

EXPLORING COACHES' PROMOTION OF ATHLETE SELF-TALK

James Hardy & Craig R. Hall

*University of Wales, Bangor, UK & University of Western Ontario, London,
Ontario, Canada*

Abstract: Numerous variables have been shown to influence the use of athlete self-talk. One variable that has received limited consideration, however, is the coach. Therefore, the present study examined coaches' promotion of athlete self-talk. One hundred and two female team sport athletes completed the Self-Talk Use Questionnaire; a self-report questionnaire assessing athletes' use of self-talk. They also responded to questions focused strictly on their coaches' promotion of self-talk. It was found that the majority of athletes reported that their coaches had encouraged the use of self-talk. Moreover, the reasons why self-talk was promoted were similar to the reasons why athletes report using self-talk. Neither the promotion of self-talk nor athletes' competitive level impacted on the frequency of athletes' self-talk. The importance of the effectiveness of self-talk was discussed in relation to the aforementioned findings.

Key words: Coaches, Self-talk, Sport.

Self-talk is defined as athletes' self-verbalisations said overtly or covertly, which are multidimensional in nature and seem to serve at least two main functions: instructional and motivational (Hardy, Hall, & Hardy, 2004). Although self-talk is commonly included in mental skills intervention packages (e.g., Hanton & Jones, 1999; Thellwell & Greenlees, 2001) and has been found to be of importance in the development of Olympic champions (Gould, Dieffenbach, & Moffett, 2004), our understanding of athlete self-talk is relatively limited. The present study examines a previously unexplored but potentially important relationship, the influence of the coach on athletes' use of self-talk.

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Address: James Hardy, School of Sport, Health, and Exercise Sciences, University of Wales, Bangor, Normal Site, Bangor, Gwynedd LL57 2PZ, United Kingdom. Phone: +44-1248-383493. Fax: +44-1248-371053. E-mail: j.t.hardy@bangor.ac.uk

In an attempt to foster greater understanding of athlete self-talk, Hardy, Gammage, and Hall (2001) advanced a number of frameworks in which to base further self-talk research. Of relevance to the present study was their hierarchical framework focusing on the different functions that self-talk might serve the athlete. According to Hardy et al. (2001) the functions of self-talk refer to the reasons why athletes employ the mental skill. Hardy et al. (2001) propose that there are two third-order hierarchical functions, a cognitive (or instructional) and a motivational function (see Figure 1). The third-order functions are comprised of two and three second-order hierarchical functions, respectively. Consequently, the cognitive function is further subdivided into cognitive specific and cognitive general second-order functions. The cognitive specific second-order function in turn incorporates two more focused first-order functions related to the use of self-talk to assist in the development and execution of individual sport skills (e.g., front somersault), respectively. Similarly the cognitive general function is further subdivided into two first-order functions; the use of self-talk to facilitate performance improvement (e.g., to pick up level of play) and the learning and execution of sport strategies/routines (e.g., full court press). Conversely, the motivational third-order function embraces three second-order functions: motivational arousal, motivational mastery and motivational drive, each consisting of a number of narrow first-order functions. As a result, the motivational arousal function is related to the use of self-talk to help the athlete relax, psych up, and maintain control over nerves. The motivational mastery function is linked to mental toughness, focus, confidence, and mental preparation. Lastly, the motivational drive second-order function is more nebulous in nature than the aforementioned motivational functions; it is related to keeping the performer on track to achieving his/her sports goals. Thus, this function is associated with goals, maintaining and increasing drive and effort levels.

Relatively recent research has employed the above framework to investigate differences in the use of self-talk across genders, competitive levels, sport types and competitive settings. Initial investigations found that females tend to employ the (first-order) functions of self-talk more frequently than males (Hardy, Hall, & Hardy, 2005, Study 1). However, further examination of these possible gender differences, via a sampling protocol that isolated gender, demonstrated that male and female athletes' use of self-talk did not significantly differ (Hardy et al., 2005, Study 2). Although differences across individual and team sport athletes' use of the functions of

