

## Enhancing the Hopes and Performance of Elite Athletes Through Optimism Skills

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### Abstract

The first aim of this paper was to provide an understanding of how elite athletes' explanations link with their expectations and subsequent performances. As Schinke & da Costa (2000b) have argued, explanations are more than situated reasons for performance. Causes represent the performer's underlying interpretations and beliefs, and they predict exertions in effort, and self-fulfilling outcomes over time (Peterson, 2000). With this paper, we have suggested how explanations and performance have a reciprocal relationship for the elite athlete. A second objective with this paper was to clarify how the behaviors of optimism and pessimism learned within the parent/child relationship, and teacher/student relationship, both elaborated by Seligman (1991), can also hold true for the coach/athlete relationship. Based on evidence from Schinke and da Costa (2001a), it is suggested that athletes do not begin their elite athletic careers with predetermined explanatory patterns and behaviors. Rather, coaching staff and support-staff teach variances in optimism to their athletes. Further, we have suggested that each respective level of athlete development can provide a new opportunity in which to teach athletes positive explanatory patterns. Finally, and logically, it follows that sport and motivation researchers and practitioners can effect optimistic change at the athlete and team levels by altering explanatory patterns and by challenging how performers gather their evidence. Additionally, we can increase the chance of athletes' optimism skills waxing with time by teaching parallel optimism skills to their support-staff, starting with their coaching staff.

## Introduction

The explanations of elite athletes and coaches fill our newspapers (Peterson, 1980). For those who find their eyes wondering to the sport section each morning over breakfast, there are reasons provided why our favorite athletes and teams perform as they do. Sport researchers including Biddle (1993) and Roberts and Pascuzzi (1979) have proposed that athletes explain the causes of their performance to several different factors. Some athletes explain outcomes as personal factors; others explain them in terms of the attributes of teammates or opponents (Schinke & da Costa, 2000a). Some athletes believe that their immediate results are permanent fixtures of performance, others believe that their results can fluctuate with time or effort (Schinke & da Costa, 2001a). Elite athletes' explanations indicate as much about the athletes, as the circumstances they describe (see Rettew & Reivich, 1995). Explanations provide insight into the deeply imbedded set of beliefs that are not only reflections of one's past, but also, self-fulfilling expectations of one's future performance. Seligman (1991) found that Olympic and Professional athletes' interpretations of earlier results are a more important predictor of future performance outcomes than the most precise statistical odds. Given that there is a close link between explanations and the ongoing pursuit of excellence, this paper will address what explanations mean to the development of elite athletes.

Specifically, our intentions with this paper are twofold, 1) to clarify the implications of elite athlete explanations of earlier sport performances on their later beliefs and performances, and 2) to carry this one step further by suggesting how to develop a proactive approach to elite athlete optimism and excellence in elite sport. The latter intention is extremely important to coaches,

management, and practitioners interested in fostering positive experiences and success. The intervention strategy we propose is grounded in Seligman's (1991) learned optimism strategies.

## So what is in an Explanation?

Explanations are the reasons that people provide for circumstances relating to their own results or the results of others (Reber, 1995). There have been two prominent groups contributing to the attribution literature; those using Weiner's (1979) achievement motivation framework, and those adopting Abramson, Seligman, and Teasdale's (1978) learned helplessness formulation. The former movement, founded on research conducted by Bernard Weiner, provided motivation researchers with a popular and well-tested classification model for post-achievement attributions. In so doing, Weiner developed a framework that was used by many sport scientists to consider the explanations following athletic results (see Biddle, 1993 for a review). It was suggested that athletic performances, much like all other performances, would be assigned to four main attributions: ability, effort, the task's difficulty, and luck (McAuley, 1985). These attributions were evaluated based on the attributer's perception of control, where causality was assigned to, and the perceived extent that the cause would be stable over time (Weiner, 1985).

