is a viable performance enhancing technique, also in groups.

In pursuit of the effect mindfulness has on performance, it is interesting to reveal the momentary effects. A study tested if momentary induction of mindfulness and dispositional mindfulness lead to better movement control balancing on one leg (Kee, Chatzisarantis, Chow & Chen, 2012). The results indicated momentary mindfulness was

more effective for participants with higher disposition of mindfulness. It revealed beneficial effect on physical performance, and use of attentional focus strategies

Interventions that include mindfulness vary, and the effect of mindfulness and acceptance approach on performance achievement was conducted on seven adolescent elite golfers after four training sessions (Bernier, Thienot, Codron & Fournier, 2009). All golfers in the mindfulness and acceptance group climbed on the national ranking, while only two golfers from the control group did the same. They reported developing skills to be non-judgmental, increased ability to focus attention on task relevant cues and behavioural flexibility. The research indicates that mindfulness and acceptance approach is effective for performance enhancement. Mindful Sport Performance Enhancement (MSPE) is directed on athletes involved in self-paced, closed skill and objectively scored sports requiring significant mental focus and fine motoric movements (Kaufman, Glass & Arnkoff, 2009). Twenty-five recreational long-distance runners were used in an intervention using MSPE through four sessions in four weeks (DePetrillo, Kaufman, Glass & Arnkoff, 2009). Dividing the athletes' in an experimental group and a waiting-list control group, the results revealed increased coping strategies in sport situations and improved overall well-being for the experimental group. Improvement in running performance was not registered.

Athlete's level of dispositional mindfulness has been demonstrated to predict performance. A study examined 17 top basketball players and found that their mindfulness level had a strong correlation with their competitive free throw performance (Gooding & Gardner, 2009). They were mindfully aware and attentive to essential task-related cues while still experiencing arousal influenced performance. Mindfulness is seen as an inherent, mental capacity, enhanced by training (Goldstein, 2002, in Brown, Ryan & Creswell, 2007, p. 215), and Gooding & Gardner's (2009) study indicate top athletes with more training are more mindful than athletes with reduced amount of training. Can it be said that athletes are more dispositional for mindfulness? The relationship between goal achievement orientation and mindfulness was examined in 52 collegiate athletes participating in nine different team sports (McCarthy, 2011). The results pointed towards a relationship between increased mindfulness and task-orientation in top athletes. Task-orientation athletes' were willing to accept and fully experience the vast array of internal experiences that will likely

occur during competition regardless of thoughts and emotional experience. They are more aware of their physical, emotional and external cues, which keep their focus in the present.

Flow is a term used on athletes that achieve optimal performance. A lot of the research on mindfulness is directed towards a possible link between flow and mindfulness. The hypothesis is that mindfulness people raise the chance to experience elements of flow more often (Kee & Wang, 2008). A study divided university students into different clusters based on their mindfulness level, and demonstrated the cluster with high disposition of mindfulness scored significantly higher on flow disposition compared to the cluster with low mindfulness disposition. Kee and Wang (2008) evaluate the relationship between mindfulness and flow as symbiotic; you need mindfulness to experience flow. The study is supported by exploratory interviews on ten elite swimmers describing a situation where they achieved optimal performance (Bernier, Thienot, Codron & Fournier, 2009). The study suggests mindfulness tendencies may be an identification of flow and affect optimal performance. Another study tested the effect of mindfulness trainings on flow experiences in thirteen athletes from seven different sports (Aherne, Moran & Lonsdale, 2011). After 6 weeks the athletes increased their flow experience. An additional research was conducted on 11 archer, and 21 golfers (Kaufman, Glass & Arnkoff, 2009). The results indicated mindfulness had a significant positive relationship on overall flow. Most of the studies are directed on the effect of mindfulness after a short time with practise. Participants from the previous study and DePetrillo, Kaufman, Glass and Arnkoff's (2009) were asked to report a one-year follow up to see the effect of the MSPE intervention (Thompson, Kaufman, De Petrillo, Glass & Arnkoff, 2011). 25 athletes from earlier workshops were compared to nonparticipants, and the reports showed that the experimental group experienced higher overall flow, and some even improved their performance. The studies support a possible link between mindfulness and flow, but how mindfulness and flow connects, the researchers do not agree.

Recent investigation in sport psychology indicate mindfulness works outside therapeutic settings as well. Numbers of studies are limited and many questions need to be evaluated; who completed the study/interventions? What gender, age, ethnicity and number of sessions were used? Did they use a control group? Are the results an effect of

the training, or just an effect of the new situation? Studies on mindfulness are at an early stage, and the investigations conducted will pinpoint the better studies for the future.

2.4 Objectives

Research on the effect of mindfulness in sport context is still at an early stage, and science on mindfulness illustrates a method that affects performance and well-being (e.g. Gardner & Moore, 2004; DePetrillo, Kaufman, Glass & Arnkoff, 2009;). It has already been proposed that athletes with natural endowment for mindfulness perform at a higher level (Kee, Chatzisarantis, Chow & Chen, 2012; Gooding & Gardner, 2009). Researchers even imply that mindfulness is needed to perform optimal in sport (Gardner and Moore, 2007). To find out if mindfulness is a mental strategy required to perform optimal the study presume top athletes already use mindfulness during training and competition. The objective of this thesis is to find out if athletes naturally use mindfulness as a part of their mental strategy based on the components Thienot et colleagues (2012b) define as mindfulness. Is theory in line with practice? It is a new definition, which needs validation in order to be used by researchers in sports.

How does high-level Norwegian ultra-distance triathlon athletes use mindfulness in competition and training?

More specifically the current study aims to investigate whether:

1. Top athletes within ultra-distance triathlon utilise aspects of mindfulness during training and competition.
2. There is an existing link between use of mindfulness in training and competition; top triathlon athletes who use mindfulness as a part of training are more mindful during competition.
3. Different components of mindfulness are used in dissimilar degree in ultra-distance triathlon training and competition.

3. Study Methodology

The current study uses a qualitative approach (see Appendix C for details). Strengths in qualitative methods are the ability to get an in-depth understanding and gain entry into the athletes' world, which makes it possible to describe the complex social system being studied (Marshall & Rossman, 1999; Kvale & Brinkmann, 2009). A deeper understanding of mindfulness as social phenomena may enhance knowledge about an area we know little about in sport (Gratton & Jones, 2010). Based on the description of how mindfulness is locally constituted in ultra-distance triathlon the study intends to develop the theory. The study is based on the assumption that the majority of successful athletes use quite similar psychological strategies to prepare themselves to perform, which are different to unsuccessful athletes, and at the same time produce superior performance indicating they do something correct (Rushall, 1979).

Observation and interviews are methods repeatedly used in qualitative research (Thagaard, 2010). In search of what kind of bodily sensation, thoughts and feelings athletes experience during training and competition, the athlete him/her self is the only one who can recognise. Interviews are the most functional method to reveal knowledge about athletes use of mindfulness in sport (see appendix D). Through interviews the study gets information about athletes experience and reflections up on different situations during training and competition (Thagaard, 2010). Geertz (1973) said: "...understanding social processes involves getting inside the world of those generating it" (p. 9). It is impossible to understand the human actions without asking them about their attribution to the action (Marshall & Rossman, 1999). After the interviews are conducted the next stage in the study gives the interpreter an opportunity to understand the triathletes' perspective through description, interpretation and analysis of the data (Glaser & Strauss, 1967). Both with and without the definition the investigator search what actually happens in ultra-distance triathlon competition and training settings (Silverman, 2006).

3.1 Participants

Interview is a time consuming activity and different evaluations was conducted based on limitations and advantage recruiting athletes (Glaser & Strauss, 1967). Accessibility to relevant subjects was the most important factor. Initial selection requirements were

active Norwegian triathletes with previous top positions in the Norseman triathlon competition. Athletes were recruited through e-mail, including information about the study (see appendix E). Five out of seven Norwegian sub-elite and elite athlete's responded the inquiry and were positive to participate. The athletes' aged from 30-43 years ($M = 37,6$, and $SD = 4,2$), and all had participated in Norseman. Four athletes' had achieved top five positions, and the last were among the top-forty finishers in the Norseman. At the time the interviews were conducted four of the athlete's were still competing in ultra-distance triathlon, and one had retired. The athletes' were in different stages of their career, and amount of exercise ranged from 8 to 40 hours a week. Because of periodization the number of training hours per week varied a lot. The interview subjects have families, some with young children and four of the five athletes worked. The interviews were conducted in the preparation phase of the competition season.

3.2 Develop an Interview Guide

The interview guide was created using Thienot's definition of mindfulness, and MIS (Thienot et al., 2012b). An ultra-distance triathlete helped develop the questionnaire based on own experience in the sport. The interview guide was design to elicit information regarding athletes perception of their self-regulation during training and competition to find out if mindfulness was a self-regulation method they used naturally. The interview guide (see appendix F) was pilot tested twice. Semi-structured interviews were applied to enable the participant's to answer the same set of question in each interview. The intention of the interview guide was to eliminate leading questions and at the same time have sufficient questions regarding the problem. Order of questions was flexible, and sequence of questions or probes varied when appropriate to explore the depth and clarify points raised in the interview (Gratton & Jones, 2004, p.141). The method allowed the triathletes' to talk about their own experiences with own words, establish trust to emerge unexpected data, get more insight, and assess the athlete's body language, facial expression and tone of voice (Gratton & Jones, 2004). Initially, gathering valid and reliable information about how they experienced training and competition (Rushall, 1979). The interview guide consisted of five sections; the first section was directed on the purpose of the study, and the athlete's rights in the research process. Second section included easy questions about the athlete's life beside sport; the intention was to make the athlete's feel comfortable with the interview situation so they

could express how they experience different situations. The third section focused on happenings from different training situations where the athlete's performed well or below own expectations. Next stage referred to the same situations but in a competition perspective so the athletes could recall past experience and how they self-regulate. Last section intended to end the interview, questions involved athletes achievements in their career and a summary of last season. Not one question used the term mindfulness; the intention was to find out if mindfulness was a part of their self-regulation naturally.

3.3 Confidentiality

Confidentiality is important when conducting research with individuals on sensitive personal experiences. Tape-recording interviews in the current study involve personal information and require an approval from NSD (Norwegian Social Science Data Services). After ethical clearance was obtained from NSD (see appendix G) the investigator protected the subject's rights through the rest of the study. To inform and control for that the athletes' knew what they had agreed upon, a consent form (see appendix H) with information about the study and the subjects' ethical rights was signed prior to conducting the interviews (Thagaard, 2010) The study was voluntary as the athletes' could withdraw at any time without consequences, and all information was kept confidential. After the triathletes' had signed the consent form, the interviews were conducted.

3.4 Procedures

Before the interviews the investigator's role and how to get most information to approach the purpose of the study was consciously evaluated. The interviewer got an insight in how the setting, population and phenomenon of interest served as a guide for the study (Marshall & Rossman, 1999; Thagaard, 2010). The collection was conducted January/February 2013 in athletes' preparation period, in three different settings. Two interviews took place at the athletes' work place, while two interviews were conducted in a group room at the Norwegian School of Sport Sciences, and the last interview was completed at a café.

Each interview started informing the athletes' about the topics to give them some control over the situation, and enhance the interviewers opportunity to guide the athletes' in an interesting direction to cover the topics of the current study. To keep the

interviewer's focus optimal, the interview guide was followed through out the interview. Each interview lasted between 56 to 67 minutes (Meaykut & Morehouse, 1994). After audio records were turned off, time was devoted for questions about the interview, the project or just talks about the athletes' experiences (5-90 minutes).

Transcripts

After the interviews were recorded (on an iPod and a laptop), they were transcribed to written language (Kvale & Brinkmann, 2009). Two records were used to avoid technological failure. The quality of the records was tested several times before the interviews. The transcriptions of the interviews were conducted (by the author) no later than two days after completing the interviews based on Du Bois-system (Du Bois, Schuetze-Coburn, Cumming & Paolino, 1993). Valuable information as pauses, body movement, and overlaps was noted, all affecting the reliability of the interpretation (Silverman, 2006). The quality of tape record varied, especially in the interview conducted at a café. Background music and noise was observed, but luckily the interview subject had a clear voice. The transcription was done in "Bokmål", so the athlete's couldn't be recognized based on dialect. After transcribing the data the interviews were modified, eliminating pauses, repetition of words and the researchers question. To understand the meaning of the text headlines were made and the first sentence after a question was written about. The process was used as a preparation for the analysis. It gave the interviewer a new perspective, and showed how much the athletes' affected the interviews with their statements. When the investigator had decided which statements represented in the results an English-speaking person helped to translate.

3.5 Data Analysis

Hermeneutic perspective is commonly used as a mean to make sense out of the interpretation, emphasizing what's said rather than how it is said (Bryman, 2008). The athletes were asked to express verbally in details their views and understanding of the use of their own self-regulation skills. Subsequently were these thoughts interpreted by the investigator (Grønmo, 2004). It is important to underline that the investigator's pre-understanding of the topic affects the interpretation of the data material and the findings. Knowledge, own experience from sports, own scientific understanding and perspectives will have an impact on the results (Grønmo, 2004). It is imperative to cover all

alternative explanations for the gathered data set, using circular processes between the study questions, as well as the review and analyses of the interviews (Lincoln & Guba, 1985, in Marshall & Rossman, 1999, p.195).

After transcribing the data the interviewer coded the statements. A start list of codes was developed prior to the fieldwork, based on Thienot's definition on mindfulness and MIS (Miles & Huberman, 1994). The questions in MIS (Thienot, 2012b) were used to inform and direct the researcher's coding with three areas of focus: 1) Meta-awareness, whether the athletes' were aware of thoughts passing through their mind? Did they pay attention to emotions, even when something unexpected happened? Did they notice intensity, location of bodily sensations as nervousness, physical discomfort and excitement in the body? 2) Questions about athletes' acceptance included non-judgmental items. Did the athletes' accept thoughts (i.e., about the past, focus on own performance, thoughts about the result) without being critical or blame them for focusing on specific thoughts or being distracted? Did the athletes' accept feelings as being angry and upset without criticize the reaction, and accept bodily sensations? 3) Refocus emphasised athletes' passing thoughts, feelings and bodily sensations back to what they should focus on. Did the athletes' experience disruptive thoughts and didn't focus on own performance? Did they observe excitement or experienced other feelings (e.g. sore muscles, felt tense or other bodily sensations) and quickly refocused on goal-relevant cues? The fieldwork gave new codes based on the athletes' reports looking after statements not only supporting the theory but also questioned consequences, how the athletes' dealt with the behaviour, if they controlled their behaviour and so on (Gratton & Jones, 2004). The process shifted between the theory, athletes' statements, and the investigator's view to get most information out of the data material. Notes were stored so other people could understand the interpretation of the athletes' statements (Thagaard, 2010).

The interviews were analysed through case-focused analysis and issue-focused analysis. Case-focused analysis divided material from each interview in meaningful unites categorized in components of mindfulness and under categories. They were described and interpreted to enhance the understanding of each interview (Thagaard, 2010). To get in depth of the study the interviewer alternated between the theory, categorisation, and theory again. Issue-centred analysis compared the athletes' self-reported use of

mindfulness, dividing the data material in matrices in a descriptive and interpretive phase (Thagaard, 2010). Information including all the responses from the informant was compared in the descriptive phases of meta-awareness, acceptance and refocus. To get a deeper understanding, and question the theory of mindfulness interpretation phase were useful. Through the whole process the interviewer looked after “thin” (i.e., tell what the athletes said in the interview) and “thick” descriptions (i.e., try to see what is behind the words the athletes used) to reveal how the athletes were naturally mindful, and the possible effects of mindfulness (Ryles, G., in Geertz, 1973, p.7).

To systematize the analysis process, including evaluation and interpretation, the MAXQDA data program was used. MAXQDA is qualitative data analysis software created to manage information, develop theoretical frameworks, and test theoretical assumptions. The software made it easy to organize the meaningful units and matrices, remembering thoughts and evaluations, and gave other people the opportunity to understand the investigator’s selection process.

3.6 Validity

Science should be explored as free and open, but all data, theory, methods, results and conclusions must be examined and criticized to evaluate the validity (Wormnæs, 1996). To find out if the study measured its aim the investigator problematized four validity components: (1) Face validity, (2) content validity, (3) predictive validity, and (4) construct validity (Gratton, & Jones, 2010). (1) First the interviewer questioned if semi-structured method appear appropriate to measure mindfulness in triathlon athletes’. Through two test interviews the investigator evaluated the interview guide, and it unravelled the athletes’ self-regulation strategies, indicating if mindfulness is a part of their mental tool. Through feedback and discussion between the investigator and the test interview subject’ alterations were made to be sure the athletes’ would understand the questions and the interview would illuminate what it wanted to uncover. (2) The supervisor and a triathlon athlete, evaluated as experts, critically assess and evaluated the questions in the interview guides to be sure the interview was valid. Their feedback developed the interview guide. (3) The third validity question wanted to reveal the prediction of future studies based on the measures. The interview can reveal the athletes’ use of self-regulation methods, and imply a possible mindset of other ultra-distance triathlon athletes; it cannot predict how other athletes from different sports self-

regulate during training and competition. Some investigators evaluate the lack of ability to generalize information to other populations and settings as a weakness of qualitative method (Marshall & Rossman, 1999). The study agree with Gratton and Jones (2010), they believe there is no ultimate truth existing studying the social world, it only gives a picture of how the participant's interpret their world from their perspective. Society and sport demands constant change and it is natural to think that the same applies to the mental processes. The study searches to inspire future research on mindfulness in sport and develop the theory of mindfulness in sport. (4) At last it is important the study doesn't only focus on the measured searched in the study. To enhance the validity measures was correlated with other self-regulation methods from the "second wave" psychology.

3.7 Reliability

Reliability is synonym with the stated dependability of the study. The investigator kept in mind that the survey and data collection needs to be replicable by other investigators (Halvorsen, 2008). To make this possible credibility through data collection, analysis, interpretation and reporting was important (Halvorsen, 2008). During the study three different reliability tests was conducted to find out if the study was dependable: (1) Inter-observer reliability, (2) test-retest reliability, and (3) internal consistency reliability (Gratton & Jones, 2010). (1) If the study increased the possibility similar scores would be register by other people beside the investigator reliability enhances. Evaluation of the interview guide, coding and analysis of the interviews and conclusion were conducted, the supervisor of the project expressed his point of view through the process, and a triathlon athlete helped develop the interview guide. The second evaluation was the (2) test-retest reliability, if other researchers would provide the same measures if they repeated the study at a different time? The semi-structured interview guide made it possible to replicate the interview. Researchers can use the same questions and contact the interviewer about the collection process. The study did not conduct a retest, but the athletes' had the opportunity to contact the student if they had any questions or felt they did not communicate what they wanted. The investigator got the impression the athletes' were honest and open about their experiences during the interview, and replicating the interview at a later stadium would give the same answers if the interviewer and athletes' repeated the interview. Then again the interviewer and interview subjects affect the data collection and will always colour the results. Even

though the researcher tried to make the interviews as objective as possible the researcher agree with Marshall and Rossman (1999): “qualitative studies by their nature (and, really, all research) cannot be replicated because of the real world changes” (p.195). Athletes, research area, culture and sport change during time, which makes it difficult to get the same measurement through the study (Marshall & Rossman, 1999). (3) The interview guide was developed with open questions not trying to lead the athletes’. To find out if the study measured the same phenomenon the interview questions needed to be understood in the same way. Pre-testing the interview guide, and training on the interview was important before the actual conduction (Silverman, 2006).