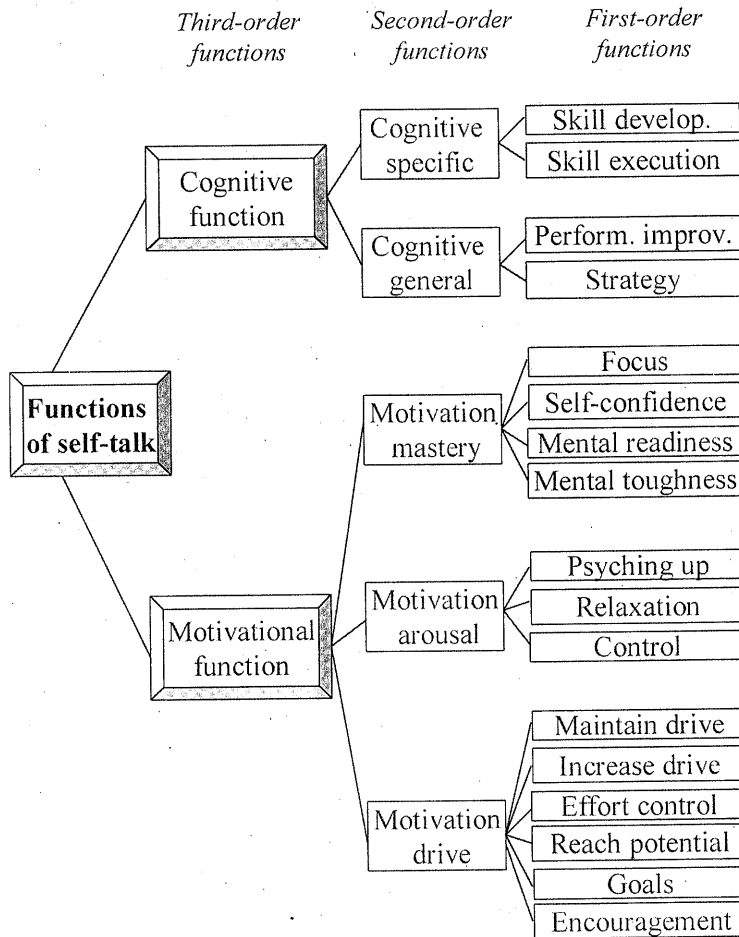


Figure 1. Illustration of the functions of self-talk, adapted from Hardy et al. (2001).

self-talk have not been observed (Hardy et al., 2005, Study 1), such differences have been demonstrated with regard to how individual and team sport athletes employ self-talk (Hardy et al., 2004). A similar set of findings pertains to the influence of competitive level. For example, athletes competing above the university level reported the use of a more consistent and pre-planned form of self-talk (Hardy et al., 2004). Finally, athletes report greater use of nearly all the first-order functions of self-talk in conjunction with competition as opposed to practice (Hardy et al., 2005, Study 1).

Taken together the aforementioned findings represent an initial set of results suggesting that both individual and situational factors impact on athletes' use of self-talk. Numerous self-talk findings offer support for this statement. For example, Perry and Marsh (2000) have suggested that self-talk, in particular negative self-talk, can be viewed as an indicator of negative self-concept. Furthermore, Van Raalte, Cornelius, Brewer, and Hatten (2000) observed the occurrence of tennis players' positive and negative self-talk in situations involving high cognitive load (e.g., pressure to hold their service game or after losing a point). Additional support for the importance of situational factors originates from the private speech (overt self-talk) mainstream psychology literature. The frequency of children's private speech has been found to be moderated by the presence of others (see Diaz, 1992). Of particular relevance is the type of others (i.e., supportive vs. non-supportive) children are in the presence of. For example, the presence of supportive others, mothers, has been found to lead to an increased usage of children's spontaneous private speech (e.g., Behrend, Rosengren, & Perlmutter, 1989).

Examination of the role of alternative significant others –coaches– has occurred within the sports imagery literature. Preliminary research by Barr and Hall (1992) suggested that 30% of athletes (i.e., rowers) reported the encouragement of imagery by their coaches. Furthermore, Jedlic (2003) explicitly examined the relationship between coaches' promotion of and athletes' usage of sports imagery. It was found that higher level coaches (e.g., national level) encouraged athletes to use imagery significantly more than lower level coaches (e.g., recreational level). Moreover, coaches encouraged international, national, and varsity athletes to use imagery more than recreational and club athletes.