Each respective explanation, which was considered based on attribution and dimensional emphasis, was suggested to evoke an emotional response within the performer (Weiner, 1986). For instance, a loss that was attributed by athletes to personal inability evoked a response of shame. A loss that was attributed to a lack of support staff effort, in contrast, triggered an emotional response of anger. Though research using Weiner's framework pre-

dicted emotional responses (e.g., Brawley, 1984; McAuley, 1985), it did not bridge how explanations were linked with the performer's motivations, behaviors, and results in the short- and long-term. Hence, over the last decade, research using Weiner's attribution framework has waned in the sport sciences. In its place, researchers and practitioners have sought out new methods to understand the explanations of athletes in relation to agency, motivation, and on going performance (e.g. Newburg & Perrin, 1993; Orlick & Partington, 1986; Schinke & da Costa, 2000b).

Martin Seligman was a leader in considering explanatory patterns in relation to variances in peoples' motivations and behaviors (Peterson, 2000). With research stemming from studies in depression, Seligman has spent the last four decades building a convincing argument that causes are more than reflections without personal consequence, or words selected solely for their effect on an intended audience (Gillham, 2000). Causes are actual indications of how people think and feel about their own capacities in lieu of past experiences, and following, how reflections lead to subsequent hopes and behaviors in the short- and long-term. Employing a motivational framework initially developed by Abramson, Seligman, and Teasdale (1978), and grounded in peoples' explanatory patterns by Alloy, Abramson, Metalsky, and Hartlage (1988), athletes' causal explanations have been evaluated along three dimensions. These dimensions are causal permanence, personalization, and pervasiveness (see Seligman, 1991 for a review). Where an athletes' causes reside in relation to all three dimensions provides insight into how performances are evaluated, and how causes link with hopes for the future (Rettew & Reivich, 1995). Expectations, which are developed based on a series of past experi-

ences, provide indications of just how resilient athletes will be in terms of their behavior, should anticipated adversities materialize during performance. Each dimension will now be discussed in terms of what it means to elite athlete resilience and success.

### **Permanence**

Athletes' explanations can in part be considered in terms of permanence; whether one result [or a series of results] is believed as likely to occur consistently, infrequently, or at all, in the future (Seligman, 1991). Some athletes believe that declines in their performance are impermanent, and that success will happen more frequently than not (Rettew & Reivich, 1995). For Lennox Lewis, a renowned heavyweight boxer, the supposed likelihood of becoming acquainted with the canvas seemed an unlikely prospect after a recent professional loss in the spring of 2001. Lennox' prediction of a pending win in the fourth round of his autumn 2001 rematch, suggested that he predicted his previous loss as impermanent. The self-perceived impermanence of athletic decline indicated by predictions of pending improvement served as a catalyst to heightened effort and eventual success. If Lennox were to have explained, as one Olympic Boxer did a few years ago to Schinke and da Costa (2000a), that poor results were an inevitable fixture of personal performance, his results would have been considered as contributing to permanent and debilitating expectations, motivations, behaviors, and eventual results. From these contrasting examples of how losses can be interpreted, it seems reasonable to deduce that sub-par performances are not as debilitating to elite athletes as how they interpret mitigating causes.

Explanations after success also influence elite athletes' motivations, and this influence

again depends on perceived causal permanence (Seligman, 1991). Successful athletes who predict future success as foreseeable undoubtedly hold positive and thus motivating expectations for their future. Athletes including Maurice Green, Mario Lemieux, and Michael Jordan fall into this category, and spend considerably more time focusing on what is needed to remain successful than its alternative: a preoccupation with future loss. By placing emphasis on what is controllable, successful athletes are able to remain successful, and are less apt to misdirect their focus on unforeseeable and uncontrollable possibilities (Rettew & Reivich, 1995).

There are other successful athletes who view their successes as impermanent (Seligman, 1991). Among this latter group, successes are seen as momentary, random, and lacking pathways to future success (Schinke & da Costa, 2001a, 2001b). Successes believed to random are typically ascribed to a lucky day, being on, experiencing the right weather conditions, or an unintended personal action or series of actions. When success is explained as impermanent, it fosters negative anxiety, a decline in confidence, a resulting decline in motivated behavior, and finally, the diminishment of performance and results (Schinke & da Costa, 2001b). Hence, success that is attributed to luck or other uncontrollable forces will not motivate and foster athletic excellence as much as any outcome paired with the anticipation of future control over pathways to success.