3.8 Ethical Considerations

The purpose of the study was to evaluate if mindfulness is a self-regulation method the athlete’s use naturally and were considered an important mental tool in sport. The knowledge is valuable for athletes, trainers and other investigators to get one step closer what mental methods athletes use to perform at a desired level (Wormnæs, 1996). In search to answer the question the investigator focused on the balance between the search of knowledge and respect to the athletes’ in the study (Kvale & Brinkmann, 2009). It was important they felt comfortable and well taken care of through the whole process. If the triathletes’ had a bad experience with the study a result could be no participants. The National Ethical Research Comity’s guidelines were used to reflect upon the subject’s rights and the researchers ethical beliefs and norm conflicts to enhance the chance to make good choices through the study (Wormnæs, 1996). Through the whole study the intention of the thesis and the athletes’ best was evaluated. It was important they got the information they need before the study, but at the same time not all information that possibly could affect the results. Based on the investigators evaluation the athletes’ got sufficient information about the project to understand the study area and possible consequences participating in the study before the interviews. The information was mediated before they approved to participate. Before the interview was implemented the athletes’ had to sign consent form (Appendix H) about their participation. After the interviews the investigator had to be sure the triathletes’ couldn’t be recognized in the results. Confidentiality was in the investigators mind through the whole proses, without effecting valuable material.

4. Empirical Results

This chapter conducts an overview of the results from the interviews based on Thienot's (et al., 2012b) definition of mindfulness.

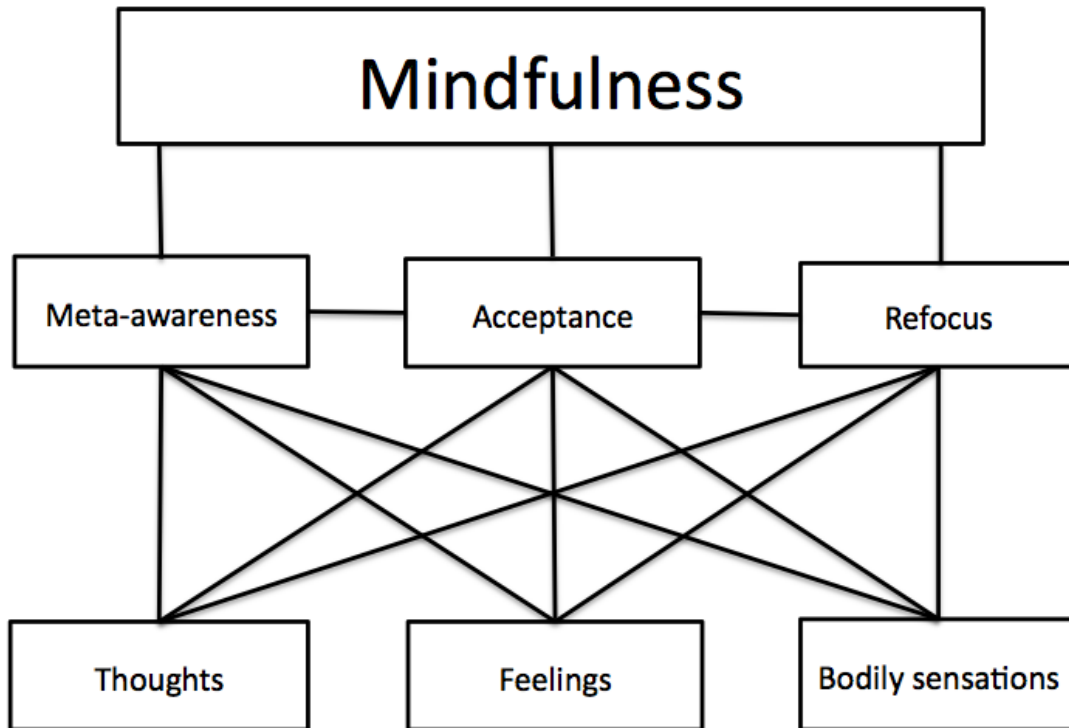


Figure 4.1: Mindfulness components based on Thienot's (et al. 2012b) definition.

Analysis of the interviews yielded data on components of mindfulness including: how the components are used, difference between training and competition, and what degree the athletes' used the components. Each will be dealt with under the corresponding heading.

4.1 Use of Mindfulness

The athletes' were asked to evoke experiences from competition and training sessions in the interviews. It was apparent that being in the present was viewed as an important value for the entire group. One of the triathletes' explained:

Often you think about everything you should have done, but there's no point to that. Therefore it is so important not to think about it. When you are working out that's also

where your mind has to be, not thinking about what you have done before or what you are doing three hours from now. It won't work thinking about either of them, it will only lead to frustration. It's important to be in the moment, because that's the only thing you actually can affect. You can't affect things that have already been done or are about to happen (see appendix I for the original quote, no.1).

The athletes' postulated obtaining focus on the present as important. They occurred to be aware of thoughts, feelings and bodily sensations. Awareness was emphasised as beneficial because they actually can affect the present.

4.1.1 Meta-awareness

Thoughts

The athletes' mediated awareness of thoughts referred to the future, present and past. It was apparent that positive self-talk about own performance was one of the most notable issues.

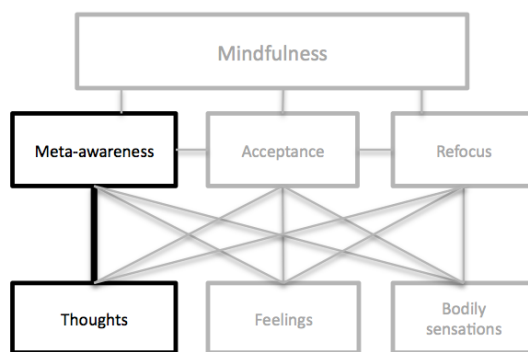


Figure 4.2. Meta-awareness and thoughts.

As one of the athletes' remarked:

I have the necessary power needed, so there's no need to hold anything back (self-talk).
I don't think about it all the time, but I remember thinking that I am going to give them a hell of a fight for the rest of the trip (no.2).

Observed thoughts directed on personal internal experience, being unstoppable, motivated the athletes'. They reported confidence and positive thoughts enhanced persistence and goal attainment in different situations. Negative thoughts about opponents, own capacity and bodily sensation were also stated. One athlete remarked:

If negative thoughts are combined with reduced output on the bike, it won't give good results (detect distraction). I should have caught up to the person in front by now because there is only a short distance left. I know that if I can't catch up to him now, I can't do it in a race (no.3).

The athlete expressed frustration when he experienced negative thoughts. It was apparent it fatigued the athletes' and made them sustain in the situation. The remark illustrates how evaluation of external stimuli (opponents) can occupy most of an athletes attention in the competition. Furthermore, technique was mentioned as one of the most prominent issues reported. One of the triathletes' remarked: "When competing, I focus on the technical aspects. In relationship to running, I focus on running forward on my toes" (no.4). They all reported awareness of techniques common with reaching an optimal state of performance. Further, participants supported a positive effect on performance, being aware of goal relevant cues. Recognition of thoughts also involved short-term goals and self-talk (e.g. normalizing experience, future requirements). The athletes' indicated interpretation of observed thoughts affected the outcome.

Feelings

The athletes' reported awareness of different feelings based on the situation. Happy, happiness, satisfied, joy, flow, fine, calm, secure, peaceful, unstoppable, bad, annoyed and nervous was feelings evoked. Positive feelings dominated, and were important motivating the athletes' to stand in the situation.

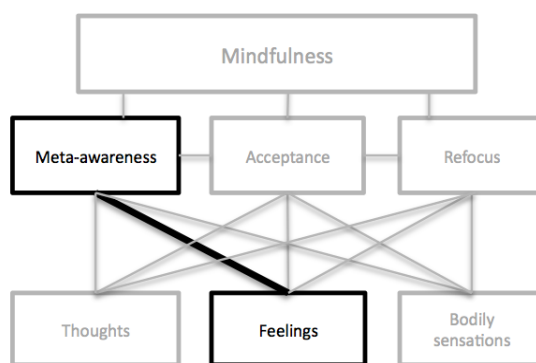


Figure 4.3: Meta-awareness and feelings.

One athlete remarked:

You can sit on the bike and experience pure joy, because you feel that you have excellent legs (curious and open attitude). Of course, in right there in that moment you feel happiness (no.5).

The athlete emphasised how a curious and open attitude towards the observed feeling of joy made him positive towards the situation. Feelings were likewise reported to affect the outcome in situations the athletes´ experienced as challenging. Opponents were registered as an external distraction and the triathletes´ used feelings to evaluate the situation. One of the athletes´ remarked a training situation with opponents:

I need to train a lot, unstructured training isn't good enough. I can feel the inner peace and calm, let them do their own thing (open and curious attitude, sustain attention). I am confident enough to know that what is right, and to me that's the best feeling in the world (no.6).

Feeling calm was seemingly perceived with positive effect of confidence in training. The triathletes´ emphasised the importance of trust in own abilities and knowledge to perform. Mutually in training and competition awareness of opponents were used to appraise own performance. Speaking of the subject, an athlete reported how opponents encouraged the athlete:

It was a great feeling (open and curious attitude) and after a while I caught up to people that I knew, and also people that I consider to be stronger than me, who normally beat me (external stimuli) (no.7).

Happiness that appeared in the competition motivated the athlete to abide the situation and enhanced the ability to perform. In situations feelings were perceived as negative inhibit performance ostensibly. The statements indicated the athletes´ started to question own capacities and sustained in the situation. Speaking on the subject, an athlete remarked:

I was having some trouble with my back, and because that made me nervous it didn't go that well (no.8).

Bodily Sensations

Intensity and location of bodily sensations were observed by all the athletes'. Prevalence of physical discomfort involved pain, the triathletes' felt sluggish, their legs weren't responding as normal, dizzy, their body was powerless, lactic acid in legs, experienced blacking out, tiredness, and lost balance and coordination. Covering the whole scale of intensity of bodily sensations. The athletes' reported how awareness of sensations impeded focus on goal relevant cues when they persisted in the situations.

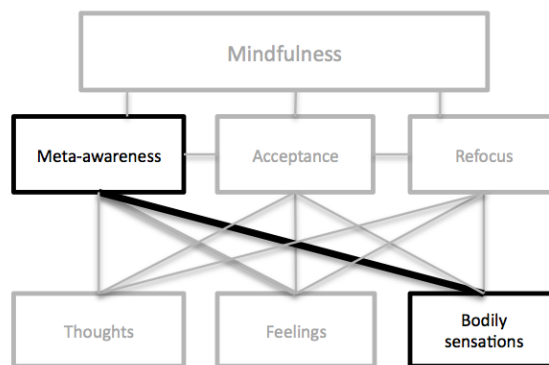


Figure 4.4: Meta-awareness and bodily sensations.

One athlete remarked:

My body actually felt quite heavy (detect disruption, open and curious attitude), and I had a bad experience last week where I missed a work out and had to make up for it. In the morning I had a arduously session with weights, and in the afternoon I was supposed to do run my regular interval session. I wasn't able to finish, because I had done too many squats in the morning. I felt dizzy and I just had to stop (no.9).

The athletes' mediate an open and curious attention to the bodily sensations in training and competition, and chose to sustain in the negative mindset. Another athlete reported a situation he felt dizzy:

If you feel dizzy, you actually just have to rest even though it sucks. After a while you realise that your legs aren't responding and your body just wants to give up (detect disruption, open and curious attitude) (no.10).

The athlete used bodily sensation to justify why he quit. Bodily sensations remarked as negative were salient, but the athletes' used the awareness differently. One triathlete

remarked: “It would not have been the same thing hadn’t it been hurting this much. It is part of the fun of pushing oneself this hard. People best remember how bad it hurt, it is so much fun” (no.11). Bodily sensations related to positive experience involved tension, expressed as excitement in the body, the body was unstoppable and light on feet’s. The athletes’ sustained or undermined the bodily sensation in different situations, but the awareness was in the same way used to organise training. One athlete commented:

During the first fifteen minutes I assess how my body feels and set my goals (open and curious attitude). I evaluate how my body is responding and I set a plan for how to complete the workout (detect disruption) (no.12).

Designate an open and curious attitude to bodily sensations the athletes’ could create realistic goals towards training sessions.

4.1.2 Accept

Thoughts

The interviews recognized acceptance of thoughts appeared helpful for two of the athletes’ when they experienced distractions. When the disruption appeared the athletes’ weren’t critical or blamed them having the thought.

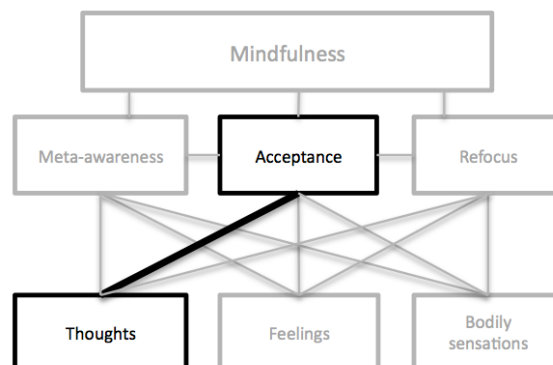


Figure 4.5: Acceptance and thoughts.

One athlete mentioned:

If I am tired or feeling sad, I try to switch my mindset. Being able to shift my thoughts is something that I focus on, I accept the thoughts and know that it probably won’t be long before they return (no.13).

The athlete emphasised how accepting thoughts with an open and curious attitude possibly kept focus on the present moment. He suggested past experience with repressive thoughts did not have a desired outcome; thoughts ought to be evaluated as passing mental events.

Bodily Sensations

Two other athletes´ reported acceptance of bodily sensations. They expressed how levels of exhaustion pain and lactic acid were accepted.

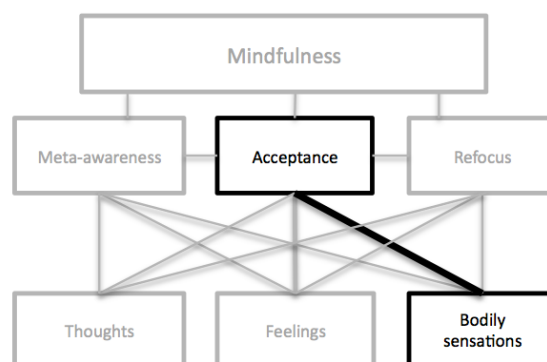


Figure 4.6: Acceptance and bodily sensations.

One athlete put into words:

If I am having a good workout I am able to keep up the intensity without getting too tired. My muscles feel sore and I feel other mild pains, but I can still keep it up without it feeling to easy (detect distraction, open, accepting and curious attitude) (no.14).

The athlete is open, curious and accepted the bodily sensation experienced in the present. The athletes´ emphasised the importance of learning how to handle pain and stay in the present. Pain was a bodily sensation all the triathletes´ recognized when they performed in competition and hard training sessions. One athlete exemplified:

I think you almost adjust to feeling happy when you are in pain. You see other people giving up when the pain kicks in, but I know that it's when it starts to hurt you actually

get better (curious, open and accepting attitude). I just want more of it, because I know that the more pain I can endure, the more affect I will get out of my exercise (no.15).

Through a cost-benefit analysis the athletes' suggested acceptance were important to get a positive result. The triathletes' knew the gain, and used current bodily sensations to motivate and persist in the situation. Pain will never disappear and is in need to perform better.

4.1.3 Refocus

The athletes' recognized refocus strategies directed on goal-relevant cues based on awareness of thoughts and bodily sensations. They reported a search to bring attention back to the present so they could reach their goals while distracted.

Thoughts

In terms of disrupting thoughts the primarily strategy emerged from the interviews were short-term goals.

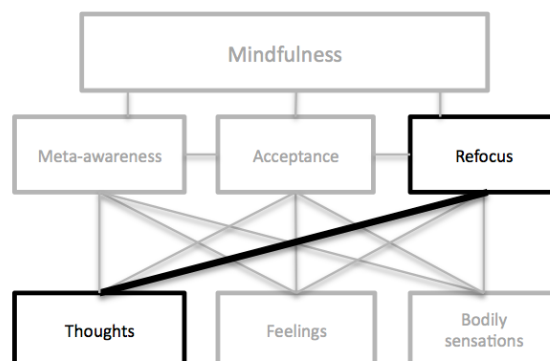


Figure 4.7: Refocus and thoughts.

One athlete remarked:

What I often do is to look back, and break it up into shorter distances, and maybe I also set short-term goals. I have to keep my focus on the climb, and my task is to make sure I don't overdo it but at the same time I need to maintain a certain speed (work task) (no.16).

To keep focus on the situation enhanced the possibility to reach the desired goal. Work task, imagery (e.g. the finish), self-talk (e.g. normalizing experience, about the future) and refocus on goals were also used to refocus on disruptive stimuli. One athlete stated:

If you miss once you start thinking that you have blown the whole race (detect disruption), and that's when you have to stop those thoughts and concentrate on the positive technique (work task) (no.17).

Attention switched from disruptive thoughts about competition situations to work tasks. The athletes´ experienced benefit in performance if they reported the ability to focus on the present. One athlete mentioned:

During a race, it is extremely important to be in the moment, and to draw on past experiences. You need to feel nimble at all times, and not push too hard, if you push it you will fail. Don't think about it, but focus on feeling supple (detect disruption). I concentrate on techniques, what I have practiced? When does it feel good? What's important in my step? Then I try to work on those aspects (no.18).

The athletes´ were aware of threats, and previous experiences helped them direct their response to functional strategies suited for the moment, work task.

Bodily Sensations

In terms of distracting bodily sensations the athletes´ reported different refocus strategies. They refocused with work task, short-term goal, self-talk (e.g. normalizes the experience, soon finish) and imagery strategies, mainly based on pain.

