

**PERFORMANCE-RELATED FEAR EXPERIENCES, COPING AND
PERCEIVED FUNCTIONAL IMPACT ON HIGHLY SKILLED ATHLETES**

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ABSTRACT

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Three types of experiences are distinguished in sport: emotional states (state-like), emotion patterns (trait-like), and meta-experiences or attitudes towards one's experiences (Hanin, 2004). Most emotion research has traditionally focused on the study of anxiety and its impact on athletic performance. Although unpleasant emotions have been assumed harmful for performance, previous research on anxiety (Hanin, 2000) and anger (Ruiz & Hanin, 2011) has indicated, that they can also be beneficial. However, the impact of fear, another stress-related emotion, is still unclear. This study examined experiences of fear in a purposive sample of 12 (N = 12) high-level sport competitors (4 male, 8 female; age M = 19, SD = 2.8). They were involved in alpine skiing, cheerleading, diving, figure-skating, gymnastics, ice-hockey, karate, and snowboarding, competing at national or/and international level and having achieved good results at major competitions (i.e., national, Nordic, European, and World Championships). An interview guide was developed to examine the content of athletes' experiences of fear, coping strategies and perceived functional impact on performance. Deductive and inductive content analyses were used to analyze the data: deductive content analyses used the categories of the IZOF model (cognitive, affective, motivational, bodily, motor-behavioral, operational and communicative; Hanin 2000, 2007) and inductive content analyses were used to identify the emerging themes. The most common experience was fear related to risky motor tasks. Fear of failure was also important to the athletes. High intensity of fear was perceived as harmful for performance; however, most athletes reflected positive perceptions of beneficial effects upon performance. For instance, fear was reflected to enhance concentration. The findings are in line with earlier IZOF-based studies, providing support for the notion of optimal and dysfunctional performance-related fear.

Keywords: perceived functional impact, IZOF model, performance, fear-related experiences/ meta-experiences

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1 INTRODUCTION

In the area of sport psychology there has been a growing interest towards the study of emotions and their relation to athlete performance. This is understandable, as we all have seen time and time again that pure physical talent seldom determines who wins. As athletes need to perform at their best in stressful competitive situations, understanding what is going on in the mind is vital knowledge for both the coach and the athlete him-/herself. Studying emotion in the context of sport offers a unique view to emotion-performance relationship. Through more conclusive understanding of emotion in high-level sport conditions and a more thorough description of the effects of this complex relationship, more effective regulation strategies can also be developed.

My interest in studying fear in sports wells from personal experiences as a coach. When working with young athletes, a problem we faced over and over again was how emotional responses should be handled when teaching frightening new tasks. As a coach I felt uncertain trying to support the athlete struggling with strong emotional stress caused by fear. As fear is a major factor within certain sports (for instance gymnastics), there is a strong need for evidence-based comprehension of what we are actually talking about when discussing fear in sport surroundings. Research on the topic is scattered and missing a broader view. In addition, in order to address sport-related fears properly, athletes and coaches need to be aware of the ways in which fear can have an impact on athletic performance. The issue of fears can have far-reaching effects on athletes' careers. Coaches are now forced to use different kinds of rules of thumb, or coping with fear can totally be on the athletes' own hands. Even with the best of intentions, it is possible that maladaptive ways of coping are both being used.

For the purpose of building an overall understanding of sport-related fear, the study group involved participants among sports where fear is commonly experienced. The theoretical basis of the study follows the framework of IZOF model (Hanin, 2000, 2007), a sport specific framework designed to embrace athlete's subjective experiences as a viable source of information, the first-person descriptions of these experience, and personal meanings of the situations. The descriptions of fear-related experiences and meta-experiences are studied in all five performance-related states including form, content, intensity, time, and context. The main focus, however, concentrates on the form

dimension, which introduces the seven basic ways in which performance-related states can be manifested (cognitive, affective, motivational, bodily, motor-behavioral, operational and communicative). Secondly, special attention is given to the functional impact of fear.

Traditionally, emotion research in sports has focused on anxiety (for example Hanin 1986; Hanin, 1995; Jones, 1995; Lazarus & Folkman, 1984) but recently anger and its impact to athletic performance have shared more public interest as well (Robazza & Bortoli 2007; Robazza, Bertollo, & Bortoli, 2006; Ruiz & Hanin 2004a, 2004b, 2011). Especially the IZOF model (Hanin, 1997, 2000, 2007) based research has revealed results of beneficial impacts of emotions which have been considered negative. The findings of athletes' experiences of fear extend earlier research on negatively-toned emotions and provide both scientific knowledge and practical implications. The study provides a unique view to athletes' experiences and attitudes of fear and enhances understanding of the subject. Results of the study should raise athletes' and coaches' awareness of personal performance affecting inner states and emotions and understanding of fear. In turn, the suggested practical implications for enhancing athletes' coping and deeper understanding can help avoiding unnecessary sources of fear.

The theoretical framework for the current study, IZOF model, is introduced in the next section, where a description of the IZOF model is presented and evaluated in terms of current research knowledge. Emotions and their relations with performance follows next, focusing on themes related to fear and other negative-toned emotions. Before the research questions are placed, the studies of fear in sports are summarized.

2 PERFORMANCE RELATED STATES

2.1 The IZOF model

Three types of experiences are distinguished in sport: emotional states (state-like), emotion patterns (trait-like), and meta-experiences or attitudes towards one's experiences (Hanin, 2004). The Individual Zones of Optimal Functioning (IZOF) model by Hanin (1997a, 2000, 2007) focuses on patterns, structure and functions of idiosyncratic emotional experiences of athletes (or teams) in high-performance situations. Originally, the model was developed to study anxiety (Hanin, 1978, 1986, 1989, 1995), but recently it has been used to investigate other performance-related emotions like anger (Ruiz and Hanin 2004a, 2004b, 2004c, 2011) as well. In contrast to other sport specific frameworks, the IZOF model approaches athletic performance from a multilevel standpoint, and for that reason succeeds in avoiding criticism of being too limited. Based on the model, the descriptions of the performance state include five dimensions, which are form, content, intensity, time, and context.

The dimensions of form, content and intensity are used to describe the structure of the athletes' subjective experiences, whereas time and context conceptualize the dynamics of the experiences. The complete description of performance-related state exists in the *form* dimension, which introduces the seven basic ways in which performance-related states can be manifested (cognitive, affective, motivational bodily, motor-behavioral, operational, and communicative; Hanin, 1997, 2000, 2007). More recently Hanin (2010) has separated an eight modality as its own component of a psychobiosocial state. This volitional modality originates from the motivational component but refers to a more specific state of persistence and determination (Hanin, 2010). In the current research, modalities of motivation and volition have not been separated.

The emotional *content* is conceptualized within the framework of four global emotion categories derived from two factors: hedonic tone (pleasure-displeasure) and functionality (optimal-dysfunctional). The four emotion categories include pleasant and functionally optimal emotions (P+), unpleasant and functionally optimal emotions (N+), pleasant and dysfunctional emotions (P-), and unpleasant and dysfunctional emotions (N-). The impact of emotional *intensity* on athletic performance is individual, and even negatively toned emotions such as anger have been found to possess beneficial effects on

performance (Ruiz & Hanin, 2011). In close relation to intensity Hanin (1997a, 2000, 2007) presents the zone principle, which describes the relationship between the perceived intensity of optimal and dysfunctional emotional states, and becomes evident in the quality of the performance. The IZOF model suggests best performance is most likely to occur when emotional intensity is within a previously established optimal zone, and worst performance is likely to happen when emotional intensity is within dysfunctional zones. As a whole, intensity has a strong impact on athletic performance.

According to the IZOF model, the specific optimal or dysfunctional effect of a particular emotion (or its components) in the performance process is functionally manifested in the athlete's recruitment of resources through generating the appropriate amount of energy (energizing versus de-energizing effects), as well as in efficient utilization of available resources (organizing versus disorganizing aspects) (Hanin, 2000, 2007). *Time* dimension reflects the temporal pattern of the athletes' emotional experience before, during and after the performance. And finally, the *context* dimension presents the influential environmental characteristics including situational (e.g. practice or competition), interpersonal and intragroup situations.

Hanin (2003) has also presented qualitative analysis of the tools (data collection techniques for assessment of idiosyncratic emotion content). Concerning the methodology, different options to measure emotions include aggregated scales with most frequently selected items, idiographic emotion profiling and more holistic approaches, like different types of interviews, metaphor-generation method and narratives. According to Hanin (2003) most of data collection techniques focusing on the content of subjective experiences have relied on self-report measures. Typically, the emotion stimulus list includes both positive and negative emotions. However, fixed content is found somewhat limited to produce a comprehensive picture on athletes' idiosyncratic subjective experiences. Instead, the individualized emotion profiling method aims at determining the subjectively meaningful positive and negative emotions based on the analysis of individual's past performance history and significant emotional experiences (Hanin, 2003). Compared to aggregated scales, the difference lies in the fact that athletes themselves are asked to generate individually relevant emotion words to best describe their optimal and dysfunctional positive and negative emotions. Interviews have been used in structured and in-depth forms, where they can produce detailed information on

emotional experiences. However, interviewing has also been often restricted in pilot studies to form labels to generate idiosyncratic stimulus list or standardized emotion scales. The metaphor-generation method (Hanin & Stambulova, 2002) produced self-generated metaphors, on the other hand, have been found to enhance understanding about athletes' inner states and interaction with the environment. The instrument was developed to identify self-generated metaphors and interpretative descriptors of feeling states prior to, during, and after best ever and worst ever competitions (Hanin & Stambulova, 2002). Lastly, exploring self-stories, narratives, by athletes and coaches have been able to describe concrete situations and related thoughts and responses encountered in special competitive settings (Hanin, 2003).

The IZOF model appears to hold external evaluation well. For instance, the discrimination power of the IZOF model between successful and less successful athletes was evaluated in meta-analysis of 19 studies, with 146 effect sizes and 6387 participants from 1978 to 1997 (Jokela & Hanin, 1999). The meta-analysis revealed fairly good empirical support for the IZOF anxiety model. In addition, both the accuracy of precompetition anxiety measures and anticipatory value were supported by the analysis. The predictive validity and functionality of the IZOF model has also been tested in longitudinal studies (for example see Syrjä, 2000) and it has been compared with other perspectives (for example see Hagvet & Hanin, 2007; Lazarus, 2000; Robazza, Pellizzari, Bertollo & Hanin, 2008). In those studies, merits of the IZOF model have been noted. Furthermore, with the extensive evidence base, the IZOF model provides applied implications for practitioners. The IZOF model has been developed for high-achievement setting, but more recently it has been expanded to exercise surroundings (for example see Robazza & Bortoli, 2005). However, research is still scarce.

In summary, the IZOF model provides a broad, evidence based structure, which accommodates a wide range of idiosyncratic, individually relevant and task-specific emotions related to successful and unsuccessful performances. Based on the strong evidence base, especially in studying negatively-toned emotions, the framework was chosen to explore yet another negatively-toned, performance-related emotion: fear. In this study the approach has been used in both, gathering information and guiding the analyses.

2.2 Conceptualization of emotions: the cognitive-motivational-relational theory

Emotion process “concern whether there is a clear, personally significant relational content, an appraisal of personal harm, threat, challenge or benefit, the potential for action readiness and physiological changes” (Lazarus, 1991c, pp822). In the cognitive-motivational-relational theory (Lazarus, 1991b), relational points out the basic idea of emotions dealing with person-environment relationships involving harms and benefits. Motivational highlights the personal relevance of goals, and the fact that emotions and moods as reaction are part of the adaptation process when encountering these everyday goals. Lastly, cognitive refers to the personal knowledge and appraisals of the ongoing event. According to Lazarus (1991a, 1991b, 1991c), a single emotion contains multiple different components: (1) Cognitive appraisal triggers multiple simultaneous emotional responses. (2) Subjective experience is most likely to be recognized, since it represents the affective state the emotions create. (3) Thought-action tendencies, on the other hand, are urges to think or react in certain ways. (4) Internal bodily changes are physiological responses, especially the ones involving changes in autonomic nervous system. (5) Facial expression includes muscle actions that move facial landmarks. The sixth and final component (6) contains the actual responses triggered by the emotion. These responses include for instance reactions and coping. Lazarus (1991b) states that efficient theory of emotion should include general propositions about the emotions process and offer specific propositions of individual emotions as well. In order to describe the cognitive determinants of a specific single emotion, knowledge of appraisal patterns is needed.

In cognitive-motivational-relational theory (Lazarus, 1991c), two different kinds of appraisals are presented: (1) Primary appraisals concern the individual stakes a person possesses towards certain encounters (for example, the main competition of an athlete’s career typically equals high stakes). Stakes are an absolute, since an emotion cannot develop without personal relevance. Primary appraisals include *goal relevance*, which deals with the issue of what is at stake and the importance of that goal. *Goal congruence*, on the other hand, concerns whether the encounter is evaluated harmful or beneficial. *Goal content or type* concerns what type of goal is at stake and helps to differentiate between different emotions. (2) “Secondary appraisal concerns the options and prospects for coping” (Lazarus, 1991c, pp827) (for example, locus of control and the expected ways to achieve it). Like the primary appraisals, Lazarus presents three decisions of secondary appraisals: *Blame or credit* depends on whether the individual attributes

responsibility for the harm, threat or benefit and the extent of the control of these actions. *Coping potential* is based on the evaluation whether the person-environment relationship can be influenced for the better. Lastly, *future expectations* deal with determining expectations on what is thought to happen in terms of change.

