Kiyoshi Perkins
Dr. L. Robinson
English 1130.013
5 August 2014

Thesis

Sport and Exercise Psychology has become a field of its own, exploring many aspects of an athlete's mind. Self-talk, defined as an act or practice of talking to oneself aloud or silently, is an important feature for athletic success. It can be used pre-, post-, and during competition, and can be very effective in an individual sport. An individual sport involves one athlete competing against either himself or against another athlete, with little to no support except from his coach. Studies have shown an increase in an athlete's performance during a competition while properly employing self-talk (Hrycaiko, Patrick 291-292). Keeping track of the physiological changes the brain undergoes when employing properly-trained self-talk has yet to be accurately monitored and documented. Thus, the bulk of research in regards to an athlete's self-talk has focused his improved physical performance as that is the easiest component to monitor. This paper will explore the methods used in the proper development of a mental routine, the subsequent fine-tuning of self-talk to suit the individual athlete, and the current levels of research in regards to an improved performance due to self-talk. The research chosen looks at sports such as long-distance running and fencing because the participating athletes must focus on the immediate problems while keeping an eye out towards future problems that may arise. How much attention should he focus on using self-talk on a day-to-day basis? Should he reserve self-talk for critical moments only? What about his relationship with his coach?

Self-talk can be broken down into two essential strategies: associative and dissociative. An associative coping strategy involves focusing on internal body sensations such as: breathing,

muscle tension, and race strategy. A dissociative strategy helps to distract the athlete from discomfort or pains of bodily functions during a competition (Hrycaiko, Patrick 284). Applying the associative coping strategies is seen to significantly benefit the athlete's performance, especially in an endurance sport such as long-distance running. Physiologically speaking, any run equal to or greater than two minutes in length is seen to be an endurance event due to the demands placed on the athlete's aerobic systems (Hrycaiko, Patrick 284).

Training an athlete properly to create and employ self-talk is very similar to training someone to use a new physical skill. He may have an easier time learning by reading or hearing examples that other athletes have used rather than being shown a specific step-by-step process, or he could use a trial-and-error process (Ali, Hagag 86). The most basic form of self-talk is a phenomenon enacted out loud or in the head of the athlete (Tovares 261). If the voice is internal, the athlete may develop a dialogue between two differing personalities, as Terri Schneider -- a veteran competitor in Ironman triathlons -- did (Tovares 270). The voices in Schneider's internal dialogic process assumed the form of "the Rock" and "the Pisser": the Rock assumed a supportive role, bringing Schneider's thoughts back to what mattered; and the Pisser became an angry, brash, pushy persona, never satisfied with anything Schneider achieves (Tovares 271). The loud and assertive voice, like the Pisser, can push an athlete to reach his goals, but is not always in control. Using the internal dialogic process can assist in the development mental toughness: including the qualities of sacrifice and a refusal to give in (Ali, Hagag 86). It has been suggested there are three general categories of self-talk (Foster, St Clair Gibson 1030). The first category is regressive self-talk: which involves a release of emotional energy, such as when someone hurts themselves, that is not directed anywhere or at anyone specifically. The second category is intrapersonal self-talk: which is related to structuring and sustaining cognitive

capacity, such as repeating a phone number to memorise it. The third category is interpersonal self-talk: which involves directing the dialogue towards communicating the self-talk with others, such as when rehearsing a speech. The athlete is likely to employ regressive self-talk during a competition, after refining it to suit his needs. Intrapersonal self-talk is to be expected when the athlete needs a quick mental boost, such as right before a big race. Finally, interpersonal is most likely to reserved for use between the athlete and his coach.

Once the athlete has established a suitable method of self-talk for himself -- be it internal or external -- the next step is determining whether a positive voice is more beneficial than a negative voice. In psychology, a positive voice -- such as Schneider's "Rock" -- is often viewed as centripetal: a force that brings mental aspects together and keeps them on track for the athlete's benefit. The opposite of centripetal is centrifugal: whereupon the aspects are driven apart, which can help isolate the required aspect or aspects for that given moment (Tovares 271). While the athlete may employ both the positive and negative voices, the decision of which voice is more pertinent rests with the athlete and his experiences. If the athlete's dialogic process employs only a single voice, a decision must be made as to which style of voice is chosen, again based upon the athlete and his experiences.. Chroni et. al (770) developed and implemented the Automatic Self-Talk Questionnaire for Sports (ASTQS) to ascertain what style of voice the athlete relies on. The questionnaire contains 40 items to assess four positive and four negative self-talk dimensions: confidence, anxiety control, psych up or boost, and instruction for the positive areas; worry, disengagement, somatic fatigue, and irrelevant thoughts for the negative areas.

The coach-athlete relationship dynamic plays is another factor in the decision of which voice is stronger to the athlete. If his coach employed more of a negative approach in commands

and other instructions, then the athlete was likely to have a superior response to his own negative self-talk voice (Chroni et. al 780). However, if the athlete employed a primarily negative self-talk dialogue, it was found that he was more vulnerable to outside influence of his significant others. Every athlete should keep in him his own tendencies as well as that of his coach when fine-tuning his self-talk.