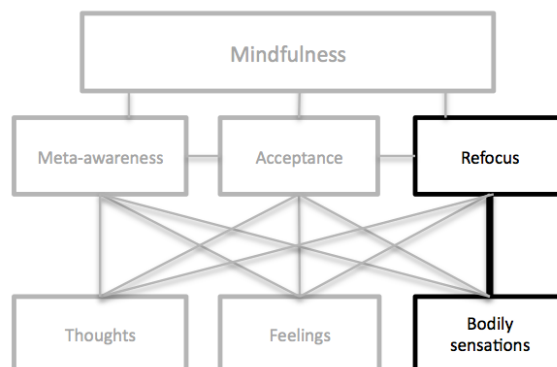


Figure 4.8: Refocus and bodily sensations.

One athlete remarked:

Because it starts to hurt, and you might experience some challenges with your nutrition. You want to keep it up as long as you can, and focus the mental side of it on your tasks, that's when you succeed. When it starts to feel tough, you need to encourage yourself (self talk). What I often do is to look back, and break it up into shorter distances, and maybe I also set short-term goals. I have to keep my focus on the climb, and my task is to make sure I don't overdo it but at the same time I need to maintain a certain speed (work task). It is important not to ruin in, and maybe you need other task when it feels like too much, maybe have some food and a drink (no.19).

The athletes' reported strategies intended to remain in the situation to perform as desired. By the end of competitions they used refocus strategies to set aside focus on pain that affected physiology. One athlete explained:

When I came to the steepest climb, I had lost my coordination, balance and I started seeing just black (detect distraction, open and curious attitude). I tripped and fell over, and had no control at all. I told myself, this isn't dangerous it just proves that you are pushing yourself (self talk). You can't panic, it's just because you are exhausted, all you need is some new input (no.20).

The athlete used self-talk to normalize the experience and changed focus towards goal-relevant cues. All the athletes' recounted experience of bodily sensations that made them want to quit. They had to overcome pain, and see how relaxation and new inputs benefit the performance. One athlete said:

Towards the end, it like that. Remove yourself from the pain, disconnect and re-connect, all depending on what you want (no.21).

4.2 Mindfulness in Training and Competition

Training and competition are distinctive situations with dissimilar requirements. The athletes' mentioned components of mindfulness in both situations.

4.2.1 Meta-awareness

The athletes' pointed on thoughts questioning own performance, competence, abilities and the opponents. Taking part in training they reported change of mindset, thoughts

concerning how they ought to feel and focus areas too. Thoughts the triathletes' remarked affected the situation searching to find the ideal training to enhance performance. In competition awareness of positive thoughts affected their ability to stay in the competition. Observations of thoughts that assessed progress during previous training sessions were not thought to have a positive affect on performance. As a result the athletes' strained to adapt the situation so beneficial as possibly.

Feelings taken part in training and competition included joy/happiness, good, unsatisfied, annoyed and energy level. The athletes' ostensibly reported the same feelings, but in training they also reported feeling content and satisfied, and experiencing a feeling of inner peace. The athletes' mediated how positive related feelings in training helped them complete the sessions. In competition the triathletes' reported they felt at ease and enjoyed pain. The majority of the reported feelings were positive and enhanced the athletes' motivation to stay in the competition, seemingly as in training. Competition was also a situation where the athletes' evoked pressure and reported nervousness. They were nervous of insufficient skills, uncomfortable bodily sensations and questioned own ability to reach their goal/s.

It was apparent that the triathletes' experienced alike awareness of bodily sensations in training and competition. The most reported bodily sensation was pain; athletes' moreover observed tension, dizziness and felt sluggish. Concerning training the athletes' as well recognized their body did not respond as normal. The athletes' tend to stay with the observation and discontinued the training session. In competition they then observed how their legs did not respond as normal, pain enhanced, the athletes' experienced blacking out and lost balance and coordination. They were extra aware of bodily sensations towards the end of training and competition, most commonly in competition.

4.2.2 Acceptance

The four athletes' primarily reported acceptance in training situations. They accepted thoughts questioning abilities and bodily sensations of pain. One athlete reflected on own capacity in a competition setting:

In 2012 I reached the top and was told that I was sixteen minutes behind, I just thought; “It doesn’t matter, I’ll make it up on the running” (no.22).

4.2.3 Refocus

In training and competition the participants were aware of distractions and used different refocus strategies to reach own goals. Refocus was mostly reported in competition. As a response on thoughts the athlete’s reported imagery, work task and self-talk in competition and training. In competition setting one athlete remarked:

When your only goal is to win you need to ask, should you run to the finish or should you try to push them to the limit? Through the whole thing you have to envision the best possible outcome. That’s the hard part, being able to think that doing you best is going to enough. You need to convince yourself, and not pay any attention to the ones that runs past you (no.23).

According to the athletes` trust in own abilities reassured disruptive thoughts. With positive self-talk the athlete recognized he sustained in the training or competition setting, enhanced self-confidence and performed at the required level. One athlete explained why he used imagery in training sessions:

All the stress is gone. You revive former experiences and those former feelings and envision it. In certain competitions I can envision the scenarios of success. That gives you such an adrenalin kick, that you are able to push your body a little bit extra. You know that you have to give a little bit extra to get there (no.24).

Refocus methods helped the athletes´ achieve their desired performance in training. In competition they reported short-term goals and goals in near future were carried out. One athlete remarked: “You are allowed to go when you come to the hill” (no.25). The methods were nearly the same when the athletes´ responded on bodily sensations. Self-talk, work task and short-term goal were strategies used in training and competition. In training one athlete mentioned:

I feel great, in my exercise room I have made a note of what I believe in, and at the top I have written ”the will to finish”. When I’m in a tough place mentally and want to break, I just take a look at it and keep on going. I just think, this is what you believe in, keep on going! You’ll have to adjust the frequency, or maybe the technique in your step or

the swimming so it feels a little bit easier or faster. You always need focus! When it feels hard, I think that it's almost over, you just need to go on a little while longer (self talk) (no.26).

The triathletes' motivated them to keep goal-related cues in focus. Identity was important and they didn't want to disappoint themselves. Beside the refocus strategies noted the athletes' reported imagery in competition. One athlete remarked:

During the last leg is when I think about prior experiences, i.e the trouble I had in Jotunheimen, the stone at Hardangervidda and everything I have done before. I often repeat those experiences in my mind, and day dream about them (imagery) It takes the focus away from the extreme pain I am feeling (no.27).

The athletes' recalled old experiences and remembered what they were capable of. The athlete's example involved situations where he experienced enormous challenges and managed to accomplish a goal that seemed impossible: Carrying a heavy stone inside a bag a whole day knowing none of the other athletes' could complete the task. Finish a bicycle race when he was consequently cold and out of nutrition, which provoked a black out. Visualising the situations inspired the triathlete, he remembered previous achievements and what he is capable to accomplish. Even though the refocus strategies were virtually the same in training and competition it seemed like imagery and self-talk was represented primarily at the end of hard training sessions or competitions. The perception of pain increased, and the athlete's had no energy or power left to focus on work tasks as technique. Quantity of refocus strategies enhanced and motivated the athletes' to complete what they had started even though they were distracted. One athlete reflected:

A mental thing could be to imagine the situation at the finishing line, that you are on your way and that you cross the line. It doesn't quite work when you are running, because you still have half a marathon left when you are at 1800-meters. You can still envision the finish, that you are at the end of it, and tell yourself that you have been going on for ten hours, you actually only have two-three hours left (self-talk) (no.28).

The athletes' reported almost the same refocus strategies in training and competitions; nevertheless different distractions altered the strategies. Short-term goal and work task

were commonly reported through training and competition, when intensity of pain increased routine of imagery and self-talk strategies enhanced. When the athletes' reported refocus strategies they based it on mindfulness perspective, and indicated it had a positive effect on performance in training and competition.

The athletes' distinguished training and competition settings, but then again used training sessions to reconstruct situations they experienced in competition. One athlete remarked, "Obviously, if you don't practice it, you'll never be able to do it in a competition" (no.29). One more athlete emphasised how important it was to reconstruct the exhaustion he always experienced in competition.

Some of my workouts I actually push myself so hard that I am completely exhausted, and I set I goal that I have to perform. It's hard to be precise; it varies from time to time. First I push my self as hard as I can, preferably without food because that gives you the same feeling of rational. When you are that exhausted you set a new goal that is almost impossible to reach, and then you try to perform. If you have experienced this in a training environment it is will be easier when your are competing, you know you can do it and it gives you more confidence. It is actually possible (no.30)!

The athletes' uttered the foundation of hard training sessions was preparation for competition.

4.3 Degree of Mindfulness Components

Mindfulness components were reported in different degree through the interviews. Awareness of the present and refocus strategies to handle the distractions was stated frequently.

4.3.1 Meta-awareness

The athletes' impaired an impression of their awareness in many situations. Awareness of thoughts was prominent, and frequent key points observed were reported in competition. As well the athletes' were aware of bodily sensations and feelings, which affected performance. One athlete demonstrated how awareness could decide the current training session:

I often go out and train by ear. I have a framework to guide me in my training on any given day, but often I will adjust my plan based on the feeling I have that day. I have a lot of experience and I know my body extremely well, and I know how I am going to react to different things. I know how it feels when things are wrong and when things are right. (no.31).

To combine past experiences with an open and curious attitude towards bodily sensations and feelings the athlete knew what he was capable of and used the information to optimize the training session.

4.3.2 Acceptance

In terms of mindfulness less acceptance emerged from the athletes' interviews. Four triathletes' referred to a situation where acceptance ostensibly had a positive effect on observed thoughts and bodily sensations. One athlete explained:

I accept the feelings, and it probably won't be too long before I experience them again (no.32).

According to the athlete an alteration of acceptance was decisive. The ability to accept thoughts was developed based on past experience where thoughts possibly inhibit performance. The athletes' had gained knowledge of sustained awareness effect; the thoughts constrained their awareness of the present. The nonjudgmental attitude has its prevalence based on thoughts, but also bodily sensations. Speaking on the subject, one athlete remarked:

During a good training session, I manage to hold a good level of intensity without being tired. I still get lactic acid and other pain, but it is possible to push through even if it isn't easy (no.33).

Pain was reported prominently, and based on past experience the athletes' evaluated acceptance of bodily sensation by means of performance enhancing effect. Eliminating evaluation and label of experience as good or bad broaden the athletes' focus on the present. Despite acceptance the athletes' evoked situations were acceptance of bodily sensations lacked. Questions regarding observed intensity and pulse were remarked by one of the athletes':

You start thinking, have I trained hard before? Is that why? Am I exhausted? What am I doing? Am I throwing away all my time? Perhaps, that's the most important thing. I am just ruminating over it, am I going to quit, what am I going to do (no.34)?

The athlete sustained in the observed bodily sensation and started to analyse the situation. Elaborating on evaluations about the previous deprived focus from the present situation, the athletes' remarks indicated it did not optimize the performance.

4.3.3 Refocus

Refocus seemed to bring up performance. The magnitude of refocus strategies was reported in competition, with ample remarks on strategies based on thoughts. The athletes' referred the magnitude on bodily sensations as congruent in competition and training. While the findings indicated athletes' used refocus strategies it was limited in some situations. One of the athletes' explained:

When I am in a bad shape, I think about how long it is and about my tired legs. I am thinking about the whole stretch, and how uncomfortable it is going to be. It is a whole other focus. I try to change that by overriding my thoughts. For example, I can think of a hill that is eight kilometres further on the course. I don't need to think about it now, it is going down the road anyway. But my thoughts are on the hill (no.35).

To overrule the mind with focus on the future gave deficient consequence on performance. Situations where athletes' lack of refocus appraise to impair performance in competition. Demotivation was a response registered when athlete's sustained in thoughts about the future. An additional athlete remarked how focus on results occupied the ability to perform:

If you only think about the result, it is most likely you won't achieve that result, because you wouldn't know what to do get hat result (no.36).

How is it possible to achieve something you do not know how to do? Focus on the future has nothing to do with the present (other than awareness of the thought), but if athletes' chose to focus on results in the present it affected the situation. One athlete indicated focus on results enhanced evaluation of the situation in the present, which resulted in disturbing the athletes' focus on goal relevant cues:

Next time you might consider the result. During the competition I contemplated just rolling over the hill and wait for my wife, then I could help push her through. But then again, there wasn't really a good outcome when it happened. No scenarios I thought of was better than the rest, except if I quit I wouldn't have to go through hell the next week. Anyway, nothing would be worse than what I was going through there and then (no.37).

If the potential result does not meet the goal the athletes' reported lack of motivation. The remarks indicated experience with refocus strategies taught the triathletes to refocus on goal relevant cues to reach the aim. One athlete exemplified the difference between a competition where thoughts became reality and two years later the athlete refocused on the same thought:

There was a big difference between Norseman now and in 2010. When I came out of the water I was told I was eighteen minutes behind, I just felt like crying and lost focus. In 2012 they told me I was sixteen minutes behind, and I just thought 'it doesn't matter, I'll catch up on the run' (no.38).

Through past experience the athlete had learned how he interpreted the situation affected the result. Commonly the athletes' reported focus on the present was valuable. Ostensibly they chose to be mindless (antonym of mindful). One athlete remarked:

Yesterday, there was four of us, and we just sat there talking. It's like being at a café for four hours, it's very nice and time just flies by. If I have a calm training inside, I'll watch a movie or listen to music (no.39).

The athlete overtly chose to disengage from the situation in a restful workout. The session goal was to conduct the plan; to accomplish the intention the athlete did not need to be mentally in the moment. One athlete remarked: "It's nothing special, especially when I have a calm training session. I'll spend my time planning renovation, work or other stuff" (no.40). Unlike these examples the athletes reported situations with lack of mindfulness unintentionally that decide the quality of performance. One athlete remarked:

When I swim I concentrate on techniques and how I glide, and then all of a sudden I can start thinking about other things. I don't know if it's just because I'm not able to keep focus

or if it's something else. Other times I keep focus without letting anything distract me, it's just me and the dark water. Even in competitions I have experienced that I do like I do in those calm training sessions, where I start thinking about which covings to use in the kitchen, where to go on holiday and other things. When I'm on the bike it's different (no.41).

The athlete reports a mindless experience in one of the sport disciplines. A possible reason why this reaction was promoted may be lack of self-confidence. The athlete reported fear of the situation before the competition started.

5. Discussion of the Results

The motivation behind this study was to investigate the effect of mindfulness on athletes' results. Exploring and describing the athletes' self-regulation provided results suggesting that mindfulness is naturally present in the five triathletes, in line with Thienot's (et al., 2012b) definition.

5.1 Use of Mindfulness

Previous studies on mindfulness put forward hypothesis' that when athletes focus on external contingencies, a behavioral response is required to cope with the situation in order to achieve immediate and distal goals (Gardner & Moore, 2004). In this exploratory study, it was apparent the athletes utilized different aspects of mindfulness consciously and unconsciously in various situations, without mentioning the term mindfulness. The athletes emphasized how important it was to be in the present in order to balance the output and get results. Observations made in this study on training and competition of different thoughts, feelings and bodily sensation demonstrated that the top ultra-distance triathletes were aware of the present. This supports Thienot's (et al., 2012a) assumption regarding awareness of the present, which is claimed as essential in order for the athletes to affect the situation in the moment.

Worldview, various goals and value philosophy yields different awareness and responses. Thoughts that were frequently remarked as distracting during competitions was concern associated with opponents, ones one performance in the past, present and future compared to expectations, and the athlete's ability to cope with this seemed to affect the outcome. Awareness focused on the athletes' positive feelings, as flow and joy, was also evaluated as a positive indication for the performance. It seemed to be beneficial for some of the athletes to feel calm and safe in situations for them to perform optimal. Negatively evaluated feelings (e.g. nervous) seemed to impair performance as they were considered true and the triathletes started to abide the feeling. Awareness of bodily sensations provided new challenges for the athletes' ability to stay in the moment. The awareness of bodily sensations increased towards the end of ultra-distance triathlons due to fatigue and hard training sessions in line with pain. The athletes remarked that they had learned that in ultra-distance triathlons, pain was inevitable, and

that results was very often associated with greater pain – mostly because they pushed harder. They had to learn to enjoy pain in order to win.

The second component in Thienot's (et al., 2012b) definition was acceptance. Four out of five athletes' reported acceptance as a way to enhance their ability to stay in the moment. In line with Bishop's (et al., 2004) theory they had learned that an open, curious and accepting attitude towards the present enhanced their attention on goal-related cues. Repressive thoughts and bodily sensations will not disappear; only undermine focus on the moment. Two of the athletes once reported acceptance as a response on pain to remain in the right direction to reach their goals. Even though they evaluated acceptance as an important process to handle distractions in the present, they did not use the term "acceptance" a lot in the interviews. The function of acceptance is discussed further in this section.

Being aware, but not accepting distractions in the present, requires different refocusing strategy based on the situation (Thienot et al., 2012b) to help the athlete achieving their goal. To keep goal relevant cues in focus, the top triathletes' used self-talk, imagery and goals, all "second wave" strategies. But they reported the goals as: work tasks, short-term goals, including process goals, refocusing on goals and performance goals. In this setting, the refocusing strategy is similar to what is described in the "third wave" psychology, and the athletes' didn't control and suppress thoughts and bodily sensations, but heightened the focus on goal relevant cues and the ability to finish what they had started. Kee and Wang (2008) suggested "second wave" strategies are heightened by mindfulness, and support why the athletes reported different strategies in a mindful mindset. Kee and Wang thinks that athletes being mindful is better at detecting threats, emotional events, and use previous acquired coping strategies to cope with distracting situations. Kee and Wang indicates that athletes that are more naturally gifted with the ability to be mindful, scored higher in terms of attention control, emotional control, goal-setting and self-talk (Kee & Wang, 2007). This study supports that hypothesis, as it was found that the Norwegian ultra-distance triathletes interviewed were mindful and incorporated previously self-taught self-regulation methods from the "second wave" psychology. Even though discoveries in the direction of "second wave" psychology were found during the interviews in this study, it seems to support traditional methods from "second wave" psychology still is useful if it is adapted and

adjusted to the new philosophy of “third wave” cognitive-behavioral approach (Bernier et al., 2009). Athletes use years of practice to become top athletes, and Gardner and Moore assumes that strategies the athletes develops is used for “navigating” situations in order to achieve their goal (Gardner & Moore, 2004). This study did not reveal any refocus remarks on feelings, this may possibly indicate the athletes´ hadn´t evolved strategies or wasn´t aware of the reaction. However, the triathletes mostly reported observing positive feelings and may have consciously or unconsciously applied various strategies to maintain the attention on the positive feelings.

