The dimensions of the self-talk intervention in sport and its effect on performan...

In sport psychology literature, the study of psychological interventions such as self-talk (ST) in relation to performance has been progressively growing (Hardy, Begley & Blanchfield, 2015). For decades athletes and coaches have suggested that the ST intervention enhances sporting performance and psychological states, such as confidence, anxiety and self- efficacy (Moritz, et al. 2000). Self-efficacy is the belief that you can execute a specific skill, whereas confidence is a specific trait (McCormick, Meijen & Marcora, 2015). Studies with varying research designs have supported that ST can be an effective tool for these characteristics of skill acquisition and performance enhancement (Hatzigeorgiadis et al, 2009). Similarly, there is a range of theoretical frameworks of ST in sport that have been discussed over the last two decades, that have led to the most influential theory of motivational and instructional ST. Some of the original theories include Landin (1994) and Nideffer's (1993) attentional interpretation of self-talk. They had differing views, with Landin suggesting that self-talk can be used to enhance attentional focus in comparison to the idea that ST can help direct attention relevantly (Nideffer). Furthermore, Johnson, Hrycaiko, Johnson, and Hallas 2004 study suggested ST revolves around the notion that thoughts lead to behaviour. There has also been evidence to show that ST may enhance confidence and possibly control anxiety (Zinnser et al, 2006). One of the main areas Hardy et al. (1996) argued is that that ST can control feelings of anxiety, which is argued to act as an inhibiter for performance. However more recent research has indicated to the contrary. These different principles have developed overtime to produce the main concept of motivational verse instructional dimensions of self-talk (Hardy, Gammage, and Hall, 2004). Motivational refers to functions such as increasing the heart

rate, getting excited (pumping up), regulating anxiety and becoming physiologically ready to perform. Comparatively, instructional refers to skill execution and development of strategies and instructing oneself to perform appropriately, with techniques such as imagery and relaxation exercises (Hatzigeorgiadis et al, 2009). Overall these concepts have suggested that ST can serve to improve areas that may effect performance such as reducing external attention focus, increasing confidence, and reducing or increasing anxiety (Barwood, et al. 2015).

Although ST has been a widely recommended strategy as a performance enhancement strategy, a specific focused model of ST in sport has yet to be developed (Van Raalte, Vincent, & Brewer, 2016). Similarly, ST has not been a focus to widespread experiential examination until recent years and research that has been done has not been conducted in a broad context. Furthermore, while meta-analyses' have shown significant effects, the results from studies are not consistent across different sports, experiments and time. For example the existing literature suggests that negative self-talk has an effect on performance, however a recent study shows the opposite (Tod, Hardy & Oliver, 2011). Additionally there is evidence to indicate that differences in personality also have an effect, making it hard to replicate overtime (Van Raalte, Vincent, & Brewer, 2016). Therefore, this essay will critically analyse self-talk and its effects on sporting performance in regards to the instructional and motivational theories as well other potential mediators and moderators of ST performance such as confidence, anxiety and self-efficacy.

One of the most substantial areas of research involving ST in sporting performance has been the effect of instructional and motivational ST. Hatzigeorgiadis, Theodorakis, and Zourbanos (2004) conducted one of the first experiments distinguishing between the two with a water polo team. They looked at the differences between accuracy and power movements. This experimental included an primary assessment, grouping into three groups for experimental (motivational and instructional) and a control group. One experimental group was taught motivational ST and the other was taught instructional. The results showed that for the accuracy component, task performance improved for both the instructional and motivational ST taught groups. However, for the power task, increased performance was only indicated in motivational self-talk group. Therefore it concluded that instructional ST could be effective in improving attentional focus and directing attention with precision and smaller tasks such as aiming, whereas motivational ST could be better for increasing physiological arousal for larger movements (Hatzigeorgiadis, Theodorakis &Zourbanos, 2004). This was similarly portrayed with a meta-analysis reviewing the effects of the intervention of ST on sport performance. There were 32 studies revised, producing 62 effect sizes. Instructional and motivational ST were looked over within these 32 studies on the basis that they both have differing effects on performance (Hatzigeorgiadis et al. 2011). Overall the results indicated a moderate positive effect size and indicated that instructional ST was more successful for smaller motor tasks than larger motor task, and similarly more effective than motivational for fine. Overall, the ST intervention was more effective than not using ST at all (Hatzigeorgiadis et al. 2011).

However a more recent study conducted by Hardy, Begley, & Blanchfield's (2015) analysed Forty Gaelic footballers. The study was an experimental design assessing favourable and non-favourable feet to assess accuracy in kicking differences. Results presented significantly more accurate performance when performing the task using the favourable foot and motivational as compared to instructional ST. However, there were no differences between the two types of ST within the non-dominant foot condition. Therefore these results challenge the previously held perception that instructional ST is more effective for precision-based movements such as shooting and kicking and motivational for more endurance and strength sports (Hatzigeorgiadis, Theodorakis, and Zourbanos, 2004). Furthermore, there are some significant limitations constricting research on motivational verse instructional ST. Counter to predictable hypotheses, in Hatzigeorgiadis, Theodorakis, and Zourbanos (2004), negative ST was not shown to reduce performance ability on sport tasks, even though positive ST improves performance. This is an interesting conclusion as other sport psychology research has concluded that negative self-talk is harmful to sport performance. Furthermore, differing experimental designs may effect results, most research that has been conducted have been conducted in a laboratory and not in a professional sport setting (Van Raalte, Vincent & Brewer, 2016) and much of the research has been conducted with similar groups of participants including educated adolescents, therefore having the ability to skew results and making it more difficult to replicate and reduce reliability (Hatzigeorgiadis et al, 2009). Furthermore, studies into personality have shown some differences in personality aspects of athletes. Takahashi & Van Raalte, 2010, showed that skilled and emotional intelligent athletes might