In the cognitive-motivational-relational theory (Lazarus, 1991c), core relational themes (cognitive causes that trigger emotions) are presented as a way of identifying the individual value (relational meaning) that specific emotions hold to a person. Here, Lazarus (1991c) demonstrates fifteen different emotions and their cognitive causes (core relational themes). The core relational theme of fright (fear) is about facing immediate, concrete and overwhelming physical danger. According to Lazarus, there is a strong relationship between the core relational themes and patterns of appraisals: “Appraisal patterns provide the detailed evaluative decisions that sum up to each core relational themes, which captures the essence of relationship” (Lazarus, 1991c, pp828). The cognitive-motivational-relational theory of emotion holds special value with negative emotions, like fear, because it emphasizes the action of the coping mechanisms. Understanding the ways in which appraisals and coping are constructed is important when exploring emotions. As emotions possess vital relations to sport performance and fear is generally considered as a negative emotion in which coping mechanisms hold special relevance, the cognitive-motivational-relational theory is closely linked to the subject of sport-related fear.

2.3 Emotion-performance relationships

“One of the major concerns in sport psychology has been the deleterious effect high stakes competition can have on performance” (Lazarus, 2000, pp229). As is typical in the area of sport psychology, early research in emotion and athletic performance relationship has its roots in general psychology. Despite the initiative effect and contributions of general psychology, it, for some time, limited the research mainly on physiological activation of arousal and anxiety. For example, The Inverted-U Hypothesis by Yerkes & Dodson (1908) assumes that performance improves as arousal increases from low to moderate levels, at which it reaches its peak. A rapid decline in performance occurs if arousal should increase above these moderate levels. The Inverted-U Hypothesis has been criticized for the limited amount of empirical support. Inconsistent use of the definition of arousal has also raised some concerns (Neiss, 1988). The Drive Theory by

Hull (1943) approaches arousal-performance relationships from a very different angle and presents drive parallel to physiological arousal or anxiety, and suggests that performance is a function of drive and habit strength. According to Hull, well-learned skills combined with high levels of anxiety should lead to positive outcomes. Generally, current research in sport psychology does not support this idea.

Recently theorists have focused on developing more specific models from the sport domain. Multidimensional Anxiety Theory (Martens et al., 1990) suggests a model consisting of cognitive anxiety, self-confidence and somatic anxiety, which combine as sport anxiety. The major critique against the theory is aimed at the basic idea of multidimensionality, in which cognitive and somatic anxiety would have additive rather than interactive effects on performance. The Cusp Catastrophe Model (Fazey & Hardy, 1988) was created to give more specific descriptions of the interaction between performance and earlier suggested components (cognitive anxiety, self-confidence and somatic anxiety). Fazey & Hardy (1988) suggest cognitive anxiety has a mediating influence on the effects of physiological arousal, which instead can directly influence performance. Both above theories follow the main idea of inverted-U Hypothesis, but the differences appear in the component's relations to performance. Like Inverted-U Hypotheses in general, The Cusp Catastrophe Model has also received vast amounts of critique. The theories have been found too complex, which significantly complicates testing and applicability to general usage.

The Reversal Theory by Apter (1982) originates from general psychology and has been applied to sport settings by Kerr (1997). The Reversal Theory approaches the anxiety-performance relationship from the perspective of motivation, and for that reason it differs from theories presented before. According to the Reversal Theory, the current motivation and the ways individuals interpret experiences are determined by the current motivational state of the individual. The theory emphasizes regular switches between opposing motivational states (telic-paratelic). Applied to sports, The Reversal Theory has been considered influential in exploring the way an athlete recognizes and interprets his/her own arousal. However, for example Jones (1995) has expressed concerns about the little empirical support of the theory.

An interesting exception among the study of stress-related emotions is the mental health model by Morgan (1985), which approaches the question of sport success according to a framework related to clinical psychology. According to the mental health model “positive mental health enhances the likelihood of success in sport, whereas psychopathology is associated with a greater incidence of failure” (Morgan, 1985 pp79). The basic idea is that successful athletes possess lower amounts of the “negative” mood scales, which make more vulnerable to mental health problems. Even though the mental health model has been found popular in sport, there has also been disagreement about the justification of empirical support (Rowley, Landers, Kyllö & Etnier, 1995).

Jones and Swain (1992, 1995) made an attempt to extend study of anxiety by including the emotional content and the perceived functional impact upon performance. Here Jones & Swain explored the distinction between intensity (level) and direction (interpretation of level having debilitating or facilitative effects) of anxiety and found empirical support for their directionality hypotheses. However, even though some evidence supports elite athletes experiencing anxiety symptoms more facilitative and less debilitating compared to nonelite athletes regarding skill (Jones, Hanton & Swain 1994; Robazza & Bortoli, 2003), and some evidence on good performance being associated with a more debilitating perception of anxiety than poor performance (Jones, Swain & Hardy, 2003), directional approaches often fail to present the precise impact on performance (Robazza, Pellizzari, Bertollo & Hanin, 2008). In addition, the directional approach does not take athletes’ personal history or personal emotional experiences related to successful or poor performance into consideration, which is a limitation (Robazza & al., 2008). Also, the main focus of the directional approach lies in anxiety, which excludes the functional effects of pleasant and unpleasant emotions (Robazza & al., 2008). All approaches reviewed above have been, to some extent, found limited in providing a precise picture of performance-emotion relationship despite exploring almost exclusively anxiety. However, there is a relation between anxiety and fear, since both are considered as stress-related emotions. Therefore, understanding the mechanisms of anxiety and the development of scientific sport-related anxiety is important and can help to explore and understand mechanisms of fear better as well.

More recently, there has also been a growing interest towards the presence, mechanisms and impact of anger (Ruiz & Hanin 2004a, 2004b, 2011; Robazza, Bertollo & Bortoli,

2006; Robazza & Bortoli, 2007). Traditional research has typically assumed that negative emotions weaken performance. For instance, under stressful competitive situations, emotions have been thought to enhance muscle tonus, thus weakening fine motor skills (Jones, 2003). In addition, Kokkonen (2012) argues that “overcome by emotions, the athlete is usually unable to observe environment effectively to make right decisions, and has troubles in memorizing and recollection”. However, according to Hanin (2000), the experience of facilitative or debilitating impact of anger, anxiety or other negatively toned emotions depends on the individual’s perception of these emotions and the personal effects the individual relates with. Ruiz and Hanin (2004a, 2004b, 2004c) studied the content of anger states using multiple different techniques, including metaphoric descriptions, emotion profiling and open-ended questions. The perceived functional impact of anger on performance indicated that athletes can use anger in preparation or during competition. The facilitative effects of anger were related to positive feelings of increased motivation, confidence and powerful skill execution, whereas the debilitating effects were associated with tension, lack of confidence and perceived inability to cope with the situation. In addition to positive emotions, negatively toned emotions also possess the potential of producing energy during athletic performance. Whether the impact is desired is simply a question of correct use or misuse of these energies (Hanin, 2000). For example, Ruiz & Hanin (2004a, 2011) studied anger on skilled karate athletes and were able to verify anger having energizing and de-energizing effects on performance. In addition, earlier results of a study with ice-hockey players, by Hanin & Syrjä, (1995) provided initial support for the validity of these functional constructs.

2.4 Conceptualization of fear

Emotions’ moving power is well defined in the actual word, as the English word ‘emotion’ origins from Latin word ‘emovere’, which simply means to move. Yet while emotions have been studied within many different frameworks, an extensive definition is hard to find. Often the term ‘emotion’ is confused with ‘feeling’, which is actually the subjective experience caused by emotions (Oatley & Jenkins, 1996), or ‘mood’, “a longer lasting, free-floating and diffuse affective state” (Russel & Feldman Barret, 1999), which can be distinguished from emotion in multiple ways. Like ‘mood’, emotions are relatively brief (Russel & Feldman Barrett, 1996), have clear causes (Oatley & Jenkins, 1996) and, as stated before, implicate multiple components (Lazarus, 1991a, 1991b,

1991c). Throughout history, emotions have helped us to adapt to many different surroundings. As crucial hints from environment turn on the emotional mechanisms and produce functions in order to ease adaptation, they also make us take action in situations where action is needed (Nummenmaa, 2010). Even though challenges in sport are different, the ability to adapt is still vital. According to Nummenmaa (2010) emotions have an essential effect on our everyday life as they guide our actions, automatically alter our alertness, and essentially affect the way we observe and interpret environment. The level of alertness has direct impact on sport performance, and efficient observation of the surroundings is a necessity in many sports. Interpretation, on the other hand, has crucial significance on coping. As a conclusion, it can be argued that emotions tend to have special relevance in high-level sports, where stakes are high.

Fear is generally regarded as a highly unpleasant negative emotion, which has been viewed having different implications with disadvantages: negative emotions have a tendency to trigger strong urges to act in specific ways to escape when fear is at issue (Lazarus, 1991b). By creating strong urges to act in certain ways, negative emotions simultaneously narrow down thinking and actions (Smith et al., 2003). According to Nummenmaa (2010), fear is typically launched by a possibly dangerous situation, is a part of a person's normal defensive mechanisms, and has effects on the sympathetic nervous system. Linking the current understand of fear and the IZOF model, it can be stated that fear is a negatively toned, typically prior to performance experienced emotion, which is typically closely tied to the dominant situation (or the interpretation of the situation). Typically fear manifests as intense yet relatively brief by its duration. However, Nummenmaa (2010) has argued that fear mechanisms could also trigger beforehand, and that these prolonged states of alertness and anxiety could develop into serious states of fear. By its form, fear possesses strong relations to motivational, bodily-somatic and operational issues.

2.5 Fear experiences in sports

Fear is a commonly experienced emotion in sport. The previous research on the topic has mostly focused on specific types of fears, like the fear of failure and, to a lesser extent, fear of injury. However, fear has been presented as one of the affects related to sport in the Positive and Negative Affect Schedule (PANAS, Watson, Tellegen & Clark, 1988). The PANAS consists of two 10-item scales: one to assess positive affect (PA) and the

other to assess negative affect (NA). These individualized positive and negative affect scales consist of originally athlete-generated items, which are scored on a 5-point scale ranging from 1 (“very slightly/not at all”) to 5 (“extremely”). According to Watson et al. (1988), positive affect (PA) reflects the extent in which a person feels enthusiastic, active and alert. High PA is a state of high energy, full concentration pleasurable engagement, whereas low PA is characterized by sadness and lethargy, and the general dimension of negative affect (NA) is the general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood scales (including fear), with low NA referring to a state of calmness and serenity. It should be noted that more recently some concerns have been stated related to only low overlapping when comparing the PANAS items and the idiosyncratic items (Robazza, Bortoli, Nocini, Moser & Arslan, 2000).

The development of fear of failure (FF) in sport has been studied especially from social development’s point of view (for a review see Conroy, 2001a). Relating to Lazarus’ work on cognitive-motivational-relational theory of emotions, Conroy (2001b) developed a multidimensional fear of failure measurement (Performance Failure Appraisal Inventory, PFAI). PFAI is a self-report tool with originally 41 different items. PFAI assesses respondents’ appraisals of threatening or aversive consequences associated with failure. These appraisals are estimated in five different categories including experiencing shame and embarrassment, devaluing self-estimate, having an uncertain future, having important others lose interest, and upsetting important others. PFAI was revised to include 25 items in a study by Conroy, Willow & Metzler (2002), in which they found the fear of failure to be associated with high levels of worry, somatic anxiety, cognitive disruption, sport anxiety and low levels of optimism. Congruent results were stated by Sagar, Lavalley, & Spray (2007), who investigated fear of failure in sports among young elite athletes. They discovered the most common perceived consequences of failure being diminished perception of self, no sense of achievement, and emotional cost of failure, followed by letting down significant others and negative social evaluation. Recently FF has also been associated with perfectionism (Conroy, Kay & Fifer, 2007; Kay, Conroy & Fifer, 2008; Sagar & Stoeber 2009). Coping with the effects of FF has been investigated in a study by Sagar, Lavalley & Spray (2009), in which Sagar and colleagues examined different coping strategies of nine elite-level young athletes. Coping strategies employed by the athletes in different combinations were problem-focused, emotion-focused or

avoidance-focused, avoidance strategies being reported most often. Limitations with FF studies relate mainly to the lacking comprehensive definition of the actual emotional content of fear of failure, as the main focus concentrates on consequences and coping.

