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RESEARCH ARTICLE

Inside the Mind of Weightlifters: The Mental Preparation of Greek-Cypriot Olympic-Style Weightlifting Athletes

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This study examines, through in-depth interviews, the mental preparation of seven Cypriot non-elite Olympic-style weightlifters. Mental preparation is important in sport, as it can help athletes reach peak performance. Examining specific sport requirements is important for the better understanding of mental preparation, thus this study focused on identifying the processes that are important for Olympic-style weightlifting. The inductive analysis of the data showed 15 mental processes, which are separated into two general dimensions, namely: Mental Techniques and Mental Skills. Some important processes that arose concern the need for Distance and the distinction between Intrinsic Self-confidence and Extrinsic Self-confidence. Examining the identified processes offers important knowledge for the better application of mental skills training.

Keywords: mental preparation; athletes; Olympic weightlifting; mental skills; mental techniques

In sport, mental preparation, although it will not on its own turn the non-elite athlete into an elite, is important for athletes to reach peak performance (Weinberg & Gould, 2014). Some gold medalists even describe it as a necessity for success in sport (Gould, Dieffenbach, & Moffett, 2002). Mental preparation can be described with a variety of definitions. The current study is based on a specific definition, which defines mental preparation as: "Those cognitive, emotional, and behavioural strategies athletes and teams use to arrive at an ideal performance state or condition that is related to optimal psychological states and peak performance for either competition or practice" (Brewer, 2009, p. 53). Research data that examined mental preparation skills and strategies in the field of sport made their appearance after the 1980s (Robazza & Bortoli, 1998), followed by practical suggestions and application of skills and strategies such as arousal control, concentration strategies, and control of competition stress (Hardy, Jones, & Gould, 1996; Martens, 1987a; Nideffer, 1992; Orlick, 1990; Williams, 1993). In addition to this, a consistency appeared in the literature suggesting that successful elite athletes possess mental preparation skills to a greater extent than those who are less successful (Anshel, 2003; Gould, Dieffenbach, & Moffett, 2002; Gould, Eklund, & Jackson, 1992b; Orlick, 2008; Robazza & Bortoli, 1998; Van Den Auweele, De Cuyper, Van Mele, & Rzewinicki, 1993), a fact that supports the importance of such skills. More recently, a meta-analysis of 35 randomised controlled trials indicated that psychological

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interventions have a positive effect on sport performance (Brown & Feltcher, 2017).

In recent literature, some common mental preparation skills are presented, which in brief are: arousal control, imagery, self-confidence building, and concentration skills (see Brewer, 2009; Papaioannou & Hackfort, 2014; Weinberg & Gould, 2014). Arousal control includes techniques for reducing stress, such as progressive relaxation (Jacobson, 1938), breath control (Weinberg & Gould, 2014), competition stress coping strategies, such as the principle of competing only against the self and execution consistency (Dale, 2000), and the ability to cope with competition mistakes (Mahoney & Avener, 1977). Arousal control in athletes is considered important, since data from meta-analyses show that there is a complex relationship between anxiety and performance (Craft, Magyar, Becker, & Feltz, 2003; Kleine, 1990). As for imagery, there is a vast body of research that examines this relationship with sport performance (see Martin, Moritz, & Hall, 1999). For example, non-elite golfers showed improved performance compared to control groups when they used imagery techniques (Frank, Land, Popp, & Schack, 2014; Frank, Land, & Schack, 2013). Self-confidence can be attained through different techniques, such as through confidence in practice (Dale, 2000), positive orientation (Gould, Eklund, & Jackson, 1992a), and self-efficacy (Feltz, Short, & Sullivan, 2008; Morris & Koehn, 2004). In more successful athletes, increased self-confidence was observed in a variety of situations, compared to less successful ones (Jones & Swain, 1994; Mahoney & Avener, 1977; Mahoney, Gabriel, & Perkins, 1987; Vealey, 2001) and a meta-analysis of 29 studies showed a positive relationship between self-confidence and sport performance (Craft, Magyar, Becker, & Feltz, 2003). Concentration skills in athletes concern different techniques such as self-talk (Mikes, 1987), keywords (Weinberg & Gould, 2014), and some form of routine (Mesango, Marchant, & Morris, 2008). Further, sport psychological interventions including self-talk have been shown to be more successful than ones not including it (Hatzigeorgiadis, Zourbanos, Galanis, & Theodorakis, 2011).

Previous researchers have qualitatively examined mental preparation procedures in elite athletes from different sports. Specifically, interviews were conducted with elite wrestlers who competed in the 1988 Olympic Games, who named confidence, routines, focus, and optimal arousal as important mental skills for their sport (Gould et al., 1992a, 1992b, 1993). Furthermore, Dale (1994, 2000) explored and named mental skills which were considered important by decathletes, using phenomenological interviews. These skills were grouped into four categories: competing only against self, confidence in training, consistency, and camaraderie. Moreover, archers were interviewed, indicating mental skills important for their sport, which were categorised into autonomic control, imagery, task-focused concentration, and reaction to mistake (Robazza & Bortoli, 1998). More recently, in-depth interviews with elite pentathletes indicated competition simulation, mental practice, goal setting, emotion control, behavioural routines, specific technical strategies, attentional strategies, reaction to mistakes, and post-competition self-assessment as important skills (Bertollo, Saltarelli, & Robazza, 2009). These qualitative explorations indicate that athletes from different sports recognise specific mental skills as important for their sport in particular. This observation follows the suggestion of Taylor (1995), who pointed out that determining the requirements of a specific sport, as well as the athletes' individual needs, is important in the field of sport psychology for the better application of any intervention. However, the literature lacks research that investigates, in depth, the mental preparation of Olympic-style weightlifting athletes. Despite this fact, there are some reports on the psychological pressure caused by competition on Olympic-style weightlifters, as well as on the importance of focus and self-confidence (Everett, 2009). These reports are not scientifically supported and should be empirically examined.

Researchers give particular emphasis to the differences between successful and less successful athletes (Robazza & Bortoli, 1998). A number of studies in the field have supported the usefulness and benefits of mental preparation processes with a

focus mainly on elite athletes (e.g., Bull, Shambrook, James, & Brooks, 2005; Gould et al., 2002; Jones & Hardy, 1990; Mahoney & Avener, 1977), or after the application of some kind of psychological intervention (e.g., training in imagery; see Brown & Feltcher, 2017; Greenspan & Feltz, 1989). Furthermore, there are findings that show the advantages of these processes on younger athletes (Orlick & McCaffrey, 1991; Petlichkoff, 1996), as well as on athletes with disabilities (Bawder, 2006; Hanraham, 2003; Travis & Sachs, 1991). Even so, the literature lacks an in-depth study of the mental preparation skills that non-elite athletes apply in order to prepare for competition.

