A Plausible Relationship between Support-Infrastructure and Major-Games Athletic Performance

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ABSTRACT

There are contextually imbedded reasons why some major-games athletes perform with higher outcome expectations than others. Adopting Bandura's (1986) efficacy framework, this paper targets the relationship between support-infrastructure functioning and national team athletes' performances at major-games. The importance of support-infrastructure (human resource) assistance will be considered for high and low efficacy major-games athletes. This paper is intended for applied sport psychology practitioners interested in facilitating short- and long-term major-games athlete development. Recommendations are also provided for sport scientists interested in conducting field research that informs context specific interventions.

Introduction

Every four years, people watch with national pride and interest as their country's chosen athletes challenge those from other parts of the world. They relish in the success of their nation's medallists, and in some instances, they attempt to explain why their touted favorites do not live up to visible and anticipated athletic expectations. During the recent 2000 Summer Olympics, Canada's high-performance athletes, media, mission games associations and national government sport bodies, explained the decline in athlete - medal ratios to the external attribution of inadequate federal sport funding (Cleary,
2000; Morris, 2000). Such attributions are limited and contextually remote in terms of accountability. Within high-performance sport contexts, according to Bandura (1997), one performance related aspect worth considering is the relationship between athletes and the support-infrastructure who are meant to assist them in their athletic pursuits.

Bandura (1997), Seligman (1991) and Peterson (2000) have noted that people do not develop and sustain their motivation autonomously. In terms of high-performance sport, Bloom (1985) and Salmela (1994) have recognized that athletes develop and perform in collaboration with support from family and personal coaches. It seems that the emotional and financial support of parents and the emotional, technical and tactical support of personal coaches are fundamental to the development and persistence of high-performance athletes in sport over their career span. To this interactive human component of performance, Schinke and da Costa (2000) have recently noted that high-performance athletes explain other national team athletes, national sport organizations (termed NSO's), and major-games mission staff as additional causal factors affecting bottom line athletic expectations, and subsequently, tournament results within and across athletic careers. The five aforementioned SI resources, namely parents, personal coaches, NSO mechanisms, teammates and mission staff, all contextually based factors, seem to affect the confidence, long-term motivational persistence and bottom-line results of athletes in the most challenging of amateur sport tournaments - major-games.

In some instances, Jackson (1995) and Orlick and Partington (1986) have noted that high-performance [international level] athletes sometimes perform at exceptional levels during major-games tournaments. When Jackson elicited reasons contributing to major-games athletes' flow performances through semi-structured interviews, explanations common across the respondent group included teamwork and active verbal and emotional support from coaches, emotional support from other athletes and emotional and technical assistance from supplemental expert support-staff. Considered from the standpoint of efficacy, the heightened athletic performance indicative in flow, according to Bandura (1997), stems from the correct and synergistic relationship between the athletes and the contextual factors residing within their performance environment.

As Bandura (1997) eloquently put it, athletes, and so their thoughts and behaviors, are the result of more than personal factors. Rather, athletes, including high-performance athletes, seem to perform best, and with the strongest perceptions of self and contextual mastery, in suitably supportive environments, which include a concomitant of different SI mechanisms (see Botterill, 1996). According to Schinke (2000), it is in part from an organizational approach comprised of appropriately trained, functioning and coordinated personal [athlete selected] and formal [organizationally appointed] support staff resources that physically well prepared high-performance athletes are most likely to achieve levels of exemplary performance in challenging major-games contexts. The relational extent and quality of the aforementioned reciprocal determinants, then, would seem to provide one segment, the contextual and externally controllable part of the reason for high-performance athlete success in major-games.
The implications of parents, personal coaches, other athletes, NSOs and mission staff on athletes’ efficacy and outcome expectations will now be explored in terms of Bandura's (1986) efficacy framework.

Efficacy and Proximal Control

Consider the sources of information through which athletes garner their beliefs of self in relation to their environment. As Bandura (1986, 1990) has already noted, they garner their beliefs of self, and further, the likelihood of achieving given outcomes based on personal experience, vicarious comparisons with similar others, from information relayed by creditable SI, and from information acquired through personal emotional and physiological cues. All four sources of efficacy information, working in conjunction with proximal sources of SI assistance, according to Bandura (1997), have prevalent ties to athletes' major-games performances. The relationship between athletes and SI within their performance environment, as already noted by Orlick and Partington (1986), is arguably of high importance given the level of sport challenge and environmental complexity concurrently. Inevitably, aspiring major-games athletes seek out compensatory mechanisms to foster personal and environmental mastery within major-games contexts. It is the nature of this symbiotic relationship between athletes and their SI mechanisms within the major-games context that will now be considered.