Related to the research on fear of injury, Heil's psychophysiological model of risk (Heil 1993, 2000) describes the linkage of physiological and psychological consequences, which have the possibility to negatively influence performance and increase the risk of injuries. In this model Heil describes how fear of injury can have both physiological (e.g. muscular and autonomic) and psychological effects, and form a negative cycle of performance conflicting actions significantly increasing the risk of injury. Fear of injury has mostly been investigated within gymnastics. For example, based on Bandura's concept of self-efficacy (Bandura, 1991, 1997), Chase, Magyar & Drake (2005) explored the psychological strategies gymnasts used when trying to cope with fear of injury. Chase and colleagues were able to separate different reasons for the fear of injury. Difficulty of returning from injury, being unable to participate, fear of serious injury and negative emotional responses covered the main content of gymnasts' responses. The main sources of self-efficacy were performance information and communication with significant others. The gymnasts also pointed out different kinds of mental or physical strategies in order to overcome fear of injury. The strategies included, for example, mental preparation, thought-stopping strategy of "just go for it", coaches' influence, positive self-communication and good luck charms. Conclusively, the effects of fear of injury, or re-injury, were confirmed to cause abandoning even currently successful sporting careers. With effective coping strategies, these dropping out effects can be avoided. As a limitation, the researchers point out that findings are possibly unique to the sport, and that fear of injury demands further investigation.

Cogan and Widmar (2000) point out that fear possesses the possibility to impact performance either in a helpful or harmful way. They view fear as a natural reaction to the risky skills gymnasts perform, and as a necessary component for advancement. According to Cogan and Widmar, fear helps gymnasts maintain enough adrenalin and focus to perform difficult skills safely. On the other hand, fear can cause mental blocks. Cogan and Widmar conclude that a gymnast's goal should be learning to work with fear rather than to eliminate it. Especially in the United States there has been an effort for sport psychologists to implement instructions for gymnastics coaches working with fear.

In general, these types of instructions appear to stem more from personal professional expertise rather than scientific, theory based research. However, some intervention studies in relation to coping with fear have been published. For example, Robazza & Bortoli (2005) evaluated the effectiveness of a specified intervention program in order to change students' attitudes concerning risky motor tasks. They compared the results of two experimental groups taking part in learning and performing potentially risky, emotion-arousing tasks, with two control groups engaging in a low-risk team sport. They found their program to be effective in decreasing students' avoidance tendencies. Nevertheless, the study was conducted in a physical education setting opposed to high achievement sports, which makes direct implements impossible. The study advocates the possibility of creating effective programs to cope with fear better.

Cartoni, Minganti & Zelli (2005) investigated differences in the relations linking anxiety, self-efficacy, and fear of injury in a group of Italian gymnasts as a function of age, gender, and level of professional competence. The study was conducted by using questionnaires and, for the purpose of fear of injury, Cartoni & al. developed the Gymnast's Fear Inventory instrument. The questionnaire was developed based on information obtained in a focus group including gymnasts and experts on gymnastics and consisted of five questions: "Do you consider yourself to be an apprehensive gymnast?", "Are you afraid of getting hurt?", "Are you afraid of trying out new exercises?", "Are you afraid of trying out an exercise that you already know?", "Does it ever happen that you imagine (or think) of getting hurt before carrying out an exercise?". The item score for answers ranged on a four point scale (from 1 to 4). Concerning the findings of the study, it appeared that, as a whole, male gymnasts were less anxious and more efficacious than female gymnasts; however, gender groups did not differ on fear of physical injury.

Research on sport specific fear is yet scarce, and has focused mainly on exploring specific types of fears, like fear of failure and fear of injury. However, the idea of the possible relation between the two has been brought up lately. For instance, in an unpublished master's thesis, Paulk (2009) explored the descriptions of fear experiences of three former elite level gymnasts and found support for the link between fear of failure and fear of injury. However, thorough understanding of sport-related fear is lacking and the ways in which fear impacts athletic performance mostly undiscovered, with general

research suggesting harmful impacts. In addition, especially concerning the fear of getting injured, the research has been strongly focused on specific sports without expanding the range any further. On the other hand, studies on fear of failure do not efficiently explain the actual emotional content of fear. As argued before, in order to understand the issue of sport-related fear, more comprehensive knowledge is needed. Only few studies, if any, have explored the experiences athletes themselves have on fear. Furthermore, practice has shown that neglected fear can, at its worst, lead in dropping out of an athletic career. For these reasons the current study was found important.

3 PURPOSE OF THE STUDY

The purpose of the study was to describe the experiences of elite level sport related fear. This included examining, for instance, experiences, meta-experiences, coping methods and the functional impact of experienced fear on performance. Based on IZOF model based studies (Hanin, 1993, 1995, 1997; Hanin & Syrjä, 1995; Ruiz & Hanin 2004a, 2011) and previous literature dealing with fear, fear of failure and fear of injury in sport from relevant electronic databases (Psycinfo and Sportdiscus), the following hypotheses were stated: the primary goal was to examine the most common fear causing factors experienced by the athletes, i.e. to examine domains of sport-related fear. Earlier research suggested the fear of failure and the fear of injury as the two main factors behind high-level sport related fear.

The secondary aim was to investigate the functional impact of fear on performance as perceived by athletes. According to the IZOF model, perceived meaning of the impact of emotions on performance is related to the constructs of energy mobilization through energizing or de-energizing effects, and energy utilization through organizing or disorganizing effects. Fear was hypothesized to have energizing versus de-energizing and organizing versus disorganizing effects on performance. In addition to the main interests, the coping methods for fear were put under interest.

4 METHODS

4.1 Participants

The study group consisted of a purposive sample of 12 athletes (8 male, 4 female). The participants ranged in age from 16 to 24 years ($M = 19$, $SD = 2.8$) and their sporting experience in the current sport from 6 to 15 years ($M = 10.2$, $SD = 3.3$). Two participants competed at national level having achieved high placements in national competitions (i.e. Finnish Championships) and possessed international competing experience as well. Ten were successfully competing on Nordic and/or European and/or World Championships level. The sports were alpine skiing, cheerleading, diving, figure-skating, gymnastics, karate, ice-hockey and snowboarding. An effort was made to recruit experienced athletes from a variety of sports including both individual and team sports.

4.2 Interview guide

An interview guide was developed to elicit the unique experiences and meta-experiences the athletes encountered in competitive sport settings. This interview guide was based on the multimodal aspect of the athletes' experiences. Seven main sections of questions were designed to expose connotations of high-performance related fear in cognitive, affective, motivational, bodily, motor-behavioral, operational, and communicative modalities of a psychobiosocial state. A separate part dealing strictly with the functional impact of fear was included. In addition, the causes of fear as well as coping methods were explored in the guide. All questions were constructed to highlight individual experiences. Purposive sampling procedure (Glaser & Strauss, 1967; Patton, 2002; Strauss & Corbin 1998) was chosen in order to select "information-rich cases for study in depth" (Patton, 1990, pp46). Patton characterizes information-rich cases as the ones where as much as possible can be learned about key features of the issue. In addition, purposeful sampling opens the territory for further research (Patton, 1990).

The structure of the interview was based on Spradley's (1979) guide on ethnographic interview. Descriptive (e.g. what is your most frightening experience in your own sport?), structural (e.g. what do you do if you feel afraid before performance?) or contrasting (e.g. how does being afraid differ from your typical state at practice or in competition?) open-ended questions suggested by Spradley (1979) and Patton (1990) were chosen to encourage the athletes to produce relevant illustrations of their

experiences while leading the interviews to the desired direction and maintaining the situation as natural as possible. “Open-ended responses permit one to understand the world as seen by the respondents” (Patton, 1990, pp21). According to Patton (1990), the purpose of gathering responses by using open-ended questions enables the researcher to understand and capture the points of view of other people without predetermining those points of view through prior selection of questionnaire categories. Triangulation of methods was used by including an adaption of the metaphor-generation method (Hanin & Stambulova, 2002) to the interview guide. This open-ended question was used to help the athletes symbolically describe their fear-related states. Here, the concept of metaphor was briefly explained to the participants, in addition to providing them with examples of metaphors describing feelings and emotions in non-sports settings. As an exercise the participants were asked to complete at least one such sentence as well. As soon as the participants understood the idea of a metaphoric description of inner states, the actual question related to the research subject was provided: “When I’m scared I feel myself... In other words I feel...”.

In addition to verbal descriptions, the athletes were also asked to numerically evaluate the intensity of their fear-related experiences (On a level of zero to ten, how intense sport-related fear have you experienced, zero being no fear at all, and ten being the highest amount of fear you could imagine experiencing?) and coping-related level of control concerning fear-related experiences (On a level of zero to ten, how well have you succeeded in coping with sport-related fear, zero being having no control at all, and ten referring to total control of all sport-related fear?). A pilot study was conducted with two competitive level athletes to ensure the clarity and understandability of the questions. After the pilot study, some questions were rephrased for clarity reasons. After the modifications, the interview guide was tested once more with a competitive level athlete, and was found to serve the purpose.

At the beginning of each interview questions about demographic information were asked (e.g. how long have you been participated in your sport / what are your best accomplishments in your sport?). The interviews followed a structured format as all the questions asked were identical only with some flexibility with word choices. The questions were also carried through in identical order. Only in one interview the order of the questions was slightly changed to relax the athlete and facilitate reflecting. However,

larger variation was used with the choices of the probes, as the researcher adapted to each situation guided by the natural flow and content of the responses. Based on Patton's recommendations (2002) probing questions were used to encourage the respondents to produce rich, in-depth answers. The probes were typically meant for clarification (e.g. what did you mean by..?), elaboration (e.g. could you explain that in more detail?) and gaining more general knowledge about the issue (e.g. what effect did that have?) In many occasions sport specific terminology was asked to be explained in more detail, as the interviewees were encouraged to give examples from their own sport. At the end of the interview, the athletes were asked to give their insights about being interviewed on the subject.

4.3 Procedure

Most of the athletes (9) were contacted through their coaches, who in turn were contacted through sport high-school. One athlete was contacted through his/her coach elsewhere, and two athletes were contacted directly based on the knowledge of their sport participation. First, the coaches (and the two athletes contacted directly) were sent an information letter about the study by email. The coaches were asked to suggest who would be interested in joining the study. Second, the athletes were sent an information letter with specific details of the study by email. They were informed about the purpose of the study, voluntary participation, and the possibility to withdraw from the study at any point. Third step was to arrange a suitable time and place for the interviews. The participants were contacted either by telephone or email. In the last stage individual interviews were conducted at a time and place most convenient to the athlete. The interviews were performed face-to-face and tape-recorded by a researcher with training in interviewing techniques, previous interview experience and experience in qualitative methodology. The interviews lasted an average of 20 min. All participants provided a voluntary consent form. Written consent form was also provided by the parents of the under-aged athletes.

4.4 Data analysis

The interviews were transcribed verbatim, which resulted in 105 pages (1.5 spacing) of raw text. After the transcription process, the transcriptions were read and re-read multiple times to get a feel of the athletes' answers and experiences. The design of the study was planned as qualitative, and the questions in the interview guide were formed to highlight

personal experiences, not to produce numerical information, exception here being intensity ratings, where numerical evaluations were seen to strengthen qualitative data. The purpose was to find out common emerging themes, which was done by using qualitative instruments. Data-analyses were done by using a combination of deductive and inductive content analysis. Raw-data statements were deductively organized based on the modalities of the IZOF model (cognitive, affective, motivational, bodily, motor-behavioral, operational, and communicative). In some cases, the raw statements were related to more than one modality, in which case the strongest connotation of modalities was chosen. The emerging themes were identified through inductive analysis. Hierarchical content analysis was used in order to identify patterns of greater generality (Patton, 1990). The process involved inductive identification of further common themes and establishment of higher-order themes of different level. For example, raw cognitive statements like “Am I good enough” and “Can I do this” were integrated into the higher order theme of “self-doubt” and further on into the higher-order theme of “lack of self-confidence”. In two occasions, the athletes’ were asked to produce numerical evaluations, for the purpose of gaining more complete information about intensity of experiences. These ratings were analyzed individually, comparing the intensity of experienced fear and the level of experienced control.

The idea to explore sport-related fear emerged from my personal experience, mostly as a coach, but fear-related experiences were familiar for me from athlete’s point of view, too. The subject of the study having personal relevance had both advantages and disadvantages. Previous knowledge of the subject assisted on finding the common language with the athletes: understanding what the athlete was saying, was easier having personal experiences to reflect on. However, I had to make sure not to direct the athletes perceptions, in which I found the framework, IZOF model, helpful. On the other hand, IZOF model was valuable in developing the interview guide, on the other hand, IZOF model’s clear structure facilitated especially with the analyzes, and in researcher’s perspective, ensured the reliable interpretations. However, despite close personal effort with reliability, all the findings, including transcripts, raw data themes and created analyses, were yet presented to an independent researcher familiar with the qualitative method. This allowed the outside perspective to raise questions or concerns about interpretations made through the analysis. Comments and concerns made by the independent researcher were then discussed until common consensus was found.

