SELF-TALK OF JUNIOR FIGURE SKATERS DURING A ROUTINE IN COMPETITION

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ABSTRACT

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Self-talk belongs to one of the most used sport psychological skills to enhance performance and athletes have reported that self-talk influences one's performance ability. Self-talk research in sports is traditionally concentrated on specific parts of self-talk and has been examined using laboratory interventions, thus, applicability to real-life competition environments is questionable. In addition, there is a lack of research considering aesthetic sport competition situations that are judged according to the third party. Figure skating is a sport which holds a long performance time, up to 4 minutes and 10 seconds, compared to many other sports where an athlete pace oneself to perform by taking several tries, shifts or performance itself is not constant considering the match time in ball games. Each second of figure skater's performance affects scoring and this aspect creates a unique demand for athletes in aesthetic, ongoing performance sports: There cannot be any visible sign of preparation, including self-talk, to perform without lowering own performance scores. For this reason, it is important to investigate how athletes in figure skating are conducting themselves in competition situations. The aim of this study was to examine what type of self-talk figure skaters are using and how they are using it while performing their free skating program (3 minutes 30 seconds ± 10 seconds) during a competition. Data from three participants were gathered via semi-structured individual interviews, which was supported by self-report measurement that worked as a preliminary procedure and was answered immediately after performed routine. Video-footage of participants' performance in competition was used during interviews to help them to reconstruct their self-talk as accurately as possible and to locate specifically the timing when self-talk emerged related to performed program elements. Transcribing the interviews generated 52 pages of data. Qualitative data were analysed using interpretative phenomenological analysis. The findings indicate that figure skaters' self-talk was used in a reflexive manner during the performances at the competition. An instructional perspective as well as positive and negative valence characterized most of the skaters' self-talk. Mind wandering existed, but to a lesser extent. Skaters were also worried about what others were thinking about them or their performances. The results of the study suggest that figure skaters were aiming to regulate and guide themselves during their performance in competition with self-talk, so forth, their performance level was not in automatic level. Even though the skaters' self-talk was purely organic (spontaneous), it seemed to have a clear target (e.g., "Look at the judges!") and function (e.g., earning more points) most of the time. Practical implications of the results include possibility to help athletes prepare for competition (acknowledge own self-talk and its' effects) and enhance their performances (reflect and adjust self-talk according to situation) better. Future research directions include shifting from examining the content of self-talk to investigating the interpretation and functionality of athletes' self-talk. To my knowledge, this is the first study that examines figure skaters' self-talk during actual competitions.

Keywords: reflexive self-talk, instructional self-talk, mind wandering, figure skating, competition performance, self-efficacy.

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ABSTRACT

1 INTRODUCTION

There has been an interest toward human mind and behaviour at least a couple of thousand years. Perhaps a few of the core questions are: what are thoughts, and do thoughts define who we are and how we behave? These questions have led people to a quest for understanding the inner speech and its relation to human behaviour. Philosopher Plato expressed that the thoughts one has, are an inner dialogue where soul asks and answers to questions (Duncombe, 2016). Hundreds of years after Plato, it was written in the Bible: "for as he thinketh in his heart, so is he" (Proverbs 23:7). These sentences might be one of the very first written explanations to what thoughts are and how inner dialogue is affecting one's behaviour. This ideology is still the core principle of today's definition of self-talk and its' effects to a person.

Self-talk has been studied scientifically since the late 19th century, but in the field of sport psychology it was during 1970's and 1980's that there was an elevated interest in how thoughts can influence sport performance (Van Raalte & Vincent, 2017). This was a milestone, which created a base for modern self-talk research and for understanding its effects on human behaviour among sports. It has been proposed, that self-talk creates a mindset within which an athlete performs sport (Green 1994). This mindset that an athlete creates to oneself will either help reach the top performance or be totally counterproductive for athlete's endeavours.

There are several studies on how athletes prepare themselves into the best possible mental state (e.g., Pain et al., 2011), but fewer studies on what happens in athletes' minds while performing the task at hand. Research examining self-talk during competition is scarce, there are sluggish means to record one's self-talk in real time which forces to use retrospective means (Brinhaupt &Morin, 2020). Another limitative factor is to find competitive athletes who are willing to participate to study. Competition is for many athletes a delicate situation where there is a desire to reserve it purely for performing without excessive occurrences which might steal their focus. Despite the challenges in research, it is important to know how athletes use their self-talk as their advantage while performing in front of a crowd, judges and photoflashes, how self-talk helps to recover from the setback or even just to perform at such high level in today's competitive setting.

Moreover, figure skaters' technical skill level has significantly improved within the past couple of years. Some has described the change to be revolutionary (Hersh, 2019). The development has reached by starting figure skating at young age (at 3-4 years old) and spending even 45 hours a week in training (Kruse & Burke, 2013). Now these children are 15-year-old adolescents, female skaters and perform difficult elements that require quad revolutions which have never been seen in competitions or even in practice sessions at women's series (Associated Press, 2022). The skill development, training habits and competitive requirements of figure skating has now reached the point where International Skating Union had to increase the age limit of women figure skating to protect female skaters' physical and mental health (International Skating Union, 2022). These adolescent athletes are still in a process of psychological development, facing several challenges and require various support mechanisms from the perspective of becoming competitive high-level athletes (Kaski & Liukkonen, 2012) regardless if they already compete at the senior (adult) level in figure skating. One of the special features in figure skating is its' long performance time which extends up to 4 minutes and 10 seconds. Each second of figure skater's performance affects scoring which makes figure skating's nature of performance very different compared to many other sports where an athlete is capable to pace oneself to perform by taking several tries (e.g., long jump), shifts (e.g., ice hockey), or performance itself is not constant (e.g., football) considering the match time. This creates a unique demand for figure skaters at young age: There cannot be any visible sign of preparation, including self-talk, to perform without lowering own performance scores in competition performance.

Modern requirements of competitive figure skating are high and diverse at young age and in order to provide help for figure skaters to face the requirements, there is a need to understand athletes' self-talk during a competition routine. To my knowledge, figure skater's self-talk during a competition has never been studied before. This study will fill in the gap by examining what type of self-talk figure skaters are using and how they are using it during their competition routines. Through appropriate self-talk, figure skater may reach better competition performances which might lead to higher training motivation, gained skill level and eventually to a longer career among figure skating. This is probably one of the reasons why Willingham (2006) expresses that the nature of self-talk will significantly predict athlete's future.

2. LITERATURE REVIEW

In the psychology literature, several terms, such as self-statements, subvocal speech, or self-instructions, have been used to define constructs related to thoughts (Theodorakis et al., 2012). In sport psychology, the term self-talk is used to describe athlete's inner dialogue (Theodorakis et al., 2012). In other words, self-talk can be described as a steady stream of thoughts or internal dialogue in our minds (Burton & Raedeke, 2008). Even though most self-talk happens internally, it may also be expressed externally (Hardy & Oliver 2014). Kremer et al. (2012) classify self-talk as a cognitive self-regulation strategy, but more generally, it can refer to everything that people say to themselves (Galluzzi, 2008, 92; Hatzigeorgiadis, Zourbanos et al., 2014).

When considering how people talk to themselves, it can be noted that there are several origins of and ways to perform self-talk. Even our own body image may be the origin of self-talk, especially in sports such as figure skating, where skating performance and interpretation of the music are evaluated (Voelker & Reel, 2018). Athletes also make evaluation and reflections of themselves and their performance by paying attention to things that have happened or are currently happening (Hatzigeorgiadis et al., 2014). This gives athletes direction and drive to anticipate better what will happen next. Van Raalte et al. (2016) suggested that everything that an athlete notices, feels, experiences, or even imagines will create a platform for executing self-talk in that moment or in future. They further pointed out, that it is important to understand that the sender and receiver of the message are one and the same in self-talk (Van Raalte et al., 2016).

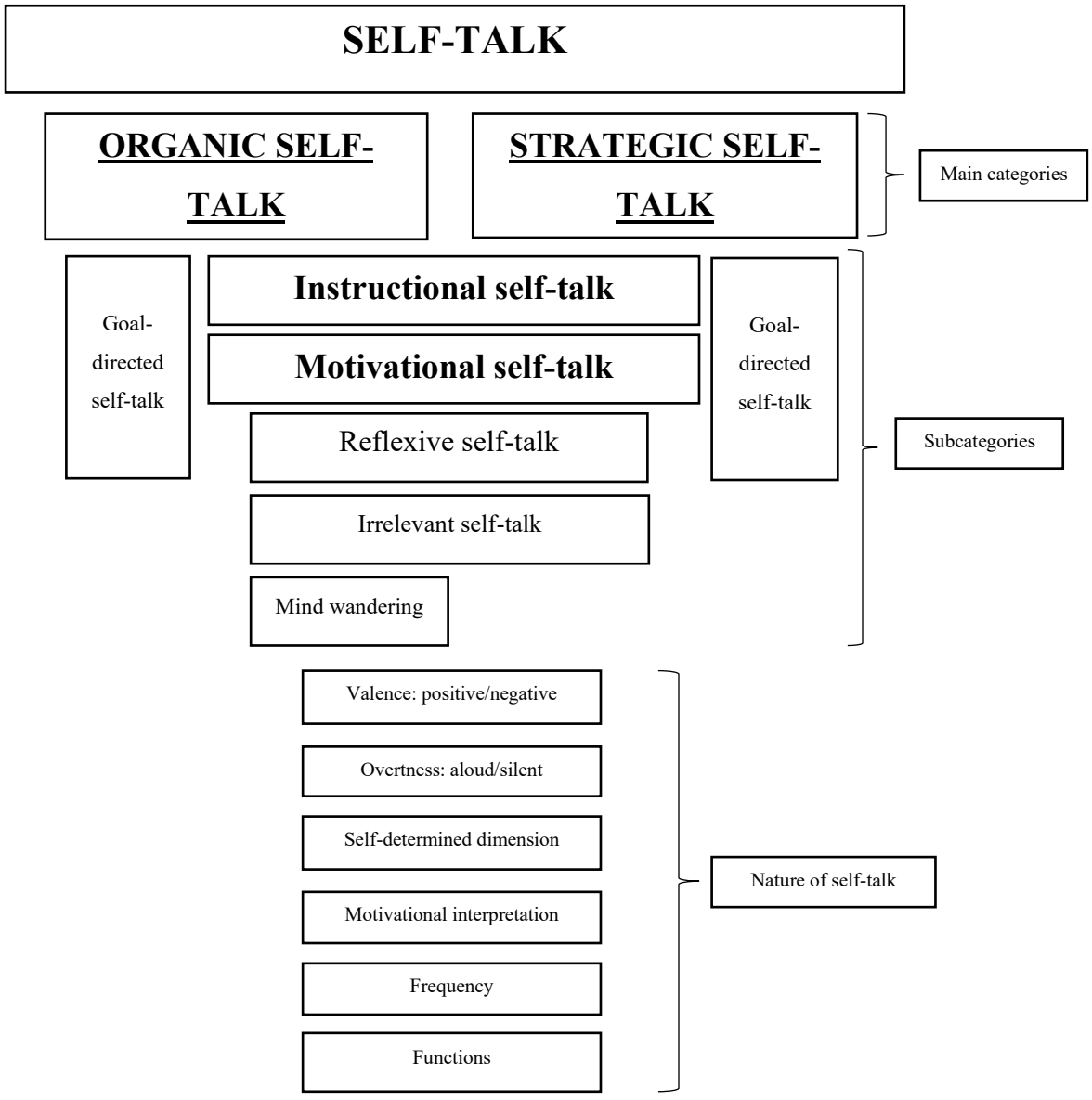
2.1 Classification of self-talk

Categorization of self-talk is difficult because self-talk statement can be categorized into a several labels such as positive and instructional at the same time (Hardy, 2005). In addition, interpretation matters, for example, instructional self-talk can be performed in organic or strategic way, which might lead to a situation where an athlete interprets original instructional self-talk into motivational self-talk. Conroy & Metzler (2004) realized that in sport psychology literature, the definitions of self-talk are not well established. In addition, there is a whole range of different categories, which are not always established in a univocal way. For example, self-talk statement can be divided

into positive, negative, and neutral self-talk (Burton & Raedeke, 2008) or instructional and motivational self-talk (Hatzigeorgiadis et al., 2014). Nevertheless, it is important to understand the attributes behind classification system. Figure 1 presents a construct and classification of self-talk according to some of the most used themes in literature. There are two main categories, six subcategories, and then at the bottom six components that form the nature of self-talk. The figure offers a platform to understand and to estimate the results of this study.

Figure 1

Classification of self-talk.



2.1.1 Main categories

Self-talk is divided into two main categories: organic self-talk and strategic self-talk. These categories are very different in nature. Strategic self-talk is usually pre-planned or used in a systematic way (McCormick & Hatzigeorgiadis, 2019), whereas organic self-talk is more of a spontaneous, automatic way of dealing with matters (Latinjak et al., 2019). These two main categories resemble dual-process theory that was first proposed by William James (1890). The dual-process theory is based on an assumption that people have two different kinds of mental processes depending on whether thoughts are operated in an automatic or nonautomatic fashion (Gawronski et al., 2014) and whether a person works in a conscious or unconscious level (Vila-Henninger, 2014). In dual-process theory, the core questions are whether a person is capable to response to a stimulus automatically satisfying the needs of a situation or whether a person needs an action of controlled perception to match the faced challenge (Brewer, 1988). These automatic and controlled processes of reasoning are named system 1 and system 2 phases (Frankish, 2010). With this classification, spontaneous, intuition-based organic self-talk would be system 1 and pre-planned, practice-based strategic self-talk would be system 2.