Personal experience and support infrastructure. Bloom (1985) elicited the developmental experiences of successful high-performance athletes, and anecdotal evidence suggested that they experienced considerable success from formative years onward within their respective sport. Incremental confirming experiences, according to Bloom (1985), are explained mostly as the result of personal persistence learned through the adaptive support of parents and personal coaches. Salmela (1994) recognized that ongoing confirming experiences, supported by deliberately devised training strategies from personal coaches, comprise one source of information that follows athletes as they progress experientially through levels of athletic development. Bloom (1985) also found that parents supplement exponential increases of coach-instilled challenge with ongoing emotional and financial support. Together, these two personally vested subsets of SI assistance seem to play a central role in preparing and buffering the motivated and potentially capable aspiring athlete from the types of adversity that surface in earlier and simplified regional and national training and competitive environments.

With an increase in logistical challenge at the major-games level, a topic already considered elsewhere by Botterill (1996) and Orlick and Partington (1986), proximal [external] sources of support seem to take on added importance. The personally confident, highly autonomous, and previously successful high-performance athlete requires an ever-widening circle of SI in order to remain confident of the likelihood of success when faced with major-games tournament challenge. Though adaptive and confirming past experiences can foster an efficacious belief of personal athletic prowess for the high-performance athlete within specified levels of performance, Bandura (1997) recognized that major-games contexts necessitate proximal control mechanisms that transcend the requirements of previous tournaments in earlier developmental levels.
According to Botterill (1996), within major-games, factors such as venue security, media demands, social demands, increased audience attendance, formally designated coaches, NSO administration, and a larger group of venue volunteers, pose logistical challenges encountered by few aspiring high-performance athletes prior to, and other than in, major-games experiences. A decrease in personal autonomy via extended formally appointed SI, an unfamiliarity with the hyped experienced within games contexts, or both factors combined, can leave previously efficacious high-performance athletes with a belief that personal skills are less transferable to the immediate environment than prior to that level of challenge (i.e., previously efficacious high-performance athletes experience a dramatic decrease in their level of efficacy). It is at that point of athletic development where SI mechanisms, and how they provide their respective and collaborative types of service to athletes, take on considerable importance as factors affecting the bottom-line performance results that high-performance athletes, their sport organizations and national governments hope for. Further, it is based on the acquisition of such experiences, and within them, the amount of variance between self-efficacy and subsequent outcome expectations, that future pursuits of athletic excellence are arguably founded.

Vicarious experience and support infrastructure. Tournament related efficacy at the major-games level is also garnered to varying extents by the witnessing or comparison of other equal or more experienced peer athletes training and competing within the same or a similar environment. As Bandura (1990) and Schunk (1995) have acknowledged, the witnessing of other - similarly capable athletes meeting outcome expectations that transcend one's own can increase future expectations of self, given a similar level of task challenge, a similar level of effort exertion and similar sources of proximal control. In relation to the topic matter addressed herein, Bandura (1997) has acknowledged that vicariously garnered confidence must transcend the observation of another's optimized performance achievement to the contributive sources of support that help facilitate the result. In essence, it is not necessarily sufficient for the major-games athlete to view the successful performance of another major-games athlete in the same context in order to retain or increase strength of efficacy. It is also important for the high-performance athlete to recognize the importance of the contributions made by the underlying supports that enable the observed athlete, be it teammate or adversary, to meet or exceed a performance objective. Targeting proximal control mechanisms, providing that one's SI have been viewed as contributive to the similar other's successful performance outcome, the athlete will be more likely to garner a generalized version of confidence that matches personal resources and SI resources with favorable results.