5.2 Mindfulness in Training and Competition

A link between mindfulness in training and competition is difficult to pinpoint. In this study it was researched to what extent mindfulness was used during training, and it appeared that the triathletes strived to make the training and competition as equal as possible. Possibly indicating a mental preparation. The triathletes emphasized how important they believed reconstruction of exhaustion expected during competitions in training sessions was to increase performance-enhancing strategies. They used visual imagery and bodily sensations to reconstruct competition settings, and challenged their ability to stay in the current moment by pushing harder. Their idea was that if they reached their target during training, replicating exhaustion expected during competition, they would increase the likelihood to use the strategies developed during training to maintain focus on target.

5.2.1 Meta-awareness

A distinction between awareness of thoughts, feelings and bodily sensations in competition and training was registered. In terms of thoughts, the athletes reported mentally questioning the situation (e.g. why are you her), their own capability compared to the opponents, including concerns regarding their own ability to finish what they had started in training. In competition, the athletes consciously evoked positive thoughts and normalized the distracting experiences to finish what they had started. They also remarked feared of failure, and the progress in the competition.

In both training and competition, the athlete registered positive feelings (e.g. about own abilities and being unstoppable). To create trust in own capabilities, heighten the energy level and directed towards performance in the present moment and it seemed important

to abide the situation regardless of what is going on. Competition is a situation where the athletes have the opportunity to demonstrate their abilities, and this may be a reason why they reported nervousness as a distinctive feeling. Certain athletes started to question their own skills and felt increased stress due to external stimuli (e.g. sponsor expectations) or internal stimuli (e.g. abilities).

When training and competing the athletes' awareness of bodily sensations were seemingly the same based on the remarks. The triathletes felt on sluggishness, being tense, dizziness and pain. What characterize an ultra-distance triathlon is the duration, and the athletes reports even experiences such as blacking out, sensation of lacked coordination and balance. The duration of an ultra-distance triathlon, such as Norseman, is over 10 hours, and differences discovered between training and competition is that the athletes tends to consume more energy, and they pushed themselves differently during competition. The athletes interviewed reported that they wanted to feel unbeatable, and thus they pushed the limits beyond what they tolerated within own limits.

5.2.2 Acceptance

Four of the athletes reported "acceptance" once, 3 of them during the training session. They emphasized that the "acceptance" had positive effect on the situation: enhanced ability to focus on the present. The triathletes knew from experience that thoughts or bodily sensations would positively return, but based on the interviews the athletes seemed to apply the strategy mostly only during training. The reason for this was not reported, but the investigator questions if it is easier to recognise acceptance in training sessions because the triathletes have different goals and values during training and competition.

5.2.3 Refocus

To respond on the athletes awareness of through the refocus strategies were comparable in competition and training. The interviewed triathletes used imagery, work task and self-talk to focus on goal relevant cues. The results indicated that the triathletes used the same strategies, but their based on different situations they were affected differently. If the situation was affected by thoughts or bodily sensation, one of the athletes reported that an internal imagery being unbeatable produced an adrenalin kick and the little extra to perform. Self-talk was reported to enhance trust in own abilities, and work task kept

focus on the present. In competition, short-term goals and ability to refocus on the goals were also remarked as helpful in order to maintain attention on relevant cues in the moment. Refocus-strategies used when the athletes were aware of bodily sensations in competition and training was almost the same: self-talk, work task and short-term goal. In competitions and hard workouts, statements including self-talk and imagery increased towards the end of the workout to keep up performance. The athletes needed to refocus on goal relevant cues and maintain the cues centered when the body started to resist from performing. When the pain increased, imagery did not have the same effect as opposed to the example on thoughts in performance. Thoughts increased motivation and the situations was evaluated in a wider perspective. Imagery and self-talk enabled athletes to switch attention from the bodily sensation, and increased the motivation to finish their goal even if it seemed unbearable. The method the triathletes coped with pain is in line with Buddhism; they focused on acceptance of the pain as something that where there as a natural cause of the performance and winning, rather than trying spend resources on eliminating the pain. The triathletes remarked pain as inevitable when pushing as hard as required to win, even though it brought the triathlete closer to considering giving up. With self-talk and/or imagery the triathletes managed to deal with the pain and performed in line with their goals. Equal signs can be drawn to people with chronic pain experience. Chronic patients have to overcome pain and learn how to live with it. Ultra-distance triathletes need to cope with pain close to threshold speed for more than 10 hours. If the triathletes where to feel unbeatable and accomplish what they have started, they need to cope with pain. Studies on chronic pain patients and mindfulness support improvement in physical function and pain acceptance (e.g. Morone, Greco & Weiner, 2008). The study on patients improvement based on the use of mindfulness suggests that triathletes also can have a positive effect being mindful. Kabat-Zinn (1994) said, “You can’t stop the waves, but you can learn how to surf” (p. 30). Athletes will always face pain in a triathlon, and must learn how to cope with pain to perform optimal. Despite the positive effect on performance, imagery and self-talk did not have the same effect in all stages during competition and training. Imagery and self-talk were functional in situations where it was necessary to finish what they had started. In competition and training the athletes’ results shows that it important to focus on the present moment as long as possible.

Summarized, it appears that the triathletes promote usefulness of mindfulness during competition and training in order to increase performance. The setting and how the athletes interpret the situation was affected by the use of mindfulness. In addition, the study argues that the effect of mindfulness differs between training and competition settings, which supports that subcomponents of mindfulness change and present different advantages in order to increase performance (Bernier, Thienot, Codron & Fournier, 2009).

5.3 Degree of Mindfulness Components

While this study was conducted there was no valid tool to reveal the amount of mindfulness in sport, only Thienot's (et al., 2012b) MIS. What is certain, athletes' use different components in dissimilar degrees in various situations in training and competition in triathlon. The results were summarized in a reconstruction of figure 2, based on Thienot's (et al., 2012b) definition of mindfulness.

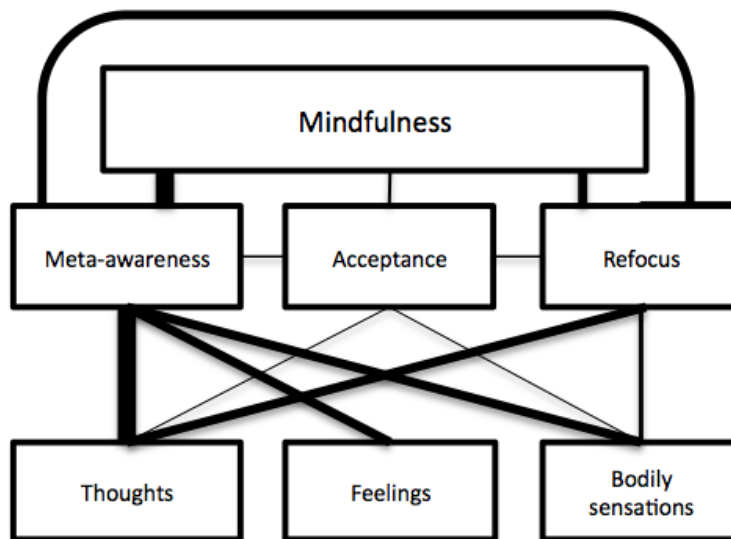


Figure 5.1: Illustration of athlete's report of mindfulness in training and competition

The thickness of the lines in the figure indicates how often the athletes reported use of the different components through the interviews. Awareness was clearly the most reported component, the athletes' were conscious about cognitive and physiological changes. Awareness of present situations caused interpretation of distractions, and the athletes' reported accepting thought, feelings and bodily sensations rarely. Two athletes'

reported accepting thoughts once, and two other athletes' remarked acceptance based on bodily sensations. Despite the lack of remarks the athletes' stated acceptance as a strategy employ to handle difficulties based on experience. Refocus strategies was more commonly reported. An additional link was suggested in figure 10, between meta-awareness and refocus. It illustrates the athletes' awareness about distractions in the present, mostly handled with refocusing strategies, and not so much acceptance strategies. Most of the athletes' refocus strategies was based on thoughts, but also bodily sensations set the stage for variation of strategies. The ample remarks in competition indicated thoughts mainly distracted the athletes'. Refocus on bodily sensations was highest at the end of competition and training when intensity of pain was highly reported. There was a consensus that focus on goal-relevant cues was crucial to perform. The triathletes' did not report any response on feelings. Either they lacked awareness of reactions, or responded mindless on the observations.

5.4 Mindfulness Definition

Thienot (et al., 2012b) based her definition of mindfulness primarily on water polo, soccer, cycling and swimming athletes' reports of mindfulness. The purpose of the study was to find out if Thienots theory including meta-awareness, acceptance and refocus were transferable to triathlon? The athletes' were aware of the present, and both acceptance and refocus strategies were developed and implemented in training and competition. The triathletes' only mentioned acceptance, and the study did not perceive acceptance as a prominent strategy. A possible reason why the component was mentioned less may be the ability to be conscious about acceptance and the ability to recall acceptance in a retrospective perspective. The athletes reported most refocus strategies, which athletes can be more open and aware of. To reveal if the triathletes' accept or not future investigation is in need.

The results from athletes' self-report support the definition of mindfulness are suitable for athletes, however it may have different roles as Hölzel (et al., 2011) describe. The components of mindfulness were found in triathlon, but it argues varied sports have distinct use of components in mindfulness. Similarly in sessions mindfulness changed, based on variation in physiological and psychological requirements what occupied the athletes' at the beginning of the competition were not the same at the end.

5.5 The Need of Mindfulness

Gardner and Moore (2007) described mindful athletes' develop goals to perform well and focused attention on performance-related cues and appropriate behaviours to get there. In this study the athletes' in general are mindful in training and competition. The results supplement the assumption that elite athletes intuitively use mindfulness (Kee & Wang, 2008; Kee, Chatzisarantis, Chow & Chen, 2012; Gooding & Gardner, 2009).

In competition and training the athletes' reported stressful situations based on internal (e.g. pain) and external (e.g. sponsors) pressure that affected performance. Supporting Gooding and Gardner (2009) elite athletes attained and maintained attention to task at hand when they know it has a positive effect on performance. They do not let internal experience or external stimulus become sources of distraction. The triathletes' assumed components from the definition of mindfulness were crucial to get a positive effect on performance, and through years they had acquired methods to get the most out of every situation. To support the assumption one of the athletes' remarked the difference between a novice athlete and himself: "That's when I realise that I have both physical tools and other techniques and routines I use that gives my training a higher quality than the others' "(no.42). The athletes' had all started as novice and through years they had searched relevant internal and external information to reach their goals. They support Wolanin and Schwanhausser's (2010) assumption, athletes in search of optimal performance engaged in behavior consistent with how they wanted to act.

Recent studies indicate mindfulness interventions enhance athletes performance (e.g. Bernier, Thienot, Codron & Fournier, 2009; Gardner & Moore, 2004); ostensibly the same as the triathletes' stated in their search of functional mental strategies. Even though the triathletes' seemed aware of some strategies, intentional practice on mindfulness may enhance the frequency. Athletes goal should be to enhance the: "capacity to act in one's own best interest and function in the service of performance values regardless of thoughts and emotions " (Gardner & Moore, 2007, p. 159).

Systemizing mindfulness is suggested to stable performance. Based on the result mindfulness interventions are suggested to enhance the triathletes' ability to improve their routines and systemize the techniques they already have developed to perform optimal and save time. The question is if implementing mindfulness should emphasis

awareness and refocus strategies to keep goal-relevant cues in focus, or in addition include acceptance? Acceptance was rarely mentioned, and the study questions the component function to perform optimal?

Even though the study indicates high-performing triathletes' use mindfulness they must not be considered a homogeneous sample (Gardner & Moore, 2004, 2007). Athletes are individuals who experience training and competition differently, based on own interpretation. A positive feature of mindfulness theory is the functionality of methods that varies among athletes; it makes it possible to use methods that make them perform.

Despite the athletes' reported awareness had a performance enhancing affect, focus on results (outcome goal) removed attention on the present situation and the athletes' started to question own abilities. Focus seemed to be functional if it was directed on performance enhancing cues, and results were not one of them.

In restful workout some athletes' reported a conscious choice to be mindless, and they didn't relate any disadvantage conducting routinely sessions. Their intention was to conduct the training sessions and enjoy the experience, either talking to opponents or watching movies. This indicates mindfulness may not be necessary in every situation. However, in addition to consciously be mindless, athlete's also unintentionally dragged attention away from the present. It seemed to affect performance in a negative direction in training and competition, the athlete's sustained in the thoughts, feelings or bodily sensations they perceived.

5.6 Discussion of Source of Error

Although the study has contributed to future understanding of mindfulness there are different limitations in the study that should be considered and addressed in future studies involving mindfulness. The investigator works as an instrument through the whole study process, and the persons understanding of mindfulness set the ground for the whole study (Glaser & Strauss, 1967; Gratton & Jones, 2010). In the study a novice investigator interpreted mindfulness and conducted the study, it is suggested the lack of skills and techniques opposed to advanced investigators has limited the athlete's insight consciously, and without these techniques important knowledge can be missed out (May, 1994). To enhance the quality of the study and advanced researcher should work on the project and more investigators should be involved during the process.

The study is based on athletes' ability to be retrospective, and recall details about the past. To open up and talk about own experiences requires a lot from the athletes', and it is impossible to know if they are aware of their internal states (Thienot et al., 2012a). Researchers suggested there might be incongruence between the athletes self-report and behavior based on subject bias and social desirability response (e.g. Moran, 2012). Some of the athletes' may have interest to put him in another perspective, to look better or answer what he thinks the investigator wants (Gratton & Jones, 2004). An additional important issue within the study is the fact that language and thoughts are not always reciprocal. To verbally articulate thoughts depends on the quality of verbalizing, and readily verbalized components may overshadow less readily verbalized components (Schooler, Ohlsson & Brooks, 1993).

The timing of the data collection did not substantiate the congruence of self-reports. The athletes' were interviewed in the preparation period of the cycle of competition. It is possible an interview after a major competition (e.g. Norseman) would influence the athletes' response (Olusoga, Butt, Maynard & Hays, 2010; Gratton & Jones, 2004). The interview asked about competitions and training events, and many athletes' reported situations they had experienced months ago, which makes it a methodical weakness considering possible subject error. Furthermore qualitative study investigation search an indication of saturation of participants, and the only reason the study stopped conducting data was based on lack of time (Gratton & Jones, 2004). The study is conducted on ultra-distance triathlon athletes', and the findings are limited to five top Norwegian triathlon athletes' use of mindfulness. The study hypothesize differences may vary among athletes, sport and cultural differences. Norwegian athletes are in general a part of the Western world and mindset, and in a bigger perspective it can only say something about athletes from similar cultures. The sample of athletes' included men only, which may have limited and colour the results.

5.7 Future Direction

Despite these limitations, findings from this investigation extended studies on positive affects of mindfulness in sport. The study support top athletes' are mindful in different stages in training and competition. The most important factor future studies should focus on is operationalizing Thienot's (et al., 2012b) definition of mindfulness in sport. The study support the definition is suitable for sport, and to operationalize the definition

MIS is a self-reported questionnaire. The function is to help exploration of the facet of mindfulness (Baer, Fischer & Huss, 2006) and give a more general aspect of what already exists. A possible limitation in MIS is the direction on training and competition, these situations are not the only circumstances in sport the athletes may have a positive affect of mindfulness. To be a top athlete is a 24-hour job that requires performance in every life situation; new trainer and bodily changes are two examples of situations that may affect performance outcome. Additional instruments must occur to enhance the quality of research in sport. An operational definition on mindfulness in sport is needed to make it easier to interpret and replicate future research studies. "...instruments can be developed and question concerning mediating role and mechanisms of action can be investigated (Bishop et al., 2004)". It would also enhance applied sport psychologies by making it easier to find components relevant to the sport and establish cost-effective programs (Hölsel et al., 2011). Previous studies use various definitions, which makes it difficult to compare.

This study has put light on how practitioners use mindfulness naturally in training and competition setting, and the results imply mindfulness components are used differently in situations. Enhanced knowledge about the components effect and when it is appropriate to use is in need. A cost-benefit analysis would imply if components of mindfulness were useful for athletes. The athletes' reports indicate awareness and refocus are important components in ultra-distance triathlon to perform optimal. Do athletes who implement interventions with awareness, acceptance and refocus affect performance differently than athletes who implement awareness and refocus, or a control group? Studies on mindfulness are conducted on different sports, and future studies should examine if they may require different applications based on requirements and subcomponents. The study emphasis how top athletes' use of mindfulness, it would be interesting to find out if mindfulness interventions can be implemented in training at various level of expertise.

6. Conclusion

The purpose of the study was to find out if self-reported behavior in sport was in line with Thienot's (et al., 2012b) definition of mindfulness and mindfulness theory. The study asked three questions to find out how the athletes were mindful:

- 1) The first question wanted to uncover if athletes utilised aspects of mindfulness during training and competition. The results supplement the assumption that elite athletes intuitively use mindfulness (Kee & Wang, 2008; Kee, Chatzisarantis, Chow & Chen, 2012; Gooding & Gardner, 2009). The athletes seemed genuinely interested in the present; a situation they could affect through focus on goal relevant cues. They reported through experience acceptance and different refocus strategies that had developed based on how it affected performance. It supports the indication that high performing athletes act in best interest to reach their goals (Gardner and Moore, 2007).
- 2) The second question searching for a link between the use of mindfulness in training and competition. The athletes reported practice of mindfulness in competition and training based on situational demands. The athletes stated more mindfulness in competition, and reported training should be as competition specific as possible to enhance performance in competition improving strategies. Even though the athletes tried to make training competition specific the study support Bernier, Thienot, Codron and Fournier (2009) that argue subcomponents to perform change and present different advantage of mindfulness.
- 3) The last question searched to reveal if the components in mindfulness were used in dissimilar degree. Awareness about the present seemed to occupy the athletes' frequently, furthermore when the triathletes' were distracted refocus strategies resolved the situation. Functional strategies were goals, self-talk and imagery. Imagery and self-talk seemed most useful at the end of competition to support the athletes to finish what they had started. Research (Kee & Wang, 2007, Bernier et al., 2009) suggests mindful athletes use "second wave" strategies, which the study supports based on their mindfulness remarks. The athletes' only mentioned acceptance, a component reported as important to focus on the present. The findings indicate acceptance is not an important component for the

triathletes to perform, and the study suggests focus on awareness and refocus strategies to promote performance in triathlon should be prioritized.

Overall the study discovered the athletes' were natural mindful during hard workouts and competition in line with Thienot's (et al., 2012b) definition. Even though acceptance was not commonly reported the athletes' used it in some situations and was attentive to the function, to keep goal relevant cues in focus. On this basis the definition seems to illustrate how mindfulness is used in sport. Future studies should search to operationalize the definition, and develop tools to evaluate the components in line with MIS (Thienot et al., 2012b).