2.1.1.1 Organic self-talk

Organic self-talk (Latinjak et al., 2019) is a new classification at the field of self-talk. Previous taxonomy has included terms such as automatic self-talk (Zourbanos et al., 2009) or spontaneous self-talk (Latinjak et al., 2017; Van Raalte et al., 2014). Latinjak et al., (2019) justified new terminology by stating that organic can be defined as characteristic of, pertaining to, or derived from living organism and is not so easily misunderstood as the terms automatic or spontaneous have been. The overall meaning of organic, automatic, inherent or spontaneous self-talk is quite the same. This sort of a self-talk has even been named to be system 1 self-talk at some literature (Van Raalte et al., 2017), which underlines the broadness of terminology among self-talk and creates a connection to dual-process theory.

System 1 operations are typically automatic, fast, and effortless (Kahneman, 2003). Responses are often emotionally charged and created by one’s habit, which means that

they are challenging to control or to change. Because of these qualities, these sorts of a responses are also slow to learn. Spradlin (2003) has described automatic thoughts as "tapes" that have been recorded in time into our brains. Automatic self-talk evolves from life experience, personal nature, and environmental components that together with personal repertoire reflects one's basic belief system (Ronen, 2007). This sort of spontaneous self-talk is unintended, non-instrumental statements that come to one's mind unbidden and is somehow related to the activity, task, or a relevant stimulus (Latinjak et al., 2019). It is fundamentally how human being reacts to different stimuli they face (Brinthaupt & Morin 2020). One of the situations where a figure skater probably would encounter organic self-talk would be a sudden and unexpected fall down on ice. Then there would be no time for longer and proper control of one's thoughts. In other words, organic self-talk is in its' pureness the very essential first reaction a person experiences by thoughts at the stroke of any action (Latinjak et al., 2019) but even then, it may have a clear target goal.

2.1.1.2 Strategic self-talk

Van Raalte et al. (2017) described strategic self-talk to be opposite approach to organic self-talk. Strategic self-talk requires hypothetical thinking and mental simulation. It is intentional and can be linked to use of working memory. Athletes are using strategic self-talk to enhance their performance level. This type of a self-talk is also known as system 2 self-talk.

Kahneman (2003) supported this view by stating that characteristics of cognitive processes in system 2 include slower actions than with system 1 processes. The responses are usually effortful, consciously monitored, and deliberately controlled. The operations of system 2 can be relatively flexible and potentially rule governed.

Strategic self-talk is the kind of self-talk that athlete can pre-plan and therefore sport psychology consultants can help them to develop it. Cote et al. (2017) define consultant's aim for using self-talk as assisting client to create a method to focus on task-relevant cues, which would then help client to improve their performance (Miller & Donohue, 2002). In figure skating this sort of approach could be used while taking

speed for a jump element and reminding oneself from the key movement that should be focused to perform in order to succeed in a jump.

2.1.2 Subcategories

Subcategories of self-talk is a labyrinth because of the terminology and possibility to classify the statements with more than one label. However, instructional and motivational self-talk form the two main functions of self-talk (Latinjak et al., 2019) and are the two most common forms of self-talk (Hase et al., 2019), which is not surprising because typically an athlete has a clear goal to succeed. All subcategories can be placed under any main category, with an exception of mind wandering, which is more likely done in an organic, unplanned way rather than in a planned, strategic fashion.

2.1.2.1 Goal-directed self-talk

Goal-directed self-talk is used as a wider subcategory that does not refer directly to any specific subcategory of self-talk. It is a generic name for any self-talk that has a clear function, goal, or purpose. This means, that goal directed self-talk statement can be labelled as a motivational and reflexive at the same time. Some research has classified goal-directed self-talk as part of an organic/spontaneous self-talk (Latinjak et al., 2014), but even then, its aim has been to control cognitive and behavioural aspects of performance (Latinjak et al., 2018). Goal-directed self-talk is used for helping athlete to continue successfully with one's performance or to solve a task at hand (Latinjak et al., 2014). This means that with goal-directed self-talk one may pursue e.g., motivational or instructional effects on one's performance which help to perform better.

2.1.2.2 Instructional self-talk

The core idea of instructional self-talk is to guide oneself to perform a movement in a precise manner. It is useful especially on technical aspects of sports that need more skilful approach (Theodorakis et al., 2000). Through instructional self-talk athlete can direct attention to tactical choices, technical instructions or generally to kinesthesis which will help athletes to learn different skills or to improve their performance level (Zetou et al. 2014). Latinjak et al. (2018) even consider instructional self-talk to be a

key element when trying to learn a new skill in self-regulated manner because it provides instructions and gives feedback to athlete during the technical skill acquisition. Afterall, it is critical with motor skill learning to place focus on relevant cues during motor performance (Raisbeck et al. 2020) and with fine motor movements, instructional self-talk tendency gives the best results (Hatzigeorgiadis et al., 2011). It has been speculated, that the better the athlete's understanding of the task requirements is, the greater the benefit from using instructional self-talk can be (Abdoli et al., 2018). Even though instructional self-talk is strongly connected to skill acquisition or performing, it has been studied to enhance performance also in tasks that require strength and endurance (Theodorakis et al., 2000).

2.1.2.3 Motivational self-talk

Motivational self-talk is used to help athletes to increase energy, desire, and effort, to build confidence, to cope with pain or poor performance, or to change the mood for the task at hand (Theodorakis et al., 2000). It is useful with tasks that require high power output, such as vertical jumps (Edwards et al., 2008), or long-lasting endurance and willpower, such as marathon running (Barwood et al., 2015). In addition, motivational self-talk enhances athletes' self-confidence, reduces felt anxiety, and improves specific task performance (Hatzigeorgiadis et al., 2009). McCormick et al. (2018) suggested, that motivational self-talk gives athletes more mental energy, which can have a positive effect on athlete's performance. Athlete may even increase the possibility of experiencing a flow-state when combining motivational and positive self-talk (Miller Taylor et al., 2018). However, McCormick et al. (2018) also found that although athlete's motivational self-talk was positive and helpful for the performance, it did not make any difference to the result of the performance. Theodorakis et al. (2000) further noticed that motivational self-talk cues were not been used as consistently as instructional self-talk (Theodorakis et al., 2000). Nevertheless, Gammage et al. (2001) discovered that athletes were preferring motivational self-talk over instructional self-talk.

2.1.2.4 Reflexive self-talk

According to Turner and Stets (2012), reflexive self-talk can be manifested through a conversation with oneself. Latinjak et al. (2019) described reflexive self-talk as a method to explore challenging situations in a dynamic way. They considered it an interplay of spontaneous (organic) and goal-directed self-talk with a goal to improve athlete's inner talk to handle the task at hand. This type of a self-talk always emerges from a situation during a task. An athlete needs to decide if, when, and how to use reflexive self-talk to improve one's goal-directed self-talk. In other words, athletes are reflecting to a situation and to their own responses. To cope in the situation, athletes are aiming to improve their self-talk with reflexive self-talk (Latinjak et al., 2019).

2.1.2.5 Irrelevant self-talk

Irrelevant self-talk can be categorised into wider subcategory called dissociative self-talk (Hatzigeorgiadis & Bibble, 2000). Dissociation refers to athletes placing their focus away from sensations that feel unpleasant (McCormick & Hatzigeorgiadis, 2019). There is some evidence that athletes are using dissociative self-talk as a distraction (Van Raalte et al., 2015) but that dissociative self-talk does not give any other benefit for an athlete (Miller Taylor et al., 2018). For example, Chang et al. (2014) noticed that unrelated self-talk did not have any positive effect to a performance when an athlete needed to throw a softball further or more accurately. They found that instructional or motivational self-talk were significantly more beneficial with these tasks and improved athlete's performance. Dissociative self-talk can even harm the performance level and lower the succeeding rate, if the task becomes too challenging and a person continues using irrelevant self-talk aloud (Fernyhough & Bradley, 2005). Miller Taylor et al. (2018) found that negative self-talk has a positive correlation to irrelevant self-talk and irrelevant self-talk has no connection to flow experience at a competition situation. Zourbanos et al. (2011) suggested that if coaches would like to lower the incidence of irrelevant self-talk in athletes, they should communicate more through informational cues. Interestingly, several decades ago Gould and Weiss (1981) detected how athletes might feel and estimate their own self-efficacy rate rather high, when they use irrelevant speech during a sport performance (Gould & Weiss, 1981), suggesting that irrelevant self-talk could enhance athletes' self-efficacy.

2.1.2.6 Mind wandering

Mind-wandering implies to any thought that a person can have that is unrelated to ongoing activity or a task (Klinger, 2012). Latinjak (2018a) suggested that mind wandering is relatively common phenomenon in sports and can be either beneficial or harmful for athlete's performance. Corballis (2015) argued that human's mind is destinated to alternate between mind wandering and paying attention. When the mind wandering happens, it offers a recovery phase to adapt again to this complex world that we are living. He suggested that mind wandering would be the source of creativity and the spark of innovation that leads to increased well-being.

Seli et al. (2018) found evidence that people are capable of reducing mind wandering while approaching the target behaviour and that they are doing so to accomplish the task. Levinson et al. (2012) posed that in order to accomplish any challenging task successfully, one needs to restrict task-unrelated thoughts to stay focused on the task at hand. Furthermore, when an athlete restricts unrelated thoughts, it might reduce mind wandering. In line with this, Latinjak (2018b) found that during competition mind wandering appeared to diminish but goal-directed thinking to increase. Therefore, it is evident, that athletes let their ideas and inner talk wander during practices but gather their thoughts and place the focus on task when trying to reach top performance.

2.1.3 The nature of self-talk

As previously noted, there is lack of pervasive and widely established and acknowledged categorization system in self-talk (Conroy & Metzler, 2004; Hardy 2005).

In this study, the main categories of self-talk (i.e., organic and strategic) concern the origin of self-talk (pre-planned or spontaneous) and the subcategories (i.e., instructional or motivational and reflexive, goal-directed, or irrelevant) describe and label self-talk according to their function and content. The nature of self-talk is a way to use higher categories. It is a personification of emerged self-talk that are in some way autographed by its' user. Hardy (2006) has approached the topic by presenting six aspects of self-talk

which construct self-talk's nature. These aspects are presented at the Figure 1 and are called valence dimension, overtness dimension, self-determined dimension, motivational interpretation dimension, frequency, and functions.

2.1.3.1 Valence dimension

Valence dimension implies emotional tone of a person's self-talk. Traditionally valence has been divided into three different sectors: positive, negative, and neutral (Van Raalte & Vincent, 2017). Valence dimension is always categorized based on wording of one's thoughts, not by the results or consequences that thoughts are generating (Zourbanos et al., 2009). Hardy (2006) praised valence to be the most important dimension of self-talk.

Typically, athletes use positive self-talk to generate positive energy and build confidence whereas negative self-talk is used to express worries, self-criticism, and thoughts about disengagement (De Muynck et al., 2017). Even though, the verbalization of self-talk can be done in a positive or negative manner, how the self-talk is interpreted always depend on personal views (Hardy & Oliver, 2014). This means that even though positive self-talk is generally associated with good performances and outcomes, both positive and negative self-talk can lead to performance enhancement (Hamilton et al., 2007). Athletes tend to use more positive expression than negative expressions when it comes to their self-talk (Elonsalo, 2016). Athletes who are using positive tone will usually perform significantly better than athletes who are using negative or mixed self-talk (Araki et al., 2006; Horjaco et al., 2019). Latinjak et al. (2018) proposed that error description, negative reinforcement, and feedback through self-talk could be beneficial for motivation and performance, especially if accompanied by technical instructions. This suggests that some athletes under certain circumstances may be able to enhance their performance through negative self-talk. However, Hardy, Hall et al. (2001) emphasized that it is not advisable to instruct athletes to use negative self-talk because it might have detrimental effects, for example on athletes' self-confidence. At the end, it is impossible to know the impact of positive, negative, or neutral self-talk on an athlete's performance without getting to know the athlete, one's interpretation and current situation.

2.1.3.2 Frequency dimension

Self-talk belongs to one of the most used performance enhancement techniques in sport psychology (Gardner &Moore, 2006). One reason for this popularity might be its' direct applied value for facilitating learning and enhancing performance in teaching, training, or competition situations (Galanis, et al., 2016). It seems that when an athlete starts to use self-talk strategy to improve one's capability to perform, it will lead to systematic use of self-talk (Hatzigeorgiadis, Galanis et al., 2014). Frequency dimension describes how often athletes are using self-talk (Hardy et al., 2009), which can vary from never to always (Styliani, 2017).

Hardy et al. (2004) found that 75% of athletes are potentially using self-talk to their benefit and the more skilful the athlete is, the more likely he or she using it (Hardy et al., 2004). For example, Gould et al. (1993) found out that 80% of U.S. Olympic team's wrestlers used mental training techniques to control their stress during the Games. One of the most common techniques was thought control strategies when attempting to block distractions, to gain perspective and positive thinking, and to cope with different thoughts during the Olympic Games. The higher the stakes are in competition situations, the more mental resources athletes are devoting to the performance to turn the situation to their favour. In competitions, phrases are more commonly used than cue-words or full sentences in self-talk (Hardy et al., 2001).

Athletes are using self-talk both in training and in competition situations (Hardy, Gammage et al., 2001). Vargas-Tonsing (2006) found that self-talk occurred more frequently with sports that hold self-paced skills, such as basketball's free throw or a golf swing, rather than at open-skill sports, such as tennis or fencing where performance is dynamically changing, there is less time to prepare and the performance is unpredictable. Hardy et al. (2004) and Elonsalo (2016) further noticed that individual athletes use self-talk more frequently than team sport athletes. Individual athletes also plan self-talk strategy more often than team athletes (Hardy et al., 2004). Individual athletes reported using self-talk to guide performance, to psych oneself to overcome the challenges ahead, or to control anxiety, whereas team sport athletes reported using self-talk more to concentrate on coming along with their team mates (Elonsalo, 2016). The

frequency of using self-talk increased when the major competitions of the sport season approached (Hardy et al., 2004).