The physiological effects of a self-talk developed self-talk package on an athlete's have been researched and documented extensively through the years, but the mental and psychological components have not (Foster, St Clair Gibson 1029). What little research that has been conducted has been focused on motivational strategies, all but ignoring the control process labeled 'self-talk.' Furthermore, it can be difficult for researchers to observe an athlete applying self-talk in the proper setting without disrupting the athlete and coach's routine (Chroni et. al 781). Athletes have composed their thoughts on light-weight micro-cassette recorders during their training runs, with the purpose of analysing the thoughts afterward (Foster, St Clair Gibson 1032), which can reduce the amount of subjective reporting on self-talk thoughts. Foster and St Clair Gibson focus their research primarily on self-talk and its importance throughout life. Once an athlete defines their self-talk habits, with help from the ASTQS, they can begin to narrow down when self-talk is most required in a training session or competition (Foster, St Clair Gibson 1031). Though most athletes will find that self-talk is required more in competition, it may not be required until the final moments, or perhaps only during a particularly difficult part. Training your self-talk is paramount to employing it successfully, as self-talk may be a crucial component in conscious perception and self-awareness (Foster, St Clair Gibson 1030). Unofficial training, preparation not supervised or guided by an outside influence, is crucial from a young age. An

impaired development of self-talk can lead to mental and physical performance deficits in adulthood (Foster, St Clair Gibson 1030).

Research has begun to narrow down what portions of the brain are specifically active for self-talk. Speech is regulated to a specific region in the left frontal lobe of the brain, as discovered by Broca, and in the posterior superior temporal cortex, as discovered by Wernicke (Foster, St Clair Gibson 1037). Wernicke's area is responsible for the processing of acoustic information and converting non-verbal meanings into 'acoustic images', while Broca's area is responsible for the generation of speech and vocalisation of the acoustic images generated in Wernicke's area. This is a simplistic model, but serves to assist research for the physiological effects self-talk has on the brain. It also shows, even at this simplistic view, the complexity of the self-talk process which highlights the importance of formal competent training. The plasticity of the brain -- that is to say neuroplasticity -- is how the brain changes in response to external stimuli or damage. If the brain is damaged, such as by a stroke, it can undergo a form of rehabilitation to restore at least some of the previous functions via the remaining undamaged portions 'taking over' (Foster, St Clair Gibson, 1040). The self-talk likewise adapts, fragmenting into new voices that can make sense of the current crisis or trauma (Foster, St Clair Gibson, 1041).

While self-talk is a phenomenon difficult to classify and study, its practice has yielded positive results, both physically and mentally. It is widely acknowledged by coaches and athletes that sporting success is 40 to 90 percent due to mental factors (Ali, Hagag 86). Every athlete, and indeed every person, must find their own unique way of developing and fine-tuning self-talk to suit their distinctive needs. Whether positive or negative reinforcement, self-talk is beneficial in many facets of life, and a lack of self-talk can impair many normal functions in life.

Research has shown that self-talk is a simple concept that can have positive and long-lasting results with very little training, and it takes little imagination to see what proper training can do. Perhaps one day researchers can accurately perceive how the athlete manages his inner voice or voices, the process of constructing or reconstructing his mental identity, and how his new knowledge affects his recollection of his past experiences; no matter his sport or experience, whether in sport or in life. It is acknowledged the lack of research done regarding the physiological changes undergone in the brain, but mainly due to insufficient technology rather than an actual lack of changes. If technology advanced to such a point, it could not only help athletes have better performances, but it would also strongly benefit people with mental disorders such as schizophrenia, and monitor when and how auditory hallucinations occur.

Works Cited

Ali, Mahrousa, and Hussein Hagag. "The Relationship Between Mental Toughness and Results of the Egyptian Fencing Team at the 9th All-Africa Games." *Ovidius University Annais, Series Physical Education and Sport/Science, Movement and Health* 14.1 (2014): 85-90. *SPORTDiscus with Full Text*. Web. 19 May 2014.

Hrycaiko, Dennis W., and Thomas D. Patrick. "Effects of a Mental Training Package on an Endurance Performance." *The Sport Psychologist* 12.3 (1998): 283-299. *PsycINFO*. Web. 22 May 2014.

Foster, Carl , and Alan St Clair Gibson. "The Role of Self-Talk in the Awareness of Physiological State and Physical Performance." *Sports Medicine* 37.12 (2007): 1029-1044 *SPORTDiscus with Full Text*. Web. 22 May 2014.

Tovares, Alla V. "Managing the Voices: Athlete Self-Talk as a Dialogic Process." *Journal of Language & Social Psychology* 29.3 (2010): 261-277. *PsycINFO*. Web. 18 May 2014.

Chroni, Stiliani, Antonis Hatzigeorgiadis, Yannis Theodorakis, Nikos Tsiakaras, and Nikos Zourbanos. "A Multimethod Examination of the Relationship Between Coaching Behaviour and Athletes' Inherent Self-Talk." *Journal of Sport & Exercise Psychology* 32.6 (2010): 764-785. *SPORTDiscus with Full Text*. Web. 02 June 2014.