Therefore, the aim of this study is to recognise the mental preparation processes that the non-elite Greek-Cypriot Olympic-style weightlifting athletes use, through qualitative interviews and thematic inductive analysis. As previously discussed, qualitative methods have been preferred by previous researchers in the investigation of the mental preparation processes for specific sports, while, for example, the stages of phenomenological interview (see Polkinghome, 1989) have been adapted for sport psychological research (Dale, 1996). Phenomenological interviews allow the interviewees to describe their experiences as if being the experts and offer an opportunity to the interviewer to gain useful insights from these experiences (Dale, 2000). The current study aimed to enrich the literature by identifying mental preparation processes that are necessary for Olympic-style weightlifting athletes. Consequently, the questions that this study aimed to answer are: (1) which are the mental preparation skills that the non-elite Olympic-style weightlifting athletes use, and (2) which of these mental skills are particularly important for Olympic-style weightlifting.

Methods

Participants

The participants were selected considering their athletic experiences, so that detailed descriptions around these experiences could be attained. This is a common approach in phenomenological research (Dale, 2000), where the sample is purposefully selected according to the research questions (Polkinghome, 1989), so that qualitative data around the specific topic can be gathered. The criteria for the athletic experiences were: (1) be registered in the Cyprus Weightlifting Federation, and (2) have competed in at least one national competition. The participants were seven non-elite Olympic weightlifting athletes (five male and two female), who signed written consent agreeing to take part in the study. The participants were considered a strongly representative sample for Cyprus, provided that according to the official match report of the most recent (to the study) Pan-Cyprian Championship (Cyprus Weightlifting Federation, 2017), the participating athletes were nine men and three women (of whom two classified as elite). The criteria for classifying the athletes as non-elite were based on the suggested framework of Swann, Moran, and Piggott (2015). Given that the research questions were neutral towards gender, sex was not considered as a criterion for the analysis of the results. The range of the athletes' ages was between 21 and 30 years (M = 24.1 years, SD = 3.2), with an average experience in the sport of 3 years (M = 3.1 years, SD = 1.4). Out of the seven weightlifters, five had experience from international competitions (European Small Nations Championship and Mediterranean Cup). Four out of the seven participants had never had any contact with a sport psychologist or other mental health professional, and none of the athletes had officially consulted a mental health professional in (at least) 18 months prior to the day of the interview.

Procedures

Following an initial contact between the researcher and two coaches from the Cyprus Weightlifting Federation, the researcher contacted seven candidates who showed interest and informed them of the study. Participation in the study was voluntary and no payment or direct benefit was offered to the candidates. All of the athletes who were contacted fulfilled the participation criteria and showed interest in participating in the study. Afterwards, the participants were contacted again, where they were informed in writing about the entire procedure and gave written consent.

Interview Procedure

At first, an agreement between the researcher and each participant was reached for the exact date and time at which the interviews would take place. The interviews were conducted through an online video call platform and all were recorded (with the participant's consent). Specific instructions were given to the athletes to eliminate possible interruptions of the video call procedures (e.g., be in a familiar and comfortable environment, be alone throughout the whole duration and use headphones, etc.). These were followed and maintained throughout the whole interview procedure.

The interview consisted of a semi-structured design, which allowed a smoother start to the procedure, easier categorisation of the qualitative data, and bias reduction. At the same time, this structure allowed the interviewer to add explanatory questions where and if needed. Previous interview protocols that were used in sport psychological research to determine similar processes were taken into consideration for the design of the interview. In particular, the interview method was based on the interviews used by Orlick and Partington (1988) and Robazza and Bortoli (1998) in their studies. Additionally, Dale's (2000) suggestion for the necessity of using open questions was considered important since open questions allow for a better description of the athletes' experiences from their own perspective. Some modifications of the mentioned protocols were essential to adapt the interview so that it addressed Olympic-style weightlifting athletes, and also to provide responses to the specific research questions. The modified interview protocol was discussed with a second researcher who had experience in qualitative research methodology and who was not involved in the study. Then, the author (who conducted the interviews with the athletes and who had experience in the sport) was interviewed by the second researcher for two reasons: (1) to test the semi-structured interview, and (2) to self-reflect on the topic being researched and reduce bias (Valle, King, & Halling, 1989). The data from this interview was excluded from the data analysis and results of the study.

The interview consisted of two parts (Part A and Part B), which were divided into sections (Sections I, II in Part A and Sections III, IV in Part B). Part A concerned the collection of basic information regarding the participants, such as demographic data (Section I) and weightlifting background information (Section II). In Part B, the main questions for the collection of the qualitative data were asked (Section III, e.g., "At this point I would need you to think of the competition in which you competed and showed your best ever self. Specifically, I want you to remember the competition where you were more satisfied with your performance than any other competition, despite the results. How did you use the processes that you have mentioned during the competition?"), as well as some supplementary questions (Section IV, e.g., "How do you manage situations where there are distractions?"), which were made either as additional questions during Section III, or independently for enriching the attained information. Part B, which was the main part for collecting the data presented in this study, had an average duration of 47.6 minutes (*SD* = 11.5).

The interviews were conducted in the Cypriot dialect (in Cyprus, Modern Greek is used for official interactions, e.g. education, media, and the Cypriot dialect is used for daily/unofficial interactions) which was the native dialect of all the interviewees, as well as the interviewer's. The Cypriot dialect was chosen over Modern Greek language since it is thought that dialect users are better approached when the dialect is used over the official language (Papadima, Zantides, & Kourdis, 2017). This was considered essential to attract and secure the participants' trust during the interview and also for maintaining the interview's flow. Complete understanding of the technical terms, the jargon, and slang regarding Olympic-style weightlifting was ensured, due to the fact that the researcher had previous experience with the sport.

Data Analysis

The research and analysis were designed considering a number of framework criteria suggested for the development of qualitative research (see Denzin & Lincoln, 2005; Patton, 2002). The data analysis

followed a seven stage procedure, similar to the stages used in previous research (Gould, Eklund, & Jackson, 1992a, 1992b, 1993; Robazza & Bortoli, 1998; Scanlan, Ravizza, & Stein, 1989). The stages that were followed are shown below:

Stage 1: The videotaped interviews were transcribed verbatim, resulting in 57, 1.5-line spaced, pages of raw interview data.

Stage 2: The transcripts were read multiple times (M = 4.7 times, SD = 1.1), in order for the researcher (who was trained in qualitative research methods) to become completely familiar with each participant's data. The transcripts were also given to a second researcher (also trained in qualitative research), who examined the data separately. Additionally, the videotaped data was watched several times (M = 3.9 times, SD = .9) to facilitate the understanding of the non-verbal cues of each participant (for example, voice tone and volume, pauses, etc.).