The findings in the current study add knowledge to the research area of mindfulness in sport. I hope reading this thesis has enhanced the interest in mindfulness taking part in sport. Mindfulness in sport is a new direction that deserves future research and attention.

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List of Figures

| | |
|--|----|
| Figur 2.1: Components Proposed to Describe the Mechanisms Through Which Mindfulness Works (Hölzel et al. 2011, p. 539). | 13 |
| Figur 4.1: Mindfulness components based on Thienot´s (et al. 2012b) definition..... | 33 |
| Figur 4.2: Meta-awareness and thoughts..... | 34 |
| Figur 4.3: Meta-awareness and feelings..... | 35 |
| Figur 4.4: Meta-awareness and bodily-sensations..... | 34 |
| Figur 4.5: Acceptance and thoughts. | 38 |
| Figur 4.6: Acceptance and bodily sensations. | 39 |
| Figur 4.7: Refocus and thoughts..... | 40 |
| Figur 4.8: Refocus and bodily sensations..... | 41 |
| Figur 5.1: Illustration of athletes´ report of mindfulness in training and competition. . | 56 |

Abbreviations

| | |
|---------------------|---|
| MIS | Mindfulness Inventory of Sport |
| Optimal performance | “the right combination of cognitive, affective and physiological conditions allows well- learned skills to occur in a seemingly effortless and automatic manner (Gardner & Moore, 2007, p.4)”. |
| Present | In this study the present is recognized as the immediate experience (Bishop et al., 2004) at any given moment including thoughts, emotions, sensations, actions or surroundings (Mishra, 2004). |
| Wave | “...a “wave” is a set or formulation of dominant assumptions, methods, and goals, some implicit, that help organize research, theory, and practice” (Hayes, 2004, p. 640). |

Appendices

Appendix A

Ultra-distance triathlon

The story of Ironman and ultra-distance triathlon started in Hawaii in 1978 where John Collins and his wife Judy wanted to see who the toughest endurance athletes were; swimmers, bikers, or runners? February 18, 15 men competed in Hawaii, and today the Hawaiian Ironman is regarded as the most prestigious triathlon event to win.¹ Ironman is today organised, promoted and licensed by World Triathlon Corporation (WTC), owned by Providence Equity Partners.² Norseman is the same distance as Ironman, but is not an Ironman competition owned by WTC. An ultra-distance triathlon or Ironman starts with 3,86 km swim, cycle 180,25 km and at last they run a marathon (42,2 km).

The group researched in this thesis is ultra-distance Norwegian triathletes who compete in Norseman, considered to be the hardest ultra-distance triathlon in the world.³

Norseman is conducted the first week of August every year from Hardangerfjorden to the peak of Gaustadtoppen. It all started in 2001 when the numbers of ultra-distance triathletes were low in Norway. Paal Hårek Stranheim and Bent Olav Olsen wanted to design a different race that could create new experiences on other levels; they wanted to create the hardest Ironman-distance on earth, gathering family, friends, and beautiful nature. July 19, 2003 the first competition was conducted with 21 participants, 19 finished.⁴ Since 2003 Norseman has grown and become a well-known competition with a maximum of 250 participants. The Norseman swim, in open water, holds approximately 16 degrees Celsius, the bike leg includes 3000 meters total ascent and

¹ Ironman (n.d.). *The Ironman story*. Retrieved 15. Mars 2013 from <http://www.ironman.com/history.aspx#ixzz2NcDL4Ekb>.

² Wikipedia (2013) *World Triathlon Corporation*. Retrieved 16. Mars 2013 from http://en.wikipedia.org/wiki/World_Triathlon_Corporation

³ Harriman, D. (2011). *The Top 10 Toughest Triathlons*. Retrieved on April 29, 2013, from <http://www.livestrong.com/article/431201-the-top-10-toughest-triathlons/>

⁴ Strandheim, P. H. (2008). *History of Norseman Xtreme Triathlon*. Retrieved 16. Mars 2013 from <http://stranheim.blogspot.no/2010/05/norseman-historie.html>

temperatures down to 5 degrees Celsius, and the marathon includes 2000 meters total ascent. The current record is 10:23:43 for men and 12:17:04 for women.⁵

Appendix B

Mindfulness in Buddhism

The “jewel” in Buddhism is the Buddha, Siddhatta Gotama, who lived in India 2500 years ago (Mikulas, 2007). Buddha means, “the enlightened one”, and Gotama show that final liberation from suffering (Nibbāna) is possible for everyone (Nyanaponika, 1962). Buddhas teaching is summed up in two principles: the Four Noble Truths and the Noble Eightfold Path (Bhikkhu Bodhi, 1984). The Four Noble Truths covers the doctrine and the Noble Eightfold Path covers the way and practice. Both principles include one another. The doctrine, Four Noble Truths, is made up of: (1) The noble truth of suffering, (2) The origin of suffering, (3) The cessation of suffering and (4) The Noble Eightfold Path leading to cessation of suffering. The Noble Eightfold Path is divided in three groups: (1) the ethical factor contain paths composed of right speech, right action, and right livelihood, (2) concentration composed of right effort, right mindfulness, and right concentration, and (3) wisdom composed of right understanding and right thinking. One of the most important paths is mindfulness is Sati, or as Buddha said: “the Only Way”. Sati is often described as “the heart of Buddhist meditation”, and endeavours to master the mind through development of greater strength and greater happiness knowing the mind, shaping the mind and achieve freedom of the mind (Nyanaponika, 1962). It promotes awareness, attention, and remembering: remembering to reorient the attention and awareness to current experiences (Germer, 2004). Through mindfulness, people become more aware of critical environmental cues, body sensations, feelings and thoughts experienced in the present (Mikulas, 2007) that caused suffering. Awareness of the situation here and now nonjudgmentally makes it possible to achieve freedom of the mind and remove the pain.

⁵ Wikipedia (n.d.). *Norseman*. Retrieved 17. Mars 2013 from <http://no.wikipedia.org/wiki/Norseman>

Appendix C

Study philosophe

Studies are used to develop valid and true knowledge about nature, human and society. In order to systematically control the development of knowledge, different methods and models are applied (Aadland, 1998). What underpins the methodology and gives reason for why qualitative and quantitative methods have developed in history of science is the philosophe (Maykut & Morehouse, 1994). There are two overarching perspectives that shape our understanding of research: phenomenology and positivist positioning (Maykut & Morehouse, 1994). The paradigms are overarching sets interconnecting the nature of reality through research traditions (Maykut & Morehouse, 1994). Positivism represents the understanding where part of the world gives an understanding of the whole world (Maykut & Morehouse, 1994). They represent a point of view where subjectivity shall be eliminated, and general methodological rules give knowledge regardless of the study's content and context (Kvale & Brinkmann, 2009). Quantitative methodology is a part of positivistic paradigm; it gives results in numbers or quantity expressed through text or pictures (Grønmo, 2004). Phenomenology represent a worldview where multiple realities exists through socio-psychological constructions forming an interconnected whole (Maykut & Morehouse, 1994). Phenomenological direction includes qualitative methods, ethnomethodology, symbolic interactionism, hermeneutic inquiry, grounded theory, naturalist inquiry and ethnography (Maykut & Morehouse, 1994). In many years quantitative method has been the most valued because investigators thinks it convey objective knowledge. In later years there has been a scientific revolution in contemporary quantum understanding of the universe. Perception and action has been described as inseparable, and it questions objectivity and bring subjectivity as a topic of intellectual interest (May, 1994).

The investigation is based on the phenomenological paradigm, and qualitative studies. It investigates subjects' words and actions as they construct it to understand their world (Maykut & Morehouse, 1994). In the search of knowledge about mindfulness in ultra-distance triathlon the study look after patterns within the athlete's words and want to present those patterns for others to inspect. At the same time it is important to stay close to the construction of the world as the participants originally experienced it (Maykut &

Morehouse, 1994). To describe and understand experiences and social phenomenon the athlete's have to describe their experiences. They are the only one who knows how they self-regulate during training and competition. The real world is the world people perceive (Kvale & Brinkmann, 2009), and it is impossible to know if others see the same. The phenomenological perspective of the study concerns the athlete's descriptions are as precise and complete as possible, without explanation or analyse (Kvale & Brinkmann, 2009). They are asked to as accurately as possible describe how they experience, think, feel and act in different training and competition situations, a descriptive phase (Kvale & Brinkmann, 2009).

The projects theoretical direction

The study is inspired by phenomenology, but most of all double hermeneutic. An important component from hermeneutics is accepting that the researcher has prior knowledge. The hermeneutic wants to dig deeper in the material than the phenomenology, and give room to interpret theory and data material. The student interprets what the athlete's say about their self-regulation methods based on own academically platform (Thagaard, 2010; Kvale & Brinkmann, 2009). The process is called double hermeneutic, "the participants are trying to make sense of their world; the researcher is trying to make sense to the participants trying to make sense of their world" (Smith & Osborn, 2008, p. 53). Hermetic give room for interpretation and accept it is legitimate with differences (Kvale & Brinkmann, 2009). Through the analysis process the analyst tries to understand the data material in parts and holistic manner going back and forth like a circle (Grønmo, 2004). It is important to notice that a text always can be evaluated differently based on the angle of the study. The student's knowledge of the area is important when analysing the material and to discuss the interviews in this study. The study is based on a new understanding of mindfulness in sports and wants to validate the construction. Nevertheless, it is appropriate to put the students interpretation and knowledge aside in different stages and clearly demonstrate what the practitioners communicate about their experiences. Through case-focused analysis and issue-focused analysis the athlete's experience are analysed based on the purpose of the study.

Research design

Induction and deduction are different approaches to search knowledge dependent on the

problem of the study. A deductive system examines the theory up against the empirical data to derive specific issues from a theory (Grønmo, 2004). The approach includes different premises that form a conclusion about anything in the world. To get a valid conclusion it depends on the validity of the premises (Fjelland, 1999). An example of a deductive approach in this study could be: premise 1 indicates that participant one use mindfulness. The second premise shows another triathlete use mindfulness. The conclusion would be, ultra-distance triathlete´s use mindfulness. In inductive reasoning the investigator has a probability perspective based on observation or ideas about a phenomenon that arouses curiosity (Fjelland, 1999; Halvorsen, 2008). The process starts looking after the premises, and even if the premises are true the conclusion must not be true (Chalmers, 1999). If the result from the study implies that some triathlete´s use mindfulness, all ultra-distance triathlete´s do not need to use the same self-regulation methods. No matter how many athlete´s query, there is no logical guarantee that it applies to all (Fjelland, 1999; Gratton & Jones, 2004).

Use of mindfulness in sport is a phenomenon with insufficient studies. Inductive systems search a particular theoretical understanding based on the empirical data (Grønmo, 2004; Bryman, 2008). The tendency in this study is inductive approach, but it is hard to evaluate as a hard-fact distinction (Bryman, 2008). There is not enough existing theory to develop hypothesis, the study is in need to develop the theory and explanations (Gratton, & Jones, 2004). The purpose of the study is to summarize and discuss terms of Thienot´s (et al. 2012b) definition of mindfulness in sport to generate the theory, and induce or to build up a certain theoretical understanding based on empirical data (Grønmo, 2004). Other definitions are referred to in the study, but the thesis intention is to validate Thienot´s (et al., 2012b) definition (Mishler, 1986). A shared understanding would enhance investigation and increase the possibility to reveal how mindfulness is used in sport and possible affects on performance. Still it is difficult to say anything about mindfulness in sport as long as studies use different definitions and varied tools to evaluate the phenomenon.

Appendix D

Qualitative interview

The object of the study is to describe and explain what mindfulness exist of. A more detailed description of how athlete's use mindfulness can develop the theory of mindfulness, and indicate functional methods to perform optimal (Yin, 2008; Orlikowski & Baroudi, 1991). Asking the athlete's about their self-regulation during competition and training is a way to understand the subjects "from within" (Gratton & Jones, 2010). How do they self-regulate when they perform or underperform base on own expectations? It points out how the triathlete's associate their subjective and intersubjective meanings with the world. The interpretive technique gives the athlete's the opportunity to use their own words and images to draw their concept of experience, and later generate hypothesis for future investigations (Orlikowski & Baroudi, 1991).

Semi-structured interview

The intention is to test Thienot's (et al., 2012b) constructed model on mindfulness, to see if it confirms the components mediated by the ultra-distance triathlete's (Wengraf, 2001). To get the information the study use semi-structured interviews, that includes partly prepared questions (Wengraf, 2001). Through the interviews the investigator are not forced to stick to the questions, that make it possible to elaborate or ask unprepared questions through the process (Kruuse, 1989). The method is developed so the athlete's can talk about own life experiences and how they use self-regulation methods during training and competition without getting distracted (Wengraf, 2001). Semi-structured interviews are functional to identify the purpose of the study, but challenge the interviewer that needs to improvise questions during the situations depending on the athlete's answers and the objectives of the study (Wengraf, 2001). It requires preparation, discipline and creativity during the interview, and a lot of time to analysis and interprets the data material after the session (Wengraf, 2001).

The participants

To conduct interviews it requires athlete's who are open and flexible to communicate their experiences in sport (Thagaard, 2010). Asking participants to talk about the past (retrospection) is a self-reporting method that requires introspection. Empirically this

means the study can garner what the athlete's are meta-conscious of (i.e., what they believe they are experiencing) (Schooler & Schreiber, 2004). The accuracy of introspective reports depends on the individual's ability to become meta-conscious about their experience (Schooler & Schreiber, 2004). The purpose is to detect the athlete's ability to recognise and remember what they are conscious about, an indicator of a mindful athlete (Brown & Ryan, 2004). A problem conducting this information is the possible dissociation between experiential consciousness and meta-consciousness; what the athlete was conscious about in the experience and what they believe they experienced (Schooler & Schreiber, 2004). Athlete's can fail to take stock of where their minds are currently residing, and overemphasise the pleasure or discomfort of episodes (Schooler & Schreiber, 2004). Is the athlete's meta-awareness description an illusion of how they want to experience the situation or do they report the actual experience (Schooler & Schreiber, 2004)? To verbally report thoughts from the past can force to re-represent inherently non-verbal experiences and mislead the athlete's from what actually happened in the situation (Ericsson & Simons in, Schooler, & Schreiber, 2004, p.20). Another critical point is information from consciousness may get lost or distorted in the translation of the re-representing process (Schooler 2002, in Schooler, & Schreiber, 2004, p.20). This needs to be taken into consideration concluding the athlete's meta-conscious reflection.

- Chose participants who have performed in ultra-distance triathlon over years, and has a lot of experience
- Top athletes must have knowledge of their own experiences to repeat actions

Contextualise and the researcher's role

When choosing interview one has to take into consideration that the relationship between the interview subject and the interviewer affect the data material. A qualitative interview is a subject-subject relationship between the subject and interviewer; both affect the research process (Thagaard, 2010). Age, behaviour, clothes, familiarity, sex, culture can all be social distance that affect the information the athlete's convey. To get most out of the interview situations the interviewer should remove social distance so the athlete's would not be sceptical to the questions (Thagaard, 2010). It is hypothesis differences as sex and experience in sport give less vague answers based on common understanding and information they think is general and holds back (Thagaard, 2010). This was not a problem in the study as the interviewer and athletes differed in sex and

investigator had little knowledge about ultra-distance triathlon. There are different qualities an interviewer need, and one character is the ability to listen. Listening to what the triathletes wants to say, and let them disseminate the information they think is important without interruption (Thagaard, 2010). A good interviewer listen, when the athletes talk about something interesting, or out of interest, and keep track of the interview guide to get the information they want to reveal. Interviews can be a time consuming activity and the interviewer has to keep the athlete's interest and own interest through the process.

The interviewer are conscious about how being a part of a particular culture at a historical moment and own convictions, as the athlete's, is affected by what they hear and observe (Miles & Huberman, 1994). It is important to express being genuinely engaged and interested in what the athletes communicates or else a possible outcome is a less valuable interview (Thagaard, 2010). Using probes via body language and brief responses as "mm" and "yes", might build the participants confidence and increase the level of communication (Thagaard, 2010). It is a possible source to increase the informant's desire to talk about experiences and their understanding of the world. A negative consequence could be athlete's who holds back information they think will be negatively evaluated, or provide an answer they think is appropriate rather than reality (Thagaard, 2010). The triathlete's need to feel free to talk about experiences without fear. Interviewing is an asymmetric relationship where the interviewer led the interview and decides the next question (Thagaard, 2010). At the same time the athlete's has the ability to control what information they want to convey (Thagaard, 2010). To get the most information it is important to make the relationship between the interviewer and triathlete's as symmetric as possible. If the interviewer is good at making a safe atmosphere the athlete's will feel comfortable with the situation, confident to the investigator and the new role in a conversation. In studies confidence is used as a synonym for more knowledge about the informant (Thagaard, 2010).

Appendix E

Julie Gjerdingen
Master student
The Norwegian School of Sport Sciences

NIH, 18 January 2013

Dear participant

You are hereby requested to participate in a project at the Department of Coaching and Psychology at the Norwegian School of Sport Sciences (NIH). I hope you are interested in participating in an interview based on your experience in competition and training situations.

The primary goal of the interview is to find out how you as an athlete experience positive and negative situations during competition and training. Research need to develop knowledge about factors that are essential to perform optimally, and your participation can develop this knowledge.

The interview will be conducted in a place and at a time suited for you. The duration is approximately 1 hour, and if the interview goes over time we will consult the possibility to proceed. The interview will be recorded on audio and laptop. The reason for this is to ensure that the interview is not lost if one of the sources fails. The records will be deleted immediately after they are transcribed, within a week after the interview has taken place. The transcribed material will be deleted 30 May 2013 (when the study ends). It is desirable that the interview will be conducted in late January / early February (week 5,6 or 7).

The information in the interview will be treated confidentially, and the data are anonymous. It is voluntary, so you have the option to withdraw from the experiment at any time without any consequences. If you wish to withdraw from the project after the interview, all data will be erased.

We are interested in interviewing YOU to learn more about how YOUR experiences with competition and training. Thank you in advance.

Sincerely,

Julie Gjerdingen
Pho.nr: 93616340
E-mail: julie.gjerdingen@gmail.com

Nicolas Lemyre
(Supervisor, NIH)

Julie Gjerdingen
Masterstudent
Norges Idrettshøgskole

NIH, 18. januar 2013

Kjære utøver

Du blir herved forespurt om deltakelse i et forskningsprosjekt ved seksjonen for coaching og psykologi ved Norges Idrettshøgskole. Jeg håper du er interessert i å delta i et intervju basert på din opplevelse av konkurranse og trening.