benefit more from instructional self-talk in terms of performance accuracy, thus indicating more discrepancies based on the athletes sporting and training level as well as inherent personality traits. Thus, evidence is suggesting that perhaps only athletes who are above an amateur level may benefit from ST. Similarly, ST in sport training and competition contexts suggest that athletes use ST differently in training and competition, therefore research needs to look more deeply in both to cover a broader picture of training and ‘ real’ game level (Van Raalte, Vincent & Brewer, 2016).

Another significant contributor that many studies have not considered in their limitation section of studies is personality traits. According to the sport-specific model mentioned in Van Raalte, Vincent & Brewer, 2016 review of self-talk, personal factors directly affect two systems, which are connected to ST, and behaviour, therefore giving personality depth in the effects of ST. Furthermore, Wood, Perunovic, and Lee (2009) conducted a study exploring the relationship between a personal factor, self-esteem, and self-talk. Results indicated that participants with higher self-esteem ratings, who felt relaxed with positive self-statements, benefited from the use of positive self-talk. Comparatively, participants who rated lower self-esteem and had more apprehension with positive ST, reported that using positive ST actually further reduced their feeling, potentially producing decreased task performance. Therefore, this is another factor that athletes and coaches need to take into consideration before using the ST intervention. Personality differences could elucidate why literature overall seems to conclude ST to be productive but why there are large individual discrepancies.

There have been a number of studies testing the differences of motivation and instructional ST on performance; however, the notion of possible moderators has been a topic of interest. One study looked at motivational ST's effect on self-efficacy, which has been shown to effect performance (Hatzigeorgiadis, Zourbanos, Goltsios, & Theodorakis, 2008). The relationship between self-efficacy and sport performance has been well established in an array of sports. For example, Moritz, Feltz, Fahrbach, and Mack (2000) depicted an array of positive effects between self-efficacy and performance in their meta-analysis. Thus, it is suggested that if ST increases self- efficacy, then this increase may play a role in the assisting effects of ST on performance.

This concept has been shown in study Hatzigeorgiadis, et al. (2009) study looking at moderators of self-confidence and anxiety in relation to ST and performance. The main objective of the study was to investigate the effects of motivational self-talk on self-confidence, anxiety, and task performance. They also studied the degree to which peaks and declines in task performance related to changes in self-confidence and anxiety. The experimental design included 72 tennis players randomly divided into an experimental and control group. It included five sessions with an initial assessment before ST training, three training sessions and a final follow- up training (Hatzigeorgiadis, et al. 2009). All players followed the same training program with the experimental group continually performing the use of self-talk. The Competitive Anxiety Inventory-2R was used to assess self-confidence and anxiety (Hatzigeorgiadis, et al. 2009). Overall, the study indicated that ST had a positive effect on task performance. An increase in

self-confidence and reduced anxiety was shown to increase task-performance. This study showed some significant differences to previous literature, as stated previously motivational ST has been primarily recommended for gross tasks requiring strength and endurance (Theodorakis et al., 2000), these results suggest that it can also be effective for tasks requiring precision. Furthermore, self-talk also improved self-confidence may explain why task performance in this precision task improved. Thus, different types of self-talk may have different results on task performance dependent on the classification of the task and the type of ST that is usilised.

While overall these results indicate that confidence, anxiety levels and self-efficacy all have a relationship with ST and thus task performance there are some discrepancies within the results. Arguments could include that reduction of thoughts that may hinder and interfere to reduce task performance (e. g. worrying thoughts) might be a result of improved performance and was not apparent because of the use of ST. Thus, it is hard to conclude a causation relationship, but it may be bi-directional with both have an effect on each other, because of self-confidence and performance reciprocal relationship, it is plausible that increases in self-confidence due to self-talk elevated task performance, or increases in task performance due to self-talk raised self-confidence. Similarly reports of anxiety and self-confidence levels were attained after the task was performed, therefore after good or poor performance, thus, it is possible that participants’ responses could have been influenced by how well they did.

In conclusion, this essay aimed to advance the understanding of the effects of self-talk interventions on task performance in sport. A number of studies concluded the positive effects of instructional and motivational ST on sporting performance in an array of differing sports. The main concept that is often highlighted is the differences between instructional verses motivational. It was suggested that motivational was better suited for increased performance in the execution of gross motor skills and cognitive/instructional was better suited for fine motor skills (Hatzigeorgiadis, et al. 2011). However, in some research, this was quite the contrary, with motivational ST yielded positive results for precision tasks such as aiming and kicking. Furthermore, the study of the literature also identified moderators that could further explain the self-talk phenomenon, with notions such as self-efficacy, confidence and anxiety, construing positive effects. However, there were notable limitations including sample sizes, effects of personality, testing conditions and bi-directional relationships. Thus Tod, Hardy & Oliver, (2011), highlighted the need for the development of a model of self-talk that includes a complex and interconnected approach to self-talk and related variables to come to a more holistic use of self-talk in sport. Therefore, the overall conclusion indicates ST has a large amount of supporting research but depending on the sport, personality and environment, the type of self-talk used needs to be evaluated with consideration.

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