Stage 3: The researcher identified themes obtained from the raw data (through the messages expressed in the athletes' phrases), and formed summary abstracts for each Olympic-style weightlifter.

Stage 4: For each Olympic-style weightlifter, a separate idiographic profile was designed after the two researchers, who studied the raw data, reached a consensus. The agreement between the raw data themes was also examined, thus resulting in triangular consensus between the two researchers.

Stage 5: All Olympic-style weightlifters' raw data were gathered and examined mutually so that important raw data themes that represent the athletes could be identified.

Stage 6: The identified raw data themes from Stage 5 were inductively analysed, resulting in two dimensions of greater generality. Similarly, with what was followed first by Scanlan and her colleagues (1989) and later by other researchers (e.g., Gould et al., 1992a, 1992b, 1993; Robazza & Bortoli, 1998), the second-level themes that were created were labelled "higher order themes", whereas the third-level themes (highest in generality) were labelled "general dimensions".

Stage 7: Additionally, deductive analysis was conducted after the raw data themes, higher order themes, and general dimensions were identified, for further verification of the inductive analysis, where the presence of all the themes and dimensions was confirmed in the original transcripts.

Results

The results from the raw data, which will be presented below, have been translated into English by the interviewer without any alternation or falsification of the data, or the denotations that arise out of them. However, some data (such as mention of the lifts by kilograms) have been altered to protect the identities of the participants. Despite the specific foundation of the study, some general observations arose from the data. These observations address the study's questions in indirect ways, and thus are presented and discussed in the Supplemental Material.

Mental Preparation

All seven of the athletes, at some point of the interview, noted the importance of mental preparation, especially during competition. There were also assertions by the athletes of a possible relationship between mental state and performance, as well as mental state and physical state. One athlete specifically mentioned:

> "During preparation and even more during competition, the thing is, as ready as you might physically be, if you are not mentally ready you won't basically be able to utilise what your body can do." (Athlete 3)

After the raw data analysis, 37 themes emerged, which were categorised into 15 higher order themes, and then further categorised into two general dimensions, "Mental Techniques" and "Mental Skills". The categorisation was based on the framework for mental skills training suggested by Vealey (1988, 2007). Below follows the analysis of the results, where for each general dimension, the higher order themes are presented, along with raw data examples that support them.

Table 1. Mental Techniques' inductive analysis in hierarchical order.

Raw Data Themes (*n*)	Higher Order Themes
Encouragement from friends (5) Encouragement from coach (4) Encouragement from family (4) Encouragement from co-athletes (2)	Extrinsic Self-Confidence
Knowing I can (4) Believing I will be successful (3)	Intrinsic Self-Confidence
Success at first lifts (6) Success at warm-up (2)	Self-Efficacy
Forgetting failure (5) Next step (4) Coach does the thinking (4)	Mistake Coping
Automatic movements (2) Trust in technique (2) Correcting mistakes at warm-up (2)	Consistency
Opponent of self (2) Not worrying about results (2)	Competing Against Self
Rage (2) Happiness (1)	Emotional Arousal

Note: *n* refers to the number of participants who refer to the theme.

Mental Techniques. The Mental Techniques dimension includes factors that were recognised which allow athletes to feel as prepared as possible to execute their lifts. In this dimension, 18 raw themes that were identified resulted in seven higher order themes. The seven higher order themes that emerged from the 18 raw data themes in this dimension are: "Extrinsic Self-confidence", "Intrinsic Self-confidence", "Self-efficacy", "Mistake Coping", "Consistency", "Competing Against Self", and "Emotional Arousal". Table 1 shows inductive analysis followed for the Mental Strategies dimension in a hierarchical manner.

Extrinsic Self-confidence refers to the encouragement the athletes received from their external social environment. For example, as one weightlifter mentions:

> "I was a bit confused and I made an invalid lift. Later, when my coach arrived, my friends came to their seats, my dad came, my mother came; the power came." (Athlete 4)

On the other hand, Intrinsic Self-confidence includes intrapersonal processes which offer athletes a sense of assurance during competition. Some participants who referred to Intrinsic Self-confidence support that it is more effective than any external reinforcement, as shown in the words of the following:

> "So as athletes, we have to remind ourselves daily who we are and what we are worth, and be able to reward every good try for ourselves rather than wait for whomever to tell us what we are worth." (Athlete 7)

Self-efficacy during competition occurs from the

athletes' success at previous lifts, during warm-up or during main competition. Almost all the lifters (except one) discussed the enhancement that a successful lift can provide. Also, some athletes mentioned that they consciously choose to begin competing with sure lifts to benefit from this. This technique can be seen in the following example:

> "My first try was 127. They were too easy for me. I did them to get confidence." (Athlete 4)

Athletes referring to the Mistake Coping theme stressed the importance of being able to forget something that might affect them and the ability to concentrate on the next step. This theme was mentioned often by the majority of the athletes and for this reason it is considered an important factor for mental preparation. In the words of an athlete:

> "You must have short memory. That means when something doesn't go well, and let's say you have to lift again or you have another competition in the short term, you have to be able to concentrate on the present. Not on what is going to happen later, or at your failures or successes of the past, and everything has to be in the present." (Athlete 3)

Consistency describes the awareness of the athletes for the automated move they perform during their technique. As explained by the interviewees, these mechanical moves help the lifters instantly identify their mistakes and to correct them. An example of the above is shown in the words of the following lifter:

> "At this point as soon as the mistake is made, I know where the mistake was and just like that, it is as if the incorrect lift was never made. And I can immediately do the correct one." (Athlete 7)

Competing Against Self is a situation some athletes mentioned, where they competed without having in mind a particular place or qualification, but instead competed against their own performance. This situation, through the weightlifters' words, seems to have a positive effect on the athletes. Specifically, one athlete describes:

> "I wasn't thinking about neither the result nor of whether I went to do that many kilos. I was a bit more relaxed, and basically, when I am like that it works out better for me rather than when I have in mind that I have to do those many kilos to get that place." (Athlete 6)

The last higher order theme in the Mental Techniques dimension is Emotional Arousal, which includes feeling states that allow athletes to perform better. In the following two extracts, the feelings that help two athletes are presented:

> "Many times when I have to do a lift and I am stressed or negative, that I won't do it, I try to put in my mind, and remember, how happy I will feel when I do it." (Athlete 5)
>
> "I try to cause a psychological charge to myself. I try to create feelings of anger, rage, or I try to be more charged psychologically." (Athlete 3)

Mental Skills. The Mental Skills dimension has to do with different processes that the Olympic-style weightlifters apply in order to be better prepared mentally so that they can reach peak performance. In this dimension, 20 raw data themes were discovered, which through the analysis resulted in the following eight higher order themes: "Imagery", "Self-talk", "Routine", "Distance", "Focus", "Push for Maximum", "Sense Arousal", and "Arousal Control". The inductive analysis of this dimension is schematically presented in Table 2 in hierarchical order.