2.1.3.3 Overtness dimension

According to Geurts (2018), there are two types of self-talk: Overt self-talk refers to audible style whereas covert self-talk is something that is happening silently. Self-talk usually changes from children's audible style to more covert when people grow older (Galluzzi 2008). Dickens et al. (2018) found that athletes might use inner-speaking self-talk six times more often than aloud one (Dickens et al., 2018). Despite, both styles serve similar self-regulatory functions (Van Raalte & Vincent, 2017). In theory, it does not matter, which of the two strategies athlete chooses to use. Bahari et al. (2012) found that both dimensions improved performance and therefore, might be beneficial if an athlete could choose which one to use.

Hong et al. (2020) support freedom of choice approach and remind that each person experiences overtness dimension differently. For some, overt self-talk is unbearable whereas others have no problem with it. Therefore, an athlete should use overtness dimension in a way that one is comfortable using it. That way it will lead to best end result and performance level (Hong et al., 2020).

2.1.3.4 Self-determined dimension

Self-determined dimension draws a line between assigned or agreed self-talk and self-determined sentences, words, and cues (Hardy 2006). Self-determined dimension should not be confused with a strategic or organic self-talk. It is more fine-grained form of those two. Self-talk can be agreed, for example between coach and athlete in word-by-word basis, or an athlete can determine the words to use (Hardy 2006). The latter is self-determined self-talk that happens in a very natural way. In other words, self-determined dimension reflects the statements that are freely chosen by an athlete (Hardy, 2006).

Self-talk could be more beneficial when aiming to reach top performance. Rushall et al. (1988) noticed a significant performance improvement with skiers when they were

allowed to come up with their own self-talk statements. Skiers were able to improve up to 3% of their performance level. On the other hand, Weinberg et al. (2012) did not find any differences between self-determined and assigned self-talk model in their study. Hardy (2006) proposed that self-determined self-talk have the highest influence on athlete's motivation. Hatzigeorgiadis et al. (2014a) concluded that self-determined practicing of self-talk leads to more systematic overall usage of self-talk (Hatzigeorgiadis et al., 2014a).

2.1.3.5 Motivational interpretation dimension

Motivational interpretation dimension reflects a person's inner scope towards his or her own self-talk (Styliani, 2017). A person can view self-talk either in a motivational or de-motivational manner (Hardy, Hall et al., 2001; Hardy et al., 2009). Hardy, Hall, Gibbs et al. (2005) proposed that this dimension would be one main mechanism by which self-talk may influence performance. If a person's self-talk is not interpreted as motivational by oneself, it is unlikely that it would generate motivating effects towards the task at hand. Therefore, it probably would have no effect at all, in terms of enhancing the performance level. They suggested that an interpretation, a personal response to the self-talk is the key factor when considering effectiveness of self-talk (Hardy, Hall & Hardy, 2005). According to Maddux and Nicodemus (2016), up to 65% of performers might interpret their own self-talk as de-motivational at times during task performance. Therefore, interpretation dimension clearly has an effect on person's affective state regardless of the quality of a performance (Oliver et al., 2010) and the dimension is connected to the directional interpretation aspect of anxiety (Hardy 2006). Hence, motivational interpretation dimension has also been called "self-talk intensity" dimension (Hardy, Hall et al., 2001).

2.1.3.6 Functions of self-talk

Latinjak et al. (2019) have described that the function of self-talk is to serve and help a person in their current situation. Functions of self-talk refer to the purposes athletes use self-talk for (Theodorakis et al. 2008; Theodorakis et al. 2012). Hardy et al. (2005) have listed 12 common purposes athletes use self-talk for: (1) executing individual skills, (2) executing plans, routines, plays, or strategies, (3) "psyching" oneself (4) relaxing oneself, (5) controlling nerves, (6) regaining or maintaining focus, (7) boosting self-confidence, (8) mental preparation, (9) coping in tough situations, (10) increasing or maintaining motivation, (11) controlling the amount of effort used to investing, and lastly, (12) reminding oneself of one's goals. In line with the list, Daftari et al. (2010) noticed that football players perceived effects of self-talk during their matches at mental and at behavioural level. This included better focus and attention, enhanced decision making, and faster reaction times. Oeltjen (2016) studied golfers and found that they were seeking confidence and flow state through self-talk. Boudreault et al. (2018) found

eight reasons for tennis players to use self-talk while competing. The reasons were positive emotion expression, worry, rumination, performance pressure, disengagement, and motivational, instructional, and emotional control. Evidently, reasons for using self-talk vary (Uttl et al., 2011) but the functions of self-talk can be subcategorized into motivational or instructional categories based on one's motives to use self-talk. Each person interprets their own self-talk differently, which means that ultimately motives to use specific self-talk category is always unique. The instructional and motivational functions of self-talk can be sub-divided further into more focussed functions (Hardy et al., 2004).

With motivational aspect, there are three different functions of self-talk (Hardy et al., 2005):

1. Motivational arousal that helps athlete to relax, to control their arousal level, to psych themselves into performance mode, or to prevent or relieve boredom when needed (Hardy et al., 2009, 38; Gammage et al., 2001).

2. Motivational mastery that is traditionally used when an athlete is in need of placing a focus, enhancing confidence, or generally preparing mentally to perform (Hardy et al., 2009). This self-talk style is noticed to be used mostly at coping situations with difficult circumstances (Gammage et al., 2001).

3. Motivational drive that helps athletes to "stay on track" while performing (Hardy et al., 2009, 38). Gammage et al. (2001) noticed that this function was the most frequently reported one in their study. Participants were seeking help from self-talk to stay on the task at hand and to optimize their effort level.

With instruction aspect, there are two separate functions of self-talk (Latinjak et al., 2019):

1. Skills-related self-talk is specific to working on proper technique or maintaining e.g., a good posture (Gammage et al., 2001).

2. Strategy-related self-talk is used with more general aspect, e.g., to improve strategy, which can enhance performance (Gammage et al., 2001).

The activity type of an exercise may have an impact on athlete's choice considering, which sort of a function of self-talk is used (Gammage et al., 2001; Hardy, Hall & Hardy, 2005). However, this represents more of a content type thinking, which generalises the function and meaning of utilised self-talk. Self-talk is always tailored, experienced, and interpretated by an individual. Each person experiences and interpretates self-talk differently, which places certain self-knowledge skills and affections to high value. For example, Tod et al. (2011) found that self-talk with positive valence was best for sport performance. However, Wood et al. (2009) in their study noticed that positive self-talk statements were decreasing the performance level with persons that did not believe on their own statements or if they had generally low self-esteem. Therefore, it is important to keep in mind that self-talk may have either facilitative or debilitative effects on an athlete (Theodorakis et al., 2012, 200-201). Afterall, the content of self-talk is not the ultimate path to winning performance but rather winning athletes were victorious also after negative self-talk whereas defeated athletes more likely lost a point after negative self-talk (Van Raalte et al. 2000). In this sense, how a person responds to their own self-talk is crucial.

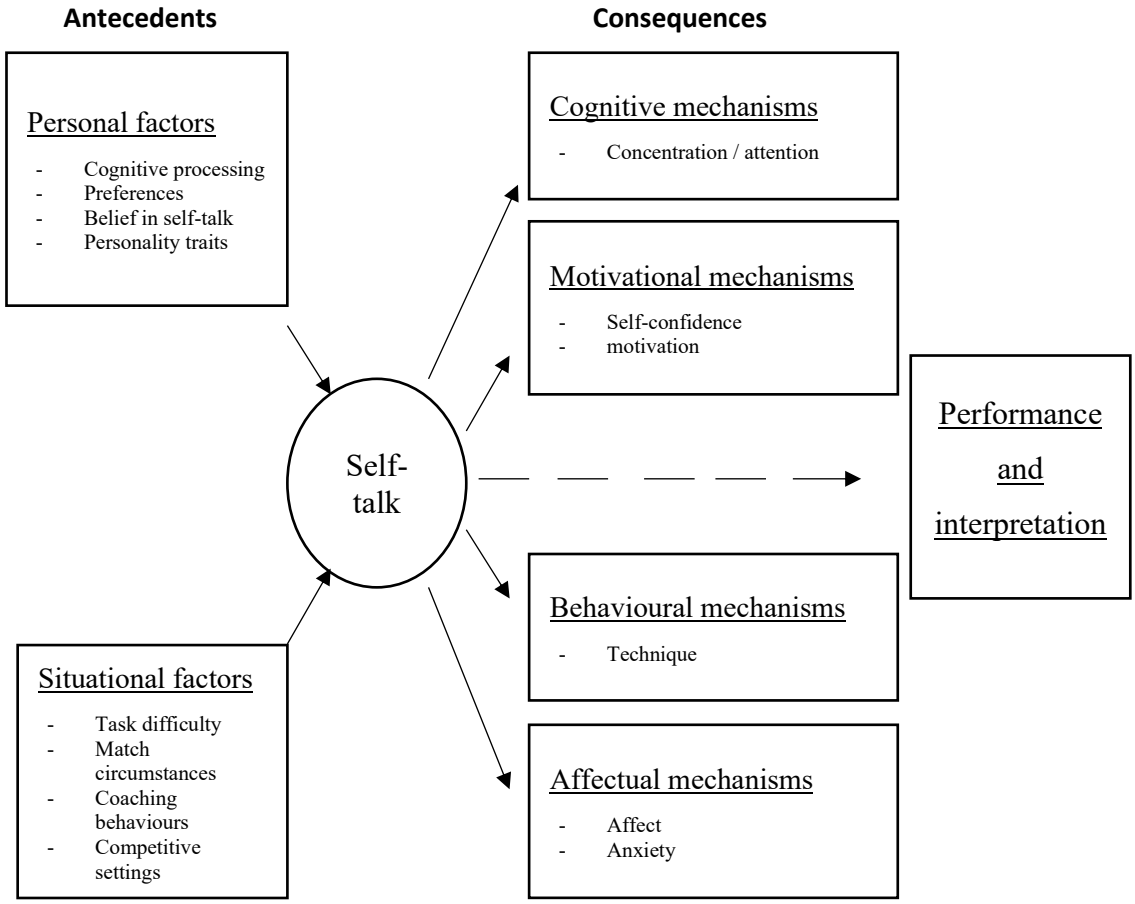
2.2 Underlining mechanisms of the impact of self-talk

Self-talk is pursuing to activate appropriate responses within the athlete, e.g., through cue-words, when applying self-talk systematically among sports to enhance performance (Galanis et al., 2016). Several speculations on the compounds of self-talk in humans have been made (Hatzigeorgiadis et al., 2007). Hardy et al. (2009) presented a theory of four main pathways through which self-talk can affect human's abilities to perform better. These pathways are cognitive, behavioural, motivational, and affectual mechanisms. These pathways are presented in Figure 2 which is slightly modified to figure skating from Hardy et al. (2009). They illustrate that personal and situational factors can influence emerged self-talk (Walter et al., 2019) and that self-talk might have consequences to person's sporting performance through these four mechanisms.

According to Hardy et al. (2009), cognitive mechanism included processes such as concentration, information processing, and attention control, which are all crucial

factors when considering effective performance. Behavioural mechanism reflected the athletic technique whereas affectual mechanism worked as an umbrella term for psychological states such as affect, mood, and emotions. Motivational mechanism, on the other hand, has been widely recognized and hold a firm position as a mechanism to achieve top performance. These four pathways have been called the four major psychological processes and Bandura (1997) has argued that it could be possible to make a difference to human behaviour through these processes (Hayes, 1993). Bandura (1997) presented the same four processes but behavioural process was named selective process. Disparity of the terms refers to the different point of view. According to Bandura (1997), person is capable of choosing engagement to an activity and holds the position to perform or not to perform an activity (i.e., movement or sport performance). Whereas at self-talk's literature, behavioural process includes an assumption that athlete is trying to execute specific motor task in which self-talk plays its own part (Walter et al., 2019). Bandura (1997) and Hardy et al. (2009) both agree that these pathways usually operate in co-operation when it comes to their effectiveness on human functioning.

Figure 2.
A framework for the study of self-talk modified to figure skating (modified Hardy et al. 2009).



2.2.1 Self-talk and self-efficacy

Self-efficacy has been presented as a determinant of effectiveness of self-talk in athletes (e.g., Son et al., 2011). Bandura's (1997) self-efficacy theory is based on an assumption that efficacy belief is a basis of action in humans. People tend to guide their lives according to their beliefs of personal efficacy. Therefore, perceived self-efficacy refers to beliefs in one's capabilities to execute performance in desirable manner in given situation (Bandura, 1997). In other words, self-efficacy is person's judgement of what he or she can do with the skills that he or she has (Short, 2014). These personal beliefs of capability, activate person's cognitive, motivational, and affective processes. These processes are then influencing how behavioural functioning will take shape (Hatzigeorgiadis et al., 2008). However, self-efficacy belief is not built solely through

person's skills that affect performance, in fact it is independent of actual ability levels (Schwarzer 2014), but it is constructed through personal and contextual (antecedent) factors that affect athlete's perception of one's capability (Weight et al. 2020) in that moment. Therefore, unlike self-esteem, self-efficacy is always situation specific (Jarvis, 2006). There are four main sources of self-efficacy, which are mastery experience, vicarious experience, physiological and affective states, and lastly, verbal persuasion (Bandura, 1997). Bandura (1997) proposed that self-initiated verbal persuasion, like self-talk, would influence on efficacy beliefs and be the principal vehicle of thought and self-direction.

2.2.2 Self-talk, self-efficacy and performance

These two concepts, self-talk and self-efficacy that are functioning through the same pathways may have a correlation for better performance ability. Short (2014) even describes perceived self-efficacy belief to be considered the most important psychological state that affects sport performance (Short, 2014). It has been found that figure skaters' perceived efficacy for performing well did had a correlation to one's placement at the final results of competition (Silver, 2002). The same conclusion made also Barkhoff and Heiby (2010) with elite roller skaters who in addition reported from greater delight of performance than those who reported smaller level of self-efficacy before competition. This implies that self-efficacy has indeed a connection point for affecting humans' performance (Schwarzer, 2014).