### **Personalization**

Explanations of performance are also considered in terms of the situating of accountability (Seligman, 1991) or locus of control (Rotter, 1975, 1989). If athletes explain their wins and losses in terms of personal efforts, personal abilities, or the ebbs and flows in their performance, expla-

nations reside closer to an internal assignment of responsibility, than an external one. On the other hand, if wins are explained to the lackluster results of others, or tailored climactic conditions, and losses to the exemplary performances of competitors, assignments reside within someone else, or something else's control.

Schinke and da Costa (2001b) found that elite athletes typically have a broad base of successful experiences and a resilient belief of self to draw on during momentary setbacks. Smaller margins of error at the elite level dictate a more complete evaluative process. The result for many is a minimizing in distorted self-appraisal, a reduction in negative emotions, a resulting increase in understanding of performance related pathways, and a subsequent increase in hope, persistence, and accomplishment. Hence, at least for elite athletes, accurate information is often gathered regarding when to adopt or alter the internally and externally controllable pathways leading to mastery, and when to replace these with the useful momentary coping strategies (Bandura, 1997). Both tactics increase the elite athlete's opportunity for success through active measures. Exercises for mastery and coping circumstances can be found among Orlick's (2000) innovative sport psychology techniques.

### **Pervasiveness**

The third aspect of the athlete's explanation is its evaluation along a continuum between specific situations and general traits (Seligman, 1991). Qualities that can be either confined to one context, or pervade across contexts, include such constructs as courage, optimism, confidence, and the capacity to be socially intelligent. To illustrate pervasiveness in sport explanations, let us consider the attribute of courage in boxing. For the boxer, courageous actions can be limited to

one bout, or they can extend throughout a professional career where all bouts are fought with high levels of conviction and resilience regardless of uncertainty and fear. Expanding further, the boxer's courage can transcend boxing altogether, and enter into domains such as bomb disposal, police undercover work, or becoming an air marshal. These latter forms of courage transcend contextually imbedded action, and imply a deeper trait of courage that can be regarded as inherent.

Assessing pervasiveness in elite athletes' explanations provides insight into whether athletes regard positive or negative actions as momentary or deeply imbedded attributes (Seligman, 1991). When actions are positive, successful, and regarded as indicative of a general behavior, they will be employed with consistency, and thus, be applied in a variety of life circumstances (Schinke & da Costa, 2001a). When positive behaviors are explained as situational instead of trait like, the underlying suggestion is that they will not be carried forward and implemented with the same conviction and success in a variety of different contexts. Just as a positive attribute might be regarded as pervasive [or not], so might a less desirable attribute such as cowardice, unbridled anger, or irrational thinking. Consider the attribute of unbridled anger in terms of Mike Tyson's capacity to bite a boxing opponent's ear lobe in a moment of frustration. It is conceivable that his anger and loss of self-control were situational and momentary. After all, we have not read of any additional ear-biting episodes recently when Tyson's name has been mentioned in the tabloids. Ongoing exhibits of behavior confined to boxing exploits would suggest that the behavior is not momentary, but that it might be contextual. If the behavior of rage carried outside of boxing to interpersonal relations, it would be regarded as a

negative and pervasive attribute that transfers across several discrete contexts. Taken a step further, if Tyson developed the belief that a complete loss of temper or control could occur anywhere, the consequence would most likely be a diminished belief in self-composure and a self-perpetuating decrease in general self-confidence (Bandura, 1990, 1997). Hence, what differentiates pervasiveness from permanence and personalization is its possible confinement or extension from one context to one's entire self-identity, one's self-label, and potentially, how one generally behaves.