Imagery was documented in all seven participants. Both external and internal imagery (Mahoney & Avener, 1977) could be clearly recognised through the data provided by the interviews, alongside a distinguished preference in all athletes to the use of one. Furthermore, the three athletes that use external imagery support that it is appropriate for the correction of technical mistakes, whereas some athletes that use internal imagery point out that it allows a more realistic experience. All of the weightlifters mentioned the use of imagery, with most of them, as seen in the following extract, expressing the significance of mentally viewing the lift before performing it:

> "Something that helps me is, many times, I closed my eyes and I imagined me doing the lift. Exactly what I was supposed to do and doing it. And that was effective. It was very effective." (Athlete 3).

The following two extracts show the distinction between the external imagery (mental rehearsal from

Table 2. Mental Skills' inductive analysis in hierarchical order.

Raw Data Themes (*n*)	Higher Order Themes
Seeing the move before doing it (6) Seeing the move again (2) Seeing the move through my eyes (4) Seeing myself doing the move (3)	Imagery
Talk to self (4) Thinking in head (3)	Self-talk
Always same order (5) Insecure when order is not followed (3)	Routine
Avoiding other athletes (5) Avoiding other people (4) Coach exclusiveness (4)	Distance
Clear mind (7) Thought on lift (5) Thought on competition (2)	Focus
Give it everything (6) Insistence (2)	Push for Maximum
Video watching (6) Move imitation (3)	Sense Arousal
Breathing (4) Movement restriction (4)	Arousal Control

Note: *n* refers to the number of participants who refer to the theme.

third person point of view), followed by internal imagery (mental rehearsal from first person point of view):

> "I always see myself from the side. And I say that the bar has to come close to me and then I have to do the pull, the fast second one after the knee, and then when the bar is high I have to get down to grab it. What I see the most is that as soon as it passes the knee I have to do a quick contact over my pelvis and as soon as the contact is made I have to sit and lock, lock my elbows." (Athlete 4)

> "I see from the start till the end, whether I am training or competing, when I need to do it, from the start to the end of the lift. Specifically, I imagine myself, through my eyes, from the moment I will walk to do the lift, and whatever I am going to do. For example, if I am about to squat, that I am putting my hands on the bar on the specific position. Yes, in such detail. And later, I will imagine myself doing it." (Athlete 3)

In the words of the following two athletes, the benefit of each imagery perspective is shown, beginning with an example for external imagery followed by an example for internal imagery.

> "I see myself from a side angle, because that is where you can understand your mistakes and how

you can correct them." (Athlete 2)

"When I see through my own eyes, it is easier for me to imagine the difficulty I might have at that moment. This makes it more realistic and effective." (Athlete 3)

Self-talk is a process which all participants referred to at some point of their interview. As the term describes, self-talk is an internal process. The Self-talk described by the lifters of the study has an instructive form which helps direct the athletes towards the desirable action. The athletes described it as mainly positive, since the words or phrases they referred to during the interviews were used as encouragement keywords. Such an example is evident in the extract below:

"I try to think what I have to do to do it. I think about the technique and say, you have to push, tighten your back, and don't be scared, and that I can do it." (Athlete 5)

Routine is a theme that was identified in a number of the weightlifters. Whether short or long, these routines are an essential part of the lifting process of some athletes, like for example for the following lifter:

"I will eat one nut and then a piece of apple, then drink some water, later I will tighten my left wrist wrap, and step with the same foot as always to do the lift. I will touch the same spot before I grab the bar, on my socks, and then grab the bar with the same hand I always do and then with the other. I will lift my bottom and go back down." (Athlete 6)

Also, the routine can affect the athletes' belief of whether a try will be successful or not, as can be seen below through the thoughts of two of the athletes about their routine:

"If I am doing well on my lifts and I know that they come out good, if I don't do my routine, I feel that I am going to destroy everything." (Athlete 6)

"I tried other routines. To begin differently, to lift differently, but I saw that it didn't help. And this could be psychological, that if I don't do it I can't lift. But it helps me; I feel stronger when I start this way." (Athlete 2)

Focus includes mental processes that athletes use to narrow their attention. Particularly, this skill of clearing their mind and thinking of nothing was the only raw data theme that was apparent in all seven Olympic-style weightlifters. Some of the many examples of this attempt are presented in the two extracts that follow:

"Basically, when I compete I try to think of nothing else but the competition. I just concentrate on my kilos, my warm-up, and I don't pay attention to anything that might affect my mental state." (Athlete 1)

"On the platform I try to neither hear nothing, nor see anything. I stare at the void and hear nothing around me. I mean, I hear things later in the videos I watch and I am like, I didn't hear any of that, so when you say you are not going to hear something, you don't hear it." (Athlete 1)

Push for Maximum is another process that an important number of the participants mention, (all but one). This process characterises the ability of the athletes to put pressure on themselves and push their limits to succeed on an important lift. Push for Maximum could be considered an important strategy for Olympic-style weightlifters because it is applied by the athletes at the most important moments of a competition. The athlete in the first example that follows describes this process, while the second example presents its importance:

"Something that is necessary is of course to be able to push your body where needed. Competing in weightlifting is something short; the preparation might take months but the competition literally, the time you lift might not even be one minute in total. But again, there might be some injuries, either before you go, or through an injury during the competition. You might go and be tired. You must be able to push through those difficulties. Okay, they're physical difficulties but it is through the mind you can encounter them." (Athlete 3)

"I believe that all weightlifters have not much to think about when they get stuck in a situation like this. The only thing you think about is that you only have one attempt left, give everything you have and just do it. You don't have time for any more thoughts. Whether it's going to come up or not. Just do it. You don't have any time for any more thoughts. You have to do it." (Athlete 7)

Regarding the Sense Arousal strategy, the athletes

mention processes which through visual or motor stimuli cause a positive (for themselves) reaction. Below, the first athlete comments on visual arousal and the second one describes how he uses motor arousal.