5 RESULTS

5.1 Experiences of fear in sport settings

The results will be demonstrated in five different sections starting with the sources of sport-related fear. The second section will introduce findings related to the performance-state, the actual focus concentrating on the manifestations of fear. The form dimension and the different modalities of biopsychosocial state (cognitive, affective, motivational, bodily, motor-behavioral, operational, and communicative) will be presented in detail whereas content, intensity, time and context will be covered more briefly. Descriptions of the performance-state will also be evaluated from an alternative perspective dealing with metaphoric descriptions; this section is placed third. The fourth section presents athletes' views on coping with fear. Last, the fifth section presents analyses concerning the functional impact of fear. In many cases statements included elements from multiple different themes (for instance modalities). In these cases, as in the analysis, the strongest connotation of modalities was chosen.

5.2 Domains of fear

All the athletes were able to detect experiences of fear. Two main themes emerged from the data: when athletes talked about experiences of fear related to sports, they were talking about fear related to risky motor tasks or fear of failing. All of the athletes reflected risky motor tasks (6 athletes; 50%) or failing (2 athletes; 16.7%) or both (4 athletes; 33.3%) as the main cause of fear. Typically, both themes were brought out in the discussion even if only one was experienced personally meaningful. The following examples demonstrate this: *"I'm afraid of getting injured and failing"*. (Athlete 3)

"It's hard to say. Mistakes always, even though you shouldn't fear them, but still in the sub consciousness.. You try to avoid them (mistakes), but through that effort you start to fear them. And then, if you're too afraid it affects the performance (...). But in some cases also (being afraid) getting injured. Like the season before I got injured and had to stay away for long. So after that it was like what if it happens again? But now it's gone, I'm not afraid of it anymore. If it happens, it happens". (Athlete 6)

"Well, I can't say that it is like this anymore, but in last season I was a bit afraid having suffered an injury before. And then if something happened during the performance, I got

shaky, like, am I ok, I'm not hurt anyway am I? But now I think I've slowly got over that. But then, as another consequence of the injury, I've started wondering about failing because I'm not as sure of myself as I was before. I had to stay away from practicing for a long time...". (Athlete 1)

5.2.1 Fear related to risky motor tasks

Injuries were mentioned most often relating to risky motor tasks. Possible earlier injuries were not directly explored in the interview guide, but the athletes spontaneously highlighted these experiences having crucial significance: *"I'm afraid of falling down and getting injured". (Athlete 11)*

"(I'm afraid of) getting injured and going backwards in development. That the development would be interrupted". (Athlete 12)

It became clear that previous injuries, especially if not properly addressed, were likely to establish fear. Clinically evaluated, some insights of experiences of getting injured even contained trauma-like features. The athletes differentiated getting injured from getting hurt. Typically, the athletes reflected the idea of injuries more frightening than hurting oneself. However, in some cases the idea of suffering pain (not leading to injury) was experienced as the cause of fear, for instance an athlete reflected: *"I'm afraid because I fear that it (something going wrong) will hurt". (Athlete 7)*

In some sports, where the athletes' personal performance is closely linked to the performance of teammates, the idea of causing someone else to get hurt or injured was also mentioned to produce fear, for example:

"...Like when we practice new movement together. I'm afraid of hurting the other one. It's more like being afraid of hurting the other than hurting myself... (Athlete 8)

Related to risky motor tasks, another subtheme brought up by the athletes was the question of losing control while performing. Interestingly, this aspect did not appear being related to getting injured or hurt (which could be seen as the possible outcome of such happening), but to the actual experience of losing control of one's own body or performance, which is vividly displayed in the following quote:

“... and then you just don't know what to expect. It's a state of fear. You're wondering how this will turn out. What if it goes totally wrong? What if I don't do it correctly, what if I can't see anything and it goes totally wrong. What if I get confused and can't control my own body?”. (Athlete 9)

5.2.2 Fear of failure

Fear of failure was typically reflected as the influence of the athletes' own perfectionist expectations, or the fear of letting down the significant others. Within the study group, the significant others typically included the coach or parents. It was assumed that the relatively young age of the athletes had an impact, and possibly the impact of especially parents would be somewhat lesser with older athletes. The behavior and authority of the coach was, in some cases, found to influence developing fears. The following quotes highlight the fear of failure: *“It's failing that I fear”. (Athlete 10)*

“..it's sometimes hard to define or say accurately. Most times it's the fear of failure. On the other hand, it can be something very concrete like being afraid of hitting myself and getting hurt (...). But these are the things that scare less, the concrete things, comparing to the more obscure things..”. (Athlete 9)

“Mmmm... well failing maybe the most. And then, I don't know, I'm not that afraid of getting injured. I've managed to stay pretty healthy but I guess it's always somewhere in the back of one's mind, the idea of getting injured”. (Athlete 5)

Concerning the athletes' expectations of self and own performance, the audience and personally significant competitions were highlighted as the factors increasing the experienced fear. However, the experience of not fulfilling personal expectations was yet found as the origin of the fear:

“I don't know.. making mistakes. You shouldn't be afraid of making them but it's still in the back of your mind..” (Athlete 6)

5.3 Description of fear-related performance state

Form

Expectedly, the athletes were found to produce descriptions of experiences in all seven modalities of the psychobiosocial state (cognitive, affective, motivational, bodily, motor-behavioral, operational, and communicative).

Cognitive

Fear related cognitive functions appeared to have somewhat different types of manifestations. Many reflected thinking about negative things which could take place, and even the “worst case scenario” and vivid images of something bad happening were mentioned. Depending on the experienced cause of fear, direct thoughts of failing or thoughts of getting injured were common:

“Well it's like you're thinking about the fears you have. Like, for instance, being afraid of getting injured. So all the time (you are thinking) what could happen and like that ”. (Athlete 3)

Lack of self-confidence through self-doubt and insecurity was typical as well. In the case of failing, the ways of how the possible failure would affect future sporting career was highlighted by the athletes, which is shown in the following quotes:

“Like, what if I fail and then, (..) if I fail, I won't be able to participate the next competition where I want to go ”. (Athlete 10)

“I'm frightened because, if no success in competitions, and training overall doesn't go well, I'm out from the national team. And that would mean that competing in championships, which has always been my dream, isn't possible ”. (Athlete 4)

Some reflected troubles of trying to control their thoughts; for instance, there were too many thoughts running through their minds, or the mind was just “blank” which made it hard to focus. For example an athlete stated:

“In my mind, there is like emptiness pretty much. I can't imagine it (the performance). And the emptiness is the worst. Because I can't picture the performance in my mind, it scares me”. (Athlete 9)

Affective

As expected, fear-related emotional content was experienced unpleasant by all the athletes. Interestingly, there appeared to be a strong link between affective and bodily-somatic manifestations, as the athletes showed tendencies to combine physical sensations and affects, and struggled to make a difference between the two. Typically, reaching the emotional experience succeeded better by using metaphors (results covered in the subsection 5.4). Athletes' difficulty to describe affects is demonstrated in the following quotes : *“Well, it does feel uncomfortable, it's hard to describe”. (Athlete 1)*

“It (being afraid) doesn't feel nice of course, and then, like, it won't go away, and you just start to get more and more scared”. (Athlete 3)

The athletes reported verbal descriptions of affectives as being hard. However, many produced same types of reflections of arduous, strange or confused descriptions. Also emotional content of feeling afraid, anxious or panicky were present with both risky motor tasks and fear of failure, as in the following quote:

“... I feel anxious, or like something should get off me. I don't feel relaxed at all, and don't feel myself, like normal. Compared to when I'm not scared”. (Athlete 5)

In contrast, reflections of experiencing embarrassment were related specifically to fear of failing, like in the following statements: *“.. probably the greatest fear is that everybody's watching. You know that they're looking at you. It's maybe like in the finals, so there a hundreds of people there, and they're all staring. Then even if you make just a tiny mistake or a bigger one. Forget the movement while you're performing.. It feels like you're letting your team and friends down. That's the most scary part, that you'll do some stupid mistake. Forget the movements, for example”. (Athlete 4)*

“Well then I might get even more scared. Somebody's watching close by our, my performance.. And somehow, if I fail, I get really embarrassed about what they're thinking”. (Athlete 3)

Motivational

For the most part athletes were willing to work with fear. In this case, fear was experienced as a natural part of the sport, and its presence was accepted. For instance athletes stated:

“I don't know. I just do it. You just have to go and do it, and then it will work out (...) You just have to dare to try new things”. (Athlete 2)

“... because I believe that every athlete has to face it (fear) at some point. That there are those up hills and down hills and then, when you concur the fear, you're somehow stronger. (...) I would say that I aim to concur it (fear), or like deal with it, or understand it”. (Athlete 9)

However, some athletes reported being rather alone with the issue, did not quite know how coping could be enhanced, and hoped for support especially from their coaches. On the other hand, part of the athletes were not only motivated to work with fear, but also spontaneously highlighted the beneficial impacts of fear, in which case fear was experienced as an asset (when controlled), like for instance in the following quote:

“In my case it (fear) takes forward to better accomplishments. If you weren't afraid, then you really didn't.. I mean that, what were you trying to achieve, if you weren't scared? If you weren't afraid of failing, then it would be all the same if you failed”. (Athlete 6)

Within the study group, fear related to risky motor tasks appeared to create stronger motivational problems than fear of failure. Two of the athletes reflected avoidance-like tendencies so powerful that they prevented them from practicing certain tasks. Both of these were related to risky motor tasks. The athlete stated: *“Basically I try not to do those things that scare me”. (Athlete 8)*

The other athlete reported: *“Then I just don't do. Then I don't need to be scared and stress how I'm gonna do this. Of course it's a shame..”*. (Athlete 7)

Such powerful avoidance-like tendencies, which prevented athletes from even practicing, did not rise up related to fear of failure. However, they were typically reflected having an impact in competition situations, for example:

“Like some really difficult part in the performance. If I'm too scared, it might be that I won't do it at all”. (Athlete 10)

“Well are certain movements and parts in the routine that I skip because I'm too scared of trying them”. (Athlete 3)

Bodily-somatic

The reflected bodily-somatic manifestations were not influenced by the domain of fear at group level (fear of failure versus fear related to risky motor tasks) as both groups reported same types of manifestations. Apart from one athlete, all others reported fear having multiple different types of bodily reactions. Eight athletes reported having suffered from fear-related somatic symptoms like rising pulse rate, stomach ache or trembling, for instance:

“At least with me (fear) effects on stomach. Stomach is a bit sore and even if I've just been in the toilet, it still feels like I have to pee even if I don't..”. (Athlete 11)

Another athlete reported: *“My feet go to sleep, my hands start to shiver and I feel weak”*. (Athlete 7)

Despite somatic symptoms, the athletes detected experiences of feeling tense, restless and agitated: *“I feel really tensed up and like agitated”*. (Athlete 12)

“..There's shivering, or maybe not so much, but it clearly feels like I get agitated and heart starts to pound. I breathe much faster and it's very noticeable”. (Athlete 8)

Typically, fear was reflected causing difficulties in power control, muscle coordination, and through muscle tension, flexibility, which were seen restraining movements. The following quotes exemplify this:

“...it somehow defuses, I don’t know if that’s the right word, the muscle tonus, and my pulse rises and it feels like I’ve just run a marathon. And I’m really tired and can’t get anything out of my body. It (the body) is really heavy and somehow unnatural”.
(Athlete 1)

“.. you just can’t use all the energy for power. And you’re not sharp”. (Athlete 2)

“With me, it’s like I get very tense and like... on the other hand I’m hard and tense, but on the other hand I feel like if I’ll take a step, I’ll hit on the ground. It’s the power control”. (Athlete 5)

“...in the competition it’s like I can’t feel my legs at all and they work of their own, which usually doesn’t happen”. (Athlete 10)

“How could I describe it in different words? It feels like I don’t have control over my body, that I can’t control the performance”. (9)

“It’s like a lock. It locks your muscles. I know that I should be doing something but I just can’t (...). I know that I can’t hurt myself even if I fell straight on my back but I just can’t. Like everything locks in me, I just can’t do it”. (Athlete 8)

Motor-Behavioral

The athletes reflected plenty of behaviors that a few athletes themselves described “*adhd-like behavior*”. However, most of these actions were interpreted being more communicative than motor-behavioral by nature, but typically also included motor-behavioral-types of elements. Purely motor-behavioral effects of fear manifested typically as precautionary behavior aimed to relieve bodily-somatic manifestations and as motor restlessness; in other words, to regulate the intensity of fear. Precautionary behaviors included behaviors like more preliminary movements, taking one’s time before

the start and motor actions targeted to relax the body. For example, the athletes reported:
“Well I just take deep breaths and things like that”. (Athlete 2)

“Maybe by breathing or thinking about something, by shaking my arms. Trying to relax the muscles..”. (Athlete 8)

“... for example I take more time to start the performance. (...) I might repeat some preliminary movements. (...) I wave, I mean like physical relaxation, I might wiggle and jump, bring some warmth into the body. And also think positively, which relaxes the mind”. (Athlete 9)

“Focusing takes much longer and then it could be that in that focused state you have to walk away for a while and think somewhere else for a while and then come back”. (Athlete 12)

Actions of motor restlessness most commonly reported were tapping fingers or rolling arms around. Also, some athletes reported certain types of habits or mannerism, for instance: *“I probably snap my fingers”. (Athlete 12)*