Flow-state can be said to be an optimal state of mind to reach peak performance (Partington et al., 2009). According to Mesurado et al. (2016), self-efficacy has a positive effect on reaching the flow state. To reach flow-state, an athlete needs to have a balance between challenge and skill base (Jackson & Csikszentmihalyi, 1999). Athlete needs to believe that he or she is capable to cope with the challenge with his or her own skill base (Liukkonen, 2007), not the actual skills that athlete holds, but the belief of having the required skills matters (Kokkonen, 2012). According to these findings, it seems that self-efficacy work as a mediator for the challenge-skill balance dimension of flow (Pineau et al. 2014) and self-talk truly can be a prime factor in this chain where changes in self-efficacy is related to changes in performance (Hatzigeorgiadis et al. 2008).

Hardy et al. (2005) found moderate relation between self-talk and self-efficacy. Minja (2018) noticed that instructional and motivational self-talk had a clear impact on tae-kwon-do athletes' capability to reach the flow during the competitive settings. Hardy et al. (2005) confirmed that self-efficacy is positively related to performance, but self-talk itself has no correlation to one's performance (Hardy et al. 2005). Therefore, effectiveness and function of self-talk towards better performance level appears to be moderated by self-efficacy.

2.3 Effective use of self-talk

Like stated previously, there are several antecedents for self-talk and some of the evidences suggest that a person needs to believe on one's self-talk in order to gain effectiveness on performance (Hardy et al. 2009). This means that interpretation of self-talk is the key factors on effectiveness of self-talk (Hardy, Hall & Hardy, 2005). It is found that improvement to performance is more likely when the interpretation of athlete's own self-talk is positive in valence (Hardy et al. (2005). Positive view of own behaviour and a positive verbalization are components of consistent and successful sport performance (Van Dyke et al., 2018).

Voelker and Reel (2018) studied body composition among figure skaters. An athlete in their study pointed out that negative self-talk affected his actions and performance even though the antecedent of self-talk, his body composition, would have nothing to do with his current sport performance. "Weight definitely does play an issue…there is always this pressure to be very thin…These are thoughts that every skater's thinking about." - former Olympic winner Tara Lipinski has stated (Zaccardi 2016). Figure skating is a sport, where performance is judged according to aesthetic appearance (Lockwood et al., 2004) and if, for example body mass index (BMI) differs from the mainstream, it could have an influence on athlete's self-efficacy, hence to performance. Nkopo et al. (2020) found that in some cultures BMI correlated with a self-efficacy belief which might partially explain Voelker & Reel's (2018) findings. Also, Elavsky (2010) found that BMI has an influence on person's self-efficacy. It has been found that athletes' debilitative self-talk, especially if connected to negative imagery, will hamper athletes' capability to do their best (Cumming et al. 2006). Latinjak et al. (2017) found that

athletes' spontaneous self-talk was mainly negative and retrospective in anger-eliciting situations whereas anxiety-eliciting situations raised both positive and negative spontaneous self-talk with anticipatory manner. These different types of self-talk regimes may cause different effects on performance (Hatzigeorgiadis et al. 2004) similarly as interpretation of self-talk.

In sports that are based on strong automatic movements such as figure skating's jump elements, using positive self-talk may not be the optimal coping strategy. Hayslip et al. (2010) examined golfers' psychological skill usage and reported that athletes who were performing positive self-talk were unsuccessful in their performance. Harvey et al. (2002) also noticed that positive and negative self-talk can be harmful for sports that need accuracy. However, instructional self-talk seems to boost athletes into a better result. Abdoli et al. (2018) recommended that instructional self-talk would be attributed to behavioural mechanism more than other abilities. Motivational self-talk has been found to reduce perceived exertion and therefore enhance endurance performance (Blanchfield et al., 2013). Hatzigeorgiadis et al (2014) further proposed that in competition settings, athletes should move towards more automatic, and autonomous execution without reflecting or monitoring their performance consciously step-by-step. That way, the focus would stay at task relevant information. Van Dyke et al. (2018) also speculated that at competition situation organic self-talk might release effortlessly cognitive resources to the task at hand, especially with closed skill sports like figure skating. It seems that automaticity of performance is favourable when reaching to top performance (Hayslip et al. 2010).

2.4 Self-talk in figure skating

It seems that there has not been done any research related on self-talk and figure skating for the past quarter of the century. That is surprising considering that self-talk has been proven to be an effective tool to improve athletes' performance levels (Dickens et al., 2018). Figure skating is an early specialization closed skill sport. With these sports, self-talk habits are diverse: Gymnasts improved their technical skill acquisition using instructional self-talk with positive valence and combining it to imagery training (Hars & Calmels, 2007). Professional ballet dancers used thought-stopping technique and motivational self-talk to handle anxiety while performing (Walker & Nordin-Bates

2010). More successful divers used less positive self-talk and more instructional self-talk than less successful divers (Highlen & Bennett 1983). For golfers organic, reflexive and instructional self-talk during a tournament was a presumption (Dickens et al., 2018).

Gould et al. (1993) interviewed U.S. national champions in figure skating and they reported rational thinking and self-talk at the very top of the list in their coping strategies (Gould et al., 1993). One of the first studies examining self-talk in figure skating was conducted by Palmer (1992). The study investigated self-talk and its' effect on old-fashioned figure skating with patches. However, self-talk did not have a positive effect on athletes' performance level. In Handschin's (1995) study, on other hand, athletes' performance scores and self-efficacy were improved through self-talk. Ming & Martin (1996) found improvement in figure skaters' performance level through self-talk at a one-year long intervention study. Garza & Feltz (1998) found increase in athletes' skill level with different figure skating elements such as jumps and spins by using cue-words among other techniques as part of the training. The latest research finding that identified self-talk usage with figure skaters was made by Bernier et al. (2016). They discovered that self-talk was frequently used by figure skaters to focus attention on specific points of a performance (Bernier et al., 2016), which is a very classical mean to use self-talk for an advantage (Hardy et al. 2009).

Not any of done research have concentrated to study what sort of a self-talk figure skaters are naturally executing while performing at competition. Almost every research setting was based on intervention which effect was either successful or not to participants' performance. Only Bernier et al. (2016) conducted research at competition setting. The demands between training and competition situations are different (Hatzigeorgiadis, Galanis et al. 2014). Therefore, it is crucial to study athletic performance in a competition environment (Martin et al., 2005) where lies the true goal of each competitive athlete. However, athletes' thoughts during competition are impossible to record or interpret by someone else, which makes studying self-talk during competition difficult. Many research that has been done on competitive settings with elite athletes are lacking information from athletes' non-verbalized self-talk (Boudreault et al. 2018). Investigating athletes' self-talk during competitions is intriguing because it could generate new and useful information related on performing

on ice with figure skates and would provide tools for coaches and sport psychology consultants to guide athletes to cope with and prepare for competition situations. New information, experience, and learning to identify own thoughts might create a new interest to strategic thinking towards the sports and serve possibility to develop a new tool for improving one's overall performance (Hatzigeorgiadis et al., 2014a). This sort of a mindful self-talk might lead eventually to experiencing higher enjoyment and commitment on training (Rushall et al., 1988) which potentially help athletes to reach even higher level of performance, also in competitive situations.

3 PURPOSE OF THE STUDY

The purpose of this study was to explore three junior figure skaters' self-talk during free skating performances in a competition. The aim was to define what type of self-talk figure skaters are using and how they are using it during their competition routines. The study was conducted on their final and major national competition of the season. This competition was chosen to ensure highly competitive pressure for the participants and to better capture the participants' self-talk in a naturalistic setting.

It was expected that participants would report from usage of wide variation of self-talk styles. Because competition performance is a routine style performance, it is possible that they use mainly organic self-talk which could liberate their focus to execute automatic movements and trained skating patterns better than strategic self-talk as Van Dyke et al. (2018) speculate could happen. Considering the technical side of the sport, it is assumed that one of the most favoured self-talk styles will be instructional self-talk which has been favoured among early specialization closed skill sports (Hars & Calmels, 2007; Highlen & Bennett, 1983; Dickens et al., 2018).

4 METHODS

4.1 Participants

Participants were three Finnish female figure skaters who all presented one and the same figure skating club. During the data collection, they all had the same coaching staff and they trained at the same group of skaters as an everyday base. All three skaters had approximately same technical skill level: they manage double jumps, but none of them had been able to perform triple jumps yet. This skill level is a requirement for competing in junior level. This criterion has been set by Finnish figure skating association (2020). Each figure skater needs to show and past these elements in the official test event organized by Finnish figure skating association. Each study participant had competed in junior level in a current season. None of the participants had any guided experience of using self-talk as part of their training or in competitive settings.

Skater 1 was 15 years of age which makes her the youngest participant of this study. She had a history of practicing figure skating 6 years and taking part for competitions for 5 years. Skater 1 reported that she used to compete at the highest series level of her age in the past and current junior series level is the first time when she is competing at the second highest series level. She reported to train 9 hours per week on-ice, spending 10 hours a week with off-ice training which gives a total training time for this female skater 19 hours per week.

Skater 2 was 17 year of age and had been involved in skating for 13 years. Her experience from competing in figure skating is 11 years which makes her the most experienced skater in this study. Although, she was the only participant who did not have any experience from the highest competitive level of her age at any age in her career which means that Skater 2 had competed solely at the second highest level in Finland. She practiced 8h per week on-ice and 7 hours per week off-ice which gives for total practice time 15 hours per week. Skater 2 was the only skater who brought to attention that she had used sport psychology services in the past, but nevertheless did not had guided experience from self-talk.

Skater 3 was the oldest skater in this study, 18 years of age. She had a history of practicing for 12 years and competing for 10 years. Skater 3 was the only participant who used to compete at the highest level of junior series before this season. This season was the first season when she took part for competitions at the second highest junior level. Skater 3 practiced 7 hours per week in both on- and off-ice practices which gives for total practice time 14 hours per week.

4.2 Procedure and measures

The participants were recruited from one figure skating club located in Southern Finland. The first step was to present the study purpose to the head coach of the club to gain access to the participants. Head coach granted a permission and arranged the first meeting with skaters who were interested to participate for the study and were known to take part for the competition where it was planned to gather data. This meeting took place one week before competition day in a quiet place, at participants' training facility. Four skaters, the head coach and the researcher were present in the meeting. The objective of the meeting was to explain vocally the study and its' process to participants including purpose-, measures- and procedures of the study to see if skaters were interested to take part for the study. Before explaining the study process, each participant of the meeting was given in a paper the procedure of the study for the athletes-form (appendix 1) and the self-report measure -form (appendix 2) to ensure that each potential participant and the head coach were able to follow and understand presentation of the researcher. Before presentation, it was emphasized to ask questions and reminded that participating to this meeting and to the study is voluntary in nature and each and every one holds a right to withdraw at any time without questions asked.

The procedure of the study for the athletes -form (appendix 1) presented the study to be master thesis study for the universities of Jyväskylä, Finland and Thessaly, Greece and the purpose of the thesis is to study their self-talk during a free skating routine in their final competition. Procedure of the study which was in a written form and then explained included second meeting couple of days before their final, researcher videotaping their routine in competition, skaters' duty to fill self-report measure form after performing the routine in final competition and lastly semi-structure interview at the same or at the latest next day after the competition. The vocal presentation, as did

the written form itself, highlighted the fact that all the necessary actions needed from the participants would be located after the competition and if taken part to the study, it should not interrupt or require their focus before competition routine is skated.

When study procedure and the purpose was clear to everyone, self-report measure -form (appendix 2) was explained. It started with going through the background information including participants' name, age, year of birth, years of practicing and competing in figure skating, the highest series level they have reached during their career and the current competitive level that they hold. The last bit of background information was connected to the amount of training that they were having in on-ice, off-ice and in total hours. Next participants were familiarized to self-talk concept so that they knew what self-talk is and what is expected from them when they fill latter part of the self-report measure -form after the competition. This latter part of the form was explained and presented point by point in the first meeting. Confidentiality of the results were emphasized at this point and opportunity to ask questions was provided. The first meeting ensured that participants were familiar with the concept of self-talk, self-report measure -form and each participant knew, how data gathering would happen and what is their own role in it. Consent form was the last to be given and explained. Participants of the meeting received all the necessary information and forms to take part for the study at the first meeting in paper form to ensure that each could consider participation to study thoroughly at home. The second meeting was agreed to be held two days before competition day at the same place and time than the first meeting.

The second meeting was arranged to secure participants' awareness from study procedure and self-talk, to collect consent forms and to agree schedule for the interviews. Each participant preferred the same day interview as their competition day was. Written consent was obtained also from the guardians of under 18 years old participants. Participants were encouraged not to concentrate on the study too much and to place the focus purely on their preparation to compete and to perform. Also, this meeting provided possibility for participants to make questions and they were reminded from their right to withdraw from study at any time without questions asked. One skater announced withdrawing at the beginning of the second meeting.

Data in this study was gathered from two sources: self-report measurement and semi-structured interviews where videotape reconstruction method (Brinhaupt & Morin, 2020) was applied. All data was gathered in participants native language which was Finnish. Data collection took place on competition day. Participants' competition routine was videotaped from players' box from standing height with Sony video camera, HDR-SR11. The height ensured as closely as possible the same perspective to video footage that each skater had while performing their competition routine. Between the camera and skater there was a free space so that nothing would block the view while videotaping participants' routines. The zoom feature was used so that the entire skater stayed at the picture but did not drift too far apart. Because of the rules of figure skating, each participant had the same amount of program elements on their program (7 jumps, 3 spins, 1 step sequence), the same maximum time to prepare oneself for one's performance and because of the length of the routine is restricted to a specific time (3 minutes 30 seconds ± 10 seconds), each participants' video footage's length was approximately 4 minutes and 15 seconds. The video footage included the time from announcing skater's name and starting a routine, skater's whole routine and the time between the end of the routine and stepping out from the ice.