### **What do Explanations Reveal about On-going Excellence among Elite Athletes?**

Until now, we have outlined the nature of athletes' explanations, and what they suggest about athletes' perceptions. It seems clear that elite athletes can be differentiated from each other based on how they explain previous performances in relation to future expectations. Some elite athletes explain their outcomes in a manner that perpetuates the ongoing striving for excellence. These athletes are loosely regarded as optimistic sport performers (Rettew & Reivich, 1995). Taking one example of optimistic sport behavior, Seligman, Nolen-Hoeksema, Thornton, and Thornton (1988) found among the University of Berkeley Swim Team that some athletes rebounded after receiving poor swim times by increasing their efforts. Setbacks were explained to impermanent and personally controllable factors, and the result was increased effort and immediate success. Schinke and da Costa (2000a) similarly found among a small group of Canadian national team athletes that respondents were broadly divided into two groups based on differences in expectation of success, with only the optimistic group willing to focus on solution-based thinking, and the retrieval of pathways to tournament success. Seligman



(1991) confirmed that the same trend held true of professional basketball and baseball teams, with optimistic expectations predicting increased persistence and success over the span of several seasons. Together, these findings suggest that elite athletes [and teams] with optimistic explanatory patterns tend to respond with vigor to sport challenges and setbacks regardless of previous performance and increased task difficulty. Further, it seems clear that optimistic responses reflect positive outcome expectations and the proactive/solution-based thinking necessary for ongoing success within elite sport.

As suggested throughout this paper, there is also a second group of athletes, but they are broadly defined as pessimistic in their sport-related explanations and beliefs (Rettew & Reivich, 1995). Pessimistic athletes perceive and explain their pathways to success as impeded at least to an extent by one or more of the following: personal, other person, or circumstantial barriers (Schinke & da Costa, 2001a). Pessimistic athletes within the Berkley Swim Team assessed by Seligman and colleagues (Seligman, Nolen-Hoeksema, Thornton, & Thornton, 1988) decreased their efforts after adversity because they assigned results to uncontrollable and permanent circumstances such as personal inability. The same findings held true for the pessimistic Professional and Olympic athletes identified by Seligman (1991) and Schinke and da Costa (2000b). With explanations reflecting a negative interpretation style, the resulting behavior of apathy, or learned helplessness seemed logical. There would be no reason to increase effort when associated beliefs of incurable inability or circumstance served as the primary reasons for loss. In place of a search for solutions, then, the result of tournament-related pessimism for elite athletes was a downward spiral of impeded

performance stemming from one negative performance and perpetuating itself through a debilitating interpretive / explanatory pattern.

### **Optimism for Elite Athletes and Elite Contexts**

Given the evidence mounted to this point, it seems that elite athletes' explanatory patterns are central to the understanding of their hopes and beliefs as well as the prediction of their short- and long-term results. The next logical consideration is whether the explanatory patterns of elite athletes are learned, and if so, whether they can be improved in the short-term and optimized in the long-term? Both of these questions are addressed in this section on elite athlete and context optimism. Additionally, recommendations are provided regarding how to develop elite athlete potential to the fullest through athlete and coaching staff training.

### **Where do explanatory patterns originate?**

Until now, researchers interested in the socially learned aspects of optimism and pessimism have mostly confined themselves to parent-child and teacher-child transmissions of behavior (see Seligman, 1991), and much can be learned from their explorations. From that attribution research it is clear that parents educate their children in the areas of socio-economics, interpersonal relations, and personal and generalized expectations. Seligman (1991) has found that children learn their values and beliefs from their parents' explanatory patterns. Focusing on the learning of personal and inter-personal expectations, Seligman, Reivich, Jaycox, and Gillham (1995) have noted that most children are born optimistic and hopeful, but that their outlook does not necessarily remain that way. Parents, who explain their setbacks to permanent and pervasive factors, seem more

likely to transfer pessimistic generalized expectancies than do optimistic parents. Similarly, teachers who label their students are likely to instill beliefs that foster variances in learning capacity (Schinke, da Costa, & Andrews, 2001). In both instances, what seems to be acquired is one's likelihood of success given personal attributes and the externally instilled beliefs from the credible people in one's environment.