Another athlete stated: *“For example, before the performance I play with my garment. I swing it, roll it around. I'm tense and scared and somehow it helps. It's like a stress ball, which relieves anxiety. That's also something common that I do”. (Athlete 4)*

Operational

Fear having an impact on performance was clear for all athletes. Interestingly, the reported functional impacts on performance were the same, despite the focus of the fear (the actual functional impact and different types of effects will be discussed separately in sub section 5.6). Intuitively, most athletes saw the influence as negative, for instance the athletes reported:

“I don't know, it just doesn't like, it's just doesn't work out. You're trying to push, but there's like a feeling in a back of your mind saying you have to be cautious. And then the performance doesn't get executed as it should”. (Athlete 2)

“It (fear) effects a lot. (..) Well it goes like, if you're too scared and don't trust yourself at all, then your mind doesn't know what... I mean like, if your mind doesn't know how to execute, then the body doesn't obey either”. (Athlete 5)

But when asked more thoroughly, nearly all reflected positive aspects as well, as displayed in the following quote:

“...then it's not perfect (performance), there's no full effort. I usually underachieve in a state of fear. (..) Yeah but on the other hand: in a state of fear I usually underachieve, but if the state isn't too strong but a little milder, more like a thrill, then it can help”. (Athlete 9)

Most often athletes recognized both harmful and beneficial impacts. The direction of the impact appeared to be individual and related the athletes' appraisal of his/her inner state and the dominant situation. The issue of “right amount” or level of experienced control of fear was brought up by the athletes:

“Well, probably not fear. Not the bad kind anyway.. (..) Then muscles are somehow much more sensitive. And then, probably because of that, the reactions feel faster and more powerful. You react much better...”. (Athlete 9)

Following quotes exemplify beneficial impacts, for instance: *“Maybe it (fear) makes try harder and enhances tightness...”. (Athlete 12)*

“Aaa, if I'm scared of some performance, then I at least focus on it on hundred percent. I don't think anything else, only the thing that's causing the fear”. (Athlete 4)

“Mmm.. (when I'm scared) I do all the things much more thoroughly. Not just pull them through but really focus well”. (Athlete 10)

Communicative

The domain of fear appeared not to produce difference in the athletes' descriptions of communicative manifestations. Instead, athletes' personal preparation practices became clearly evident in the way they communicated with others while getting ready to perform.

Here personality factors appeared to have a major influence on whether communicative behavior turned outside or inward. Also, being involved in a team or individual sport did not make a difference in the study group. Roughly half of the group reported tendencies of isolating from other people, whereas the other half actively sought ways to display the experienced emotional state. Noteworthy is that even though they did not bring it up themselves, a few athletes from the isolating-type of group still talked about willingness, or even wishes to discuss or get support in the matter. Some experienced that they were forced to hide the way they were feeling and they would have wanted to talk about the issue more openly. In this matter, the biggest expectations concentrated on the coach.

Those who described themselves as inward turned types of communicative behaviors either actively shunned other people or did not intentionally do so, but reported being distant or absent. They also typically reported being less active compared to their typical state. The following statements highlight these impacts: *“I may not talk to others but more like be by myself”*. (Athlete 2)

“I try to think of something else. Calm myself down (...) Try to go somewhere else for a while. Especially at the competitions. Before the performance”. (Athlete 11)

“I try to relax. Take time for myself. Be alone or something, be by myself. Not to be in middle of the fuzz before the performance”. (Athlete 6)

“Well it’s different than not being scared for sure. If I’m not scared I’m all over the place, much more lively or like that. And then when I’m scared I just withdraw and don’t speak to people and just meditate. I’m like absent maybe”. (Athlete 5)

“I’m all quiet. But when I’m not scared I’m talkative and I smile. How would I describe, active. Or like energetic”. (Athlete 7)

Outward-turned communicative behaviors reported being active in trying to cope with fear by seeking support either from their coach or teammates, or by explaining the situation to themselves. They reported being more active than in less burdening situations:

“And I might seek security from the coach. Like his/her opinion or even his/her look. If I think before the performance. Something like looking for the coach to nod so I would feel a bit better”. (Athlete 9)

“I begin to speak a lot. That I can’t do this and that I’m scared. Or like I begin to explain the situation. For others and to myself”. (Athlete 8)

“Well if, like I’m, I’m pretty calm usually. But then (when scared) I get adhd-like or how would I describe it”. (Athlete 11)

Few reflected both inward and outward types of communicative behaviors, for example an athlete reported: *“... either I don’t speak to anyone or then I might kind of seek for approval. (..) I like patter that now I’m scared and try to get approval. To get someone to understand it and to get support”. (Athlete 5)*

Content, intensity, time and context

Expectedly, by its *content* fear was experienced as a negative emotion as displayed in the following quotes: *“I experience fear as a negative thing”. (Athlete 12)*

“Clearly it’s (fear) a negative thing. Because in this sport there is much you can do to keep athletes safe. Like, if one is afraid but still able to practice when assisted (...). But if you’re too afraid to try it at all. Then it’s negative. Strictly a negative thing”. (Athlete 8)

“Fear I do experience as negative yes. But when it comes to feeling excitement.. That’s a whole another story”. (Athlete 10)

It appeared that negative aspects and harmful impacts were intuitively more reachable for the athletes, yet guided with more direct questions, very clear helpful impacts became evident as well, for instance:

“Ummm, it’s like with fear there’s some kind of self-protection instinct there. Or like you would just mess around without thinking. If you weren’t afraid at all, you could try anything. (Athlete 2)

“For a certain point it’s a positive thing, being afraid. So you don’t take it too relaxed, you’re not overconfident and irrational. To a certain point it’s good to be afraid. On the other hand, if you’re too scared then you don’t dare to do anything”. (Athlete 6)

It was assumed that by having powerful negative connotations, fear gets more easily connected with negative outcomes as well. Generally, task relevance appeared higher on fear related to risky motor tasks. Concerning the fear of failure, fears typically focused on some external factor (e.g. audience), which was not the actual cause of fear.

Considering *intensity*, the level of experienced fear was found highly individual. The results ranged from 4 to 10, when asking the highest level of sport related fear experience ($M = 7.5$, $SD = 1.56$). However, even high levels of experienced fear did not, with many, directly relate to intolerable emotional state due to effective coping methods and experienced level of control. The individual ratings are presented in table 1.

Table 1. The individual intensity ratings and level of experienced control.

Level of experienced fear	Level of experienced control	
7-8	5	(Athlete 1)
6	5-6	(Athlete 2)
9	8	(Athlete 3)
7.5-8	8.5	(Athlete 4)
7	4	(Athlete 5)
4	8-8.5	(Athlete 6)
9	3	(Athlete 7)
10	2	(Athlete 8)
5	8	(Athlete 9)
7	8	(Athlete 10)
7	6	(Athlete 11)
7-8	6-7	(Athlete 12)

Fear related to risky motor tasks was ranked causing the most fearful experiences. As a whole, intensity was seen having strong relations to functional impact, which was clearly stated by the athletes:

“... if you don't get in a state where the fear is paralyzing, if it's a level of excitement, level of light fear, like in competitions for example, then it can actually give a lot. It like releases extra resources”. (Athlete 9)

Exploring the *time* dimension, all athletes recognized fear, at least occasionally, having an impact on their performance. However, the frequency of these experiences varied a lot depending on, for example, sport specific, situational and personality factors. Three athletes reflected fear being present in all training, whereas one saw it seldom having relevance. The domain of fear (risky motor tasks or fear of failure) appeared to have some influence on frequency, with the risky motor task group reporting fear-related experiences and meta-experiences more frequently than the fear of failure group. On the other hand, athletes had congruent reflections on the typical occurrence time of fear, which was prior the performance:

“It's usually the time before the performance, that's the most common. Then, when you actually get to do something it (fear) starts to disappear. You don't think of anything anymore, head is empty and it's just the thrill”. (Athlete 4)

Generally, in many sports the athletes reflected the performance being so fast-paced or short in duration, that there simply was no time for fear during the performance (exceptions here were the sports with some kinds of pauses between the performances). It is noteworthy that when unsuccessfully coping with fear before the performance, many felt impossible to alter the present emotional state or influence the harmful impacts of fear during the performance, which created a negative circle, which the following quote exemplifies:

“Well then (during the performance) it's more difficult to alter. At least, I'm really bad at changing the state if I'm afraid already afraid in the begin with. Then I feel it (fear) keeps growing, it won't stop. If it scares from the beginning then you just somehow never relax”. (Athlete 5)

The *context* was the dimension where focus of the fear (risky motor tasks versus fear of failure) appeared to cause most differences. The athletes who reported fear being related to risky motor tasks reported experiences of fear becoming evident in training

environment. The obvious reason for this was that new movements are introduced and practiced in training, and only if they are secure enough are they performed in competitive environment:

“I would say that in competitions I’m not scared anymore. Because when you enter the competitions the performance is practiced and ready. You don’t wonder if you’re able to do things at the right time because you’ve practiced enough and there’s the excitement, which usually helps. But in practices, there are much more fears there”. (Athlete 9)

Another athlete stated: *“...well it’s different. (...) In trainings there are scary movements but in the competitions its competing, which is frightening”. (Athlete 3)*

However, a few exceptions were found. In certain sports uncontrollable factors, for example the weather, had an impact of creating fear related to risky motor tasks:

“On rare occasions I’m scared while practicing. Of course if you’re trying to do something really new. But mostly it’s in the competitions, which is partly related the fact that you usually practice in good conditions. Like if the conditions are bad then you don’t necessarily practice there. But if it’s a competition you just have to go (...). If you’re just training you don’t have to do it, but in competitions you must”. (Athlete 11)

Unclear or suddenly changing performance conditions were found to create fear experiences relating to both risky motor tasks and fear of failure. The following quote highlights the impact:

“It was probably when I was in a major competition for the first time (...). I had not realized it’s such a huge event. And because the competition was held in this location, there was a horrible amount of spectators in the arena. Everything was new for me and it felt like my coach was also afraid. It was somehow very obvious to me that he/she was tense and nervous, and I was horrified whether I’ll be able to perform. And in that kind of state, well.. it did not go well”. (Athlete 5)

On the other hand, fear of failure was distinctly related to competitive situations. The only exceptions to the rule appeared in reflections of the possibility of important

outsiders or rivals entering trainings, which was experienced to cause pressure. In other cases fear of failure was experienced meaningful solely in competitive circumstances, for instance an athlete reported: *“I’m scared in competitions, there are much more situations there, where fear is present, in the trainings the case is less often so...”*. (Athlete 4)

Other athletes reported similar experiences: *“It’s like the more significant competition, the more I am scared”*. (Athlete 10)

“There’s a huge impact. I don’t even remember experiencing such tension or being afraid in trainings than in competitions...”. (Athlete 1)

Many different people with different tasks were mentioned when asking about the impact of interpersonal/intra-intergroup relations. Despite being involved in individual sports, all participants informed about training in some type of practice group, too. Typically the impact of these teammates was reflected highly positive:

“Yes I think so (there is an impact). Of course it depends what kind of an atmosphere there is in your group. In my group the atmosphere is good and supportive. And the others are courageous. So I get more relaxed myself. Something like it’s nothing supernatural what I’m doing here. I’m doing exactly the same than others, at least more or less. All others are overcoming their fears so I can too...” (Athlete 9)

“Well yeah, if they (teammates) encourage that you can do this, when I tell them that I’m scared, it can help in a way that I actually dare. Or it’s not so scary then”. (Athlete 2)

Exception was found with the two athletes who highlighted harmful impacts, for example, an athlete stated: *“Yes (there’s an impact), or like especially if they (teammates) start to press me. Then I get even more scared”*. (Athlete 7)

Strong consensus about the importance of background forces (e.g. parents and friends) was highlighted by the athletes: *“Family members, it’s one thing that relieves fear. Everything you can talk with them and just if my dad claps me in the shoulders. You get that good feeling like yeah, I can do this and things like that”*. (Athlete 4)

On the other hand, spectators and other competitors or opponents were experienced significant in increasing the level of fear, typically when the fear was related to fear of failure:

“Well if there is some really important people, like the ones you really have to impress by my talent. (..) Like someone from the union. So that does bring more pressure. Like then you really have to succeed and it starts to scare more and more”. (Athlete 10)

In addition, some athletes reported experiences where the opponent had deliberately tried to achieve advantage by downplaying, which was seen to increase experienced fear.

5.4 Metaphoric descriptions of fear

The athletes produced metaphors of manifestations in bodily-somatic, affective or cognitive state. These three manifestations were, in addition to operational, the most often mentioned manifestations of performance-state as well. As stated before; whether the statements included elements from multiple different modalities, the strongest of the connotations was chosen. All metaphors produced by the athletes' are listed in table 2. It should be noted that the athletes' ability to produce metaphors varied a lot: all athletes were carefully guided to use the method, however, encouraged to generate personally meaningful statements, few descriptions may not strictly correspond as metaphors.

Table 2. The metaphors and descriptors related to fear, produced by the athletes.