Skaters' skating order was based on random draw that competition organizer carried out. In competition there were two separate 24 skaters' competitive groups. The first group's competition was called silver final and the latter group's competition gold final. Each final was divided into 4 groups with 6 skaters per group. In both finals skaters had the same structure for competition: shared 6 minutes warm-up on-ice for each group and then skating own routine one by one in a drawn skating order. After own skating order, the performance was judged. During other skater's competition routine, remaining competitors waited their turn to perform off-ice. After the first 6 skaters had skated their routine, the next group went to perform their 6 minutes warm-up on-ice and performed their routines one by one after the warm-up. After the first 2 groups, there was a 20 minutes ice-resurfacing before the following 2 groups with 12 skaters had their competition turn. After the silver final competitors (24 skaters) were skated and judged, there was an ice-resurfacing before the gold final started. The gold final had exactly the same competition structure. Group's warm-up and 6 skaters performances took approximately 40minutes altogether. This means that both finals together, including 3

ice-resurfacings lasted 6 hours and 30 minutes from the silver final's first group until gold final's last group.

Skater 1 skated at the first group of the silver final; Skater 2 skated on the fourth group of that same final. Skater 3 was the only one who was designated to take part to gold final, and skated on the last fourth group of that final which was the last group of the whole competition. Between each participant, there were enough time to fill the self-report measurement and conduct individual interview. Before filling the self-report measurement after competition routine, skaters had to change their competition costume to normal clothes which took approximately 10 minutes. For this purpose and for the interview, there was arranged a clear dressing room from the ice rink. Researcher stayed nearby in case skaters had any questions that should be answered while filling the self-report measurement which took approximately 30 minutes.

Preparing skaters for interview by self-report measurement. A self-report measurement (see Appendix 2) was developed for the purposes of this study. The purpose of this self-report measurement was to help skaters to focus on and recall their self-talk in a peaceful environment before having any external influence (e.g., from researcher's or coach's behalf) on their experience as well as evaluate their performance in overall. This supposed to help skaters to remember self-talk better during an interview and not to forget the self-talk that emerged at the end of the routine. Self-report measurement consisted 15 parts assessing participants background information, overall performance rating that day and recollection of self-talk from performance before, after and during a competition routine. The first questions addressed skaters' overall performance success and capability to remember their experience during a routine. The first question was: How would you rate your today's competition performance considering your personal skill level from 1 (very weak) to 10 (excellent). This question was the only one where 10-point Likert scale was in use and it was chosen to be used because it provides a wider scale for participants to display how satisfied they were to their performance. The following two questions related more specific parts of performance: How well can you recall your elements in your routine, and how well can you recall your self-talk during your routine. These were rated with 7-point Likert scale from 1 (Not at all) to 7 (very clearly).

The recollection of self-talk part consisted three different phases in a self-report measurement form: (1) preparation phase on-ice before start of the performance, (2) program elements which consisted 11 separate elements and (3) time on-ice after competition performance. Phases (1) Preparation phase and (3) time on-ice after competition performance was designed to be similar self-report measurements including two questions: How well do you recall this time period before the start of the program / leaving the ice, and can you recall any emerged self-talk before/after the routine. These were also rated with 7-point Likert scale from 1 (Not at all) to 7 (very clearly). After these ratings, skaters were asked to report each self-talk statement that they were able to remember. Phase (2) program elements were related to each skater's routine that was skated and evaluated by the judges. From each program element separately, participants filled self-report measurement which included 3 questions (how well can you recall this element, how would you rate your performance compared to your own skill level, and can you identify any thoughts or self-talk that you had before, during or after this element). These ratings were done by using 7-point Likert Scale because it was believed to give specific enough answer for these questions. Taherdoost (2019) also pointed out how 7-point scale reflects more likely respondents' true subjective evaluation over 5-point scale and how 7-point scale is one of the most preferred Likert scales since it potentially conveys more useful information over 5-point scale. After these ratings, skaters were asked to report each self-talk statement that they were able to remember from that specific element. Skaters also were asked to identify remembered self-talk if they had a clear goal-directed purpose for making such statement or if it was just a spontaneous notion from their behalf. Also timing when self-talk emerged was asked to locate if self-talk emerged before an element, during an element or after an element. This pattern was repeated in self-report measurement form 11 times so that each program element was reported. Self-report measurement form was used as a preparation and helping layout for individual semi-structured interviews.

Structure of interview. After filling self-report measurement, interview process started. Interviews were organized face to face in that same dressing room, where they answered to self-report measurement. It provided a quiet space where only researcher and a skater were present. Each interview took between 40 to 50 minutes per participant. Interviews took place immediately after participants' routine and answering self-report measurement. Because of this decision, the official results of the competition were

revealed for everyone after the interview. Process involved the examined performance and all the included routines that had been videotaped (all together 4 minutes 15 seconds). During the interviews, each program element was first reconstructed separately through video footage and then discussed from the self-talk's point of view. This meant that the interview was divided into 14 individual sections and it followed the self-report measurement's structure: (1) preparation phase on-ice before start of the performance, (2) program elements which consisted 11 separate elements and (3) time on-ice after competition performance. This structure was individual for each skater since the self-report measurement followed each participant's program routine's structure as it was. Because of the number of sections/program elements, the length of each section of video footage from the routine to watch, formed to be around 20 seconds. This means that video reconstruction and interview from recalled self-talk cycled for 13 times during the interview. The fourteenth section included overall performance rating that started the self-report assessment. Brinhaupt and Morin (2020) describe videotape reconstruction method, as well as self-report measurement, to be one of the key assessment methods in self-talk research, especially useful when connected to competition environment. It consists presenting video footage from participants' performance for them and encouraging them to recall their emerged self-talk while watching the footage (Brinhaupt & Morin, 2020). The main purpose of video reconstruction method is to relive the performance that participants had and reconstruct their self-talk instances as vividly and truthfully as possible. Video footages were viewed from Lenovo X1 Extreme laptop after transferring the videos to its' memory.

Semi-structured interview guide (Appendix 3) was generated and applied with variations depending on how a participant talked about one's self-talk or answered to questions asked. There were generated 5 themes for questions to be used: (1) Origin of self-talk (what made you use that sort of a self-talk, can you recognize the origin of it), (2) purpose of the self-talk (what was the purpose of that statement, did you have any clear goal-directed effect that you wanted to succeed with that statement), (3) effects of the self-talk (can you identify any affects that statement had in you or in your performance, did it affect to your thoughts, behaviour or performance in anyway), (4) effectiveness of the self-talk (was your self-talk helpful or debilitative from your perspective), and (5) time span of the self-talk (self-talk that you had, was it briefly visiting your mind or did it stayed for a longer period in your thoughts, like a mantra).

Depending on how a skater reconstructed self-talk instances after the video footage, and started to communicate with the researcher in the interview, it was decided what sort of a question was suitable for opening discussion at that very moment. Interviews were recorded by Sony video camera, HDR-SR11.

4.2 Data analysis and trustworthiness

The first step in data analysis was to edit the video recording of the interviews so that the picture track and sound track were separated from each other. Only this sound track was used at the analyse phase. The editing work was done with Vegas Pro editing program. All the interviews were transcribed verbatim which produced 52 pages of data. Each participant was given a pseudonym e.g., skater 1, to ensure anonymity. Interview data was analysed using interpretative phenomenological analysis (IPA: Smith 1996; Smith & Eatough 2007, 35-50), which divides the analytic process into six steps (Smith et al. 2009, 79-107). Starting point was to become familiar with the data by reading and re-reading the first transcript. Then the aim was to make initial noting of points that were relevant to study purpose, i.e., spot the clear self-talk statements from transcripts such as “Great, this is over” or “What will my coach think about this”. Initial notes were base for emergent themes which were possible to construct with constant referral back to original transcript. Some of the earliest themes that started to stand out were negative ("I cannot nail this one”) and positive (“Yes, I got it”) valence themes. When themes were constructed, connections across the themes were searched for. This was the point where e.g., negative and positive valence statements and themes started to suggest towards a bigger theme: reflexive self-talk, in a same manner as instructional self-talk seemed to take shape of one of the superordinate themes. This procedure was done for each transcript before searching for patterns across transcripts. Iterative and inductive cycles were used (Smith 2007; Yom 2015) throughout the process to reach the essence of the data.

To secure reliability and trustworthiness of data analysis Rodham’s et al. (2015) guideline was followed. When super-ordinate themes (instructional self-talk, reflexive self-talk and mind wandering) and sub-ordinate (instructional self-talk and motivation, instructional self-talk about specific performance actions, instructional self-talk about judges’ performance evaluation, reflexive self-talk with negative valence, reflexive

motivational self-talk with positive valence, mind wandering originated from the surroundings, self-talk related to conducting the study, and self-talk related to the influence of significant others on performance) themes were defined, a fellow student listened and read the transcripts, and commented the themes that were found. Superordinate themes were named to be self-talk type and sub-ordinate themes were named to be self-talk targets. The fellow student's feedback confirmed the results. Participants were also asked to comment and review super-ordinate themes emerged from their transcripts according to member checking technique (Lincoln & Guba 1985, 357-382). One used this possibility and was pleased with what was presented.

Because self-report measurement was used to help the skaters focus on the self-talk topics, only the background information, overall performance ratings and instances of self-talk and locations related to elements was used for analysis. This decision was made to confine study purpose and to ensure that the main core of the findings could be included to this thesis. The frequencies were computed from self-talk instances in relation to performed program elements. Overall performance ratings were used to define if participants were successful from their perspective in their competition performance and if they remembered their emerged self-talk.

4.3 Ethical issues

This study followed the ethical guidelines outlined by the ethics committee of the University of Jyväskylä, Finland. All ethical issues were explained for all the participants before taking part to study. From all participants were asked individual permission to video record their performance and to fulfil written consent form to take part to study. Two of the participants were underaged and it was confirmed from their guardians that they had a permission to take part as well.

Voluntary participation was proclaimed at each meeting that researcher had with participants. Every participant was reminded that they had a choice to withdraw from study at any time they wanted without a need to provide any reason for doing so. All data that was gathered was only in the researcher's possession throughout the whole thesis process except the point when the fellow student read and listened the material through. Data was kept in a locked safe and all the electronic data was secured with

password. It was agreed with participants that all the produced or gathered material including video footage and self-report measurements will be deleted after the study project has been finalized.

While skaters were answering to the questionnaire, the researcher was nearby in case that there was a need to clarify any section of the questionnaire. One skater asked for clarification. To minimize the stressfulness cause by being alone with a stranger, the participants were offered to have a support person of their choice present at the interview but none of the participants wanted to have anyone.

4.4 Researcher's background and roles

Because this study is based on a qualitative research method, it is vital to describe researcher's background and relation to study context. I am a former national team level figure skater. My educational history includes master level studies of sport sciences. For the past fourteen years, I have been working full-time at several fields related to figure skating, mainly as a qualified figure skating instructor among single skating. The purpose of this study was raised to me from my experience and deliberations that I have had in working life: how come others succeed when others with similar physical capabilities do not? In a past few years, I have found how athletes' inner world, their way of addressing information or facing the challenges and believing into their own possibilities does make a difference in a sporting world. In a quest for finding new practical means to improve athletes sporting performances and their abilities to reach their potential fully has led me to conducting this study. Self-talk in general was a new area for me to get familiar with, but it was an obvious choice for a topic of thesis after I decided to have studies also in University of Thessaly where they research self-talk.

I was the sole researcher in this study. I have not been in a working relation to a club, where the participants of this study were practicing and competing but two of three participants were familiar to me beforehand. I knew them from physical conditioning tests that I had conducted to them. There was no conflict of interest generated because of our history with participants since I did not hold any ascendancy towards any of them. The third participant was a new acquaintance for me in every aspect. Because of my personal interest for finding new ways to understand and help athletes to reach their

best in sporting world, I have tried to capture participants' true words and meanings behind those words for their reasons and manners to use self-talk. I have tried to ensure impartiality as well as possible, e.g., recruiting fellow student to double check and confirm my findings in this study. Even though I realise that my background of figure skating and being partially familiar with two of the participants create a limitation to this study, some portions of sport specific knowledge and understanding figure skating's nature as well the sport specific language that skaters use is crucial to hold in order to reach the essence of athletes' descriptions of their self-talk.

5 RESULTS

The overall results showed that all skaters used self-talk while performing their free skating routine in competition. Each of them confirmed that the nature of their self-talk was swift, and any mantras did not emerge. All three skaters considered their self-talk to be helpful in their performance and they reported at the interviews paying more attention to it now than before the study setting. (Table 1)

It seemed to be easy for skaters to rate their performance after competition. Skaters 1 and 3 rated their performance to their personal standards to reach the value 9 (out of 10) when Skater 2 reported of the value 7. Their capability to remember performed program elements diverged more: Skater 1 reported 4, Skater 2 reported 2 and Skater 3 reported from the value of 6 (out of 7). Almost the same values were appraised when asked their memory trades from had self-talk instances: Skater 1 reported 4, Skater 2 reported 2, and Skater 3 reported 5. Total amount of self-talk statements was reported 104 when Skater 1 was able to recall 38 statements, Skater 2 reconstructed 36 statements and Skater 3 was found to use 30 statements in their routines. All of these ratings and the amounts of self-talk statements per skater can be found from Table 1.

Table 1.

Reported performance level, recalling performed elements and emerged self-talk in routine, and the total number of self-talk statements by each skater

Participant	Rating of performance considering own personal skill level (1-10)	Recalling the performed elements in routine (1-7)	Recalling emerged self-talk during routine (1-7)	The amount of self-talk statements reported
Skater 1	9	4	4	38
Skater 2	7	2	2	36
Skater 3	9	6	5	30

Table 2 presents self-talk types, frequencies, and examples from found self-talk. Three types of self-talk and eight self-talk targets emerged from the interviews. Each skater used every self-talk category with one exception. Skater 1 was the only skater who did

not report of having a self-talk which would fall into category of instructional self-talk and motivation. Number of statements column's first number reflects the total number of raw statements that was found to belong to this category, when following percentage in brackets indicates the category's frequency from total amount of self-talk statements of all three skaters' which was 104 statements.