With regard to self-talk, Gould, Hodge, Peterson, and Giannini (1989) reported coaches' promotion of positive athlete self-talk as a strategy for increasing athletes' sport confidence. A consistent finding concerning the promotion of positive athlete self-talk is that coaches frequently employ this strategy and also believe that it is an effective efficacy building technique (Gould et al., 1989, Studies 1 & 2; Vargas-Tonsing, Myers, & Feltz, 2004; Weinberg, Grove, & Jackson, 1992). Unfortunately such studies exclusively examine the efficacy strategies employed by coaches. As a result, data are restricted to the motivational mastery function of self-talk and in particular, the confidence first-order function, and thus do not elaborate on the already

established additional functions of self-talk (e.g., cognitive specific). Furthermore, there has been a tendency to rely on coaches' perceptions of their use of efficacy enhancing strategies. Nonetheless, the only study to date with a focus on athlete perceptions (Vargas-Tonsing et al., 2004) reported similar perceptions of the use and effectiveness for the encouragement of positive self-talk between athletes (i.e., team aggregate scores) and coaches.

Given that Horn (2002) has postulated that athletes' perceptions of coach behavior may be a more powerful predictor of athlete motivation (and performance) than the actual behavior of their coaches, the primary overall objective of the present study was to examine coaches' promotion of athlete self-talk from the perspective of the athlete. To this end, the first specific purpose of the present investigation –whether or not coaches promote the use of self-talk by their athletes– was probed. The issue of why coaches promote the use of athlete self-talk was subsequently explored. Finally, dependent on the results of the first purpose, the project's second specific purpose was to address whether or not coaches' promotion of self-talk impacts on athletes' reported usage of the mental skill. The second overall objective for the study involved further examination of the possible effect of competitive level on the promotion of self-talk as well as the usage of self-talk in both competition and practice settings. Comparison of the use of self-talk across these two settings was not, however, a focus of the project. Competition and practice settings were the present investigation's foci as there is a dearth of empirical research pertaining to a setting where athletes and coaches spend most of their time and effort – training and practice (Thomas, Murphy, & Hardy, 1999).

It was expected that coaches would promote athletes' self-talk for reasons that could be categorized according to Hardy et al.'s (2001) hierarchical framework. Given that athletes competing at higher standards of competition will generally have greater experience in their selected sport and so possess greater exposure to more and better coaches, it was predicted that athletes competing at the higher levels of competition would express greater promotion of self-talk by their coaches. Relevant to the usage of self-talk, it was hypothesized that coaches' promotion of a function of athlete self-talk would be associated with a corresponding increase in its usage, regardless of competitive setting. For example, encouragement of the cognitive specific second-order function would lead to increased reported usage of self-talk to facilitate the execution of individual sport skills. Furthermore, a significant interaction between the promotion of self-talk and competitive level was

expected. Competitive athletes' use of self-talk was predicted to be high regardless of the presence of coach encouragement, whereas less competitive athletes who reported a lack of promotion of self-talk were expected to exhibit low self-talk use compared to their promotion receiving counterparts.

METHOD

Design

A mixed qualitative and quantitative approach was deemed most appropriate to answer the present research questions. Steckler, McLeroy, Goodman, Bird, and McCormick (1992) have forwarded a number of models describing how these two approaches can be combined. In the present study, a small *q* qualitative approach (Kidder & Fine, 1997) –i.e., open-ended survey items– was utilized for the first objective of the investigation, to determine whether or not coaches promote the use of self-talk by their athletes. Open-ended responses allow the understanding of athletes' viewpoints without imposing predetermined perspectives via the selection of questionnaire categories (Miles & Huberman, 1994). A quantitative approach was utilized in an attempt to best address the study purposes regarding the use of self-talk, i.e., the second objective.

Participants

The present sample was part of a larger data set employed by Hardy et al. (2005, Study 1). One hundred and two North American female team sport athletes ($M_{\text{age}} = 20.73$, $SD = 1.59$) volunteered to participate in the present investigation. The athletes competed at recreational (35%), representative club (14%), varsity (45%), national (4%), and international (2%) level. Due to large discrepancies in cell sizes the above competitive levels were re-grouped into competitive (\geq varsity) and less competitive ($<$ varsity) classifications. The most frequently cited sports competed in were basketball (28%), ice hockey (10%), rowing (30%), volleyball (15%), and water-polo (11%). Only female team sport athletes were recruited for the study as male-female and individual-team sport differences in the use of self-talk have been observed (e.g., Hardy et al., 2004).