Det primære målet med intervjuet er å belyse hvordan du opplever positive og negative situasjoner under konkurranse og trening. I forskningen er det et behov for å danne et bilde av ulike faktorer som er avgjørende for å prestere optimalt, og dette kan du være med på å utvikle.

Intervjuet gjennomføres etter avtale basert på dine ønsker. Varigheten er ca. 1 time, og hvis intervjuet går over tiden konsulterer vi det underveis. Intervjuet vil bli spilt inn som lydopptak på iPod og en bærbar data. Grunnen til dette er å sikre seg at intervjuet ikke går tapt dersom en av kildene skulle svikte. Lydopptakene vil bli slettet umiddelbart etter at de er transkribert, senest innen en uke etter at intervjuet har funnet sted. Det transkriberte materialet vil bli slettet 30. Mai 2013 (når studiet avsluttes). Det er ønskelig at intervjuet blir gjennomført i slutten av januar/ tidlig februar (uke 5,6 eller 7).

Informasjonen som kommer frem i løpet av intervjuet vil bli behandlet konfidensielt, og datamateriale er anonymisert. Det er frivillig å delta, og du har muligheten til å trekke deg fra forsøket når du ønsker det uten noen konsekvenser. Ønsker du å trekke deg fra prosjektet etter intervjuet kan det bes om at all datamaterialet skal bli slettet.

Vi er interessert i å intervjuer DEG for å lære mer om hvordan DU opplever deltakelsen i konkurranse og trening. På forhånd tusen takk for hjelpen.

Med vennlig hilsen

Julie Gjerdingen
Tlf.: 93616340
E-mail: julie.gjerdingen@gmail.com

Nicolas Lemyre
(veileder, NIH)

Appendix F

Interview guide – Mindfulness in ultra-distance triathlon

Before recording

Hello, my name is Julie Gjerdingen. I am a master student at the Norwegian School of Sport Sciences, and currently I am writing my master's thesis about mindfulness. The aim is to get greater understanding of how high performing athletes constantly motivate themselves, and are able to do so in difficult situations. Through training and competition there are constant challenges, and I want to get an insight in how you manage these challenges and how it affects your performance.

- All information will be confidential. It will not be possible for anyone to find out where the statements come from.
- The purpose of the interview is to provide deeper understanding of how some high-level athletes experience training and competitions when it goes well, and when it does not go as expected. «What is mentally and physically different when training and competition goes as planned or not?»
- Feel free to add any information you want during the interview.
- This is a qualitative study, and it is YOUR personal experience I am interested in.
- Participation is voluntary. You can withdraw from the study at any time. Even during the interview.
- The interview will last approximately one hour. If it takes longer we will consult a possible extension.
- The interview will be recorded as audiotape on an iPod and a laptop. The reason is merely to ensure the interview doesn't get lost in case of technical errors. The records will be deleted immediately after the record is transcribed, at most one week after the interview. Is it possible to put your phone on silence? I will also write some notes during the interview.
- Do you have any questions before the interview starts?

Audio recording

Free time

First, I want to get some knowledge about who you are, and what is going on in your life outside sport.

1. Can you give a brief introduction and description of:
 - Who are you, and what concerns you outside sport?
 - What civil status do you have (wife, children)? Living situation?
 - How do you perceive life? Is there balance/imbalance?
 - Do you have any goals or expectations to work or similar? How does the expectation match so far?

Is there anything you would like to add before the interview moves to next topic?

(The aim of the introduction questions is to make the participants feel relaxed and comfortable. It also gives an impression of their life situation and what occupies them outside sport. Who the person is).

Sport

To reach the top in a sport demands time, personal characteristics, input from partner, team or coaches.

2. Can you give a brief description of:
 - How long you have been active in the sport? At what level? Have you been doing other sports?
 - How much time do you averagely use on the sport during a week?
 - Do you have goals? What is your goal participating in the sport?
 - What is the trigger and what motivates you to be an athlete? What in the sport is important for you (values)?
 - What do you expect to get back from the sport? *(Which needs are satisfied? For example, security, social status, being safe, self-realisation)*

(It is important to be aware of this section and use information through the interview. Values and goals form the basis for training and competition).

Is there anything you would like to add before the next topic?

Next topic is about training and how you experience training situations where you perform and underperform, followed by similar competition questions.

Training

3. What is a typical workout for you? When and where do you start the preparation, and finish?
 - Do you have any routines/rituals before training sessions?
 - Who participate in the training? (Alone/with others) Why?
 - Where do you train? (Forest/training center/variable)
 - Duration of training?
 - What are the biggest challenges during training?
 - Do you have a coach or a support team around you? What role do they have? Why?
 - Do you use any external aids during training that is not required? (Heart rate monitor/music)? Why? (*Forget/focus*)
 - What concerns you during training (*attention*)?
 - What goals do you have?
 - Do you have any routines/rituals after training?

4. Imagine last training situation where you performed based on own expectations (optimal).
 - When did it occur?
 - Please describe the situation.
 - What did you want to achieve in the situation? (Goals?)
 - How did you experience the situation? (*Observe it as it is? Attitude?*)
 - How was the experience mental/cognitive?
 - What feelings did the situation evoke when you realised that you performed well?
 - Did you recognise any bodily sensations in the situation when you performed up to your expectations? (Tension in the muscles, tense, high intensity in the nerve system)

(*Curious, accepting, open, sustained attention, switching, inhibition of elaboration*)
 - How did you respond on thoughts, feelings, and bodily sensations you observed? (*Acceptance, curious, open, non-judging, critical attitude, switching, goal focused, own values, refocus*)? Why did you respond this way? How did it affect you?
 - What impressions outside yourself did you register in the situation where you performed based on own expectations? What did you observe?
 - Is it the same situation that leads to good performance during exercise or does it change? If so, can you give some examples of what it switches between? (When you were younger as well?) Have you any ideas about why the experience leads to good performance? (*Create new categories, the self evolving, unique situation*)

Or

- Has it evolved in any direction in recent years? Why?
- Is it a «typical» experience?
- Is it common for swimming, cycling and running?

5. Imagine last training situation where you did not perform based on own expectations (optimal).

- When did it occur?
- Please describe the situation.
- What did you want to achieve in the situation? (Goals?)
- How did you experience the situation? (*Observe it as it is? Attitude?*)
 - How was the experience mental/cognitive?
 - What feelings did the situation evoke when you realised that you did not performed well?
 - Did you recognise any bodily sensations in the situation when you performed lower than your expectations? (Tension in the muscles, tense, high intensity in the nerve system)

(*Curious, accepting, open, sustained attention, switching, inhibition of elaboration*)

- How did you respond on thoughts, feelings, and bodily sensations you observed? (*Acceptance, curious, open, non-judging, critical attitude, switching, goal focused, own values, refocus*)? Why did you respond this way? How did it affect you?
- Which external impressions did you register in the situation where you did not perform based on own expectations? What did you observe?
- Is it the same situation that leads to under performance during exercise or does it change? If so, can you give some examples of what it switches between? (When you where younger as well?) Have you any ideas about why the experience leads to under performance? (*Create new categories, the self evolving, unique situation*)

Or

- Has it evolved in any direction in recent years? Why?
- Is it a «typical» experience?
- Is it common for swimming, cycling and running?

Is there anything you would like to convey regarding training before we go over to experiences in competition?

Competition

6. How does a typical competition day look like? Starting with preparation for the contest, to the end when you start with something new. When and where does the preparation start and end?

- How do you prepare? Why?
- Do you have any rituals/routines before competition (need for mental preparation, consciously or not).
- Where is the competition conducted?
- What is the biggest challenge during a competition?
- Is there anybody else involved? Why?
- Do you use any external aid during preparation or the competition the sport does not require? Why?
- What concerns you most during competition?
- What is the competition goal?
- Do you have any routines/rituals after competitions?

7. When did you last experience a competition where you performed well based on own expectations? Can you please say something about the competition and situations in the competitions?

- When did it occur?
- Please describe the situation.
- What did you want to achieve in the situation? (Goals?)
- How did you experience the situation? (*Observe it as it is? Attitude?*)
 - How was the experience mental/cognitive?
 - What feelings did the situation evoke when you realized that you performed well?
 - Did you recognise any bodily sensations in the situation when you performed up to your expectations? (Tension in the muscles, tense, high intensity in the nerve system)

(Curious, accepting, open, sustained attention, switching, inhibition of elaboration)

- How did you respond on thoughts, feelings, and bodily sensations you observed? (*Acceptance, curious, open, non-judging, critical attitude, switching, goal focused, own values, refocus*)? Why did you respond this way? How did it affect you?
- Which external impressions did you register in the situation where you performed based on own expectations? What did you observe?
- Is it the same situation that leads to good performances during competitions or does it exchange? If so, can you give some examples of what it switches between? (When you were younger as well?) Have you any ideas about why the experience leads to good performance? (*Create new categories, the self evolving, unique situation*)

Or

- Has it evolved any the direction in recent years? Why?
- Is it a «typical» experience?

- Is it common for swimming, cycling and running?

8. Imagine last competition where you did not perform based on own expectation.

- When did it occur?
- Please describe the situation.
- What did you want to achieve in the situation? (Goals?)
- How did you experience the situation? (*Observe it as it is? Attitude?*)
 - How was the experience mental/cognitive?
 - What feelings did the situation evoke when you realised that you did not performed well?
 - Did you recognise any bodily sensations in the situation when you performed lower to your expectations? (Tension in the muscles, tense, high intensity in the nerve system)

(Curious, accepting, open, sustained attention, switching, inhibition of elaboration)

- How did you respond on thoughts, feelings, and bodily sensations you observed? (*Acceptance, curious, open, non-judging, critical attitude, switching, goal focused, own values, refocus*)? Why did you respond this way? How did it affect you?
- What impressions outside yourself did you register in the situation where you did not perform based on own expectations? What did you observe ?
- Is it the same situation that leads to under performance during competition or does it exchange? If so, can you give some examples of what it switches between? (When you where younger as well?) Have you any ideas about why the experience leads to under performance? (*Create new categories, the self evolving, unique situation*)

Or

- Has it evolved in any direction in recent years? Why?
- Is it a «typical» experience?
- Is it common for swimming, cycling and running?

9. Do you have an opinion on what makes a competition compared to a competition where you under perform based on own expectations? Is it the same for training? Why do you think so?

10. What do you mean is essential to deliver optimal performance during training and competitions?

Is there anything else you want to share before we proceed to the end of the interview?

End

Finally I would like to ask a few final questions:

1. How would you sum up last season? Did it respond your expectations?
2. What are the highlights of your sport career?
3. Is there anything you want to add before the interview ends?

Thank you for your participation 😊

Intervjuguide – Mindfulness i langdistanse triatlon

Før lydopptak

Hei, mitt navn er Julie Gjerdingen, jeg er masterstudent på NIH og holder for tiden på med å skrive en masteroppgave. I masteroppgaven fordypet jeg meg i temaet «mindfulness», målet er å få en større forståelse av hvordan idrettsutøvere med høye prestasjoner kontinuerlig motiverer seg selv, og evner å hente seg selv inn igjen når ting er «tungt». Gjennom trening og konkurranse opplever du stadig utfordringer og jeg ønsker å få kunnskap om hvordan du håndterer utfordringene og hvordan det påvirker dine prestasjoner.

- All informasjon vil være konfidensiell. Det vil ikke være mulig for andre å finne ut hvor utsagnene kommer fra.
- Hensikten med intervjuet er å danne en dypere forståelse av hvordan et utvalg av idrettsutøvere på høyt nivå opplever trening og konkurranse når det går bra og når det ikke går som forventet. «Hva er forskjellen mentalt og fysisk fra når trening og / eller konkurranse går som planlagt og når det ikke går som planlagt».
- Føl deg fri til å tillegge all informasjon du vil formidle.
- Dette er en kvalitativ undersøkelse. Det vil si, jeg ønsker å innsikt i hvordan DU personlig opplever de ulike trening- og konkurranse situasjoner. Dine erfaringer er kunnskapen jeg søker.
- Deltakelsen er frivillig. Du kan trekke deg fra studiet når som helst, også under intervjuet.
- Intervjuet vil vare i ca. en time. Hvis det tar lengre tid konsulterer vi det underveis.
- Intervjuet blir tatt opp som lydbånd på iPod og en bærbar data. Grunnen til dette er kun for å sikre at intervjuet ikke går tapt, dersom en av kildene skulle svikte. Lydopptakene vil bli slettet umiddelbart etter at de er transkribert, senest innen en uke etter at intervjuet har funnet sted. I denne sammenheng lurer jeg på om det er mulig å skru av eller sette telefonen på lydløs? Jeg vil også notere enkle stikkord på et ark til egen hjelp.
- Er det noe du lurer på før intervjuet starter?

Lydopptak

Fritid

Først ønsker jeg å få litt mer kjennskap om hvem du er og hva som foregår i ditt liv utenom idretten.

1. Kan du gi en kort intro og beskrivelse av:

- Hvem er du og hva opptar deg utenfor idretten?
- Hvordan er sivilstatus (kone, barn)? Bosituasjon?
- Hvordan opplever du hverdagen? Hva er grunnlaget for balansen/ubalansen?
- Hvilke mål og forventninger stiller du til jobb og lignende? Hvordan har forventningene matchet så langt?

Er det noe du ønsker å legge til før vi går over til neste tema i intervjuet?

(Målet med introspørsmålene er å få informanten til å føle seg vel og avslappet. Det gir også et inntrykk av livssituasjonen til personen utenfor idretten, og hvem personen er).

Idrett

Idrett på høyt nivå er krevende og det krever tid, personlige egenskaper, gjerne input i fra partner, team eller trenere for å kunne bli toppidrettsutøver.

6. Kan du gi en kort beskrivelse av:

- Hvor lenge har du vært aktiv innenfor din idrett? På hvilke nivå? Har du drevet med annen idrett?
- Hvor mye tid bruker du på idretten i løpet av en uke, gjennomsnittlig?
- Har du satt deg mål for hva du ønsker å oppnå med idretten? Hvilke mål har du?
- Hvorfor driver du med idrett, og hva er det som motiverer deg til å prestere? Hva med idrett er viktig for deg (verdier)?
- Hva ønsker du å få tilbake fra idretten? *(hvilke behov blir tilfredsstilt? For eksempel trygghet, sosial status, sikkerhet, selv-realisering)*

(Det er viktig å være veldig oppmerksom i denne delen og bruke informasjonen videre i intervjuet. Her kommer verdier og mål frem som senere danner grunnlaget for hvordan trening og konkurranse blir gjennomført).

Er det noe du ønsker å legge til før vi går over til neste tema i intervjuet?

Neste temaet i intervjuet er trening og dine opplevelser rundt gode og dårlige treningssituasjoner, som vil bli etterfulgt av tilsvarende for konkurransesituasjoner.

Trening

7. Hvordan er en typisk treningsøkt for deg? Når og hvor starter forberedelsene til treningen og når/hvor blir treningsøkten avsluttet?

- Har du noen rutiner/ritualer før økten?
- Hvem deltar på treningen? (Alene/med andre) Hvorfor?
- Hvor er treningen? (skog/hall/varierende)
- Varighet på treningen?
- Hva er de største utfordringene under treningen?
- Har du en trener eller et støtteapparat rundt deg? Hvilke rolle har treneren? Hvorfor denne rollen?
- Bruker du noen ytre hjelpemidler under treningen idretten ikke stiller krav til (pulsklokke, musikk)? Hvorfor? (*glemme/fokus*)
- Hva opptar deg under treningen (*oppmerksomheten*)?
- Hva er målet med treningen?
- Har du noen rutiner/ritualer etter økten?

8. Se for deg en treningsituasjon du husker godt, hvor du presterte til dine forventninger (optimalt).

- Når skjedde dette?
- Kan du beskrive situasjonen hvor du presterte? (*ytre situasjon*)
- Hva ønsket du å oppnå med situasjonen? (mål i fokus underveis?)
- Hvordan opplevde du situasjonen? (*observeres som de er? holdninger*)
 - Hvordan opplevde du det psykisk / tankemessig?
 - Hvilke følelser frembragte det i deg der og da når du forstod at du presterte godt?
 - Hvordan følte du kroppen reagerte fysisk når prestasjonen stod til forventningene? (spenning i musklene, spent, intensitet i nervesystemet, kroppslige fornemmelser)

(*nysgjerrig, aksepterende, åpen, vedvarende oppmerksomhet, veksling, hemming av utdypning*)

- Hvordan håndterte/responderte du på de tankene, emosjonene og kroppslige observasjonene du gjorde underveis? (*aksept, nysgjerrig, åpen, ikke-dømmende, kritisk holdning, veksling, målfokusert, egne verdier, refokusering*)? Hvorfor responderte du på denne måten? Hvilken effekt hadde det på deg?
- Hvilke inntrykk utenfor deg selv registrerte du i denne situasjonen i det du forstod at du presterte til forventningene? Hvilke observasjoner gjorde du deg?
- Er det samme opplevelse som fører til en god prestasjon under trening eller veksler det? I så tilfelle, kan du gi to-tre eksempler på hva det veksler mellom? (når du var yngre også?) Har du gjort deg noen tanker

rundt hvorfor akkurat de opplevelsene fører til god prestasjon? (*danne nye kategorier, selvet i stadig utvikling, situasjonen er unik*)

Eller

- Har det utviklet seg i denne retningen de siste årene? Hvorfor?
- Er det «typisk» deg å oppleve dette?
- Er det felles for svømming, sykling og løping?

9. Se for deg en treningssituasjon du husker godt, men hvor du ikke presterte til dine forventninger.

- Når skjedde dette? (dato, uke)
- Hva var det som hendte? (*ytre situasjonen*)
- Hva var målet med treningssituasjonen?
- Hvordan opplevde du situasjonen? (*observeres som de er? holdninger*)
 - Hvordan opplevde du det psykisk / tankemessig?
 - Hvilke følelser frembragte det i deg der og da når du forstod at det ikke gikk som du forventet?
 - Hvordan følte du kroppen reagerte fysisk på at prestasjonen ikke stod til forventningen? (spenning i musklene, spent, intensitet i nervesystemet, kroppslige fornemmelser).

(*nysgjerrig, aksepterende, åpen, vedvarende oppmerksomhet, veksling, hemming av utdypning*)

- Hvordan håndterte/responderte du på de tankene, emosjonene og kroppslige observasjonene du gjorde underveis? (*aksept, nysgjerrig, åpen, ikke-dømmende, kritisk holdning, veksling, målfokusert, egne verdier*). Hvorfor responderte du på denne måten?
- Hvilke inntrykk utenfor deg selv registrerte du i denne situasjonen i det du forstod at prestasjonen ikke sto til forventning. Hvilke observasjoner gjorde du deg?
- Er det samme opplevelse som fører til underprestasjon under trening, eller veksler det? I så tilfelle, kan du gi to-tre eksempler på hva det veksler mellom? (når du var yngre også?) Har du gjort deg noen tanker rundt hvorfor akkurat de opplevelsene fører til underprestasjon? (*danne nye kategorier, selvet i stadig utvikling, situasjonen er unik*)

Eller

- Har det utviklet seg i denne retningen de siste årene? Hvorfor?
- Er det «typisk» deg å oppleve dette?
- Er det felles for svømming, sykling og løping?

