Self-Talk Theory, Research, and Applications: Some Personal Reflections

Robert Weinberg
Miami University

I am honored to have the opportunity to comment on the eight articles that make up the first Special Issue of an international journal focusing on self-talk in sport. The introductory article does an excellent job of tracing some of the important historical developments (theoretically, empirically, and practically) in the self-talk literature so I will not provide any historical perspective on the extant self-talk research. Rather, first I will comment on each article, noting what I perceive to be an important contribution to the self-talk literature (and sometimes the sport psychology literature in general). Then, based on my academic and practical knowledge in the area of self-talk, I will offer some suggestions for future research from conceptual, empirical, and methodological perspectives. In addition, I also offer some practical suggestions that coaches, athletes, and personal trainers/exercise leaders could use when working with athletes and exercisers. Before getting into these research and practical suggestions, a brief review of some of the unique and interesting parts of some of the articles within the Special Issue will be discussed.

Unique Aspects of the Self-Talk Studies

The study by Abdoli, Hardy, Riyahi, and Farsi (2018), entitled “A Closer Look at How Self-Talk Influences Skilled Basketball Performance,” adds to the self-talk literature by focusing on highly skilled (professional) athletes as much of the previous research on self-talk has used more convenient samples, such as university students. Results revealed that skilled basketball players were able to especially use instructional self-talk (as opposed to motivational self-talk) to enhance their performance. This is contrary to what some researchers (Hardy, Begley, & Blanchfield, 2015; Zourbanos, Hatzigeorgiadis, Bardas, & Theodorakis, 2013) have suggested who have doubted that the benefit of instructional self-talk over motivational self-talk will hold for skilled performers, as consciously attending to the requirements of task execution can get in the way (i.e., overload the system) of automatic attentional processing. In essence, it has been argued that highly skilled athletes do not need to think too much to perform as they can usually perform on “automatic pilot.” However, in the present investigation, it should be noted that instructional self-talk was short (e.g., follow-through, bend) so as not to disrupt the automaticity that is typical of highly skilled athletes. In addition, these instructional cues came from expert basketball coaches as well as empirically supported kinematic principles of basketball free throws, thus enhancing the effectiveness of these brief instructional cues.

Van Dyke, VanRaalte, Mullin, and Brewer (2018) also studied elite athletes (gymnasts in this case) to provide needed research on this very skilled population. One of the important contributions of this study was to investigate the relationship of different types of self-talk (e.g., instructional, motivational, positive, negative) to consistency of performance over a competitive season. Results found positive self-talk to be the best predictor of success and thus, from a practical point of view, an autonomy-supportive coaching style was recommended because it is conducive to positive self-talk. Specifically, coaches can foster autonomy-supportive environments by acknowledging negative feelings that sometimes occur when athletes have to perform difficult tasks, minimizing external forms of control (e.g., contingent rewards and punishment), providing informational feedback, and including athletes in decision-making (Ryan & Deci, 2006). Finally, the authors chose to assess self-talk via self-talk questionnaires (i.e., self-talk questionnaire for sports; automatic self-talk questionnaire for sports) which are trait-like measures of self-talk. However, future research might consider more qualitative, interview-based self-talk assessments after the competitions, to get gymnasts’ thinking (self-talk) in a time-sensitive manner although care would be needed to limit competition outcome bias.

In a series of six studies, entitled “I Will Use Declarative Self-Talk . . . Or Will I? Replication, Extension, and Meta-analyses,” Van Raalte et al. (2018) compared self-posed interrogative questions (e.g., “Will I?”) to declarative (“I will”) and control self-talk finding no significant differences between interrogative and declarative self-talk, although they both were better in terms of motivation and performance than control conditions. However, the really important part of these studies was the focus on replication. This is not particular to self-talk studies, but it does highlight replication as one of the essential aspects of the scientific method. Especially for graduate students just starting out, but also for more seasoned and experienced researchers, it is important that we do not forget the important role that replication makes to the scientific literature. Of course the focus is typically on new and innovative research that adds to the extant literature in a particular area. But we need to be confident when we teach our students or consult with athletes that our information is reliable and consistent. I like to refer to the goal-setting literature in the industrial/organizational area where there are over 500 studies testing different aspects of the goal-setting performance relationship (Locke & Latham, 2002). When I started to conduct research on goal-setting and sport performance in around 1983 there was only five empirical studies (at least that was all I could find at the time) but over 30 years later we are approaching 100 studies. Although research has increased on self-talk in recent years, as noted in the introduction, we still need a lot of replication to feel more confident on the effects of

Weinberg is with Dept. of Kinesiology and Health, Phillips Hall, Miami University, Oxford, OH. Address author correspondence to Robert Weinberg at weinber@miamioh.edu.