Measures

Athletes completed the Self-Talk Use Questionnaire (STUQ; Hardy et al., 2004; 2005); a self-report questionnaire assessing the frequency of athletes' use of sport related self-talk. The STUQ is a 59-item survey tool based in part on Hardy et al.'s (2001) qualitative findings. It has been found to be a reliable (Hardy & Hall, 2005) and valid (content and construct validity) measure of the frequency of use of self-talk (Hardy et al., 2005). Of relevance to the present study are 24 items associated with why athletes talk to themselves. The use of the functions of self-talk was assessed in both the practice (12 items) and competition (12 items) settings. Athletes responded to the items using a 9 point scale (1 = never, 9 = all the time). The STUQ was developed as an initial attempt to quantify athletes' use of self-talk as well as supplement Hardy et al.'s (2001) qualitative findings. As each of the items is a single item measure of a particular aspect of self-talk there are no true subscales present within the STUQ. Consequently, the STUQ represents, to our knowledge, the only published measure of the functions of self-talk; specifically 12 first-order functions.

Questions focused on coaches' promotion of athlete self-talk were also administered. The first question was a forced, yes/no, question which assessed if one or more of the athlete's previous or current coach(es) had suggested that he/she employ self-talk. If the previous question was answered in the affirmative, then the participant answered an open-ended item asking the respondent to indicate why their coach had promoted the use of self-talk. Basic demographic information was also obtained.

Procedure

Following the approval of institutional ethics, permission to approach athletes was first sought and obtained from their respective coaches. The investigators then explained (in general terms) the aim of the project and asked the athletes if they were willing to participate in the study. Prior to completion of the questionnaire, athletes read a letter of information; completion of the survey indicated their informed consent. In order to cause as little disruption as possible, timing of the collection of data was at the convenience of the coaches; however, most of the data were collected at the practice setting.

RESULTS

Qualitative findings

In order to determine the reasons why coaches promote the use of athlete self-talk, analysis of the open-ended responses was undertaken. Athletes' written responses were transcribed verbatim and the collaboration of two investigators allowed the identification of text units within the open-ended responses. A text unit is a phrase, a sentence, or a paragraph pertaining to a single idea. A total of 89 text units were generated by the athletes. Given that a framework related to the reasons why athletes use self-talk has been developed, it was decided to employ Hardy et al.'s (2001) conceptualization of the functions of self-talk in a deductive data analysis. In essence, athletes' responses were coded into one of the five second-order functions: cognitive specific, cognitive general, motivational arousal, motivational mastery, and motivational drive. During the deductive analysis a handful of text units were independently identified as not fitting comfortably within Hardy et al.'s (2001) framework. Closer inspection of these units revealed that they were comparatively very similar to each other, collectively representing a common theme that was subsequently termed, coaches' belief in the usage of mental skills. This theme is best exemplified by the text unit "He thought it would be a useful tool we could use in practice and games". The data analysis was undertaken independently by two investigators; an initial inter-rater agreement of 91% was obtained, however, re-reading and discussion surrounding the differences in point of view led to eventual consensus.

Table 1. A summary of coaches' promotion of athlete self-talk

	Less competitive (<i>n</i> = 50)		Competitive (<i>n</i> = 52)	
	<i>N</i>	Number of text units	<i>N</i>	Number of text units
Cognitive Specific	2	2	6	6
Cognitive General	10	10	9	10
Motivational Arousal	4	5	7	7
Motivational Mastery	14	14	12	13
Motivational Drive	8	8	9	9
Coaches' belief in mental skills	3	3	2	3

Note: Thirty and 32 competitive and less competitive athletes, respectively, reported the promotion of self-talk. It is possible for an athlete to be represented in more than one function, as his/her coach may have encouraged the use of self-talk for more than one reason.

Responses to the qualifying question relevant to athletes' perceptions of their coaches' encouragement of self-talk revealed similar results; 60% ($n = 30$) and 61.5% ($n = 32$) of competitive and less competitive athletes, respectively, reported that coaches had previously suggested that they employ self-talk. Table 1 contains a summary of coach promotion of the functions of self-talk. It can be seen that the motivational mastery function received greatest promotion. Furthermore, contrary to the hypothesis, a systematic difference for the encouragement of self-talk across the two competitive levels was not present.

Quantitative findings

Descriptive statistics related to the use of self-talk are displayed in Table 2. Inspection of the descriptive values illustrates reasonably frequent utilization of each of the first-order functions in both competition and practice settings (i.e., all mean values are above the half-way point on the response scale).