> "I watch videos, weightlifting videos, from competition though not from training. I find the slow-motion videos that they always have. And I try, internally, to understand in slow motion how I do it." (Athlete 6)

> "Sometimes, I will do my pull. I mean, without the bar, I will, let's say, pull up, to activate my trapezius and shoulders so that I can include them in my lifts later, I think it helps somehow. When I notice that I don't pull, I will do it a few times consciously before, so that my muscles can get used to it and when I go to do the lift, I will pull." (Athlete 2)

The last skill that was identified was Arousal Control. For this skill, the athletes referred to processes used for coping with autonomic responses, such as increased heart rate and change in breathing rhythm, which can be considered consequences of stress. The most common references in Arousal Control had to do with breathing control, as presented in the following three examples:

> "For a fast heart, breaths, deep breaths. One deep breath before you grab the bar, when you are standing over the bar." (Athlete 1)

> "As soon as you step on the platform you have to take just half a breath. If you take two straight breaths you are going to get dizzy." (Athlete 4)

> "My heart started beating very fast. You can't not think about it but I tried, I didn't manage to. That is why I took a few deep breaths to try and relax somehow." (Athlete 2)

Discussion

The aim of this study was to determine the processes applied by non-elite Olympic-style weightlifting athletes and to also recognise which of these are particularly important for the sport. Different mental techniques and skills were identified through the experiences described by the weightlifters, many of which correspond with what is suggested in the literature. However, it must be noted that even though the processes are categorised into techniques and skills, a lot of the processes that are described separately and individually are combined or applied mutually in reality. As Vealey (1988, 2007) describes in his model, both techniques and skills are part of a multilayered framework.

Olympic-Style Weightlifters' Mental Techniques

All higher order themes identified within the Mental Techniques dimension seem to relate with what transpires from the literature. Mistake Coping, as was previously mentioned, is considered a very important processes for Olympic-style weightlifting, since all of the participants clearly referred to it. Despite this important strategy being present in all Olympic-style weightlifters that have been interviewed, the non-elite athletes failed to uncover specific means or processes for the achievement of this appropriate and desirable situation. Coping with mistakes as well as stress has been shown to be related to performance (Anshel & Anderson, 2002; Mahoney & Avener, 1977) which is why these results should be taken into consideration by athletes, coaches, and psychologists working with Olympic-style weightlifters.

The Olympic-style weightlifters referred to self-confidence in two different situations, and as previously explained, two Mental Techniques related to this were identified. This frequent reference from the athletes was expected, since previous qualitative studies discussed its importance for better performance (Dale, 2000; Jones & Hardy, 1990; Robazza & Bortoli, 1998), whereas an American archer described self-confidence as the most important factor for an athlete to be successful (Valley & Walter, 1994). A distinction derives between Intrinsic Self-confidence, which derives from athletes themselves, and Extrinsic Self-confidence, which results from the athletes' social environment. This distinction in self-confidence by non-elite athletes is very important for understanding and improving their mental preparation. Intrinsic Self-confidence seems to agree with the term suggested by psychologists in the field, where sport self-confidence is defined as the belief of the athlete that he/she will succeed (Vealey, 1986, 2001). This kind of

self-confidence is more effective than external, whereas Extrinsic Self-confidence can sometimes be a stress factor when athletes worry that they may be humiliated (Davies & Armstrong, 2005). For this reason, experts should take into consideration the level that athletes rely on their social environment to enhance their confidence, so that they can prepare athletes for situations where their social environment might be unavailable. Furthermore, it is recommended that more emphasis is given in developing Intrinsic Self-confidence (over Extrinsic), which appears to improve positive feelings, increase concentration, promote goal-setting, and encourage effort (Weinberg & Gould, 2014). Also, the Olympic-style weightlifters discussed the importance of Self-efficacy for their performance, a result that supports existing literature (Feltz, Short, & Sullivan, 2008; Morris & Koehn, 2004).

Consistency and Competing Against Self, according to what arises out of the data, describe two effective techniques for improving athletic performance. These results agree with what was presented by Dale (2000) in his study with elite decathletes, who described these processes as distraction coping mechanisms. Emotional Arousal seems to relate to processes identified in wrestlers who described intense or aroused emotional situations before competing (Gould et al., 1992a).

Olympic-Style Weightlifters' Mental Skills

Most of the Mental Skills that were mentioned from the non-elite athletes agree with what is described in the literature. However, the process used by the Olympic-style weightlifters for Distance is uncommon in the existing literature around sport mental skills training. According to this study's results, the avoidance of others, especially of opponents, is vital in Olympic-style weightlifting. Even though there is no mention in the literature of the distance Olympic-style weightlifters seek, some non-empirically supported references appear regarding the impact opponents have on Olympic-style weightlifters (Everett, 2009).

Almost all of the weightlifters mentioned the use of audio-visual material, which supported their mental preparation. Since non-elite athletes benefit from this, it is recommended that coaches build on this point and additionally use their expertise to guide athletes towards the selection of appropriate material.

Another finding concerns the Push for Maximum theme that appears in non-elite athletes, which, from what was expressed by the participants, describes the ability of the Olympic-style weightlifters to put pressure on themselves when required by an important circumstance. The reason this is important is because these kinds of attitudes promote the undertaking of unnecessary risks by the athletes (Rotella & Heyman, 1986). Athletes with such attitudes put extreme pressure on themselves which can result in injuries (Weinberg & Gould, 2014). In addition to this, research indicates that the most frequent injuries on Olympic-style weightlifters are due to body overuse (Calhoon & Fry, 1999). Therefore, it is particularly important that this strategy is very carefully approached and applied with caution, to minimise the possibility of injuries.

Recognising Imagery was expected because of its frequent use by athletes, as documented in previous studies (e.g., Murphy et al., 1990; Orlick & Partington, 1988). The preference in one of two perspectives (internal or external) presented by the non-elite athletes in the current study contrasts the results of a study undertaken by Murphy and colleagues (1990), where both perspectives were used by the Olympic athletes who were studied. Since the results of the study indicate a difference between the use of each perspective in Olympic-style weightlifting, proper training on Imagery, to use both external and internal (see Holmes & Collins, 2001), could be beneficial for non-elite athletes.

Focus, Self-talk, and the use of some form of Routine have been identified in similar studies through athletes' interviews (e.g. Gould et al., 1992a; Robazza & Bortoli, 1998). Focus is the only strategy where an evident consensus in all participants appeared, thus is considered essential for Olympic-style weightlifters. The recognition and use of Focus by non-elites is important, since this skill of controlling attention appears to be an important aspect that distinguishes successful from less successful athletes (Williams & Krane, 1993). Self-talk

was also shown to be important for Olympic-style weightlifting. From the results of the study, it was observed that Self-talk is accomplished through keywords, something that facilitates the automated cause of the desired response (Weinberg & Gould, 2014). At the same time, it has a simple and positive form, which is what is recommended in order to be effective (Mikes, 1987). As for the athletes' Routine, the complexity level could possibly differ from person to person, which is why the importance of understanding the individual differences of athletes is underlined (Eklund et al., 1993).