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different types of self-talk on different tasks, cognitions, and emotional responses.

Another aspect of the Van Raalte et al. (2018) article that has relevance for sport psychology research in general and self-talk in particular is the idea of performing multiple experiments in investigating a specific question. With the pressure to publish (especially in journals with high impact factors) oftentimes researchers try to get two, three or even four articles out of a data set instead of putting these studies together into one coherent paper. I would like researchers to focus on quality rather than quantity. In response to colleagues going up for tenure who ask, “How many publications do I need to get tenure/promotion?”, I often reply that it should be quality over quantity. Albert Einstein only had a few studies published, but they were of very high quality.

The article by Galanis, Hatzigeorgiadis, Comoutos, Charachousi, and Sanchez (2018), entitled “From the Lab to the Field: Effects of Self-Talk on Task Performance Under Distracting Conditions,” provides a model for putting together laboratory and field research into one neat package. An intervention over six weeks was implemented for the field aspect of the study focusing on using self-talk to more effectively cope with distractions. Research on self-talk should strive for more intervention research as this eventually has more practical value for coaches and athletes. Just like when athletes train with numerous repetitions to improve physically, if they want to improve mentally, this needs to be practiced over a period of time before being put into action during actual competition. One-time assessments often miss the mark and thus interventions in applied settings over a period of time where athletes can learn a specific technique, will likely have a much more important impact on actual performance in competition.

The study by Latinjak, Maso, and Comoutos (2018) entitled “Goal-directed self-talk used during technical skill acquisition: The case of novice Ultimate Frisbee players” provides an interesting look at self-talk before and after task execution. Specifically, before task execution, athletes gave themselves technical instructions (e.g., extend your arm) whereas between task executions, instructions were frequently transformed into both error descriptions (e.g., you’ve bent your arm) and technical adjustment following errors (e.g., extend your arm further), or into technical transference following success (e.g., keep extending your arm). The focus in the past has been primarily on self-talk before performance but how athletes respond to success and failures in terms of self-talk is also critical.

In another study by Latinjak (2018) entitled “Goal-directed, spontaneous and stimulus-independent thoughts and mind-wandering in a competitive context,” goal-directed self-talk (thinking towards solving a problem or making progress on a task) and three types of automatic self-talk known as mind-wandering (thinking towards solving a problem or making progress on an interesting aspect of this study was obtaining participants’ self-talk just prior to and in-between performances instead of relying on retrospective recall of self-talk, which has been typical of most previous studies. This allows for a more contemporaneous recording of one’s self-talk, relying less on memory, which can often be problematic (Nisbett & Wilson, 1977).

Another interesting aspect of this study was the fact that goal-directed self-talk (e.g., instructional and motivational) was autonomous instead of being manipulated by the experimenter. As the author notes, this autonomous self-talk revealed that athletes appear to have their own set of psychological interventions already embedded in their minds consisting of such strategies as cognitive reappraisal, focus of attention instructions, self-efficacy promotion, and effort regulation. Coaches and personal trainers should therefore encourage participants to prepare for difficult situations and setbacks with goal-directed self-talk that focuses on planning and problem solving (i.e., what they would do if presented with these difficult situations).

The study by Dickens, Van Raalte, and Hurlburt (2018) entitled “On investigating self-talk: A Descriptive Experience Sampling study of inner experience during golf performance” offers a new (alternative) way in which to study the self-talk phenomenon. The technique is called Descriptive Experience Sampling (DES) and it uses a random beeper in participants’ environments and instructs them to respond to the beeps immediately noting the characteristics of their inner experience that was ongoing at the moment of the beep. Thus, this method is similar to, but somewhat different from, the Experience Sampling Method used to assess behaviors related to the study of flow (Csikszentmihalyi, 1990). Most self-talk studies in real-world environments tend to rely on athlete memories of what they were thinking/saying and this recollection can be problematic. This method holds potential but it appears it would be most effective when there is sufficient time between performance, such as in golf. Unfortunately, most sports are more continuous (e.g., soccer, basketball) or with only short periods between performances (e.g., football, tennis) which would make DES extremely difficult to employ in those sports.

McCormick, Meijen, and Marcara (2018) studied the “Effects of a motivational self-talk intervention for endurance athletes competing an Ultramarathon”. Although there were no significant effects of motivational self-talk on performance; the study also assessed the use of the self-talk intervention six months after the research study. Results revealed that most participants found the intervention helpful and used it in their training as well as in other competitive endurance events. This underscores the idea that performance is not the only variable of importance when conducting studies. The effective use of self-talk psychological interventions over time is something that should be incorporated into more self-talk studies.