Table 2. Mean usage of the first-order functions of self-talk (and standard deviations) for the full sample ($n = 102$)

Function	Practice		Competition	
	Less competitive	Competitive	Less competitive	Competitive
Execution of skills*	5.55 (2.10)	6.23 (1.53)	5.65 (2.20)	6.38 (2.13)
Execution of strategies/routines	5.80 (2.26)	6.50 (1.46)	5.57 (2.06)	6.58 (2.03)
Psyching up*	6.61 (2.42)	6.37 (2.26)	7.00 (1.98)	7.62 (1.48)
Relaxation*	5.18 (2.69)	6.12 (1.92)	5.80 (2.47)	7.12 (1.69)
Nerve control*	5.31 (2.52)	5.79 (2.23)	6.16 (2.24)	7.23 (1.35)
Regain/keep focus	6.27 (2.33)	6.77 (1.68)	6.41 (2.22)	7.35 (1.58)
Boost self-confidence	6.10 (2.18)	6.62 (2.02)	6.67 (2.09)	7.19 (1.91)
Mental preparation	5.96 (2.52)	6.46 (1.88)	6.39 (2.26)	7.58 (1.47)
Cope in touch situations	6.08 (2.29)	7.17 (1.58)	6.43 (2.11)	7.48 (1.49)
Increase/maintain motivation	5.94 (2.27)	6.69 (1.55)	6.45 (2.11)	7.23 (1.77)
Control effort	5.84 (2.61)	6.19 (2.09)	6.10 (2.33)	6.54 (2.13)
Reminder of goals	5.53 (2.27)	6.25 (1.98)	5.78 (2.19)	6.71 (1.96)

Note: The frequency of the use of self-talk was assessed on a 9 point scale (1 = never, 9 = always). Due to missing data one less competitive athlete was dropped from the quantitative section of the data analysis.

*This first-order function was not included in the data analysis due to its corresponding second-order function's lack of coach encouragement.

It was hypothesized that main effects for and an interaction between the independent variables, promotion of self-talk (2 levels) and competitive level (2 levels) would be present for the usage of self-talk (the dependent

variable). However, inspection of the cell sizes displayed in Table 1 revealed an uneven distribution of athletes across the functions as well as an inadequate number of athletes reporting their coaches' promotion of the cognitive specific, motivational arousal, and coaches' belief in mental skill categories. Thus, the encouragement of these functions was not considered in further analyses. It can also be seen from Table 1 that there were only relatively small cell sizes (i.e., $n = 8$ to 14) related to the encouragement of the remaining functions of self-talk (i.e., cognitive general, motivational mastery and motivational drive). Thus, in order to help prevent the violation of the assumption of homogeneity, equal sized random samples were extracted from the full data set to create suitable non-promotion groups. As a result, data from 15 athletes were not analyzed. This meant that the present study was restricted to examining the potential influence of the *promotion* of the cognitive general, motivational mastery and motivational drive (second-order) functions on the *usage* of the following eight first-order functions: refinement of strategies/plans/routines/plays (cognitive general-related), focus, confidence, mental preparation, mental toughness (motivational mastery-related), increase/maintain motivation, effort control and goal reminding (motivational drive-related) as measured by the STUQ. A univariate approach was employed to test for main effects and interactions between the presence of promotion of self-talk and competitive level on the reported frequency of use of the first-order self-talk functions. Consequently, a total of 16 (8 practice and 8 competition) between group ANOVAs were computed.

Practice setting. A Bonferroni modified alpha value of $p = .006$ was employed in order to help control for the presence of Type I errors ($p = .05 \div 8 = .006$). Results from the eight 2 (promotion) \times 2 (competitive level) between group ANOVAs revealed a lack of significance ($p > .006$) for all main effects for the promotion of self-talk, all main effects for competitive level, and all interactions between the two factors.

Competition setting. A similar set of findings emerged from the eight competition two factor (2 \times 2) ANOVAs using the same alpha level ($p = .006$). More specifically, there were no significant main effects of the promotion of self-talk nor were there any significant interactions present, with one exception. One significant main effect for competitive level was present. It was found that competitive athletes employed self-talk to help their mental preparation more frequently than their less competitive counterparts, $F(1, 48) = 8.59, p = .005, \text{partial } \eta^2 = .15$.

DISCUSSION

The primary aim of the study was to examine the influence of the coach in encouraging the athletes' utilization of self-talk. The influence of competitive level was also considered, as well as the use of self-talk reported for competition and practice settings. The majority of athletes indicated that their coaches had encouraged the use of self-talk. Moreover, the reasons why self-talk was promoted were extremely similar to the reasons why athletes report using self-talk (Hardy et al., 2001). In general, neither the promotion of self-talk nor the athletes' competitive level impacted on the frequency with which self-talk was employed.