Table 2.

Types, target, frequency, and examples of self-talk

Self-talk Types	Self-talk target	Number of statements (%)	Selected illustrative quotations
Reflexive self-talk		**53 (51%)**	
	Reflexive self-talk with negative valence	30 (29%)	"Oh, this spin is too slow"
	Reflexive motivational self-talk with positive valence	23 (22%)	"Yes, I got it!
Instructional self-talk		**39 (37%)**	
	Instructional self-talk and motivation	5(5%)	"Remember to breath"
	Instructional self-talk about specific performance actions	23(22%)	"Take a good speed"
	Instructional self-talk about judges' performance evaluation	11(10%)	"Get the eye contact to the judges"
Mind wandering		**12 (12%)**	
	Mind wandering originated from the surroundings	3 (3%)	"Where is my former coach"
	Self-talk related to conducting the study	4 (4%)	"Oh, I have to think about what I am thinking"
	Self-talk related to the influence of significant others on performance	5 (5%)	"That combo did not count. What will my coach think about this"

5.1 Reflexive self-talk

Reflexive self-talk included 53 statements and was responsible from 51% of all the self-talk that was found. It was the most used self-talk by all three participants in this study. Skater 1 had 20 (53% of her own) statements in this category, Skater 2 had also 20 (56% of her own) statements, when Skater 3 had only 13 (43% of her own) statement found to belong to reflexive self-talk. In reflexive self-talk, skaters were having a

discussion with themselves related to the ongoing performance. Reflexive self-talk was mainly related to the present or a past moment. Skaters were reflecting their own behaviour and successfulness of the performance. In other words, they were judging or guiding themselves. “It feels like that I am evaluating each movement that I perform in my routine. If something goes wrong, I want to succeed better at the next element (Skater 2).” She explained her self-talk at the interviews. The data from all skaters showed that reflexive self-talk was the only self-talk type, where self-talk was clearly separated according to valence. Hence, it consisted of two self-talk targets: reflexive self-talk with negative valence and reflexive self-talk with positive valence.

5.1.1 Reflexive self-talk with negative valence

Almost third (30 statements, 29% of all the self-talk) of all the self-talk that skaters had was reflexive self-talk with negative valence. This makes it the most used self-talk target in this study. Skater 1 had 11 (29% of her self-talk) statements, Skater 2 reported from 12 (33% of her self-talk) statements, and Skater 3 recalled to have 7 (23% of her self-talk) statements that had negative valence. The negative self-talk originated from four different sources: program elements, observations related to personal success, sensations in the body, and lastly, motivation. Program elements and skaters’ reflections of their success during the performance covered two thirds of the self-talk in this subcategory. Examples of these two types of self-talk would be from Skater 2 “What a low jump” or “I cannot nail this one” and from Skater 1 “My legs…this jump must have been underrotated.”

Occasionally skaters’ self-talk was directed to wider issue than to specific movement, reflexion or notion of what has happened or what should happen, as such with Skater 1 who forgot her competition program and thought: “What should be next?” This was considered negative self-talk because it would be unlikely that forgetting the planned and trained competition program would work in favour of this skater’s performance.

5.1.2 Reflexive motivational self-talk with positive valence

Reflexive motivational self-talk with positive valence was the second biggest self-talk target with 23 (22% of all the self-talk) statements. In addition to the positive valence,

this type of self-talk had a motivational function for different aspects in performance. These statements included Skater 1's thoughts such as "I can do this," whereas Skater 2 stated "Recovery time now" and Skater 3 motivated herself to land a next jump by saying "I am going to do that double axel." Therefore, these statements enhanced skaters' positive attitude and expectations towards their performance. This type of self-talk also included reflections of success during their performance. For example, Skater 2 stated "This was good", Skater 3 cheered "Yes, what a great performance" or said to herself "It is slowing down but otherwise everything is good. Let's move on!" There were found also singular thoughts that were quite neutral reflections of skaters' progression and they were included to this subordinate theme. Skater 1 used this sort of a self-talk target in 9 (24% of her self-talk) statements, Skater 2 recalled 8 (22% of her self-talk) such statements, and Skater 3 reported of 6 (20% of her self-talk) statements.

5.2 Instructional self-talk

Instructional self-talk was the second most used self-talk type to be found. Over third (39 statements, 37% of all the self-talk) of the skaters' self-talk was labelled as instructional in nature. Instructional self-talk contains three self-talk targets: instructional self-talk and motivation, instructional self-talk about specific performance actions, and instructional self-talk about judges and performance evaluation. Common factor for all statements in these subcategories was a clear target behaviour or instructional approach related on themselves or their actions. Skater 1 had 14 (37% of her self-talk) statements, Skater 2 recalled 13 (36% of her self-talk) statements, and Skater 3 reported from 12 (40% of her self-talk) statements that were classified as instructional self-talk style.

5.2.1 Instructional self-talk and motivation

The smallest self-talk target of instructional self-talk was the instructional self-talk and motivation (5 statements, 5% of all the self-talk). This kind of self-talk was used mainly by Skater 2 (4 statements, 11% of her self-talk). Skater 3 had 1 (3% of her self-talk) statement in this category when Skater 1 did not use any self-talk related to this category. In this self-talk the thought itself is clearly instructional, such as Skater 2's statements "Do not faint here" or "Remember to breath" but the working procedure of

that request is not clear. The procedure to achieve the objective is missing in each of these statements. On the other hand, all the statements had a personal motivational perspective to survive better in that moment. Skater 2 explained that these statements were supporting her to perform better: “Because of my recently discovered disease, I have been forced to concentrate more on my breathing while performing. Just to ensure and to be confident that I am able to skate the whole free skating.” These statements guided and helped skaters to adjust to the situation, to perform better on the ice, and to concentrate on the task at hand.

5.2.2 Instructional self-talk about specific performance actions

Instructional self-talk about specific performance actions (23 statements, 22% of all the self-talk) was the most used self-talk target of instructional self-talk and the second most used self-talk target in this study with reflexive motivational self-talk with positive valence. All three skaters used this type of self-talk, but there were extensive differences between the skaters. Skater 3 favoured this self-talk target above any other target by having 9 (30% of her self-talk) statements in this category. Also, Skater 1 presented 9 (24% of her self-talk) statements, whereas Skater 2 used statements belonging to this category only 5 (14% of her self-talk) times. Statements such as Skater 1’s “Be calm at the take-off”, Skater 2’s “Take a good speed”, or Skater 3’s “Wait for the music…NOW!.” Illustrate self-talk targets in this category. The typical marker for this self-talk is very clear and unambiguous instructions. Skaters told themselves, what should happen and how they hoped to behave at the next turn. They guided themselves towards the wanted performance. Skaters concentrating was mostly located in near future, as in next program element or at the present moment, i.e., performing in a detailed manner.

5.2.3 Instructional self-talk about judges’ performance evaluation

All three skaters paid attention to judges at some point of their performance. Skater 1 instructed herself 5 (13% of her self-talk) times to pay attention to judges, Skater 2 had 4 (11% of her self-talk) statements related to judges and Skater 3 encouraged oneself twice (2 statements, 7% of her self-talk) to make an effort towards the judges. This means that every tenth self-talk statement was related to this target (11 statements, 10%

of all the self-talk). Skaters used straightforward commands during performance, attempting to earn points through their own actions. Skater 1 reminded herself to pay attention to certain aspects of performance that could influence the judges' evaluation, for example "Express the choreography for the judges" she said to herself. Skaters 2 and 3 instructed themselves to "Look at the judges!" on their free skating routine.

5.3 Mind wandering

All three skaters had mind wandering (12 statements, 12% of all the self-talk) that was not directly linked to any part of their own action on the ice. This self-talk style was the least used among skaters. Skater 1 reported from 4 (10% of her self-talk) statements, Skater 2 had 3 (8% of her self-talk) statements, and Skater 3 up to 5 (17% of her self-talk) statements that were categorized as mind wandering. This self-talk type contained three self-talk targets: mind wandering originated from the surroundings, self-talk related to conducting the study, and self-talk related to the influence of significant others on performance.

5.3.1 Mind wandering originated from the surroundings

Each skater had one moment during the competition where they concentrated to a specific person that had no effect on their performance. In these situations, the skaters focus was drawn to surroundings. Mind wandering originated from the surroundings covered small portion (3 statements, 3% of all the self-talk) of the self-talk in this study. Skater 2 was wondering: "Where is my former coach?" Skater 3 pointed out to herself that "There is someone doing off-ice warm-up. Probably she is concentrating to her own performance." Skater 1 noticed a new person sitting next to a person she knows: "Who is the one sitting next to my mom and her friend?"

5.3.2 Self-talk related to conducting the study

Since it was necessary to explain and agree about the study beforehand with each of the participants, it is not surprising that they had some thoughts related to the study during performance. Thankfully, self-talk related to conducting the study was only small portion of the skaters' self-talk (4 statements, 4% of all the self-talk). Skaters 1 (3% of

her self-talk) and 2 (3% of her self-talk) had one thought related to the study whereas Skater 3 thought the study twice (7% of her self-talk). All three skaters pointed out in the interviews that the study did not have an effect to their performance level. However, Skater 3 mentioned that she had to make a brief effort to push the study out of her mind to refocus on her own competition. Skater 1 and Skater 2 told that the study appeared briefly in their minds but also vanished almost immediately. Skaters' thoughts relating to the study were "Oh, I have to think about what I am thinking" which was Skater 3's thought, while both Skater 1 and 2 reflected by themselves "There is that study."

5.3.3 Self-talk related to the influence of significant others on performance

At some point of their free skate, each skater was wondering how their performance influences other people (5 statements, 5% of all the self-talk). All three skaters were thinking about their own coach. For example, Skater 1 though: "That combo did not count, what will my coach think about this" or "Yes, I got that one. My coach must be proud of me." Skater 3 also paid attention to a specific person at the technical panel. There was one specialist who skater 3 knew, and her self-talk was targeted to that person: "I know that technical specialist, just wondering, what she is thinking about my performance." Skater 2 was the only one who had this sort of a self-talk only once (3% of her self-talk) during her routine. Skater 1 reported from 2 (5% of her self-talk) statements as did Skater 3 (7% of her self-talk).

5.4 Incidences where self-talk was located in routine

Incidences where skaters used self-talk is presented in Table 3. Most of the self-talk emerged just before (24%) or right after (34%) a program element. 23% of self-talk took place outside of the judged performance and only 19% of their self-talk happened while performing required program elements.

Table 3.

Incidences where self-talk statements emerged in routine

Situation where self-talk emerged	Number of statements (%)
Before start of a free skate	14 (13%)
Before an element	25 (24%)
During an element	20 (19%)
After an element	35 (34%)
After performing a free skating	10 (10%)
All reported self-talk	104 (100%)

5.5 The effects of skaters' history and experience to emerged self-talk

All participants noticed at some point of the interview, that their self-talk had an antecedent in the past. These antecedents often had a connection point to a coaching situation where something was advised or discussed with them. Skater 2 described the origin of her self-talk: "I have a feeling, that there are always popping some instructions to my mind when it comes to performing. Something that some coach has previously mentioned." With some statements, Skaters 1 and 2 said that those thoughts were just something that had been repeated constantly to them over the years. Some self-talk incidences were related also to learned experience either in positive manner such as Skater 3's explanation for particular self-talk statement: "I noticed yesterday that this element works better if I wait a bit longer time before take-off and this is what I used today in my self-talk." Skater 1 on other hand explained the origin of her self-statement from opposite experience: "Coaches have made it very clear that this particular combination is something that I am usually not able to perform because I am lacking skills" giving a perspective how negative experience became antecedent of her self-talk together with her own performance reflexions. Skater 1 reported of 5 (13% of her self-talk) statements, Skater 2 from 8 (22% of her self-talk) self-talk incidences and Skater 3 noticed to have 4 (13% of her self-talk) statements that had a clear connection point to the past experiences and therefore worked as an initiator for their self-talk together with their reflections from their performance.

6 DISCUSSION

Self-talk's effectiveness and function towards better performance level appears to be moderated by self-efficacy (Son et al. 2011), which is considered to be the most important psychological state that affects sport performance (Short, 2014). Self-efficacy means one's interpretation of balance between challenge and skill base (Jackson & Csikszentmihalyi, 1999) whereas self-talk can be described as a stream of thoughts (Burton & Raedeke, 2008) which e.g., verbalizes athlete's interpretations at the moment of performance. With appropriate self-talk athlete can improve one's performance level (Tod et al. 2011, Dickens et al., 2018). There has been a gap in research when it comes to self-talk and figure skating. After 1990's there has not been published any research combining these two subjects and to my knowledge, no one has ever studied figure skaters' self-talk during a routine in competition. Therefore, the purpose of this study was to investigate the type of self-talk figure skaters use and how those types are used during their free skating competition performance.

This study showed that all three skaters used self-talk. Skaters were able to remember their performances and could recall their self-talk. It was expected that skaters would use multiple self-talk categories in organic way (Van Dyke et al. 2018) with a possibility to favour instructional self-talk category (Hars & Calmels, 2007; Highlen & Bennett, 1983; Dickens et al., 2018). Results confirmed the earlier set results-based expectations quite well, even no earlier research were found on figure skating competitors. Skaters reported to have purely organic self-talk including mostly reflexive and instructional self-talk types. This is similar finding with Dickens et al. (2018) who researched golfers in their tournament. The only difference was that the motivational self-talk target was recognised in this study, but not that undiluted to be named one of the main types of self-talk to be used. Mind wandering existed with skaters in a minor scale. I will go through the results in unorthodox manner presenting first the discussion of second most used self-talk style, then continuing to the most used self-talk style and mind wandering and finally complete the discussion with observations and conclusions of the study results. In this way, the value of the results and their positioning into practical implications become easier for the reader.