A child's learned behaviors from parents and teachers have a profound effect within the areas of life outlook and academic capacity, respectively. Peterson (2000) has recently hypothesized that feedback from either source can begin effecting the individual at either situational or global levels. Where the acquired explanatory pattern from a parent can be general and indicative of how situations are to be interpreted, the teacher's messages to the child might be constrained to academic learning. Schinke and da Costa (2001a) have suggested that the athlete's hope of performance can be regarded on the situational level as in formal educational domains even though interpretive patterns and labels can permeate to one's entire self-image. Paralleling elite athletes to the students placed in educational settings, Schinke and da Costa's preliminary research indicates that sport-related explanatory patterns and beliefs are passed from coach to athlete. Anecdotal evidence indicates that athletes begin the elite level of their sport careers with the same formative ambition as Seligman and colleagues' hopeful school children (Seligman, Reivich, Jaycox, & Gillham, 1995) and as Schinke and colleagues hopeful graduate students (Schinke, da Costa, & Andrews, 2001). There is a belief in personal attributes, a belief in support-staff efforts and abilities, and a belief in the likelihood of success. Despite shared initial hope among elite athletes,

Schinke and da Costa (2001a) have found that explanatory patterns and resulting differences in success follow from personal coaches' sport-related views. Optimistic coaches teach the hopeful expectations necessary for ongoing persistence, solution-based thought, and resulting athletic excellence. Pessimistic coaches, in contrast, prepare their athletes for the reduced likelihood of sufficient pathways to consistent athletic excellence. Concurrently, the pessimistic athletes learn the same problem-focused thinking as their coaches. The result for both groups is a learned expectation of future development, a learned habit of how to frame confirming evidence, learned self-regulatory strategies, and a learned level of resilience that can shape long-term results.

### **Resilient performance through optimism training**

Given what has been said thus far, the final step with this paper is to consider where we might begin when attempting to foster increased athletic optimism and excellence in the future. Though we have not mentioned it until now, it must be recognized that elite sport has already provided people in general with a unique forum to consider motivated behavior at its finest (Peterson & Seligman, 2001). Sport psychology authors including Terry Orlick (2000) and Al Huang and Jerry Lynch (1992) have suggested how to excel in all types of performance including sport, business, and life. Despite a strong indication that elite sport is at the forefront in suggesting pathways to motivated behavior, there is still some room for growth. Two areas suggested in this article are the understanding of explanatory patterns and the learning of optimism skills (see Seligman, 1991).

Over the course of the last ten years, optimism intervention strategies have been developed through Martin Seligman and his

colleagues within the Department of Psychology at the University of Pennsylvania. The emphasis of their research, outlined by Schatté, Gillham, and Reivich (2000), has been to identify pessimistic students, teach them optimism strategies, and then to monitor persistence and school-related success longitudinally. Samples of primary, adolescent, and university students, have been taught optimism skills including how to dispute negative thinking, how to reduce catastrophic thinking, and how to frame life circumstances based on the previously outlined optimistic dimensions. The results of nearly a decade of research indicates that students regardless of age and background can become more optimistic providing they work diligently on their skills over time (Seligman, Schulman, DeRubeis, & Hollon, 1999). Most recently, Seligman and colleagues have also started to deliver parallel optimism skills to teachers with the hope that optimistic pedagogy will increase the resilience within student populations. The concept of optimistic learning supported by optimistic teaching is intuitively appealing, though long-term results have yet to be fully evaluated.

Within elite sport, preliminary optimism research shows that instructor/coach education is a necessary starting point when the intention is to instill athlete optimism, persistence, and success (Schinke & da Costa, 2000a). Schinke, Peterson, and Seligman (2001) have recently developed a protocol to teach optimism to elite coaches and their athletes in the hopes of ensuring athlete resilience over the long-term. The module is based on the Penn Optimism Program developed by Gillham, Jaycox, Reivich, Seligman and Silver. Its emphasis is twofold: to increase coaching staff self- and team-awareness, and to teach optimism behaviors in response to elite coaching and athlete challenges. In terms of self-aware-