Research Ideas and Practical Applications

Because the interest in self-talk research is relatively new, it leaves a number of areas open for future research. One area where there appears to be a dearth of research is the use of self-talk in exercise settings. For example, the data is overwhelming regarding the number of individuals who are either overweight (two-thirds of American adults) or obese (one-third of American adults; 17% of children 6–11) with over 50% of adults not meeting the minimum requirement of 150 minutes of moderate exercise per week (Centers for Disease Control and Prevention, 2013; Physical Activity Advisory Committee, 2008). Research has indicated that many individuals start exercise programs but around 50% drop-out within six months (Dishman & Buckworth, 1997).

Self-Talk and Exercise. It would seem a great opportunity to employ self-talk in a systematic way to help improve the frequency and intensity of exercise. For example, adhering to exercise for individuals just starting an exercise program after years of sedentary behavior can be a difficult task. In addition, the stage where
there is the highest risk of relapse according to the Transtheoretical Model (Prochaska, DiClemente, & Norcross, 1992) is called the action phase, which is when individuals start to exercise regularly but have been doing it for less than six months. In these cases, as well as many others where dropout from exercise is prevalent, both motivational and instructional self-talk can help individuals adhere to their exercise regimen. For instance, if an individual was going on a vacation where it would be likely she would eat out more often, she might say to herself, “a little extra food won’t hurt, because I intend to keep up my exercise regimen while on vacation.” Similarly, an individual who is starting to exercise but finds it uncomfortable might say, “the more I exercise the better I will feel.”

Self-talk research might take the lead from what imagery research has done. Specifically, the area of imagery was mostly about imagery for sport performance (e.g., Weinberg, 2008). However, more recently, research has also started to focus on exercise imagery (e.g., Stanley, Cumming, Standage, & Duda, 2012). It would seem logical for self-talk research to start to focus more on helping exercisers with such things as enjoying their exercise more, coping with setbacks, adhering to exercise regimens, and motivation on a daily basis.

**Negative Self-Talk.** When considering the role of negative self-talk it is worth noting the distinction between the content and function of self-talk. From the content perspective (i.e., the valence of the phrasing), much of the research has found that, positive self-talk (e.g., “keep your eye on the ball,” “you can do it”) is related to successful performance. Conversely, it has been assumed that negative self-talk (e.g., “you stink,” “how can you play so bad,” “that was a stupid shot”) is related to poor performance. However, a systematic review of the self-talk literature (Ted, Hardy, & Oliver, 2011) found that although positive self-talk was related to consistently better performance than negative self-talk, negative self-talk was unrelated to performance (although there was only three studies investigating negative self-talk by itself). The researchers noted that given the small number of studies investigating negative self-talk and performance, further research was warranted.

One reason that negative self-talk may not always be detrimental to performance is associated with how athletes interpret, or the meaning behind, their self-talk. For instance, the nature of statements said by an athlete may be phrased negatively but hold a positive meaning; that is, some athletes might interpret their negative self-talk as having motivational qualities (cf. Hardy, Hall, & Alexander, 2001). For example, after missing an easy shot in any of a number of sports (e.g., tennis, golf, basketball, soccer) negative self-talk such as “I can’t believe you missed such an easy shot” might act to motivate athletes and have them focus their attention more keenly on the task to improve upon their missed shot. In talking to, and consulting with, numerous athletes over the years, I have often heard that some types of negative self-talk can actually motivate them and help them focus on more relevant cues; (see Hardy, Roberts, & Hardy, 2009 for an outline of the potential benefits of negative self-talk.) Some cross-cultural research underscores the notion that negative self-talk can be beneficial to performance for some people (or cultures). Specifically, Peters and Williams (2006) found that although negative self-talk was related to poorer performance for European Americans, it was related to better performance for East Asians. It has been argued that there are fewer negative consequences of self-criticism for individuals from collectivist cultural backgrounds (e.g., East Asians) than for those from individualistic cultural backgrounds (e.g., European Americans). Besides continuing to explore cross-cultural differences, future research might investigate if there are specific types of negative self-talk or specific situations within competition that might actually be beneficial to performance. Along these lines, there might be certain personality types for which negative self-talk is actually uplifting, with athletes even feeding off it (think John McEnroe in tennis). When investigating such questions researchers should keep in mind the potentially pivotal distinction between the content and function aspects of self-talk.