6.1 Instructive approach to score and perform

Figure skaters were clearly trying to instruct and motivate themselves to perform at the best possible level. Instructional self-talk was the second most used self-talk type in this study. Instructional self-talk is connected to directing attention to relevant technical cues (Zetou et al. 2014) with fine motor movements and so forth giving the best results when it comes to performing skills (Hatzigeorgiadis et al., 2011; Theodorakis et al., 2000). This was actualized in this study by taking into account judges on their interpretation of music and choreography, skaters focused their attention to specific performance actions to ensure their succeeding in individual technical elements or to secure their functioning ability to perform in general. This perspective was aimed to maximize their scores and the level of performance on their competition routine. This is not surprising when considering existing literature. Eklund (1996) found in a year-long study that wrestlers used self-talk to guide themselves into better performance and it was often related to pre-competitive technical or tactical planning. In this study, the second most common moment to use self-talk was just before an element and the skaters even used self-talk sometimes while performing an element. These findings are in line with Hardy et al. (2004) who found that athletes use self-talk more prior to rather than during the execution of skills. However, this study found that the most common moment to use self-talk for skaters was after an element. Skaters reflected their performance after performed elements in a manner which revealed the most used self-talk type and target in this study: reflexive self-talk and negative valence.

6.2 Reflexive negative self-talk with various possibilities of effects and reasons

The large amount of self-talk that was found located after performed element, had a reflecting nature of that performance and the wording that was used was negative in valence. Commonly athletes use positive self-talk to generate positive energy and outcomes while negative self-talk is used for e.g., expressing worries (De Muynck et al. 2017) and often attached to poorer performance capability (Van Raalte & Brewer, 1995) which is widely acknowledged in sport psychology literature (Van Raalte et al., 1994). It is possible that skaters were trying to balance the emerged negative self-talk with instructional and motivational self-talk to reach mood and performance enhancement to their reflections. To construct their faith to perform better. Each statement that was

classified motivational in this study was either positive or neutral in valence. This assumption is supported by Zervas et al. (2007) who noticed that instructional and motivational self-talk are used to manage anxiety and worries in order to reach higher performance levels.

Hatzigeorgiadis and Biddle (2008) found that cognitive anxiety prior to competition predicts negative thoughts while competing. They also noticed that the quality of performance in relation to the expectations is another good predictor of the type of thoughts athlete experiences. Discrepancies in self-talk led more often to negative valence. In this study, all skaters had a successful competition day and there were no major flaws reported from their performance. All participants reported being satisfied with their presented skill level and success in the competition. Unfortunately, skaters' anxiety level was not measured in this study. Anxiety levels could have, at least partially, explained the high number of negative thoughts in the skaters' self-talk (Hatzigeorgiadis & Biddle, 2008). Taking into account the highly reflective nature of self-talk that skaters had and perfectionist concerns and demands that has been intrinsic feature for figure skating, it is not surprising that participants paid attention to all the negativity in their performance. Like Skater 2 stated, she is evaluating each performed movement in her routine in a path to achieve better performance. In fact, perfection in anything is non-reachable and for athletes and coaches in evaluative closed skill sports that would be important to understand. Perfectionism has noted to be one source of anxiety among ballet dancers which result to negative self-talk and even though perfectionism is a personality trait, it is also connected to teaching behaviours (Walker & Nordin-Bates, 2010). If this is a matter of evaluative sports or just a matter of how performance is reflected by skater, should be paid closer look.

Van Raalte et al. (2000) found that how performance in competition situations is developing and succeeding, indicates the type of self-talk used. Negative valence is more common when facing challenges and setbacks. It is known that perfectionism is one source of stress for figure skaters (Scanlan et al., 1991) but if a skater is striving for perfection without feeling the need to skate flawlessly, one experiences enjoyment (Scanlan et al., 1989). It is possible that participants did not interpret their negative self-talk in a negative manner but as a positive and boosting way. In this case, skaters' negative self-talk might have even enhanced their performance in the competition and

therefore led to better outcome. In some cases, athletes have reported negative self-talk to improve their motivation (Hardy, Hall et al., 2001). Peters and Williams (2004) noticed that cultural background effected to the amount of negative self-talk and this combination of specific cultural background and larger amount of negative self-talk had a correlation to better performance. Therefore, it seems that without excessive, new information about participants' interpretation of their self-talk, e.g., their cultural background including family relations, learned training habits and coaching styles of their coaching staff, it is impossible to define the reasons to the amount of self-talk with negative valence and its' effect to self-talk and performance. This issue warrants further research attention.

6.3 Better performance ability through self-regulation

In this study, skaters used multiple categories of self-talk for their advantage as was expected. Theodorakis et al. (2000) put forward an idea that performing different tasks in different circumstances would require different types of self-talk to reach the best outcome. Self-talk research has developed to this direction in a past years. Hardy et al. (2009) presented a framework for study and application of self-talk within sports (Figure 2, p.18) which already paid attention to several antecedents and consequences that self-talk holds. Van Raalte et al. (2016) then presented the idea of sport-specific model of self-talk, in which different factors can have an effect to an athlete's self-talk depending on the perspective. Skaters in this study used organic self-talk. Van Raalte et al. (2016) found that organic self-talk may start self-regulatory process in athletes and help to reach better performance capability. This is in line with Hatzigeorgiadis et al. (2014) who recommend athletes to perform in automatic way. Self-regulatory process includes three cyclical, interdependent phases which are forethought, performance, and self-reflection (Zimmerman 2000). The process operates by setting a goal, performing to attain the goal, and finally doing self-judgement of completed performance (Kolovelonis et al., 2012). This initiates recalibration of all the phases to reach the goal. Self-regulatory process will lead to usage of either instructional or motivational self-talk (Van Raalte et al. 2016) depending on needed requirements to solve, improve or succeed in the task.

Nearly all the self-talk that skaters had constructed from reflexive, instructional or motivational self-talk. Vast amount of this self-talk contained a clear goal-directed nature, which is suggested to be used for performance analysis (Latinjak et al., 2018), i.e., self-regulatory process. This observation suggests that skaters were trying to adjust their thoughts and behaviour to reach better outcomes. First, skaters were reflecting their on-going performance and the demands that they were facing in their routine (the last performed element). This reflexive self-talk appeared positive or negative in valence. To these notions, skaters reacted with motivational and instructional self-talk to adapt their self-efficacy and creating better platform to succeed in following elements. This is supported by Zervas et al. (2007) definition that self-talk's motivational function is to be a manipulative force to boost self-encouragement whereas its' cognitive function induces to place attention. This would mean that participants of this study were organically self-analysing their performance throughout their routines through self-regulatory process. Considering that all skaters reported from successful performance, self-regulatory process can be viable suggestion to be part of figure skater's sport specific model of self-talk. In this sense, pure automaticity of performed movements would not be required in exceling in figure skating which would imply that in some sports it might be beneficial for an athlete to use multiple categories of self-talk based on the personal and situational factors when trying to reach high level performance.

6.4 Mind wandering and the importance of the past experiences and communication

The last and least frequent self-talk style reported by the skaters, was labelled as mind wandering. Mind wandering has been found to be idiosyncratic in fashion and rarely connected to other types of thinking (Latinjak 2018b). During the time that mind wanders, the global workspace of consciousness is occupied, which means that when there are conscious thoughts in athlete's mind that are loosely connected to the task at hand, it will require resources (Smallwood 2010). Van Dyke et al. (2018) emphasized the importance of liberating cognitive resources for the sport task at hand. From skaters' point of view, when mind wanders, all of their resources are not directed to achieve the best possible outcome. In this perspective, it is challenging to imagine that there would be any benefit for an athlete to have mind wandering during a competition in a sport where evaluative, score earning performance time is constant and relatively long. Foster and Lavine (2014) present that mind wandering is related to task-irrelevant distractions

(Forster & Lavie, 2014). All thoughts that were categorised as “mind wandering” in this study originated from environment or from people that were close by. Skaters seemed to mentally drift away from their main task when external factors, such as seeing other competitor doing one’s warm-up was present. For successful performance, athletes need to have sufficient skills to focus on task-relevant aspects. Eklund (1996) noticed that high-level performance was characterised by being focused on match preparation thoughts or feeling confident. Low-level performances, on the other hand, included having challenges in focusing attention and experiencing irrelevant thoughts. In this study, participants were successful at their own level, but had some self-talk without a clear, enhancing function to their performance. This implies that skaters were able to change their attention between relevant and non-relevant matters during their routine. Grandjean et al. (2002) proposes that athletes in a closed skill sport may learn to place concentration so well that re-focusing is possible. This was something that each skater in this study was able to do and is probably one of the reasons why each skater continued to be successful in their routine.

The biggest self-talk target under mind wandering was named self-talk related to the influence of significant others on performance. According to Porter (2004), female athletes are often worried about what coaches or spectators are thinking about them during performance. All skaters were wondering at some point what their coach was thinking about their performance or of them as an athlete. One skater was also concerned of technical specialist’s, who was judging skaters’ performance and who was also a coach, thoughts about her performance. Scanlan et al. (1991) studied figure skaters’ sources of stress and noticed that one of the main paths to experience stress is through meaningful relationships that skaters have in their life. Remarkably it is hypothesized that the most influential contextual factor in athlete self-efficacy development is the athlete-coach relationship (Weight at al. 2020). This relationship is a dynamic phenomenon which turns against participants e.g., through unfulfilled expectations (Poczwardowski et al. 2002) and might lead to a situation where athlete is trying to live up to the expectations that is communicated (Beckner, 2015). It seems that each skater in this study was seeking approval through their performance from people that were close to them. According to literature (Scanlan et al. 1991; Weight at al. 2020; Poczwardowski et al. 2002; Beckner, 2015), skaters’ interpretation of significant other’s endorsement could have effect on their self-talk, on their self-efficacy, and so forth on

their performance. All skaters in this study were successful in their performance but coaches should pay attention to and acknowledge their possible influence on athlete's performance ability. Each skater's past experiences worked as an initiative nature to their self-talk, even 22% of skater 2's self-talk had a connection point in the past experiences. Depending on interpretation, small gestures in communication might grow to be detrimental or beneficial to athletes' self-talk, hence to their performance. Even invisible meanings are forwarded through communication and e.g., when coaches' experience stress, it has an effect on athletes (Thelwell et al., 2017). Key interpersonal relationships (Beckner, 2015) and communication styles (Thelwell et al., 2017) that athletes have been exposed and their alliance to emerged self-talk should be researched more thoroughly.

6.5 Acknowledging own self-talk is helpful

Many studies have noted that athletes find self-talk to be useful mean to improve performance (e.g., Horjaco et al., 2019). Also in this study, all participants reported that their self-talk supported them to achieve their goals when they paid more attention to their self-talk. Skaters of this study presented lower national level athletes, not international or elite level athletes. Research related to usage and effectiveness of self-talk between different skill levels is thin, especially effectiveness of self-talk with elite performers is under researched subject (Abdoli et al. 2018). Hardy et al. (2004) found that more skilful athletes use self-talk more frequently than less skilled athletes, but in content wise, there has not been found any difference according to skill level (Hardy, Hall & Hardy 2005). There is evidence that instructional self-talk would not disrupt skilled athlete's performance when it comes to accuracy-base tasks (Abdoli et al. 2018) which hold true in this study. In order to make comparison between more skilled and less skilled athletes' self-talk, there is a need for further investigation of the topic. Nevertheless, this study setting did not educate skaters in their self-talk nor did it make any interventions. Merely directed participants' focus towards their own, organic self-talk after the competitive routine, which then was reported being helpful at the interview before knowing the official results of the competition. This suggests that participants truly experienced that their self-talk was helpful in nature. It also implies that it is not necessary to teach different ways to use self-talk for athletes but being aware of own

thoughts might redirect athletes' self-talk and naturally and automatically help them to balance between suitable self-talk categories to gain performance enhancement.

6.6 Limitations and future directions

There are some limitations that needs to consider in this study. Limitations of this study include the small number of participants and possible subjectivity of the researcher. Unfortunately recruiting figure skaters for the study turned out to be challenging. Several coaches promised to suggest participation in study for figure skaters but only a handful seized to possibility. The low number of participants and each representing the same club exclude any possibility to generalize results.

Limitations considering possible subjectivity of the researcher is two-folded. First, researcher knew two of three participants beforehand. Even though researcher has never coached them it is possible that being familiar with participants had an effect to study. This limitation was noted and there was a strive to create as neutral and pleasant interview process for participants as possible. Second, researcher's background is strongly based on figure skating. It would have been wise to have a second researcher with a different background, preferably without connection to figure skating, at least to make interviews with participants. Both of these reasons are valid to create personal bias and compromise researcher's objectivity.

This study revealed several topics that should be paid closer attention in future. First, the participants of this study represented junior level, which means lower national level athletes. It would be useful to replicate the study with larger number of participants from national and international levels. That would enable comparison between different skill levels and possibility to generalize results.

Figure skaters used vast amount of negative self-talk in reflexive manner. This study did not answer how participants interpretated negative self-talk or what were the antecedents for it. It was speculated that negative valence might have a relation to self-regulatory process through which skaters were trying to improve their performance. Antecedents and interpretation of negative valence self-talk and its' possible connection to self-regulatory process' warrants further examination. Finally, key interpersonal relationships were something that surfaced with each participants' self-talk. Because these relationships are known to have enormous effect on athletes, it is recommended to investigate what sort of an effect it has to one's self-talk.

6.7 Conclusions and practical implications

The results showed that figure skaters' self-talk during their free skating competition performance were highly reflective. Skaters used mainly reflexive, instructional and motivational self-talk styles. Tendency how self-talk was used resembled self-regulatory process where skaters aimed to adjust their thoughts and behaviour according to their self-analyse in order to enhance their performance. Skaters were able to do so by using multiple self-talk categories in organic way for their advantage. This sort of a self-talk guided, motivated, and helped skaters to get absorbed into their performance.