ness aspects, the module assists elite coaches in an understanding of their sport-related explanatory patterns, and how these in turn affect athlete behaviors. Self-reflection is measured through the use of Peterson, Semmel, von Baeyer, Abramson, Metalsky, and Seligman's (1982) Attributional Style Questionnaire (ASQ). Additionally, the coaches are asked to consider where their national team-related views originated, and where and how these views affect their respective team's overall optimism. A second aspect of Schinke and colleagues' (2001) module is aimed at teaching elite coaches and athletes how to explain previous performances and future expectations with optimism. It is hoped that the teaching of optimism skills through a formalized national coaching program, which is currently in progress, will improve elite athlete [and team] optimism and excellence reciprocally. Coaching staff as well as athlete optimism levels and performance outcomes will be monitored closely for the next three years through the 2004 Summer Olympics in Athens with three national teams. These initial steps in elite sport will undoubtedly lead to later developments addressing the contextual refinements necessary for athlete and team long-term excellence across levels of expertise, age groups, and sports.

### **Future Directions**

The final question that needs to be considered is how to further optimism intervention and research within the domain of sport. There are a number of possibilities that might prove promising. One possibility is a deeper consideration along the vein of research that we have pursued thus far. Sport-specific optimism training can be provided to an ever-widening group of support people including elite athletes' parents, siblings, and sponsors. An increase in contextual optimism would enhance each elite athlete's solution-based thinking and



pursuit of excellence, while concurrently minimizing the inherited patterns of negative thinking that enable despondence. A second possibility is that sport optimism training be taken to different levels and age groups of athletes and the coaches who work with them. Educational interventions that target athletes during formative stages could at very least instill athletic resilience, if not a more pervasive resilience transferable to professional and personal domains. A third population and their support-staff that might benefit from optimism training are the sedentary adults beginning sport/exercise adherence. Perhaps optimism skills taught within sport and exercise settings might improve the general well being of adults,

while again suggesting resilience strategies that could be applied across contexts. A final group that we find particularly appealing is youth at risk and those who support them. Perhaps the teaching of athletic resilience to high-risk youth might reduce levels of morbidity, crime, violence, and dysfunction. In the place of negative life habits, an optimistic outlook might provide vulnerable youth, perhaps through midnight sport programs, with the appropriate skills to navigate through momentary adversities. For all groups, optimism training can buffer sport enthusiasts with transferable positive skills for the game of sport and the game of life.

## References

- Abramson, L. Y., Seligman, E. P., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, *87* (1), 49–74.
- Al Huang, Chungliang & Lynch, J. (1992). Thinking body, dancing mind: Tao sports for extraordinary performance in athletics, business, and life. NY: Bantam.
- Alloy, L. B., Abramson, L. Y., Metalsky, G. I., & Hartlage, S. (1988). The hopelessness theory of depression: Attributional aspects. British Journal of Clinical Psychology, *27*, 5-21.
- Bandura, A. (1990). Perceived self-efficacy in the exercise of human agency. Applied Sport Psychology, *2*, 128-163.
- Bandura, A. (1997). Self-efficacy: The exercise of control. NY: W. H. Freeman.
- Biddle, S. (1993). Attribution research and sport psychology. In R. N. Singer, M. Murphy, & L. K. Tennant (Eds.) Handbook of research in sport psychology (pp. 437–464). New York: Macmillan.
- Brawley, L. R. (1984). Unintentional egocentric biases in attributions. Journal of Sport Psychology, *6*, 264–278.
- Brawley, L. R. & Rejeski, J. (1983). Attribution in sport: Current status and new perspectives. Journal of Sport Psychology, *5*, 77-99.
- Gillham, J. E. (2000). Introduction. In J. E. Gillham's (Ed.) The science of optimism and hope: Research essays in honor of Martin E. P. Seligman (pp.3-10). Philadelphia, PA: Templeton.
- Gillham, J. E., Jaycox, L. J., Reivich, K. J., Seligman, M. E. P., & Silver, T. Penn Resiliency Program: depression prevention for school children. Unpublished Manual.
- MacAuley, E. (1985). Success and causality in sport: The influence of perception. Journal of Sport Psychology, *7*, 13-22.
- Newburg, D. & Perrin, T. (1993). Mental strategies of successful role players in basketball. Contemporary Thought on Performance Enhancement, *1*, 92-109.
- Orlick, T. (2000). In pursuit of excellence. Champaign, IL: Human Kinetics.
- Orlick, T., & Partington, J. (1986). Psyched: Inner views of winning. Ottawa: Coaching Association of Canada.
- Peterson, C. (1980). Attribution in the sport pages: An archival investigation of the covariation hypothesis. Social Psychology Quarterly, *43*, 136–140.