Arousal Control, for managing autonomic responses, as mentioned by the participants, was mainly accomplished through breathing. However, the data failed to reveal an ideal method of breathing control for Olympic-style weightlifters, since there was no consensus between the participants. Thus, it is considered important for non-elite athletes to be trained in proper breathing and arousal control techniques (see Papaioannou & Hackfort, 2014; Weinberg & Gould, 2014) that can be applied in training and competition conditions. Moreover, Olympic-style weightlifters might benefit from biofeedback training, since biofeedback can help mental state regulation and especially breathing pattern (Blumenstein, Breslav, Bar-Eli, Tenenbaum, & Weinstein, 1995).

Conclusion

Qualitative research methods in the field of sport psychology provide researchers with the possibility to gain important insights into athletes' experiences (Bertollo et al., 2009; Dale, 2000). Understanding the process of athletes in specific sports is important for designing consultation and training programmes which are effective and meet individual athletes' needs (Bertollo et al., 2009; Robazza & Bortoli, 1998; Taylor, 1995). The non-elite Olympic-style weightlifters who participated in this study appeared to be using several mental techniques and skills to cope with competition requirements, where most of them are in line with what is suggested, practically and theoretically, by recent sport psychologists (see Brewer, 2009; Papaioannou & Hackfort, 2014; Vealey, 2007; Weinberg & Gould, 2014). In some aspects, individual differences were noticed through the qualitative data. Identifying individual differences is thought to be important in sport psychology (Bertollo et al., 2009; Eklund et al., 1993; Robazza & Bortoli, 1998; Taylor, 1995), and the results of this study support this. The application of some mental skills by the non-elite Olympic-style weightlifters differed from what is suggested in the applied and theoretical literature. This is thought to be due to the absence of sport psychological interventions with the athletes, which is why the importance of sport psychologists is highlighted. Thus, the results of the study are useful for sport psychologists, but also for athletes and coaches, so that their approaches surrounding mental preparation are augmented.

In conclusion, non-elite Olympic-style weightlifting athletes identified techniques and skills, without any official interaction with a sport psychologist, to mentally prepare and cope with the sport's requirements. However, the study's results support that sport psychological consultation or training can perhaps benefit non-elite athletes to fully and appropriately take advantage of their mental preparation skills so that they are able to reach peak performance. It is also stressed that individual differences and specific sport requirements should be considered for mental skills training.

Suggestions for Future Research

Further to the findings discussed above, the in-depth investigation of the non-elite athletes' mental preparation uncovered possible fields for future research. The Olympic-style weightlifters identified Distance as vital for the sport. Future research is recommended with the intention of gaining empirical data which will define its advantages and disadvantages for the sport. For example, Distance can be examined in controlled situations where the performance of Olympic-style weightlifters preparing in isolated warm-up areas will be compared with that of Olympic-style weightlifters preparing in traditional warm-up areas used today (where athletes are all together in a common area). In addition, the Sense Arousal technique should be investigated in more

depth since athletes suggest that it is beneficial for Olympic-style weightlifting. Specific guidelines should be examined and determined for the effective application of Sense arousal in Olympic-style weightlifting. This can also be beneficial for other sports. Further, future research with biofeedback methodologies can provide insight for better Arousal Control in Olympic-style weightlifting.

Limitations

Some limitations of the study were observed. Particularly, despite the interview being carefully designed based on literature, no pilot interview was conducted between the researcher and athletes (besides the implementation of the interview protocol by another researcher on the author for testing and self-reflection). Another limitation is that due to limited funds the interviews had to be conducted online through video-calling instead of in person. In two interview cases, video and audio delays during the interviews were noticed. Despite the transcripts and video recordings being carefully examined, it can be argued that this delay might have impacted the data of the two participants. Furthermore, due to individual differences and sport requirements, it is very difficult to generalise the results to other non-elite athletes or other sports.

Conflicts of Interest

The author has no conflicts of interest to declare.

References

Anshel, M. H. (2003). *Sport psychology: From theory to practise.* San Francisco: Benjamin Cummings.

Anshel, M., & Anderson, D. (2002). Coping with acute stress in sport: Linking athletes' coping style, coping strategies, affect, and motor performance. *Anxiety, Stress & Coping, 15*(2), 193–209. https://doi.org/10.1080/10615800290028486

Bawder, M. (2006). Providing sport psychology support for athletes with disabilities. In J. Dosil (Ed.), *The sport psychologist's handbook: A guide for sport-specific performance enhancement* (pp. 665–682). West Sussex: Wiley. https://doi.org/10.1002/9780470713174.ch29

Bertollo, M., Saltarelli, B., & Robazza, C. (2009). Mental preparation strategies of elite modern pentathletes. *Psychology of Sport and Exercise, 10*(2), 244–254. https://doi.org/10.1016/j.psychsport.2008.09.003

Blumenstein, B., Breslav, I., Bar-Eli, M., Tenenbaum, G., & Weinstein, Y. (1995). Regulation of mental states and biofeedback techniques: Effects on breathing pattern. *Biofeedback and Self-Regulation, 20*(2), 169–183. https://doi.org/10.1007/bf01720972

Brewer, B. W. (2009). *Handbook of sports medicine and science, sport psychology.* Springfield: John Wiley & Sons. https://doi.org/10.1080/21520704.2012.683092

Brown, D. J., & Feltcher, D. (2017). Effects of psychological and psychosocial interventions on sport performance: A meta-analysis. *Sports Medicine, 47*(1), 77–99. https://doi.org/10.1007/s40279-016-0552-7

Bull, S., Shambrook, C., James, W., & Brooks, J. (2005). Toward an understanding of mental toughness in elite English cricketers. *Journal of Applied Sport Psychology, 17*, 209–227. https://doi.org/10.1080/10413200591010085

Burton, D., Naylor, S., & Holliday, B. (2001). Goal setting in sport: Investigating the goal effectivness paradigm. In R. Singer, H. Hausenblas, & C. Janelle (Eds.), *Handbook of sport psychology* (2nd ed., pp. 497–528). New York, NY: Wiley.

Calhoon, G., & Fry, A. C. (1999). Injury rates and profiles of elite competitive weightlifters. *Journal of Athletic Training, 34*(3), 232–238. https://doi.org/10.1097/00005768-199805001-00298

Craft, L. L., Magyar, M., Becker, B. J., & Feltz, D. L. (2003). The relationship between the Competitive State Anxiety Inventory-2 and sport performance: A meta-analysis. *Journal of Sport and Exercise Psychology, 25*, 44–65. https://doi.org/10.1123/jsep.25.1.44

Cyprus Weightlifting Federation. (2017, December 18). Cyprus Weightlifting Federation: Cyprus Weightlifting Championship 2017—Results. Retrieved on December 29, 2017, from http://www.weightlifting.org.cy/cyprus-weightlifting-championship-2017-results/

Dale, G. (1994). The experience of an NCAA champion decathlete during his "best ever" performance: An inductive analysis. *Contemporary Thought on Performance Enhancment, 3*(1), 33–56.