The largest self-talk target was reflexive self-talk with negative valence. Almost every third statement that skaters had belonged to this theme. Presumption in self-talk literature is that negative valence self-talk is related to unsuccessful performances. In this study all skaters reported from successful performances and described their self-talk as supporting factor during their competition routine with negative self-talk. It is known that negative self-talk or unpleasant emotions may influence in a positive manner and there are several possibilities why skaters had this much of negative self-talk. One presented possibility is usage of self-regulating process and how skaters adapted their behaviour and thoughts to their negative reflections of their performance. Nevertheless, reasons for this warrant further research.

Mind wandering was a minor self-talk style in this study but it holds far-reaching factor: significant other. Each skater worried or at least wondered what sort of an effect they have on their coach with their performance. Athlete-coach relationship is considered the most influential factor in athlete self-efficacy development which means that it can either support it or have detrimental effects on it. In this study, each athlete was successful, but the fact that this matter emerged to each skaters' mind implies that skaters are attached to their coach and are seeking one's support and approval from their performance.

The results of this study will help researchers to determine if there are any interesting research fields among self-talk and figure skating exposed. For sport psychology consultants results help to understand what sort of a self-talk some of the figure skaters might have while performing. This study suggests that there is no mandatory need to

educate athletes to use self-talk, but rather to help them to acknowledge own self-talk and its' effects in order to direct, balance and profile it in suitable manners to support one's performance in figure skating. Purely positive valence self-talk might not be practical and successful mean to teach for figure skaters. Benefits for coaching staff include acknowledging that antecedents of skaters' self-talk and so forth self-efficacy are based on interpretations of an athlete. To these interpretations a coach has far-reaching effect which either helps or hampers athlete's journey to peak performance.

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APPENDIX 1 -The procedure of the study for the athletes

Tutkimuksen toimintamalli urheilijoille

Tutkimus, johon olette ottamassa osaa, on maisterityö Jyväskylän yliopistolle (sijaitsee Suomessa), yhteistyössä Thessalyn yliopiston (sijaitsee Kreikassa) kanssa. Työn tavoitteena on tutkia itsepuhelua kilpasuorituksen aikana taitoluistelijoiden keskuudessa. Missään vaiheessa, tämän tutkimuksen ei tulisi häiritä valmistautumista kilpailusuoritukseen tai itse kilpailusuorituksen tekemistä. Kaikki tutkimuksen vaiheet tapahtuvat kilpailusuorituksen jälkeen.

Tutkimuksen toimintamalli koskien urheilijoita on seuraavanlainen:

1. Tutkija selittää urheilijoille kasvotusten kilpailuviikolla tutkimuksen aiheen sekä toimintamallin. Tapaaminen tapahtuu muutamaa päivää ennen vapaaohjelmakilpailua. Samassa tapaamisessa urheilijoille toimitetaan:
    a. Tietosuojailmoitus tutkimuksesta tutkimukseen osallistujalle (täytetään tapaamisessa ja palautetaan)
    b. Suostumuslomake (täytetään tapaamisessa ja palautetaan)
    c. Toimintamalliohjeet, jossa selitetään yksityiskohtaisesti, miten tutkimus tehdään urheilijoiden kohdalla
    d. Kyselylomake (täytetään suorituksen jälkeen ja palautetaan)
2. Kilpailusuoritus videoidaan paikan päällä
3. Urheilijan tulee täyttää kyselylomake heti kilpailusuorituksen jälkeen
4. Tutkija ja urheilija tapaavat joko samana päivänä tai kilpailua seuraavana päivänä ja suorittavat haastattelun. Haastattelun aikana käydään videotallenteelta läpi kilpailusuoritus, jonka aikana urheilija pyrkii parhaansa mukaan muistamaan ajatukset ja sanat, jotka hänellä oli kilpailusuorituksen aikana.

Pyydämme teitä urheilijoita, että keskitytte täysin kilpailusuoritukseenne, ettekä ajattele tätä tutkimusta ennen kilpailua. Haluamme teidän pystyvän suoriutumaan parhaalla mahdollisella tavalla kilpailuohjelmastanne. Tsemppiä kilpailuun!

APPENDIX 2 -The self-report measure form for the athletes

<u>Kyselylomake itsepuhelu-tutkimukseen</u>

Nimi:_____ Ikä:_____

Syntymävuosi:_____

Harjoitteluvuodet taitoluistelussa: _____ Kilpailuvuodet taitoluistelussa: _____

Ylin sarjataso kilpailu-urallani on ollut:

_____

Nykyinen sarjatasoni on: _____

Kuinka monta tuntia harjoittelet viikossa taitoluistelua kilpailukaudella, jääharjoitukset: _____h/vko

Kuinka monta tuntia harjoittelet viikossa taitoluistelua kilpailukaudella, oheisharjoitukset: _____h/vko

Kokonaisharjoittelumääräni viikossa kilpailukaudella on: _____ h/vko

Tämän päivän suoritukseni

Kuinka arvioisit tämän päivän kilpailusuorituksesi, ottaen huomioon henkilökohtaisen taitotasosi (ympyröi)?

Todella heikko									**Todella hyvä**
1	2	3	4	5	6	7	8	9	10

Itsepuhelu

Tämä kyselylomake on luotu selvittämään urheilijan itsepuhetta kilpailusuorituksen aikana. Itsepuhe tarkoittaa mitä ihmiset sanovat itselleen ääneen lausuen tai hiljaa omassa mielessään. Se voi olla spontaania ja luontaista tai strategista ja tarkoituksenhakuista. Sillä pyritään stimuloimaan, suuntaamaan, reagoimaan ja arvioimaan tapahtumia ja toimia.

On olemassa kahta erilaista itsepuhetta, riippuen sen syntytavasta, spontaaniudesta ja tavoitteellisuudesta.

Spontaaninen itsepuhe: Ajatuksia, jotka ovat tahattomia, tulevat mieleen vaivatta ja ”kutsumatta,” kuten ensimmäinen reaktio/vastaus/ajatus mihin tahansa asiaan, mikä tapahtuu edessäsi.

Tavoitteenhakuinen itsepuhe: Itsepuhelu, joka on kohdistettu varta vasten ongelmanratkaisua silmällä pitäen tai edistyäkseen jossain nimenomaisessa tehtävässä. Selkeämmin sanottuna: asiat, joita ihmiset sanovat itselleen korjatakseen ongelmakohtia, parantaakseen suoritustasoaan tai saada itsensä adaptoitua paremmin nykyiseen tilanteeseen.

Tärkeää!

On tärkeää huomata, että pyrimme selvittämään teidän itsepuhetta ohjelmasuorituksen aikana kilpailutilanteessa; emme sitä, mitä ajattelet suorituksesta juuri tällä hetkellä tai edes heti suorituksen jälkeen. Pyri siis kohdistamaan ajatuksesi suorituksen aikaiseen hetkeen ja ajatuksiin, joita sinulla siinä hetkessä oli.

Kuinka hyvin pystyt muistamaan suoritetut ohjelmaelementit ohjelmasuorituksestasi? (Rastita)

☐ ☐ ☐ ☐ ☐ ☐ ☐

1 2 3 4 5 6 7

En ollenkaan Hyvin selkeästi

Kuinka hyvin pystyt muistamaan itsepuheesi ohjelman ajalta?

☐ ☐ ☐ ☐ ☐ ☐ ☐

1 2 3 4 5 6 7

En ollenkaan Hyvin selkeästi

Kilpailusuorituksen kysymyslomake

Aikajänne seuraavan luistelijan kuuluttamisesta ohjelman aloitukseen on maksimissaan 30 sekuntia.

a) Kuinka hyvin muistat tämän aikajänteen? (Rastita)

☐ ☐ ☐ ☐ ☐ ☐ ☐

1 2 3 4 5 6 7

En ollenkaan Hyvin selkeästi

b) Pystytkö muistamaan ajatuksiasi/itsepuhettasi ennen musiikin aloitusta?

☐ ☐ ☐ ☐ ☐ ☐ ☐

1 2 3 4 5 6 7

En ollenkaan Hyvin selkeästi

Kirjoita ylös niin monta ajatusta kuin pystyt muistamaan alla oleviin laatikoihin. Erottele, oliko kyseessä tavoitteenhakuinen itsepuhe vai spontaaninen itsepuhe.

(a) Spontaatinen: Ajatukset, jotka tulivat mieleesi vaivatta ja "kutsumatta"…kuten elementin tai suorituksen arvioiminen

(b) Tavoitteenhakuinen: Asiat, jotka sanoit itsellesi korjataksesi ongelman, parantaaksesi suoritustasi tai säädelläksesi itseäsi…kuten antamalla ohjeita itsellesi

Kilpailusuorituksen kysymyslomake

Elementti: _____

a) Kuinka hyvin muistat tämän elementin?

☐ ☐ ☐ ☐ ☐ ☐ ☐

1 2 3 4 5 6 7

En ollenkaan Hyvin selkeästi

b) Miten arvioisit suorituksesi verrattuna omaan henkilökohtaiseen taitotasoosi?

☐ ☐ ☐ ☐ ☐ ☐ ☐

1 2 3 4 5 6 7

Todella heikko Todella hyvä

c) Pystytkö muistamaan yhtään ajatustasi tai käymääsi itsepuhetta, joko spontaanista tai tavoitehakuista, ennen, jälkeen tai elementin aikana?

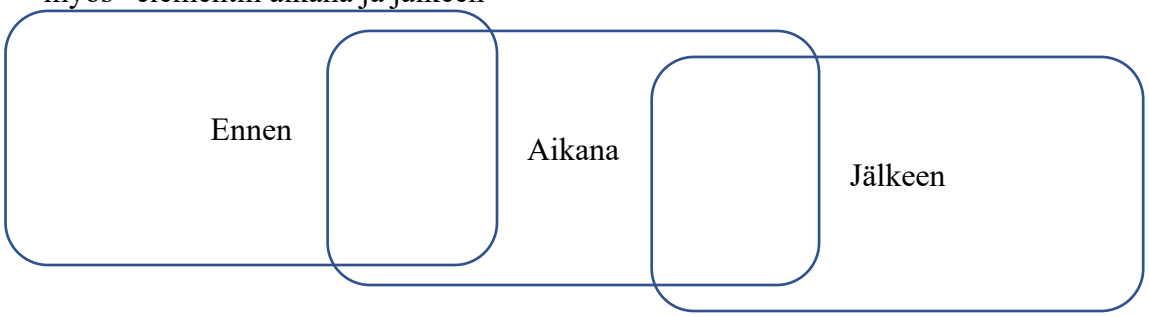
☐ ☐ ☐ ☐ ☐ ☐ ☐

1 2 3 4 5 6 7

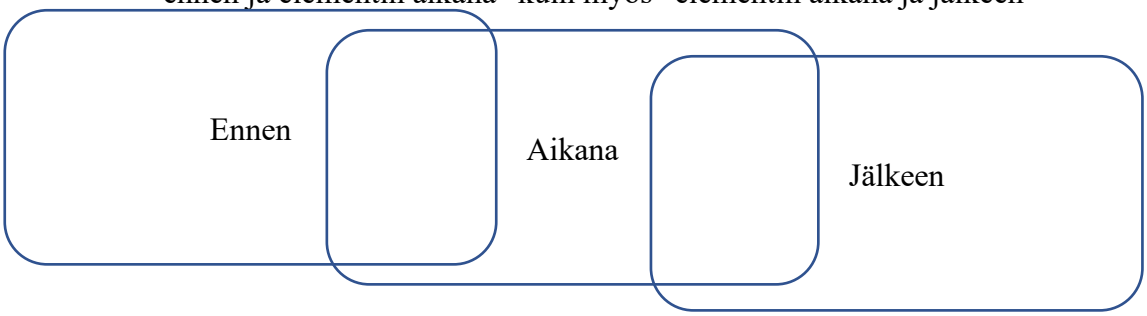
En ollenkaan Hyvin selkeästi

Kirjoita ylös niin monta ajatusta kuin pystyt muistamaan alla oleviin laatikoihin. Erottele, oliko kyseessä tavoitteenhakuinen itsepuhe vai spontaaninen itsepuhe.

(a) Spontaaninen: ajatukset, jotka tulevat mieleesi vaivatta tai "kutsumatta"… kuten elementin tai suorituksen arvioiminen…ennen, jälkeen tai jopa elementin aikana, mutta myös yhdistettynä "ennen ja elementin aikana" kuin myös "elementin aikana ja jälkeen"



(b) Tavoitteenhakuinen: Asiat, jotka sanoit itsellesi korjataksesi ongelman, parantaaksesi suoritustasi tai säädelläksesi itseäsi…kuten antamalla ohjeita itsellesi…ennen, jälkeen tai jopa elementin aikana, mutta myös yhdistettynä "ennen ja elementin aikana" kuin myös "elementin aikana ja jälkeen"



APPENDIX 3 - Semi-structured interview guide

- Mikä sai sinut käyttämään tuollaista itsepuhelua? Pystytkö tunnistamaan, mistä tämä itsepuhe sai alkunsa?
- Mikä oli tarkoituksesi tuolla itsepuhelun lauseella? Oliko sillä mitään selkeää tarkoitusperää käyttäytymiseesi tai suoritukseesi, jonka halusit saavuttaa?
- Pystytkö tunnistamaan, Kuinka tuo itsepuhelun lause vaikutti sinuun? Kenties ajatuksiisi, käyttäytymiseesi tai suoritukseesi?
- Oliko itsepuhelusi auttavaa vai ei-auttavaa ajatellen suorituskykyäsi?
- Itsepuhelusi, jonka kävit mielessäsi, oliko se vain nopea toteamus mielessäsi vai pysyikö se mielessäsi pidemmän aikaa (mantramaisesti)?