Peterson, C. (2000). The future of optimism. American Psychologist, 55 (1), 44-55.

Peterson, C., & Seligman, M. E. P. (2000). Values in action classification of strengths. <http://www.psych.upenn.edu/seligman/taxonomy.htm>

Peterson, C., Semmel, A., von Baeyer, C., Abramson, L. Y., Metalsky, G. I., & Seligman, M. E. P. (1982). Attributional style questionnaire. Cognitive Therapy and Research, 6, 287-299.

Reber, A. S. (1995). Dictionary of psychology. NY: Penguin.

Rettew, D., & Reivich, K. (1995). Sports and explanatory style. In G. McClellan Buchanan & M. E. P. Seligman (Eds.) Explanatory style (pp. 173–186). NJ: Erlbaum.

Roberts, G. & Pascuzzi, D. (1979). Causal attributions in sport: Some theoretical implications. Journal of Sport Psychology, 1, 203-211.

Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. Journal of Consulting and Clinical Psychology, 43 (1), 43-51.

Rotter, J. B. (1989). Internal versus external control of reinforcement: A case study of a variable. American Psychologist, 45 (4), 489-493.

Schinke, R. J. & da Costa, J. (2000a). How major-games competitors develop. Coaches Report 7 (2), 25-29.

Schinke, R. J. & da Costa, J. (2000b). Qualitative research in sport psychology. Avante, 6 (3), 38-45.

Schinke, R. J. & da Costa, J. (2001a). Understanding the development of major-games competitors' explanations and behaviors from a contextual viewpoint. Athletic Insight, 3, (3), Available on the World Wide Web: <http://www.athleticinsight.com/Vol3Iss3/ExplanationDevelopment.htm>.

Schinke, R. J. & da Costa, J. (2001b). An organizational approach to major-games athletic performance. Athletic Insight, 3 (2), Available on the World Wide Web: <http://www.athleticinsight.com/Vol3Iss2/SupportInfrastructure.htm>

Schinke, R. J., da Costa, J. L., & Andrews, M. (2001). Social cognitive considerations regarding graduate student difficulties. Alberta Journal of Education, 17 (4), 342-353.

Schinke, R. J. Peterson, C., & Seligman, M. E. P. (2001). Resilience training for national teams: Coaching staff manual. University of Pennsylvania.

Seligman, M. E. P. (1991). Learned optimism: How to change your mind and your life. NY: Pocket Books.

Seligman, M. E. P., Nolen-Hoeksema, S., Thornton, N., & Thornton, K. M. (1988). Explanatory pattern as a mechanism of disappointing athletic performance. Psychological Science, *1*, 143–146.

Seligman, M. E. P., Reivich, K., Jaycox, L., & Gillham, J. (1995). The optimistic child. NY: Houghton Mifflin.

Seligman, M. E. P., Schulman, P., DeRubeis, R. J., & Hollon, S. D. (1999). The prevention of depression and anxiety. Prevention and Treatment, *2*. Available on the World Wide Web: <http://www.journals.apa.org/prevention/volume2/pre0020008a.htm>

Shatté, A. J., Gillham, J. E., & Reivich, K. (2000). Promoting hope in children and adolescents. In J. E. Gillham (Eds.) The science of optimism and hope (pp. 215-234). Philadelphia, PA: Templeton Foundation.

Weiner, B. (1979). A theory of motivation for some classroom experiences. Journal of Educational Psychology, *71*, 3-25.

Weiner, B. (1985). An attribution theory of achievement motivation and emotion. Psychological Review, *92* (4), 548-573.

Weiner, B. (1986). Attribution, emotion, and action. In R. M. Sorrentino & E. T. Higgins (Eds.) Handbook of motivation and cognition Vol. #1 (pp. 281-311). NJ: Erlbaum.