Er det noe du ønsker å formidle ang. trening før vi går over til opplevelser i konkurranse?

Konkurranse

10. Hvordan ser en typisk konkurranse dag ut for deg fra du starter forberedelsene til du har avsluttet konkurransen og tar til med andre ting. Når og hvor starter forberedelsene til konkurransen og når/hvor blir konkurransen avsluttet?

- Hvordan forbereder du deg? Hvorfor? (Sammen med noen/alene)?
- Har du noen rutiner/ritualer før konkurransen (behov for mentale forberedelser, bevisste forhold eller ikke).
- Hvor gjennomføres konkurransene og forberedelsene? (skog/hall/varierende, tid)
- Hva er de største utfordringene under konkurranser?
- Er treneren eller annet støtteapparat involvert? (er det en grunn til dette) Hvorfor?
- Bruker du noen ytre hjelpemidler under oppvarmingen eller konkurransen idretten ikke stiller krav til (pulsklokke, musikk)? Hvorfor? (*glemme/fokus*)
- Hva opptar deg mest under konkurransen?
- Hva er målet med konkurransen?
- Har du noen rutiner/ritualer etter konkurransen?

11. Når opplevde du en konkurranse sist hvor du presterte godt ut i fra egne forventninger? Kan du fortelle om konkurransen og evt. en spesifikk situasjon?

- Når skjedde det?
- Hva var det som hendte? (ytre situasjonen)
- Hva ønsket du å oppnå i situasjonen? (målet underveis?)
- Hvordan opplevde du situasjonen? (*observeres som de er? holdninger*)
 - Hvordan opplevde du det psykisk / tankemessig?
 - Hvilke følelser frembragte det i deg der og da når du forstod at det gikk som du forventet?
 - Hvordan følte du kroppen reagerte fysisk når prestasjonen stod til forventningen? (spenning i musklene, spent, intensitet i nervesystemet, kroppslig fornemmelse).

(*nysgjerrig, aksepterende, åpen, vedvarende oppmerksomhet, veksling, hemming av utdypning*)

- Hvordan håndterte/responderte du på de tankene, emosjonene og de kroppslige observasjonene du gjorde underveis? (*aksept, nysgjerrig, åpen, ikke-dømmende, kritisk holdning, veksling, målfokusert, egne verdier*). Hvorfor responderte du på denne måten?
- Hvilke inntrykk utenfor deg selv registrerte du i denne situasjonen i det du forstod at prestasjonen sto til forventning. Hvilke observasjoner gjorde du deg?
- Er det samme opplevelse som fører til gode prestasjoner i konkurranse generelt, eller veksler det? I så tilfelle, kan du gi to-tre eksempler på hva det veksler mellom? (når du var yngre også?) Har du gjort deg noen

tanker rundt hvorfor akkurat de opplevelsene fører til god prestasjon?
(*danne nye kategorier, selvet i stadig utvikling, situasjonen er unik*)

Eller

- Har det utviklet seg i denne retningen de siste årene? Hvorfor?
- Er det «typisk» deg å oppleve dette?
- Er det felles for svømming, sykling og løping?

12. Se for deg en konkurransesituasjon du husker godt, men hvor du ikke presterte til dine forventninger.

- Når skjedde det? (dato, uke, eller lignende)
- Hva utgjorde denne opplevelsen? (angst, stress, bekymring)
- Hva ønsket du å oppnå med situasjonen? (målet underveis?)
- Hvordan opplevde du situasjonen? (*observeres som de er? holdninger*)
 - Hvordan opplevde du det psykisk / tankemessig?
 - Hvilke følelser frembragte det i deg der og da når du forstod at det ikke gikk som du forventet?
 - Hvordan følte du kroppen reagerte fysisk på at prestasjonen ikke stod til forventningen? (spenning i musklene, spent, intensitet i nervesystemet, kroppslig fornemmelse).

(*nysgjerrig, aksepterende, åpen, vedvarende oppmerksomhet, veksling, hemming av utdypning*)

- Hvordan håndterte/responderte du på de tankene, emosjonene og de kroppslige observasjonene du gjorde underveis? (*aksept, nysgjerrig, åpen, ikke-dømmende, kritisk holdning, veksling, målfokusert, egne verdier*). Hvorfor responderte du på denne måten?
- Hvilke inntrykk utenfor deg selv registrerte du i denne situasjonen i det du forstod at prestasjonen ikke sto til forventning. Hvilke observasjoner gjorde du deg?
- Er det samme opplevelse som fører til underprestasjon i konkurranse, eller veksler det? I så tilfelle, kan du gi to-tre eksempler på hva det veksler mellom? (når du var yngre også?) Har du gjort deg noen tanker rundt hvorfor akkurat de opplevelsene fører til underprestasjon? (*danne nye kategorier, selvet i stadig utvikling, situasjonen er unik*)

Eller

- Har det utviklet seg i denne retningen de siste årene? Hvorfor?
- Er det «typisk» deg å oppleve dette?
- Er det felles for svømming, sykling og løping?

13. Har du en formening om hva som skiller en konkurranse du presterer godt opp i mot en konkurranse du underpresterer ut i fra egne forventninger? Gjelder det samme under treningen? Hvorfor tror du det er slik?

14. Hva mener du er avgjørende for å prestere optimalt under trening og konkurranse?

Er det noe du ønsker å formidle før vi går over til avslutningen av intervjuet?

Avslutning

De siste minuttene ønsker jeg å bruke til å stille noen avsluttende spørsmål.

15. Hvordan vil du oppsummere fjorårets sesong? Svarte det til forventningene?

16. Hva er høydepunktet i idrettskarrieren din?

17. Er det noe du ønsker å tilføye før intervjuet blir avsluttet? Er det noe du føler du ikke har fått sagt?

Tusen takk for deltakelsen 😊

Appendix G

| | | |
|--|---|--|
| Oppgi hvordan samarbeidet foregår | | |
| 7. Utvalgsbeskrivelse | | |
| Utvalget | 4 eliteutøvere som har deltatt i Norsemen ekstrem triatlon | Med utvalg menes dem som deltar i undersøkelsen eller dem det innhentes opplysninger om. F.eks. et representativt utvalg av befolkningen, skoleelever med lese- og skrivevansker, pasienter, innsatte. |
| Rekruttering og trekking | Utøverne blir kontaktet på mail eller telefon med forespørsel om å delta i prosjektet. De som takker ja blir valgt ut. | Beskriv hvordan utvalget trekkes eller rekrutteres og oppgi hvem som foretar den. Et utvalg kan trekkes fra registre som f.eks. Folkeregisteret, SSB-registre, pasientregistre, eller det kan rekrutteres gjennom f.eks. en bedrift, skole, idrettsmiljø, eget nettverk. |
| Førstegangskontakt | Utøvere blir kontaktet som førstegangskontakt av forskeren | Beskriv hvordan førstegangskontakten opprettes og oppgi hvem som foretar den. Les mer om dette på temaside Hva skal du forske på? |
| Alder på utvalget | <input type="checkbox"/> Barn (0-15 år) <input type="checkbox"/> Ungdom (16-17 år) <input checked="" type="checkbox"/> Voksne (over 18 år) | |
| Antall personer som inngår i utvalget | 4 utøvere | |
| Inkluderes det myndige personer med redusert eller manglende samtykkekompetanse? | Ja <input type="checkbox"/> Nei <input checked="" type="checkbox"/> | Begrunn hvorfor det er nødvendig å inkludere myndige personer med redusert eller manglende samtykkekompetanse. |
| Hvis ja, begrunn | | Les mer om Pasienter, brukere og personer med redusert eller manglende samtykkekompetanse |
| 8. Metode for innsamling av personopplysninger | | |
| Kryss av for hvilke datainnsamlingsmetoder og datakilder som vil benyttes | <input type="checkbox"/> Spørreskjema <input checked="" type="checkbox"/> Personlig intervju <input type="checkbox"/> Gruppeintervju <input type="checkbox"/> Observasjon <input type="checkbox"/> Psykologiske/pedagogiske tester <input type="checkbox"/> Medisinske undersøkelser/tester <input type="checkbox"/> Journaldata <input type="checkbox"/> Registerdata <input type="checkbox"/> Annen innsamlingsmetode | Personopplysninger kan innhentes direkte fra den registrerte f.eks. gjennom spørreskjema, intervju, tester, og/eller ulike journaler (f.eks. elevmapper, NAV, PPT, sykehus) og/eller registre (f.eks. Statistisk sentralbyrå, sentrale helseregistre). |
| Annen innsamlingsmetode, oppgi hvilken | | |
| Kommentar | semi-strukturert intervju | |
| 9. Datamaterialets innhold | | |
| Redegjør for hvilke opplysninger som samles inn | Via semi-strukturerte intervjuer vil informasjon om hvordan utøvere opplever deres treningshverdag samles inn. | Spørreskjema, intervju-/temaguide, observasjonsbeskrivelse m.m. sendes inn sammen med meldeskjemaet. NB! Vedleggene lastes opp til sist i meldeskjema, se punkt 16 Vedlegg. |
| Samles det inn direkte personidentifiserende opplysninger? | Ja <input type="checkbox"/> Nei <input checked="" type="checkbox"/> | Dersom det krysses av for ja her, se nærmere under punkt 11 Informasjonssikkerhet. |
| Hvis ja, hvilke? | <input type="checkbox"/> 11-sifret fødselsnummer <input type="checkbox"/> Navn, fødselsdato, adresse, e-postadresse og/eller telefonnummer | Les mer om hva personopplysninger er |
| Spesifiser hvilke | | NB! Selv om opplysningene er anonymiserte i oppgave/rapport, må det krysses av dersom direkte og/eller indirekte personidentifiserende opplysninger innhentes/registeres i forbindelse med prosjektet. |

| | | |
|--|--|---|
| Samles det inn indirekte personidentifiserende opplysninger? | Ja ● Nei ○ | En person vil være indirekte identifiserbar dersom det er mulig å identifisere vedkommende gjennom bakgrunnsopplysninger som for eksempel bostedskommune eller arbeidsplass/skole kombinert med opplysninger som alder, kjønn, yrke, diagnose, etc. |
| Hvis ja, hvilke? | Indirekte personopplysninger som vil bli brukt er idrettsgren, alder og kjønn. Kjønn og alder vil bli nevnt for å gi et bilde på utvalget. Anonymitet blir opprettholdt gjennom hele forskningsprosessen. | Kryss også av dersom ip-adresse registreres. |
| Samles det inn sensitive personopplysninger? | Ja ○ Nei ● | |
| Hvis ja, hvilke? | <input type="checkbox"/> Rasemessig eller etnisk bakgrunn, eller politisk, filosofisk eller religiøs oppfatning <input type="checkbox"/> At en person har vært mistenkt, siktet, tiltalt eller dømt for en straffbar handling <input type="checkbox"/> Helseforhold <input type="checkbox"/> Seksuelle forhold <input type="checkbox"/> Medlemskap i fagforeninger | |
| Samles det inn opplysninger om tredjeperson? | Ja ● Nei ○ | Med opplysninger om tredjeperson menes opplysninger som kan spores tilbake til personer som ikke inngår i utvalget. Eksempler på tredjeperson er kollega, elev, klient, familiemedlem. |
| Hvis ja, hvem er tredjeperson og hvilke opplysninger registreres? | Intervjuet inkluderer generelle spørsmål om trener og familie for å få et innblikk i utøverens hverdag og treningssituasjon. | |
| Hvordan informeres tredjeperson om behandlingen? | <input type="checkbox"/> Skriftlig <input type="checkbox"/> Muntlig <input checked="" type="checkbox"/> Informeres ikke | |
| Informeres ikke, begrunn | Informasjonen vil kun gi et bilde på livssituasjonen til utøveren, og vil ikke påvirke tredjepersonene i noen grad. | |
| 10. Informasjon og samtykke | | |
| Oppgi hvordan utvalget informeres | <input checked="" type="checkbox"/> Skriftlig <input checked="" type="checkbox"/> Muntlig <input type="checkbox"/> Informeres ikke | Vennligst send inn informasjonsskrivet eller mal for muntlig informasjon sammen med meldeskjema. |
| Begrunn | | <p>NB! Vedlegg lastes opp til sist i meldeskjemaet, se punkt 16 Vedlegg.</p> <p>Dersom utvalget ikke skal informeres om behandlingen av personopplysninger må det begrunnes.</p> <p>Les mer om krav til samtykke</p> |
| Oppgi hvordan samtykke fra utvalget innhentes | <input checked="" type="checkbox"/> Skriftlig <input checked="" type="checkbox"/> Muntlig <input type="checkbox"/> Innhentes ikke | Dersom det innhentes skriftlig samtykke anbefales det at samtykkeerklæringen utformes som en svarslipp eller på eget ark. Dersom det ikke skal innhentes samtykke, må det begrunnes. |
| Innhentes ikke, begrunn | | |
| 11. Informasjonssikkerhet | | |
| Direkte personidentifiserende opplysninger erstattes med et referansenummer som viser til en atskilt navneliste (koblingsnøkkel) | Ja ○ Nei ● | Har du krysset av for ja under punkt 9 Datamaterialets innhold må det merkes av for hvordan direkte personidentifiserende opplysninger registreres. |
| Hvordan oppbevares navnelisten/koblingsnøkkel og hvem har tilgang til den? | | NB! Som hovedregel bør ikke direkte personidentifiserende opplysninger registreres sammen med det øvrige datamaterialet. |
| Direkte personidentifiserende opplysninger oppbevares sammen med det øvrige materialet | Ja ○ Nei ● | |
| Hvorfor oppbevares direkte personidentifiserende opplysninger sammen med det øvrige datamaterialet? | | |

| | | |
|---|---|--|
| Oppbevares direkte personidentifiserbare opplysninger på andre måter? | Ja <input type="radio"/> Nei <input checked="" type="radio"/> | |
| Spesifiser | | |
| Hvordan registreres og oppbevares datamaterialet? | <input type="checkbox"/> Fysisk isolert datamaskin tilhørende virksomheten <input type="checkbox"/> Datamaskin i nettverkssystem tilhørende virksomheten <input type="checkbox"/> Datamaskin i nettverkssystem tilknyttet Internett tilhørende virksomheten <input type="checkbox"/> Fysisk isolert privat datamaskin <input checked="" type="checkbox"/> Privat datamaskin tilknyttet Internett <input type="checkbox"/> Videopptak/fotografi <input checked="" type="checkbox"/> Lydopptak <input checked="" type="checkbox"/> Notater/papir <input type="checkbox"/> Annen registreringsmetode | Merk av for hvilke hjelpemidler som benyttes for registrering og analyse av opplysninger. Sett flere kryss dersom opplysningene registreres på flere måter. |
| Annen registreringsmetode beskriv | | |
| Behandles lyd-/videopptak og/eller fotografi ved hjelp av datamaskinbasert utstyr? | Ja <input checked="" type="radio"/> Nei <input type="radio"/> | Kryss av for ja dersom opptak eller foto behandles som lyd-/bildefil. Les mer om behandling av lyd og bilde. |
| Hvordan er datamaterialet beskyttet mot at uvedkommende får innsyn? | Lydopptaket på dataen vil bli slettet hvis det ikke oppstår noen tekniske komplikasjoner under intervjuet slik at lydopptaket fra ipoden ikke fungerer. Lydopptaket vil bli oppbevart i et låst skap så lenge det ikke brukes til transkribering til prosjektslutt (August 2013). | Er f.eks. datamaskintilgangen beskyttet med brukernavn og passord, står datamaskinen i et låsbart rom, og hvordan sikres bærbare enheter, utskrifter og opptak? |
| Dersom det benyttes mobile lagringsenheter (bærbar datamaskin, minnepenn, minnekort, cd, eksterne harddisk, mobiltelefon), oppgi hvilke | Bærbar datamaskin. | NB! Mobile lagringsenheter bør ha mulighet for kryptering. |
| Vil medarbeidere ha tilgang til datamaterialet på lik linje med daglig ansvarlig/student? | Ja <input type="radio"/> Nei <input checked="" type="radio"/> | |
| Hvis ja, hvem? | | |
| Overføres personopplysninger ved hjelp av e-post/Internett? | Ja <input type="radio"/> Nei <input checked="" type="radio"/> | F.eks. ved bruk av elektronisk spørreskjema, overføring av data til samarbeidspartner/databehandler mm. |
| Hvis ja, hvilke? | | |
| Vil personopplysninger bli utlevert til andre enn prosjektgruppen? | Ja <input type="radio"/> Nei <input checked="" type="radio"/> | |
| Hvis ja, til hvem? | | |
| Samles opplysningene inn/behandles av en databehandler? | Ja <input type="radio"/> Nei <input checked="" type="radio"/> | Dersom det benyttes eksterne til helt eller delvis å behandle personopplysninger, f.eks. Questback, Synovate MMI, Norfakta eller transkriberingsassistent eller tolk, er dette å betrakte som en databehandler. Slike oppdrag må kontraktreguleres Les mer om databehandleravtaler her |
| Hvis ja, hvilken? | | |
| 12. Vurdering/godkjenning fra andre instanser | | |
| Søkes det om dispensasjon fra taushetsplikten for å få tilgang til data? | Ja <input type="radio"/> Nei <input checked="" type="radio"/> | For å få tilgang til taushetsbelagte opplysninger fra f.eks. NAV, PPT, sykehus, må det søkes om dispensasjon fra taushetsplikten. Dispensasjon søkes vanligvis fra aktuelt departement. Dispensasjon fra taushetsplikten for helseopplysninger skal for alle typer forskning søkes Regional komité for medisinsk og helsefaglig forskningsetikk |
| Kommentar | | |

| | | |
|--|--|---|
| Søkes det godkjenning fra andre instanser? | Ja <input type="radio"/> Nei <input checked="" type="radio"/> | F.eks. søke registreier om tilgang til data, en ledelse om tilgang til forskning i virksomhet, skole, etc. |
| Hvis ja, hvilke? | | |
| 13. Prosjektperiode | | |
| Prosjektperiode | Prosjektstart:01.12.2012 Prosjektstlutt:31.08.2013 | <p>Prosjektstart</p> <p>Vennligst oppgi tidspunktet for når førstegangskontakten med utvalget opprettes og/eller datainnsamlingen starter.</p> <p>Prosjektstlutt</p> <p>Vennligst oppgi tidspunktet for når datamaterialet enten skal anonymiseres/slettes, eller arkiveres i påvente av oppfølgingsstudier eller annet. Prosjektet anses vanligvis som avsluttet når de oppgitte analyser er ferdigstilt og resultatene publisert, eller oppgave/avhandling er innlevert og sensurert.</p> |
| Hva skal skje med datamaterialet ved prosjektstlutt? | <input checked="" type="checkbox"/> Datamaterialet anonymiseres <input type="checkbox"/> Datamaterialet oppbevares med personidentifikasjon | <p>Med anonymisering menes at datamaterialet bearbeides slik at det ikke lenger er mulig å føre opplysningene tilbake til enkeltpersoner.NB! Merk at dette omfatter både oppgave/publikasjon og rådata.</p> <p>Les mer om anonymisering</p> |
| Hvordan skal datamaterialet anonymiseres? | All informasjon om deltakere vil bli slettet og transkriberingsmaterialet som blir igjen vil kun bli gjenkjent med informasjon om kjønn og alder | Hovedregelen for videre oppbevaring av data med personidentifikasjon er samtykke fra den registrerte. |
| Hvorfor skal datamaterialet oppbevares med personidentifikasjon? | | Årsaker til oppbevaring kan være planlagte oppfølgingsstudier, undervisningsformål eller annet. |
| Hvor skal datamaterialet oppbevares, og hvor lenge? | | <p>Datamaterialet kan oppbevares ved egen institusjon, offentlig arkiv eller annet.</p> <p>Les om arkivering hos NSD</p> |
| 14. Finansiering | | |
| Hvordan finansieres prosjektet? | Student. | |
| 15. Tilleggsopplysninger | | |
| Tilleggsopplysninger | | |
| 16. Vedlegg | | |
| Antall vedlegg | 3 | |

Appendix H

Request for participation in research projects

How are training and competition experienced in ultra-distance triathlon?