It should be noted that coaches promoted the use of athlete self-talk for multiple reasons. More specifically, each of Hardy et al.'s (2001) second-order functions were encouraged. This is an extension of previous research which indicates that coaches encourage their athletes to use positive self-talk in order to boost self-confidence (e.g., Vargas-Tonsing et al., 2004; Weinberg et al., 1992). Thus, it would seem that some coaches have learned either through trial and error or education (e.g., coaching programs) that self-talk is a mental skill that can serve a number of functions for the performer. An applied implication that follows is that athletes would benefit even more from better coach (mental skills) education. For example, emphasis should be placed on the multiple functions of self-talk rather than simply its potential confidence boosting quality. Furthermore, given the growing literature surrounding the conscious processing hypothesis (Masters, 1992) and performance decrements under stressful conditions, coaches and consultants should avoid the promotion of self-talk in the form of specific instructions. This is because in high pressure situations, it is theorized that the reinvestment of explicit rules—which can be extremely similar to instructional self-talk—leads to drops in performance levels. On the other hand, employment of self-talk for its numerous motivational functions should be encouraged. Interestingly, it was the motivational mastery function that received greatest promotion in the present study. When this finding is combined with the limited existing literature (e.g., Vargas-Tonsing et al., 2004), it would seem that although athletes and coaches report the encouragement of positive self-talk frequently and believe it to be an effective self-confidence boosting strategy (a motivational mastery-related function), understanding of when coaches encourage self-talk remains unclear. This is an important avenue for future research to

address because if positive self-talk is encouraged by coaches following performance accomplishments, the reinforcement of successful experiences may help explain why the promotion of positive self-talk is viewed as an effective confidence building strategy (Vargas-Tonsing et al., 2004).

Given the importance placed on self-talk as a mental skill within the sports performance domain (e.g., Hardy, Jones, & Gould, 1996), the extremely limited investigation of the effectiveness of self-talk interventions is a surprisingly scarce research theme from the literature. The usage and effectiveness of mental skills have been found to be positively related (e.g., mental imagery; Weinberg, Butt, Knight, Burke, & Jackson, 2003). This is not surprising since it is unlikely that athletes would report high usage of an ineffective strategy. However, it is possible that high effectiveness can be associated with low frequency of use because if a strategy is effective, then there is less need for the repeated usage of that particular strategy. Although this suggestion has received research attention in the mainstream stress literature (e.g., Bolger & Zuckerman, 1995), examination of its applicability to the mental skill of self-talk is currently lacking.

It is possible that the distinction between frequency and effectiveness may help explain the present study's lack of a relationship between coaches' promotion of self-talk and its reported frequency of usage. This is because despite the promotion of self-talk for a particular reason (e.g., relaxation purposes), perceived effectiveness of self-talk might moderate promotion's association with frequency of usage. There are, however, at least two other explanations for the lack of promotion-oriented relationships. First, given that the measure of self-talk employed in the present study focused on the usage of first-order functions but promotion of self-talk was drawn along the lines of the second-order functions, there is incongruence between the two approaches. Although not ideal, this was necessary as a valid and reliable measure of Hardy et al.'s (2001) second-order functions is currently not available. Moreover, given the already problematic small cell sizes, examination of the encouragement of self-talk at the more specific first-order function level would have produced even smaller cell sizes.

As hinted at above, the second explanation, for the lack of significant promotion related findings, is the small sample sizes employed. Post-hoc power calculations ranged from .05 to .56 and from .05 to .82 for the practice and competition related analyses, respectively. Accordingly, it is suggested that the current findings be interpreted with caution, as some Type II errors may have occurred. Future research should take note of the amount of

attrition in the present investigation. Although sampling took place from approximately 100 participants, of relevance to the promotion of self-talk, the largest cell only contained data from 14 participants.

In addition, it is recommended that the significant findings that competitive athletes as compared to their less competitive counterparts, reported greater use of self-talk to assist their mental preparation should also be interpreted with some caution. Although it is possible that more competitive athletes may have realized the importance of and strategies available to them to facilitate their mental preparation within the competition setting, due to the large number of comparisons it is likely that Type I errors may have occurred (Stevens, 2001).

While the present investigation represents an initial attempt to gain understanding of the influence of the coach on athletes' use of self-talk, the limited generalizability of the findings should be noted. In order to control the influence of gender and sport type, a relatively homogenous sample was utilized. More importantly, the present study only assessed one perspective, namely the athletes' perceptions, and it is possible that coaches' views on self-talk may be quite different or supplementary to the current exploratory data. Furthermore, a more structured investigation of the influence of systematic self-talk promotion might provide useful insight.

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