Dale, G. (1996). Existential-phenomenology: Emphasizing the experience of the athlete in sport psychology research. *The Sport Psychologist, 10*, 307–321. https://doi.org/10.1123/tsp.10.4.307

Dale, G. A. (2000). Distractions and coping strategies of elite decathletes during their most memorable performances. *The Sport Psychologist, 14*, 17–41. https://doi.org/10.1123/tsp.14.1.17

Davies, D., & Armstrong, M. (2005). *Psychological factors in competitive sport.* London: The Falmer Press. https://doi.org/10.4324/9780203982914

Denzin , N. K., & Lincoln, Y. S. (2005). *The Sage handbook of qualitative research.* Sage Publications Ltd. https://doi.org/10.1108/13522750910948815

Eklund, R. C., Gould, D., & Jackson, S. A. (1993). Psychological foundation of Olympic wrestling excellence: Reconciling individual differences and nomothetic characterization. *Journal of Applied Sport Psychology, 5*(1), 35–47. https://doi.org/10.1080/10413209308411303

Everett, G. (2009). *Olympic weightlifting: A complete guide for athletes & coaches* (2nd ed.). Catalyst Athletics.

Feltz, D. L., Short, S. E., & Sullivan, P. J. (2008). *Self-efficacy in sport.* Champaign, IL: Human Kinetics. https://doi.org/10.1123/tsp.22.2.244

Frank, C., Land, W. M., Popp, C., & Schack, T. (2014). Mental representation and mental practise: Experimental investigation on the functional links between motor memory and motor imagery. *PLoS One, 9*, e95175.

https://doi.org/10.1371/journal.pone.0095175

Frank, C., Land, W. M., & Schack, T. (2013). Mental representation and learning: The influence of practice on the development of mental representation structure in complex action. *Psychology of Sport and Exercise, 14*, 353–361. https://doi.org/10.1016/j.psychsport.2012.12.001

Gould, D., Dieffenbach, K., & Moffett, A. (2002). Psychological talent and its development in Olympic champions. *Journal of Applied Psychology, 14*, 177–210. https://doi.org/10.1080/10413200290103482

Gould, D., Eklund, R. C., & Jackson, S. A. (1992a). 1988 U.S. Olympic wrestling excellence: I. Mental preparation, precompetitive cognition, and affect. *The Sport Psychologist, 6*, 358–382. https://doi.org/10.1123/tsp.6.4.358

Gould, D., Eklund, R. C., & Jackson, S. A. (1992b). II. Thought and affect occuring during competition. *The Sport Psychologist, 6*, 383–402. https://doi.org/10.1123/tsp.6.4.383

Gould, D., Eklund, R. C., & Jackson, S. A. (1993). Coping strategies used by U.S. Olympic wrestlers. *Research Quarterly for Exercise and Sport, 64*, 83–93. https://doi.org/10.1080/02701367.1993.10608782

Greenspan, M. J., & Feltz, D. L. (1989). Psychological interventions with athletes in competitive situations: A review. *The Sport Psychologist, 3*, 219–236. https://doi.org/10.1123/tsp.3.3.219

Hanin, Y. L. (1980). A study of anxiety in sports. In W. F. Straub (Ed.), *An analysis of athlete behavior* (pp. 236–249). Ithaca, NY: Mouvement.

Hanin, Y. L. (1986). State and trait anxiety research on sports in the USSR. In C. D. Spielberger, & R. Diaz-Guerreo (Eds.), *Cross-cultural anxiety* (Vol. 3, pp. 45–64). Washington, DC: Hemisphere.

Hanin, Y. L. (1997). Emotions and athletic performance: Individual zones of optimal functioning. *European Yearbook of Sport Psychology, 1*, 29–72.

Hanraham, S. (2003). Sport psychology and athletes with disabilities. In T. Morris, & J. Summers (Eds.), *Sport psychology: Theory, applications, and issues* (2nd ed., pp. 572–583). Queensland: Wiley. https://doi.org/10.1002/9780470713174.ch29

Hanson, T. W., & Gould, D. (1988). Factors affecting ability of coaches to estimate their athletes' trait and state anxiety levels. *The Sport Psychologist, 2*, 298–313. https://doi.org/10.1123/tsp.2.4.298

Hardy, L., Jones, G., & Gould, D. (1996). *Understanding psychological preparation for sport: Theory and practise of elite performers.* Chichester: Wiley & Sons. https://doi.org/10.5860/choice.35-0972

Hatzigeorgiadis, A., Zourbanos, N., Galanis, E., & Theodorakis, Y. (2011). Self-talk and sports performance: A meta-analysis. *Perspectives on Psychological Science, 6*(4), 348–356. https://doi.org/10.1177/1745691611413136

Holmes, P., & Collins, D. (2001). The PETTLEP approach to motor imagery: A functional equivalence model for sport psychologists. *Journal of Applied Sport Psychology, 13*, 60–83. https://doi.org/10.1080/104132001753155958

Jacobson, E. (1938). *Progressive relaxation.* Chicago: University of Chicago Press.

Jones, J. G., & Hardy, L. (1990). Stress in sport: Experiences of some elite performers. In J. G. Jones, & L. Hardy (Eds.), *Stress and performance in sport* (pp. 247–277). New York: Wiley & Sons. https://doi.org/10.1002/smi.2460080116

Jones, J. G., & Swain, A. (1994). Intensity and interpretations of anxiety symptoms in elite and non-elite sports performers. *Personality and Individual Differences, 17*, 657–663. https://doi.org/10.1016/0191-8869(94)90138-4

Kleine, D. (1990). Anxiety and sport performance: A meta-analysis. *Anxiety Research, 2*(2), 113–131. https://doi.org/10.1080/08917779008249330

Mahoney, M. J., & Avener, M. (1977). Psychology of the elite athlete: An exploratory study. *Cognitive Therapy and Research, 1*, 135–141. https://doi.org/10.1007/bf01173634

Mahoney, M. J., Gabriel, T. J., & Perkins, T. S. (1987). Psychological skills and exceptional athletic performers. *The Sport Psychologist, 1*, 181–199. https://doi.org/10.1123/tsp.1.3.181

Martens, R. (1987a). *Coaches guide to sport psychology.* Champaign, IL: Human Kinetics.