Background and purpose

This is a question for you, if you are interested in participating in a study to examine how ultra-distance triathlete's experience positive and negative situations during competition and training. In research there is a need to acquire an overview of factors essential to perform optimally, and you can be a part of this development.

What does the study involve?

The study involves a 1-hour interview. If there is a need for an extension of the interview, you will be consulted. The interview will be audio recorded on an iPod and laptop. The tapes will be erased immediately after they have been transcribed, within a week, and the transcription will be erased 30 May 2013 (when the study ends). All information will be treated confidentially, and all data are anonymous.

Potential benefits

A possible advantage of the study is to gain knowledge about you as person and ultra-distance triathlete. It also provides an opportunity to be a contributor in the development of knowledge about how training and exercise can optimise performance.

Voluntary participation

It is voluntary to participate in the program, and you can always choose to withdraw your consent without any consequences. If you want to participate sign this consent. If you wish to withdraw from the study after completing the interview, contact Julie Gjerdingen, ph.no: 93616340 or julie.gjerdingen@gmail.com. All information will be deleted.

Consent to participation in the study

I want to participate in the study

.....

(Signed by the participant, date)

Forespørsel om deltakelse i forskningsprosjekt

Hvordan oppleves trening og konkurranse i langdistanses triatlon?

Bakgrunn og hensikt

Dette er en forespørsel til deg om å delta i et forskningsstudie for å belyse hvordan du som langdistanse triatlon utøver opplever positive og negative situasjoner ut i fra egne forventninger under konkurranse og trening. I forskningen er det et behov for å danne et bilde av ulike faktorer som er avgjørende for å prestere optimalt, og dette kan du være med på å utvikle.

Hva innebærer studiet?

Studiet innebærer et intervju med varighet på ca. 1 time. Hvis intervjuet går over tiden vil det konsulteres underveis om mulig fortsettelse. Intervjuet vil bli tatt opp som lydopptak på iPod og en bærbar datamaskin. Lydbåndene vil bli slettet umiddelbart etter at de er blitt transkribert, senest innen en uke. Det transkriberte intervjuet vil bli slettet 30.mai 2013 (når studiet avsluttes). Informasjonen som kommer frem i løpet av intervjuet vil bli behandlet konfidensielt, og datamateriale er anonymisert.

Mulige fordeler

En mulig fordel for deg som utøver ved å delta i prosjektet er bedre kjennskap til deg selv og hvordan du opplever det å være langdistanse triatlon utøver. Det gir også en mulighet for å være bidragsyter i utviklingen av kunnskap om hvordan trening kan tilrettelegges for å optimalisere prestasjoner.

Frivillig deltakelse

Det er frivillig å delta i studiet, og du kan når som helst velge å trekke ditt samtykke uten at dette får noen form for konsekvenser. Dersom du ønsker å delta undertegner du denne samtykkeerklæringen. Dersom du ønsker å trekke deg fra studiet etter gjennomført intervju, kan du kontakte Julie Gjerdingen på tlf. 93616340 eller julie.gjerdingen@gmail.com.

Samtykke til deltakelse i studien

Jeg er villig til å delta i studiet

.....

(Signert av prosjektdeltaker, dato)

Appendix I

Original Quotes:

- Number 1: Tankene går fort tilbake til det du skulle ha gjort. Men det er jo ikke noe poeng. Så det er utrolig viktig å ikke tenke på det. Når du er i den situasjonen på trening må du tenke der. Ikke på hva du har gjort eller hva som skal skje tre timer frem i tid. Ingen av delene fungerer å tenke på. Det bare fører til frustrasjon. Det er viktig å tenke her og nå, fordi det er det du får gjort noe med. Du får ikke gjort noe med det som har skjedd eller kommer til å skje.
- Number 2: Jeg har kreftene som skal til å ta av, her er det bare å kjøre på. Jeg sitter jo ikke å tenker på det hele tiden, men da husker jeg at jeg tenkte nå skal de få slite med meg resten av turen.
- Number 3: Negative tanker kombinert med at du ikke klarer å hente inn alt på sykkel gjør at det ikke går bra. Han burde jeg ha hentet inn for lenge siden på denne distansen her, for jeg vet at nå er det bare så langt igjen av syklingen. Jeg vet at hvis jeg ikke har hentet han inn nå så klarer jeg ikke hente han inn på løp.
- Number 4: På løp tenker jeg faktisk mest teknisk. I forhold til løpsteget, å komme frem på tå og ja.
- Number 5: Man kan sitte ute på sykkelen og kjenne satan for noen bein jeg har nå og få en glede av det. Men man er jo selvfølgelig utrolig lykkelig der og da.
- Number 6: Jeg må trene mye, jeg kan ikke drive med bajas trening. Så jeg sitter med den indre roen da, la dem få holde på. Men jeg er trygg nok på meg selv til å vite at jeg gjør det som er riktig. Det er nesten den beste følelsen i hele verden.
- Number 7: Det var en lykkefølelse og etter hvert så tok jeg også igjen folk som jeg kjenner personlig ikke sant og enkelte som jeg anser som mye sterkere enn med, som normalt slår meg.
- Number 8: For min del hadde jeg trøbbel med ryggen. Så jeg var nervøs for det, og det var litt av grunnen til at det ikke gikk så bra.

- Number 9: Jeg følte meg faktisk ganske tung i kroppen og jeg hadde en dårlig opplevelse forrige uke hvor jeg ikke fikk trent en dag og skulle ta igjen en økt. Så jeg tok en tung styrkeøkt på formiddagen, og så skulle jeg avslutte med en fast løpeintervall jeg har på ettermiddagen. Den klarte jeg ikke å gjennomføre, for da hadde jeg tatt så tunge knebøy. Så da sprakk jeg. Jeg ble helt svimmel og måtte bare stoppe.
- Number 10: Er man svimmel så må en bare slappe av rett og slett. Det er kjipt. Du oppdager etter hvert at beina ikke vil mer, kroppen ikke vil mer.
- Number 11: Men det hadde ikke vært det samme hvis det ikke hadde vært vondt. Gleden av å pine seg selv på forskjellige måter. Folk husker best hvor vondt det er, kjempegøy.
- Number 12: I løpet av de femten første minuttene kjenner jeg etter på kroppen og lager meg mål. Jeg kjenner etter hvordan kroppen fungerer og lager meg en plan på hvordan økta skal gjennomføres.
- Number 13: Om jeg er sliten eller nedfor prøver jeg å snu hodet igjen. Også noe jeg har blitt mye mer bevisst på, snu modus. Jeg godtar tankene, og det er sikkert ikke så lenge til jeg har dem igjen
- Number 14: En god trening klarer jeg å holde intensiteten oppe uten å bli sliten. Får syre og andre vondter, men klarer å trøkke til uten at det går lett.
- Number 15: Jeg tror man opparbeider seg en glede av å ha det vondt nærmest med seg selv. Merker at andre gir seg når det begynner å gjøre vondt, det er akkurat som om når jeg vet det gjør vondt på er vi oppe og pirker i det området hvor det faktisk er noe som gjør deg bedre. Det vil jeg bare ha mer av liksom. For jeg vet at jo mer jeg klarer å ha det vondere jo hardere jeg har trent, jo bedre effekt får jeg av treningen.
- Number 16: Og det jeg tenker at jeg ofte gjør da er å se tilbake, du deler distansen litt opp da. Og kanskje til og med også gir deg selv krav eller oppgaver. Hold fokus på

klatringen nå, og arbeidsoppgaven er nå å ikke kjøre deg i kjelleren, men det må ikke gå for sakte heller.

- Number 17: Hvis du har hatt en bom så begynner en å tenke, hele løpet er ødelagt. Men der er det altså å stoppe tankene og konsentrere seg om det gode tekniske.
- Number 18: Så når du er på løp, da er det enda viktigere å være her og nå. Og vite ut fra tidligere erfaringer, for min del da. Du må føle deg lett til en hver tid og prøve å løpe så lett som mulig. Ikke pushe. Hvis du pusher så går det galt. Ikke tenke det, men tenke at du skal føle deg lett. Jeg tenker på teknikk. Hva er det jeg har trent på? Når har jeg følt det har vært lett? Hva har jeg jobbet med i steget? Også prøve å jobbe med de tingene.
- Number 19: Fordi det begynner å gjøre vondt. Og du kan få utfordringer med ernæring. Det der med å holde så lenge du kan. Holde det mentale på arbeidsoppgavene så du har god flyt. Og da går det bra. Med en gang det begynner å butte imot, så må en, så må en begynne å, for det første å oppmuntre seg selv. Og det jeg tenker at jeg ofte gjør da, ser tilbake til, du deler distansen litt opp da. Og kanskje til og med også gir deg selv krav eller oppgaver. Hold fokus på klatringen nå, og arbeidsoppgaven er nå å ikke kjøre deg i kjelleren, men det må ikke gå for sakte heller. Men du skal ikke, ikke ødelegge. Også kanskje andre arbeidsoppgaver nå går det litt tungt, nå må du spise og drikke.
- Number 20: Og når jeg kom til den bratteste delen hadde jeg ikke koordinasjon, balanse, det begynte å bli svart for øynene. Jeg snubla og tryna, jeg var bare helt borte. Jeg sa til meg selv, det er ikke farlig. Det er bare et godt tegn på at du har tatt i. Du trenger bare å ta det med ro litte granne, så bare ta det litt mer rolig. Det handler om å ikke bli grepet av panikk, du er bare jævla sliten. Du trenger bare litt innputt igjen.
- Number 21: Litt sånn på slutten er det. Ta deg bort fra den smerten du har. Koble ut, koble inn. Sånn avhengig av hva du ønsker.
- Number 22: I to tusen og tolv kom jeg opp og fikk høre at jeg var seksten minutter bak. Jeg tenkte at det spiller ingen rolle, jeg tar det igjen på løpingen.

- Number 23: Når det eneste målet er å vinne. Er det bare å jogge i mål eller skal du prøve å pushe og se om de sprekker? Du må jo tenke deg det best mulige senarioet hele veien. Men det er det som er vanskelig. Å klare å så tenke at hvis bare jeg gjør det jeg vet jeg er kapabel til så er det nok. Du må være overbevist om det. Så må du egentlig bare overse de som løper ifra.
- Number 24: Da er liksom alt stress og alt borte. Man tar fram tidligere opplevelser, og følelsene fra tidligere opplevelser og så ser jeg det for meg. Jeg har jo visse konkurranser som jeg har tenkt meg ut, kan jeg se for meg senarioer på hvordan suksess er. Det gir et sånt adrenalin kick på en måte, det lysner eller gir deg evnen til å ta ut litt mer da. Man vet at det kreves å ta ut litt mer for å komme seg dit.
- Number 25: Du får lov til å gå når bakken begynner.
- Number 26: Jeg har det innmari fint. For på treningsrommet mitt så har jeg skrevet opp hva jeg står for. Og den som står øverst er gjennomføringsvilje. Når jeg har det skikkelig tøft og har lyst til å avbryte så ser jeg på den og fortsetter. Jeg tenker; faen (navn), det er det du står for. Trøkk til. Ellers så er det å endre litt på frekvensen eller endre litt på tråkket, steget, armføringen i svømmingen. Sånn at det går litt lettere eller fortere. Det er hele tiden fokus. Når det blir litt tøft så tenker jeg at det er slutt snart. Hvis du holder ut bare litt til så er det slutt.
- Number 27: Den siste delen der, det er da jeg henter frem mye av de tankene fra tidligere erfaringer med trøbbel på Jotunheimen rundt, steinen på Hardangervidda, og alle de greiene der som jeg har gjort tidligere. Det er ofte jeg kjører revy på dem, og drømmer meg bort i sånne situasjoner. Da forsvinner fokuset på den sinn syke smerten.
- Number 28: En sånn mental greie kan være å se for seg målsituasjonen. At du er på vei. At du kommer til mål. Det er snakk om en slags trøst. At nå er du snart i mål. Det er jo litt feil når du løper for du har fortsatt en halvmaraton igjen når du har attenhundre høydemeter. Men likevel se for deg målgangen da. At du er i enden på det. At du tenker på det, nå har du faktisk holdt på i ti timer, nå er det tross alt bare to, tre timer igjen.
- Number 29: Og det er klart at hvis du ikke trener på det får du det aldri til i konkurranse.

- Number 30: Så jeg bruker en del treningsøkter på å kjøre meg så i senk sånn at jeg er helt utmattet, og så ha som mål å prestere. Det er vanskelig å si det nøyaktig, men det kan variere fra gang til gang. Men jeg kjører meg først så utmattet at jeg, gjerne uten mat. For da får du litt den samme rasjonalitetsfølelsen. Når man er så sliten setter man seg enda et nytt hårete mål som nesten er umulig da. Og så prøver man å gjennomføre. Har man erfart det i treningssituasjoner noen ganger er det lettere i konkurranse situasjoner. Og når man da klarer det på trening så vet en at da har man den sikkerheten i konkurranser. Det er faktisk mulig.
- Number 31: Da er det ofte litt sånn på følelsen at jeg går ut å trener. Jeg har en grovplan på hva jeg skal trene den dagen, men ofte så endres det underveis på grunn av den følelsen den dagen. Jeg har såpass erfaring at jeg kjenner kroppen min ekstremt godt, og jeg vet hvordan den reagerer på ting. Jeg vet hvordan det føles når noe er galt eller fungerer bra.
- Number 32: Jeg godtar tankene, og det er sikkert ikke lenge til jeg har dem igjen.
- Number 33: En god trening klarer jeg å holde intensiteten oppe uten å bli sliten. Får syre og andre vondter, du klarer å trøkke til uten at det går let.
- Number 34: Du begynner å tenke har jeg trent hardt tidligere? Er det derfor? Er jeg sliten? Hva er det jeg gjør for noe? Kaster jeg bort tiden min? Og det er kanskje det viktigste. Jeg går og irriterer meg, skal jeg bryte, hva skal jeg gjøre for noe?
- Number 35: Men når jeg er i dårlig form så tenker jeg på hvor langt det er og med de trøtte beina. Jeg tenker på hele strekket, og hvor utrolig ubehagelig det kommer til å bli. Det er et helt annen modus. Jeg prøver å snu det ved å overstyre tankene. Det kan være at jeg tenker på en motbakke som er åtte kilometere frem i løypa. Jeg trenger ikke ha fokus på den nå, den kommer senere den. Men tanken er på bakken.
- Number 36: Hvis du tenker resultat er du ganske sikker på at du ikke oppnår det resultatet. For at du vet ikke hvordan du skal oppnå det resultatet.
- Number 37: For da tenker du gjerne på resultatet da, neste gang. Under konkurransen var jeg veldig i tvil om jeg bare skulle trille over toppen og så bare gå å vente på kona mi, og bare pushe henne igjennom. Men ja, det var liksom ikke noe scenario

som var bra når det der skjedde. Ingen scenario jeg gjorde fremover var noe bedre enn det andre. Bortsett fra hvis jeg brøyt så slapp jeg å ha en helvete uke etterpå. I allefall ikke noe verre enn det jeg hadde der og da.

- Number 38: Det var utrolig forskjell på Norseman nå og i to tusen og ti. Da jeg kom opp på land fikk jeg høre at jeg var atten minutter bak. Jeg hadde bare lyst til å sette meg ned å grine. Fullstendig satt ut av det. I to tusen og tolv kom jeg opp og fikk høre at jeg var seksten minutter bak. Jeg tenkte at det spiller ingen rolle, jeg tar det igjen på løpingen.
- Number 39: Sånn som i går når vi var ute fire stykker og sånn, da sitter vi å prater. Det er som å være på café i fire timer. Det er veldig behagelig og tiden går fort. Hvis jeg trener rolig inne kan jeg sitte å se på film eller høre på musikk.
- Number 40: Spesielt, ja når jeg trener rolig da er det ikke noe spesielt. Da flyr tankene på alt mulig. Da planlegger jeg oppussing, planlegger jobb og sånt.
- Number 41: På svømmingen tenker jeg teknikk og hvordan jeg glir og så kan jeg plutselig begynne å tenke på andre ting. Jeg vet ikke om det er fordi jeg ikke klarer å holde fokus eller hva det er for noe. Men det er ofte jeg da ikke klarer å holde fokuset uten noen impulser, bare det mørke vannet. Ligger der og svømmer og svømmer. Selv i konkurranse situasjoner så har jeg tatt meg selv i å akkurat som på rolige treningsøkter på at jeg tenker plutselig på hvordan lister jeg skal ha på kjøkkenet hjemme, hvor skal vi å sommerferie til sommeren og alt sånn helt uvesentlig. Setter jeg meg på sykkelen så er det annerledes.
- Number 42: Da merker jeg veldig godt at jeg har både psykiske verktøy og teknikker som jeg gjør og rutiner som gjør at min trening får høyere kvalitet enn deres da.