Metaphors	Descriptors	
Cornered rat	anguished	(Athlete 1)
Tired	paralyzed	(Athlete 2)
Frantic dog	fearful	(Athlete 3)
Iron bar	stiff	(Athlete 4)
Rock	impermeable, tense	(Athlete 5)
Small, inferior	worse than normally	(Athlete 6)
Legs collapsing	heavy	(Athlete 7)
Piece of wood	stiff	(Athlete 8)
Robot	stiff, tense	(Athlete 9)
Mouse chased by a cat	fearful, hunted	(Athlete 10)
Unable to hold thoughts together	restless	(Athlete 11)
Someone not knowing what he/she is doing	incoherent	(Athlete 12)

Bodily-somatic reactions were the most detectable manifestations for the athletes as they were most often mentioned. Likewise with the bodily-somatic manifestations, the athletes produced metaphors of feeling tense or heavy. Like with the bodily-somatic manifestations, were these interpreted as indicators of muscle tension, difficulties in power control and muscle coordination, for instance: *“When I’m scared I feel myself like a iron bar. In other words I feel myself stiff”*. (Athlete 4)

“When I’m scared I feel myself like a rock. In other words I feel impermeable or like tense or.. yes impermeable”. (Athlete 5)

“When I’m scared I feel like my legs will collapse under me. In other words I feel heavy”. (Athlete 7)

“When I’m scared I feel myself like a piece of wood. In other words I feel very stiff”. (Athlete 8)

“When I’m scared I feel myself like a stiff robot. In other words I feel very stiff, very tense and so on”. (Athlete 9)

The second most popular metaphors contained affective elements. Generally speaking, describing the emotional content was hard for many athletes, but using metaphors appeared to make it easier. Emotional content of feeling afraid, anxious, panicky or embarrassed, were equivalent with the data of affective manifestations in form. Following quotes highlight this: *“When I’m scared I feel myself like a cornered rat. In other words I feel anguished”*. (Athlete 1)

“When I’m scared I feel myself like a frantic dog. In other words I feel fearful. Like a fearful dog”. (Athlete 3)

“When I’m scared I feel myself maybe like small and inferior. In other words I feel worse than normally”. (Athlete 6)

“When I’m scared I feel myself like a mouse chased by a cat. In other words I feel fearful, like hunted”. (Athlete 10)

Also the cognitive content metaphors were found parallel with the statements of cognitive manifestations; metaphors referred troubles to control thoughts, for instance: *“When I’m scared I feel myself as someone who doesn’t what he/she is doing. In other words I feel a bit incoherent”*. (Athlete 12)

5.5 Coping strategies

The level of experienced control varied in wide range. The level of experienced control ranged from 2 to 8.5 (M = 5.8, SD = 2.14, for individual results see table 1). The athletes were actively using different kind methods trying to cope with the fearful situations. These, typically cognitive functional methods, were targeted on gaining more self-confidence through, for example rationalizing, positive self-talk or efforts to control the focus. Directing thoughts on succeeding instead of failing were also found successful, for instance:

“...basically, okay, this might sound a bit insane, but I kind of speak to myself. Like you’re wondering in your head that this is really not that bad, that I can do this, that there’s nothing special about the opponent, that he/she isn’t that amazing, that I can take

him/her down. All the time self-psyching about being better, being the best and that there's a opportunity to win. That you're always capable of winning". (Athlete 4)

On cognitive level discussions with significant others (coach, teammates, family members, sport psychologist etc.) were found to have substantial significance, following quotes from athletes' exemplify this:

"I just think that I can do it, or then I try to focus on what the coach is saying, things like how I'm capable of doing this or listen him/ her giving advice. And then I can focus on the advice". (Athlete 2)

"...in my opinion the most important thing is that I can share it (being afraid). That I don't have to hide it, to cover up being scared or nervous. That's probably the main thing for me". (Athlete 1)

The fear produced physical impacts were typically tried to control through different kind of relaxation techniques. Direct acts to improve physical safety (e.g. safety mats, spotting) were interpreted to have impact on athlete's appraisal of the fearful situation and though that, improve coping. Yet another person-environment factor to help cope fear better, strongly highlighted by the athletes was well planned, gradually proceeding trainings, where adequate physical abilities also had significance. The following quote demonstrates both factors:

"... first trying it in vault pit and starting from there. Doing it there as long as it starts to go well, maybe even putting a safe mat to the pit as well. You can also raise the level where you start off. And then, when it really starts to improve, you take it to the actual performance place. You can also use safety equipment there if necessary. And then it will work out". (Athlete 12)

The athletes also produced plenty of suggestions or wishes to enhance their coping. These consisted partly from the same coping methods that some were already using (presented above). However, it is noteworthy that more than half expressed the need for more emotional support on the matter:

“Well maybe talking about it (fear) more with my personal coach. So that he/she would better know what’s going on. And that he/she would take it seriously. And like, like the coach would support it more. It wouldn’t always just be like you have be able to do this. It would somehow become different”. (Athlete 5)

The suggested cognitive coping methods also included imagery and going through successful performances. Besides the cognitive coping methods the athletes suggested direct actions in training (person-environment relationship), which included things like changes in the practice routine (as much repetition as possible, physical help etc.):

“...probably the most rationale thing would be that the coach, I mean like practicing it really often, really just doing it like crazy. And that the training would be really well structured, what’s the word? I mean like the difficulty level would rise a bit by bit from easy to more difficult and then practicing it really goal-oriented (...), that would definitely help”. (Athlete 8)

5.6 Perceived functional impact of fear

Raw data from questions covering the functional impact of fear were dissected from rest of the data and analyzed separately using content analysis. Processing functional impact separately allowed the use and presentation of statistical information as well, which in this case, was seen to produce extra-value. Results are presented as a figure in Appendix 1. A total amount of 46 distinct functional outcomes produced by fear emerged from the interviewer transcripts. 43.5% (N = 20) of the responses were seen as functional and 56.5% (N = 26) dysfunctional for outcome (see Appendix 1). The effect was caused by 10 different types of lower-level themes, which led to 4 high-order themes having helpful or harmful functional impact (organizing versus disorganizing effect and energizing versus de-energizing effect) on performance. The raw data statements, high-order themes and higher-order themes are also displayed in Table 3.

Table 3. Perceived functional impact: athletes' raw data statements and their high-order themes.

Higher-order themes	High order Themes	Raw data statements
Organizing effects (10)	<ul style="list-style-type: none"> ▪ Enhances concentration (3) <ul style="list-style-type: none"> · makes do things thoroughly (1) · helps to focus (2) ▪ Helps to control the performance (4) <ul style="list-style-type: none"> · prevents reckless decisions (1) · forces to shape up (1) · sharpens (1) · sign that performance is proceeding as planned (1) ▪ Protects the athlete (3) <ul style="list-style-type: none"> · self-protection instinct (2) · indicates whether the performance is within the personal safe-zone (1) 	
Energizing effects (10)	<ul style="list-style-type: none"> ▪ Improves body control (2) <ul style="list-style-type: none"> · makes muscles more sensitive (faster - feeling, more power, better reactions) (1) · increases tightness of the body (1) ▪ Releases resources (8) <ul style="list-style-type: none"> · full effort (2) · makes try harder (2) · feeling of excitement/ let's go (2) · gives extra resources (1) · takes forward to better performances (1) 	
Disorganizing effects (8)	<ul style="list-style-type: none"> ▪ Impairs concentration (2) <ul style="list-style-type: none"> · makes too cautious (2) ▪ Impairs control of the performance (4) <ul style="list-style-type: none"> · skipping movements from the routine (2) · can't control the situation (1) · makes the performance insecure (1) ▪ Increases risk for injuries (2) <ul style="list-style-type: none"> · increases the risk of getting hurt (1) · makes it probable to fall (1) 	
De-energizing effects (18)	<ul style="list-style-type: none"> ▪ Impairs body control (6) <ul style="list-style-type: none"> · prevents performing movements (3) · can't keep the performance relaxed (2) · body doesn't obey (1) ▪ Blocks available resources (12) <ul style="list-style-type: none"> · can't do the performance correctly (5) · lack of effort (3) · narrows down options (2) · can't get on own level (1) · takes off style (1) 	

The impact of fear was not dependent of the focus of the fear as the reported functional impacts on performance were similar. The impact appeared being more related to the athletes' cognitive appraisal of his/her inner state and the appraisal of the dominant circumstances. The functional impact of fear on performance, as perceived by athletes was either harmful or helpful, most typically both aspects were reflected, like for instance, the following quotes conclude:

"...in my sport you have to be relaxed. Otherwise you're unable to perform correctly, you start to get hasty and most often fall or things like that". (Athlete 11)

Later on the same athlete reports: *"Level of fear tells you how sure of yourself you are. Like, when you are wondering whether you're able to perform some new thing. I believe it defines it pretty well. If you're too scared, then it may not be within your own skill level..". (Athlete 11)*

The perceived meaning of fear was found to have relations to the constructs of energy mobilization and energy utilization and organizing and disorganizing effects. Few athletes intuitively used the exact words (energizing effects) when defining their fear related experiences and meta-experiences, following quote highlights this especially well: *"You're just unable to use all the energy for strength (when scared)". (Athlete 2)*

The organizing versus disorganizing effects are presented in Table 4. Beneficial fear-produced organizing effects (21.7%) concluded of concentration enhancing impacts (6.5%; i.e. "helps to focus", "makes do things thoroughly"), facilitating impacts on keeping the performance under control (8.7%; i.e. "prevents reckless decisions", "sharpens") and protecting the athlete (6.5%; i.e. "self-protection instinct"). On the other hand disorganizing effects (17.4%) consisted of impair in concentration (4.3%; i.e. "makes too cautious"), impair in controlling the performance (8.7%; i.e. "skipping movements from the routine", "difficulties in controlling the situation") and increasing the risk for injury (4.3%; i.e. "increases the risk of getting hurt", "makes it probable to fall") types of impacts.

Table 4. The perceived functional organizing and disorganizing impacts of fear: the raw statements produced by the athletes and their high-order themes.

Helpful effects (10)	Harmful effects (8)
Enhances concentration (3) <ul style="list-style-type: none"> · makes do things thoroughly (1) · helps to focus (2) 	Impairs concentration (2) <ul style="list-style-type: none"> · makes too cautious (2)
Helps to control the performance (4) <ul style="list-style-type: none"> · prevents reckless decisions (1) · forces to shape up (1) · sharpens (1) · sign that performance is proceeding as planed (1) 	Impairs control of the performance (4) <ul style="list-style-type: none"> · skipping movements from the routine(2) · can't control the situation (1) · makes the performance insecure (1)
Protects the athlete (3) <ul style="list-style-type: none"> · self-protection instinct (2) · indicates whether the performance is within the personal safe zone (1) 	Increases the risk for injuries (2) <ul style="list-style-type: none"> · increases the risk of getting hurt (1) · makes it probable to fall (1)

The energizing versus de-energizing effects are presented in Table 5. The athletes reflected beneficial fear-produced energizing effects (21.7%) which were: improvement in body control (4.3%; i.e. “makes muscles more sensitive”, “increases tightness of the body”) and resource releasing impact (17.4%; i.e. “full effort”, “makes try harder”). However, too great amount of fear was seen to cause de-energizing effects (39.1%) thorough impairment in body control (13% ; i.e. “prevents performing movements”, “can’t keep the performance relaxed”) and resource blocking impacts (26.1%; i.e. “can’t do the performance correctly”, “lack of effort”).

Table 5. The perceived functional energizing and de-energizing impacts of fear: the raw statements produced by the athletes and their high-order themes.

Helpful effects (10)	Harmful effects (18)
Improves body control (2) <ul style="list-style-type: none"> · makes muscles more sensitive (1) · increases tightness of the body (1) 	Impairs body control (6) <ul style="list-style-type: none"> · prevents performing movements (3) · can't keep the performance relaxed (2) · body doesn't obey (1)
Releases resources (8) <ul style="list-style-type: none"> · full effort (2) · makes try harder (2) · feeling of excitement/ let's go (2) · takes forward to better performances (1) · gives extra resources (1) 	Blocks available resources (12) <ul style="list-style-type: none"> · can't do the performance correctly (5) · lack of effort (3) · narrows down options (2) · can't get on own level (1) · takes off style (1)

6 DISCUSSION

The purpose of the study was to examine athletes' experiences of fear among competitive athletes. The secondary aim was to explore the functional impact of fear on performance as perceived by athletes and to find out whether the perceived meaning of fear has relations to the constructs of energy mobilization and energy utilizations. Two emerging themes were reported in relation to athletes' high-performance related fear: either fear related to risky motor tasks or fear of failure, or both, were stated by all participants when exploring the focus of fear. The idea of getting injured has obvious significance to an athlete's career and life, so expectedly injuries were mentioned most often relating to risky motor tasks. The impact of fear related to risky motor tasks was also well aligned with the psychophysiological model of risk (Heil, 1993, 2000), but as a whole the fear-related risky motor tasks appeared much more multi-disciplinary than fear of injury according to earlier research. The athletes drew a difference between being afraid of getting injured and getting hurt. Also, a whole new aspect of loss of control related to risky motor tasks emerged from the interviews.