**Counterfactual Thinking.** An interesting line of research related to self-talk is known as counterfactual thinking, which involves thoughts that are contrary to the actual results. More specifically, counterfactual thinking is defined as “mental representations of alternatives to past occurrences, features, and states (Roese, Sanna, & Galinsky, 2005, p. 138). Counterfactual thoughts occur very frequently (88% of athletes) and are typically elicited after outcomes that are close. For example, after a one-point loss a basketball player might say, “if I just would have hustled back on defense on that one fast break, I could have prevented that last minute basket.” Similarly, in a 2–1 soccer game, a player might say, “if I just would have hustled a little more I could have received the pass from my teammate and had a great opportunity to score.” As noted with the above quotes, most counterfactual thinking usually focuses on how things could have been better as opposed to worse.

Athletes are often taught not to look back to previous competitions where they might have made a mistake. They are told to let it go and just focus in the present moment (e.g., the task at hand). Conversely, athletes are also often told that they can learn the most when they have failed (or learn from their mistakes). So, is it a good idea to rehash what you did wrong in a previous competition so you can improve upon it (or not make the same mistake again) or should you just forget about it and move on? Whether these counterfactual thoughts produce positive or negative psychological or behavioral effects may depend on athletes’ interpretation of these thoughts. In essence, are these thoughts unwanted but the athlete just cannot seem to stop thinking about what they could have done differently? Or are they used specifically to improve upon (or eliminate) a behavior with specific instructions (i.e., thoughts and actions) to enhance the behavior given a similar situation in the future? Therefore, further research is necessary to explore the specific conditions (and possibly personality types) under which these counterfactual thoughts are associated with positive or negative outcomes.

**Self-Talk and Ironic Processes.** A related area to self-talk that has huge practical implications is the notion of ironic processes (Wegner, 1997a, 1997b; Wegner, Anshel, & Piloff, 1998). Oftentimes, athletes will tell themselves what not to do, in order to prevent making a mistake. Research conducted under the term ironic processes in sport has shown that trying not to perform a specific action can inadvertently trigger its occurrence (Wegner et al., 1998). In the laboratory, empirical evidence demonstrates that what’s accessible in our minds can exert an influence on judgment and behavior simply because it is there. So, people trying to banish a thought from their minds—of a white bear, for example—find that the thought keeps returning about once a minute. Likewise, people trying not to think about a specific word continually blur it out during rapid-fire word-association tests. These same “ironic errors” are just as easy to evoke in real world settings. Therefore, instructions such as “whatever you do,
don’t double-fault now,” “don’t drive the ball into the bunker or lake,” and “don’t choke” will typically produce the unwanted behavior. This is especially the case under pressure. For example, soccer players told to shoot a penalty kick anywhere but a certain spot of the net, such as the lower right corner, look at that spot more often than any other. Similarly, golfers instructed to avoid a specific mistake, such as lifting up their head slightly before contact, do it more often under pressure. In essence, to comply with these instructions to suppress a certain thought or image, we have to remember the instructions that include the forbidden thought—so we end up thinking it.

For example, a study by Woodman, Barlow, and Gorgulu (2015) used hockey players to shoot at a specific target. They were explicitly told be careful not to miss the target to the right as that would result in minus points (ironic process). In addition they were placed in either a low-anxiety condition (control) or a high-anxiety condition (they could win $150.00 if they had the highest score). Results revealed that participants in the high-anxiety condition had more misses to the right (ironic misses— they were explicitly told not to miss to the right) than to the left. In essence, telling players “not to miss” or “not to double fault” will result in more misses and double faults, especially when anxious. Although the investigators provided these instructions, there is clear application to self-talk. In fact, grounding research in Wegner’s (1997a) theory of ironic processes might enable researchers to make inroads into our current lack of understanding regarding the use of self-talk under stress (and competition). Nevertheless, from the existing empirical literature the take-home message for coaches and athletes is their focus (and subsequent self-talk) should be on what the athlete should do (e.g., “bend your knees,” “follow-through on your shots”) rather than what they should not do (“just don’t double fault”).

Summary

I have tried to highlight some of important advances to the self-talk literature that were brought out in the studies making up this Special Issue. The studies, as a group, advanced the understanding of self-talk theoretically, methodologically, and practically, offering many opportunities for further study within the self-talk area. I also provided a few ideas for future research and practical applications in self-talk and related areas. As noted throughout the papers, self-talk is a relatively new area of study within sport psychology, although it has been gaining steam recently with a few meta-analyses and descriptive reviews (e.g., Hatzigeorgiadis, Zourbanos, Galanis, & Theodorakis, 2011; Van Raalte, Vincent, & Brewer, 2016) to see where we are and where we need to go. On a personal note, I have consulted with hundreds athletes over the years using a variety of the mental skills techniques from sport psychology. But the technique I have used most often is changing self-talk to be more motivational and instructional. I hope you have found reading the different papers to be informative and motivational, giving you lots of “food for thought” to continue studying self-talk from theoretical, empirical, methodological, and practical points of view.

References