Martens, R. (1987b). Science, knowledge and sport psychology. *The Sport Psychologist, 1*, 29–55. https://doi.org/10.1123/tsp.1.1.29

Martin, K. A., Moritz, S. E., & Hall, C. R. (1999). Imagery use in sport: A literature review and applied model. *The Sport Psychologist, 13*, 245–268. https://doi.org/10.1123/tsp.13.3.245

Mesango, C., Marchant, D., & Morris, T. (2008). A pre-performance routine to alleviate choking in "choking-susceptible" athletes. *The Sport Psychologist, 22*, 439–457. https://doi.org/10.1123/tsp.22.4.439

Mikes, J. (1987). *Basketball fundamentals: A complete mental training guide.* Champaign, IL: Leisure Press.

Morris, T., & Koehn, S. (2004). Self-confidence in sport and exercise. In T. Morris, & J. Summers, *Sport psychology: Theory applications, and issues* (2nd ed., pp. 175–209). Queensland: Wiley.

Murphy, S. M., Fleck, S. J., Dudley, G., & Callister, R. (1990). Psychological and performance concomitants of increased volume training athletes. *Journal of Applied Sport Psychology, 2,* 34–50. https://doi.org/10.1080/10413209008406419

Nideffer, R. M. (1992). *Psyched to win.* Champaign, IL: Leisure Press.

Orlick, T. (2008). *In pursuit of excellence* (4th ed.). Champaign, IL: Human Kinetics. https://doi.org/10.1123/tsp.22.2.246

Orlick, T., & McCaffrey, N. (1991). Mental training with children for sport and life. *The Sport Psychologist, 5*, 322–334. https://doi.org/10.1123/tsp.5.4.322

Orlick, T., & Partington, J. (1988). Mental links to excellence. *The Sport Psychologist, 2*, 105–130. https://doi.org/10.1123/tsp.2.2.105

Papadima, A., Zantides, E., & Kourdis, E. (2017). The seduction of the dialect in visual communication: Greek Cypriot dialect in print advertisements. In E. Zantides (Ed.), *Semiotics and visual communication II: Culture of seduction* (pp. 166–181). Newcastle upon Tyne: Cambridge Scholars Publishing.

Papaioannou, A. G., & Hackfort, D. (. (2014). *Routledge companion to sport and exercise psychology: Global perspectives and fundamental concepts.* East Sussex: Routledge. https://doi.org/10.4324/9781315880198

Patton, M. Q. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. *Qualitative Social Work, 1*(3), 261–283. https://doi.org/10.1177/1473325002001003636

Petlichkoff, L. M. (1996). The drop-out dilemma in youth sports. In O. Bar-Or (Ed.), *The child and adolescent athlete* (pp. 418–430). Cambridge, MA: Blackwell Science.

Polkinghome, D. (1989). Phenomenological research methods. In R. K. Halling, & S. Halling (Eds.), *Existential phenomenology*

perspectives in psychology: Exploring the breadth of human experience (pp. 41–60). New York and London: Plenum Press. https://doi.org/10.1007/978-1-4615-6989-3

Robazza, C., & Bortoli, L. (1998). Mental preparation strategies of Olympic archers during competition: An exploratory investigation. *High Ability Studies, 9*(2), 219–235. https://doi.org/10.1080/1359813980090207

Rotella, R. J., & Heyman, S. R. (1986). Stress, injury and the psychological rehabilitation of athletes. In J. M. Williams (Ed.), *Applied sport psychology: Personal growth to peak perormance* (pp. 343–364). Palo Alto, CA: Mayfield.

Scanlan, T. K., Ravizza, K., & Stein, G. L. (1989). An in-depth study of former elite figure skaters: I. Introduction to the project. *Journal of Sport and Exercise Psychology, 11*, 54–64. https://doi.org/10.1123/jsep.11.1.54

Swann, C., Moran, A., & Piggott, D. (2015). Defining elite athletes: Issues in the study of expert performance in sport psychology. *Psychology of Sport and Exercise, 16*, 3–14. https://doi.org/10.1016/j.psychsport.2014.07.004

Taylor, J. (1995). A conceptual model for integrating athletes' needs and sport demands in the development of competitive mental preparation strategies. *The Sport Psychologist, 9*, 339–357. https://doi.org/10.1123/tsp.9.3.339

Travis, C. A., & Sachs, M. L. (1991). Applied sport psychology and persons with mental retardation. *The Sport Psychologist, 5*, 382. https://doi.org/10.1123/tsp.5.4.382

Valle, R., King, M., & Halling, S. (1989). An introduction to existential-phenomenological thought in psychology. In R. Valle, & S. Halling (Eds.), *Existential-Phenomenological Perspectives in Psychology* (pp. 3–16). New York, NY: Plenum Press. https://doi.org/10.1007/978-1-4615-6989-3_1

Van Den Auweele, Y., De Cuyper, B., Van Mele, V., & Rzewinicki, R. (1993). Elite performance and personality: From description and prediction to diagnosis and intervention. In R. N. Singer, M. Murphy, & L. K. Tennant (Eds.), *Handbook of research in sport psychology.* New York, NY: Macmillan.

Vealey, R. S. (1986). Conceptualization of sport-confidence and competitive orientation: Preliminary investigation and instrument development. *Journal of Sport Psychology, 8*, 221–246. https://doi.org/10.1123/jsp.8.3.221

Vealey, R. S. (2001). Understanding and enhancing self-confidence in athletes. In R. Singer, H. Hausenblas, & C. Janelle (Eds.)*, Handbook of sport psychology* (2nd ed., pp. 550–565). New York, NY: Wiley.

Vealey, R. S. (1988). Future directions in psychological skills training. *The Sport Psychologist, 2*(4), 318–336. https://doi.org/10.1123/tsp.2.4.318

Vealey, R. S. (2007). Mental skills training in sport. In G. Tenenbaum, & R. C. Eklund (Eds.), *Handbook of sport psychology* (pp. 285–309). John Wiley & Sons. https://doi.org/10.1002/9781118270011.ch13

Vealey, R. S., & Walter, S. M. (1994). On target with mental skills: An interview with Darrell Pace. *The Sport Psychologist, 8,* 427–441. https://doi.org/10.1123/tsp.8.4.427

Weinberg, R. S., & Gould, D. (2014). *Foundations of sport and exercise psychology* (6th ed.). Champaign, IL: Human Kinetics.

Williams, J. M. (1993). *Applied sport psychology: Personal growth to peak performance* (2nd ed.). Mountain View, CA: Mayfield Publishing Company.

Williams, J. M., & Krane, V. (1993). Psychological characteristics of peak performance. In J. M. Williams, *Applied sport psychology: Personal growth to peak performance* (2nd ed., pp. 137–147). Mountain View, CA: Mayfield Publishing Company.