Well aligned with the earlier research, fear of failure was typically reflected as the influence of the athletes' own perfectionist expectations, or the fear of letting down important others (Conroy, Willow & Metzler, 2002; Conroy, Kay & Fifer, 2007; Kay, Conroy & Fifer, 2008; Sagar, Lavalley, & Spray 2007, 2009; Sagar & Stoeber 2009). Conclusively, it appears that sport specific factors as well as the athletes' personality features both have a role in sport-related fear: the type of sport and its demands has stronger relations to risky motor tasks, whereas fear of failure is more related to athletes' personality regardless of the sport.

In the study athletes were asked to produce descriptions of experiences related to fear in five dimensions of performance-state. Manifestations of experiences of form were displayed in seven modalities of biopsychosocial performance-related states. Fear related to *cognitive functions* had somewhat different types of manifestations. Thoughts of negative outcome, lack of self-confidence and troubles in thought control were reported. On the other hand, direct thoughts of images of failing or getting injured were common. In the case of failing, the ways how possible failure could affect future sporting career were highlighted by the athletes. Lack of self-confidence through self-doubt and

insecurity were also seen cognitively meaningful. In addition to thoughts of negative outcome, meta-experiences of fear interfering with the control of thoughts emerged. Verbally describing the subjective fear-related feeling was especially difficult for many. Emotional content of feeling afraid, anxious or panicky was present with both risky motor tasks and fear of failure when discussing *affectives*. On contrary, reflections of experiencing embarrassment were related specifically to fear of failing; the connection has been presented in earlier research as well (Conroy, Willow & Metzler, 2002). In general, the athletes were very *motivated* to work with fear. Within the current study group, fear related to risky motor tasks created stronger motivational problems than fear of failure; however, no further conclusions can be made based on the relatively small sample.

Bodily-somatic manifestations appeared to be the most detectable for the athletes, as nearly all reported fear having multiple different types of bodily reactions. Notably, bodily-somatic manifestations appeared to be not influenced by the subject of fear, as similar descriptions emerged from both domains. Typically, these manifestations included somatic symptoms (rising pulse rate, stomach ache or trembling), tenseness and restlessness, and were reflected causing difficulties in power control and muscle coordination. Muscle tension was also experienced to reduce flexibility and restrain movements. *Motor-behavioral* affects of fear manifested commonly as precautionary behavior. These included more preliminary movements, cognitive functions (e.g. taking one's time before the start) and motor actions targeted to relax the body, and were aimed to relieve bodily-somatic manifestations and motor restlessness. Tendencies of types of mannerism also emerged.

Fear having impact on performance was obvious for all participants. Interestingly, the reported *operational* impacts of fear of failure and fear related to risky motor tasks were remarkably similar. Typically, both harmful and beneficial impacts were present. The individual impact was connected to the athletes' appraisal of their inner state and the dominant situation. The athletes' personalities and individual preparation practices were vividly displayed in the way they *communicated* with others while getting ready to perform. In terms of the communicative manifestations as a whole, focus of the fear or type of the sport (team or individual sport) made no difference. Roughly half of the group

reported outside-turned communicative behaviors, whereas the other half reflected inward-turned behaviors (e.g. being distant or absent).

Typically, athletes were more aware of the negative functional impacts of fear, since negative aspects and harmful impacts were more often intuitively disclosed, whereas the positive functional impacts needed more thoroughly phrased questioning. Since fear has such negative connotations, it gets easily connected with negative outcomes as well. In contrast, the intensity of fear was individual, but even high levels of experienced fear were not necessarily reflected being harmful for performance if the experienced level of control was also high. The frequency of fear-related experiences and meta-experiences was individual as well, depending on, for example, sport specific, situational and personality factors. The results suggest that the object of fear (fear of failure or risky motor tasks) has some influence on frequency. After all, the strongest consensus was found in the typical occurrence time of fear during performance: fear was experienced at its highest just before the performance. Concerning the focus of fear (risky motor tasks versus fear of failure), the context appeared to create most differences: typically, fear related to risky motor tasks manifested in training circumstances, whereas fear of failure was distinctly related to competitive situations.

Information gathered through the metaphor-generation method (Hanin & Stambulova, 2002) was, as a whole, highly congruent with the presented results of the manifestations. Metaphoric descriptions included elements of bodily-somatic, affective or cognitive manifestations, which were, in addition to operational, the most often mentioned manifestations of performance-state. Well aligned with the descriptions of bodily-somatic reactions, the athletes produced metaphors related to muscle tension, difficulties in power control and muscle coordination. In addition, metaphors containing affective or cognitive elements were found related to equivalent themes stated within the manifestations. In summary, in addition to producing more detailed information on fear-related states, metaphors were found to strengthen the earlier analyses and conclusions.

To Lazarus, coping is the key variable of the emotions, and even more important with negative ones (Lazarus 1991c; Lazarus & Folkman, 1984). According to Lazarus (1991c) coping shapes emotions in one or two ways, through problem-focused coping or emotion-focused coping. As emotion-focused coping alters strictly the mind-internal

matters, for example through reinterpretation, problem-focused coping often aims to direct actions in order to change the person-environmental relationship. Both above types of coping were evident in the athletes' descriptions. Cognitive coping methods (for instance rationalizing, positive self-talk, direct thoughts of succeeding instead failing and discussions with important others) were found important and effective. On the other hand, problem-focused coping consisted of direct acts to improve physical safety through adequate safety equipment and physical assistance, and also through organized and well planned gradual training, including adequate physical abilities. The fear related to physical impacts was typically tried to be controlled through different kind of relaxation techniques. Same types of coping behaviors towards fear have been reported earlier among former elite level gymnasts (Paulk, 2009). In many cases, coping with fearful situations was experienced as challenging. In accordance with Lazarus' remark on possible fear-triggered urge to escape (Lazarus, 1991b), powerful avoidance-like tendency was found among a small minority. Should the athlete report of high level of experienced fear and low level of experienced control, harmful impacts on performance were much stronger, relating to avoidance-like behavior towards the frightening task. However, the athletes were able to produce multiple suggestions in order to enhance coping. Most importantly, the athletes were aware of the things to improve in their personal coping, and many wished to be addressed on the matter.

As a whole, fear was found to have the possibility of having a major impact on performance. Interestingly, the reported functional impacts were not dependent on the focus of the fear, as both fear of failure and fear related to risky motor tasks manifested same types of impacts. Without a doubt, the unique characteristics of fear establish special challenges in sport settings. As stated clearly in earlier literature and supported by the current study, fear-related physical reactions can become apparent in performance situations where delicate fine motor skills are most needed. Typically, fear was reflected causing difficulties in power control, muscle coordination, and, through muscle tension, flexibility, which were seen restraining movements. Previously congruent results concerning muscle tonus and weakening of motor skills have been reported in relation to stressful competitive situations, for example by Jones (2003). In addition, fear holds the possibility of causing avoidance-like tendencies, which in this research group prevented even practicing. By interfering with energy utilization, the fear-related harmful impacts can, at their worst, paralyze the whole performance. The risk of injury also rises through

disorganizing impacts. However, in accordance with the suggestion of the framework (Hanin, 2000, 2007), functionally helpful impacts though energizing effects can help the athlete to, for example, reach extra resources which normally are not available. Helpful impacts were also found through organizing effects, which help in controlling performance better. In general, the results are consistent with the latest studies on athletes' unpleasant emotions, for example anxiety (Hanin, 2000) or anger (Ruiz & Hanin, 2011) having beneficial effects on performance. These findings extend earlier research on negatively-toned emotions by providing support for the notion of optimal and dysfunctional performance-related fear.

Verification and trustworthiness

The use of a qualitative method was based on the purpose of the study. "Qualitative methods permit inquiry into selected issues in great depth with careful attention to detail, context and nuance; the data collection need not to be constrained by predetermined analytical categories contributes to the potential breath of qualitative inquiry" (Patton, 1990, p227). In addition, the relatively small sample size was justified based on the purpose of gaining a thorough understanding about the athletes' experiences; hence in-depth interviews were chosen instead of the use of questionnaires. Two different perspectives guided the choices made with the interview approaches: The benefit of focused questions lies in the fact that analysis of the gathered data is easier, which decreases the probability of false interpretations. On the other hand, standardized approach does not permit pursuing unexpected topics or issues rising in the interview situation, which can limit and weaken the data. In order to avoid loss of essential information and to gather strong data, a combined approach of structured interview with open-ended question was chosen. To respect the value of the unique characteristics of different sports, as well as to dissect the possible common patterns emerging from the variation, the strategy of maximum variation (heterogeneity) was included. The criteria for participation included sufficient (high-level) experience in the sport, with both genders and individual and team sports being presented in the sample. The interviews were performed by a researcher possessing interview experience and training, expertise in qualitative methodology and expertise in the area of psychology as well as sport psychology. For the purpose of verification, all material, including findings, transcripts, raw data themes and created analyses, were presented to an independent researcher familiar with the qualitative method. This allowed the outside perspective to raise

questions or concerns about the interpretations made through the analysis. Comments and concerns made by the independent researcher were then discussed and the raised issues were debated until mutual consensus was found.

Data analysis was guided by the framework of the IZOF model, a model designed specifically for high achievement sport settings, with the evidence base acknowledged by its reliability on exploring individual experiences. To increase the internal validity of the results, triangulation of methods was used by including a question of metaphor-generation method (Hanin & Stambulova 2002) to the interview guide. Lastly, the current study focused on elite level athletes with extensive sporting experience. In previous research, athletes from such background have been detected to produce self-descriptions of high validity and credibility (Hanin, 2003; Hanin & Stambulova, 2002, Ruiz & Hanin, 2004a). The ability to specify and describe personal experiences is, of course, vital in a study exploring the contents of these experiences.

Limitations

There are several possible limitations in the current study to consider, the first and probably the largest being the relatively small sample size, which evidently can be seen having an impact on generalizing the findings. However, Patton (1990) argues that even if the main purpose of qualitative study should not be in generalization, by studying one case thoroughly enough the essential can be found, and in personal there is universal being repeated. Second, the method of data collection was guided by the purpose of the study and followed good practices of qualitative study. The data was based on a purposive sample of athletes among sports where fear is commonly experienced. However, despite the effort, a few athletes from particular sports originally selected to the sample were not reached and thus had to be left out of the study. In addition, most of the athletes included in this study were put forward by coaches on the basis of their skill and experience. It is presumable that the subject of the study has guided some coaches to contact athletes who they assess having experienced sport-related fear. This being the case, the results do not represent the whole population of athletes of the included sports, but a possibly strongly biased sample. Furthermore, individual level examination being the purpose, the gender and cultural issues were addressed with less attention. The percentage of female respondents was higher compared to male respondents, and it is still unknown whether experiences of sport-related fear are more common/typical within a

certain gender. In addition, within any research the existing culture plays a significant role; exploring the attitudes and beliefs were included to the interview guide, but it is possible that attitudes towards fear and displaying it may vary within different sports. While the possible gender, cultural or other comparisons were not the focus of the current study, these issues should be addressed in future research. Lastly, the study group consisted exclusively of high level athletes, and the results' generalizability does not necessarily apply to lower level sports. As a conclusion and in accordance with the framework, sport-related fear is highly individual by experience and outcome, and therefore the results should not be generalized. It is suggested that these findings are used to highlight different possible aspects of a multi-dimensional performance-related state, not to draw conclusions about experiences of a single athlete.

Practical implications and recommendations

The latest research in sport psychology appears to agree that not just one particular emotion but many can be identified behind athletic performance, i.e. the performance is influenced by a mixture of different emotions (Hanin 2000; Lazarus 2000). Existence of fear-related experiences in sport settings was confirmed by the current study. Being a highly unpleasant emotion by its tone, experiencing fear is not determined to have a harmful impact on performance. Findings of the current study suggest that when the amount of fear is within the individual optimal zone, the impact on performance manifests as helpful. As suggested by Hanin (2000) and stated again with findings on anger (Ruiz, 2004a; Ruiz & Hanin 2011; Robazza & Bortoli, 2007; Robazza et al., 2006), the functional impact of anger and other performance-related experiences depend on individuals' perceptions of the match or mismatch between their own resources and the task demands. Based on the current study, fear-related negative aspects and harmful impacts are intuitively more easily reached than positive and helpful ones. For these reasons should practitioners in the field actively inform the athletes about functionally helpful impacts, and accept negative emotions as a part of human functioning, rather than aiming on neglecting the issue or trying to change the athletes' emotional experience. Some of the athletes reported to have benefitted simply by participating in the study, since it made them consider the issue more thoroughly.

From the applied perspective, findings suggest that much can be done in order to cope with fear better; more than half expressed a need for more emotional support on coping

with fearful situations, especially from their coaches. A common wish of the athletes was that fears would be addressed more openly. This being the case, coaches should not hesitate to bring up the issue for discussion. Emotional support, to the begin with, can be done simply by taking the emotion seriously, by listening and trying to understand the experience of the athlete. The coach can also assist in exploring fear-related cause-effect relationships together with the athlete. It became clear that the ability to identify emotions and emotional states varies a lot and may require practicing, in which individual communication habits should be noted. Encouragement of the coach, going through successful performances and rationalizing were found to have major significance on the athletes' coping with fear. Obviously, all this demands personal contact and mutual trust between coach and athlete, in which case simply being present can assist the athlete's coping with fear. Especially in sudden and unexpected situations/conditions it is really important that the coach is able to control his/her own personal emotions, as the athletes can be sensitive of the emotional state of their coach.

Along with detailed descriptions of fear, all of the athletes were able to point out ideas of better individual coping; typically, the question just had never come up. Suggested acts to enhance coping with fear included, for example, more self-confidence through rationalizing, positive self-talk, controlling the focus or directing thoughts on succeeding instead of failing, imagery, and going through successful performances. Multiple person-environment factors had relations to coping as well: direct acts to improve physical safety (e.g. safety mats, spotting, physical help), well planned, gradually proceeding training and changes in the practice routine (as much repetition as possible) most commonly had an impact on the athlete's appraisal of the fearful situation. Results suggest that possible intervention programs should be based on the athlete's individual resources and needs instead of reduction of negative states. Previous research and findings of the current study suggest that possible interventions could be addressed on enhancing the athletes' self-efficacy through cognitive means, as well as affecting person-environment factors; however, more research based knowledge is needed.

A more specified point to take seriously concerns the issue of sport injuries. Findings of the current study suggest that sport injuries can play an important role concerning fear in sport settings, producing even trauma-like reactions. It is advisable that injuries are properly processed with the athlete in order to prevent developing serious fear-related

states. The findings are well aligned with earlier research on sport injury. In his social psychophysiological model of risk (Heil, 1993, 2000), Heil introduces four different ways in which fear of injury can have an impact on performance (disruption of biomechanics of skill execution, poor use of energy resources, decreased attention to performance-related cues and increased risk of injury). All these effects were mentioned by the athletes and became evident in the current study. However, all these effects were not exclusively connected with fear of injury but also evident in the broader context of sport related fear, including the fear of failure. It is noticeable that even if Heil (2000) highlights the possible effect of fear causing problems, typically concerns about recovery or re-injury, he also views fear possessing adaptive value and states: "Thus fear is a mental element of performance that one must assess, understand, and manage" (Heil, 2000). It is previously suggested by Shuer and Diedrich (1997) that even with a minor injury, coaches or other related persons (for example treatment providers) should actively pay attention to possible fear response.

Suggestions for future research

Being a stress-related emotion, fear is known to cause plenty of physiological reactions. This was also detected from the data, as along with operational, the experiences and meta-experiences of bodily-somatic manifestations were highlighted as being the easiest to reach by the athletes. High self-efficacy has been found to relieve physiological stress reaction, which could indicate it having similar effects on fear too. The idea of self-efficacy being the possible answer for coping with fear better has been brought up previously, for example by Bandura with avoidance tendencies (1986), and intervention studies (Chase, Magyar & Drake 2005) partially support this. Bandura's ideas have direct relations to coping with fear, as Bandura has identified self-efficacy as the most influential determinant when trying to overcome avoidance-like behavior towards a fearful task (Bandura, 1986).

The effect of self-efficacy having positive effects on coping with fear was supported by this study. However, with self-efficacy not being the focus of the current study, more thorough knowledge is needed. Future studies should concentrate on increasing information about the impact of self-efficacy and coping with sport-related fear. In addition, although it is recommended that intervention programs are based on the athlete's individual resources, developing general guidelines to strengthen the

experienced self-efficacy in fear-related situations could benefit practitioners, coaches and athletes in the field. The current study extends the theoretical framework of the IZOF model to performance-related fear. The study highlights the qualitative aspects of sport-related fear. In order to gain knowledge about the prevalence of fear in sport, and to make more far-reaching generalizations, the issue should be approached with quantitative methods as well. Future research should also be directed more closely to the notion of the zone principle, as it holds the crucial ties to control and prediction of athletic performance.

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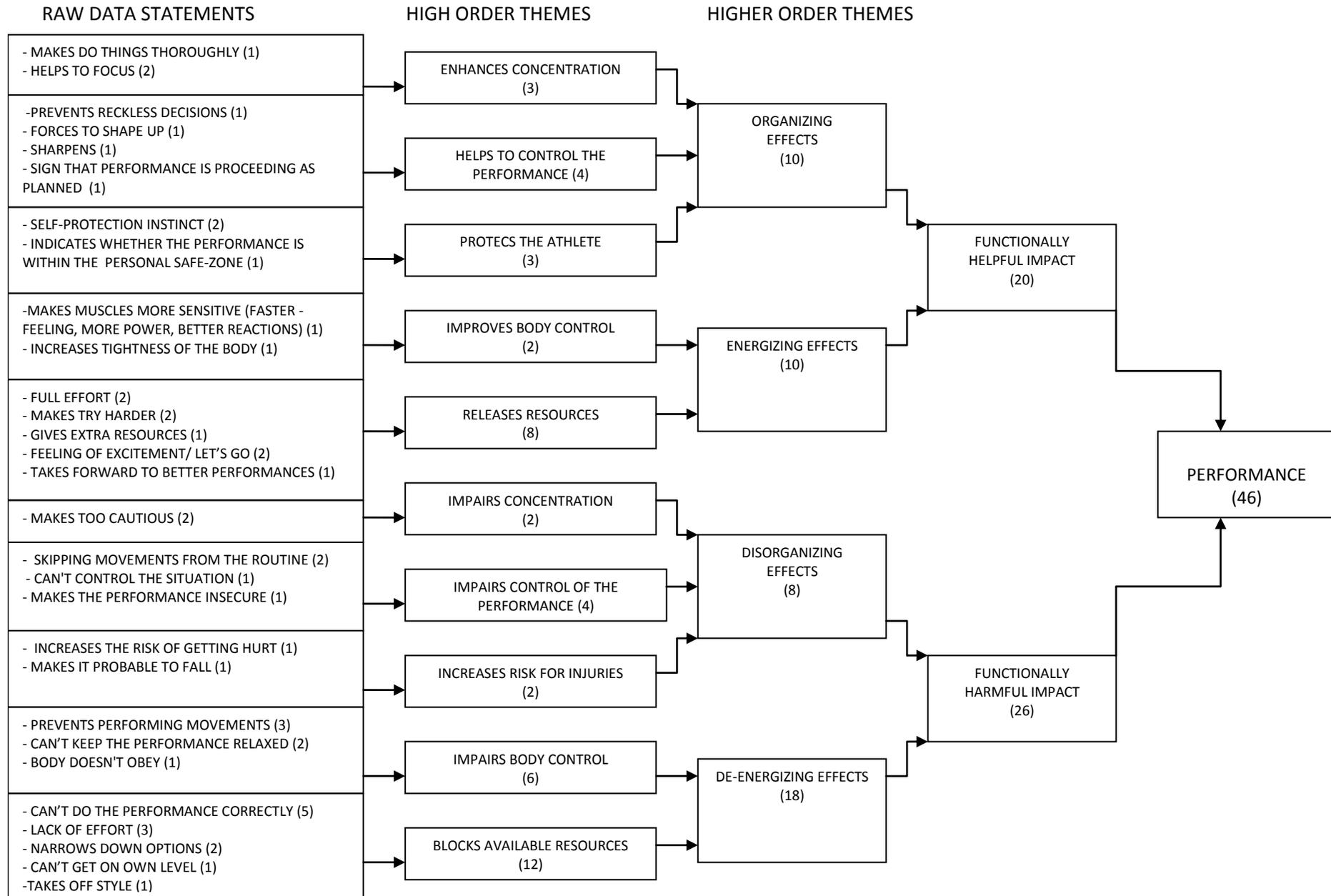
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Appendix 1



Appendix 2



SUOSTUMUSLOMAKE

Tutkimuksen tarkoituksena on tutkia tunteita, ja erityisesti selvittää urheilusuorituksiin liittyviä mahdollisia pelkoja. Tutkimuksen tulokset voivat tulevaisuudessa hyödyttää sekä urheilijoita, että valmentajia.

Allekirjoittaessasi tämän suostumuslomakkeen, suostut osallistumaan tutkimukseen, jossa on tarkoituksena selvittää urheilussa esiintyviä pelkoja ja niiden vaikutusta kilpaurheilusuoritukseen. Tutkimukseen osallistuminen merkitsee osallistumista yksilöhaastatteluun.

Kaikkea haastatteluissa saatua tietoa tullaan käsittelemään luottamuksellisesti, eikä muiden kuin tutkijoiden ole mahdollista tarkastella sitä. Tutkimuksen raportoinnissa ei mainita nimiä tai sellaisia piirteitä, joiden avulla haastateltavan voisi tunnistaa. Kenenkään tutkimukseen osallistuvan henkilöllisyyttä ei paljasteta missään julkaistussa raportissa.

HAASTATTELUSTA

Haastattelu on kertaluontoinen ja kestää arviolta noin 30 minuuttia. Haastattelusta saatua materiaalia tullaan käsittelemään salassapitovelvollisuutta kunnioittaen ja tuloksista tullaan raportoimaan täysin nimettömästi. Koska aihetta ei juuri aiemmin ole tutkittu, tulee kyseessä olemaan aihetta kartoittava laadullinen tutkimus. Haastattelu tullaan nauhoittamaan. Tutkimuksen tulokset tullaan raportoimaan Pro Gradu – työssä ja mahdollisesti tieteellisissä julkaisuissa.

TUTKIMUKSEN TOIMENPITEISTÄ

- Tutkimukseen osallistuminen on täysin vapaaehtoista
- Kaikkea tutkimuksen aikana saatua tietoa tullaan käsittelemään luottamuksellisesti
- Tutkimukseen osallistujilla on oikeus keskeyttää osallistumisensa milloin vain tutkimuksen aikana
- Pyydettyessä osallistuja saa yhteenvedon tutkimuksen tuloksista

Mahdollista tutkimusta koskevat kysymykset voi ohjata:

Melina Puolamäelle, Jyväskylän yliopiston liikuntatieteiden laitos, Master's degree in Sport and Exercise Psychology melina.luukkonen@jyu.fi tai 0407645869

TAI

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Allekirjoitus osoittaa, että Teitä on informoitu:

- Tutkimuksen tarkoituksesta ja toimenpiteistä
- Osallistumisen vapaaehtoisuudesta
- Kaiken tutkimuksen aikana annetun tiedon luottamuksellisuudesta
- Mahdollisuudesta vetäytyä tutkimukseen osallistumisesta, koska vain tutkimuksen aikana
- Mahdollisuudesta saada pyydettyä yhteenveto tutkimuksen tuloksista

Urheilijan ikä haastatteluhetkellä: _____ vuotta

Urheilijan allekirjoitus

Nimenselvennys

Huoltajan allekirjoitus

Nimenselvennys

Päivämäärä ja Paikka

Appendix 3

Hei Valmentaja!

Teen tutkimusta, jonka tarkoituksena on selvittää kilpaurheilusuorituksiin liittyviä pelkoja. Tutkimuksen tulokset voivat tulevaisuudessa hyödyttää sekä urheilijoita, että valmentajia. Saadakseni kokoon tarvittavan monipuolisen aineiston, toivon yhteistyötä Teiltä ja valmennettaviltanne. Etsin sopivia nuoria urheilijoita haastatteluja varten, ja tarvitsen apua heidän tavoittamisessaan

Tutkimuksen aihealueesta johtuen aineistoon ovat etukäteen valikoituneet tietyt urheilulajit. Tutkimukseen osallistuvan tulisi urheilla vähintään kansallisen tason korkeimmassa luokassa ja täyttää haastatteluvuonna vähintään 16 vuotta. Alle 18-vuotiaalta vaaditaan huoltajan lupa tutkimukseen osallistumisesta.

Mikäli valmennettaviinne kuuluu sopiva urheilija ja olisitte halukkaita olemaan mukana, kertokaa tutkimuksesta urheilijoillenne, minkä jälkeen olkaa yhteydessä allekirjoittaneeseen. Tämä voi tapahtua esimerkiksi sähköpostitse tai puhelimitse. Tällöin tarvitsen urheilijan yhteystiedot ja varmistuksen siitä, että hän on kiinnostunut tulemaan mukaan tutkimukseen. Tämän jälkeen otan yhteyttä suoraan urheilijaan sopiakseni hänen kanssaan sopivan haastatteluajan. Myös mikäli mieluummin toivotte minun ottavan yhteyttä Teihin, ilmoittakaa siitä sähköpostitse tai puhelimitse.

Haastattelut voidaan sopia urheilijan oman aikataulun mukaan esimerkiksi koulupäivän lomaan tai sen jälkeen. Haastattelut tullaan aloittamaan mahdollisimman pian.

Toivon yhteydenottoanne ja näen, että asian tarkemmasta selvittelystä saattaisi tulevaisuudessa olla myös valmentajille suurta hyötyä. Haastattelujen kertaluontoisuudesta johtuen ei tutkimukseen osallistuminen tule vaatimaan paljoa aikaa taikka vaivaa.

Mahdollisissa kysymyksissä voi olla yhteydessä (ensisijaisesti) allekirjoittaneeseen tai liikuntapsykologian lehtori Montse Ruiziin.

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