Conversely, it seems plausible based on evidence from Marshall and Schinke (1998), that the inexperienced or inefficacious high-performance athlete witnessing or hearing stories of unexplained decline in tournament performance related by peer athletes, coaching and technical staff can lower performance expectations, resulting in decreased effort exertion. Such synergistic declines in outcome expectations, according to Bandura (1986, 1990), are related to the social comparisons of personal attributes including personal and SI efforts and abilities to those of others with supposed like attributes given a similar task challenge. Considering that teammates and adversaries might face [or might have faced] the very constraints of the individual attempting to garner confidence,
what seems to be gained from watching others is an understanding of the likelihood of success given one's own abilities in lieu of the SI resources in one's environment.

Verbal persuasion from support-infrastructure. It was noted earlier by Bandura (1990) that technical, tactical and motivational information relayed to high-performance athletes by creditable SI members also have a considerable effect on the efficacy and outcome expectations assumed throughout their sport careers. Verbal persuasion from creditable SI is presented as a tertiary source of information supplementing personal experiences and vicarious information for high-performance athletes (see Bandura, 1997). Confirming its importance, when information derived from personal and observed experiences lacked, or when they were questionable given an increase in the level of challenge when compared with previous experiences, researchers including Weinberg (1985) found that persuasive information from SI bolstered performance related confidence, and subsequently, physical performance. Hence, persuasive information from creditable sources of SI were suggested by many including Gould, Hodge, Peterson and Giannini (1989) as a contributory factor to the likelihood of heightened persistence providing such information was positive and immediately suggestive of pathways to athletic success.

The ordering of persuasive information in relation to athletic efficacy seems to differ, however, depending on the variance between athlete self-efficacy and tournament outcome expectations. According to Schinke and da Costa (2000), the highly efficacious major-games athlete, whose high level of efficacy is typically the result of previous adaptive tournament experiences and adaptive SI in formative years, solicits selective external assistance from SI mechanisms. Such requests are meant to minimize and compensate for uncontrollable contextual factors and increase the likelihood that personal efforts will lead to favorable outcomes. The inefficacious athlete, conversely, relies on greater amounts of proximal support from SI to match the belief of self with favorable outcome expectations. Inefficacious athletes have been regarded by Bandura (1997) as co-dependent, or "reliant," on SI for their results. Though some including Bandura (1986, 1990) formerly argued that a highly symbiotic and dysfunctional relationship exists between inefficacious athletes, SI behaviors, and results, the importance of SI mechanisms should not be withheld within a major-games context. Major-games contexts are not appropriate contexts to teach resilience to the personally inefficacious. Instead, as discerned from Försterling (1985), Stanley and Maddux (1986) and Seligman (1991), based on clinical research, SI readily available assistance, if perceived as optimal, can reverse inadequate amounts of self-confidence by deliberately guiding the athlete to success and subsequently ensuring an increased internal assignment of causality.

Hence, it seems reasonable that for some major-games athletes, perhaps due to their inadequate levels of tournament related optimism (see Rettew & Reivich, 1995; Seligman, 1991 for a review), that SI support can reverse a trend of information processing garnered from other sources of efficacy information including personal experience. Further, it seems reasonable that persuasive information from a wide group of SI, depending on whose expertise is needed in the moment, can allay or foster a potential decline in major-games results and subsequent cumulative experiences at future major-games.
Psychosomatic information and support-infrastructure. The judgement of personal capabilities within the context is in part conveyed by the athlete's physiological and affective states (see Bandura, 1997). Much energy within the domain of sport psychology has been dedicated to the refinement of this latter source of efficacy information, often through mental training exercises. Practitioners including Orlick (1990), Lynch (1992) and Millman (1994) have suggested methods of how high-performance athletes have improved their mastery and coping capabilities in order to stabilize or increase levels of self-confidence. The mastery related exercises provided by all of the aforementioned practitioners (e.g., Millman, 1994; Lynch, 1992; Orlick, 1990) included competition planning, pre-formulated self-talk strategies and pre-competition performance imagery techniques. The coping elements they provided encompassed the utilization of momentary relaxation exercises contingency planning, and refocusing plans. Both mental training facets have addressed optimized refinements for the high-performance athlete's psychosomatic state.

Underlying the information that major-games athletes' garner from their physiological and affective states within the tournament context, again, is information regarding the variance between perceived personal capabilities, SI attributes and outcome expectations. Providing major-games athletes have a strong belief in personal capabilities and SI resources concurrently, it seems plausible based on Bandura's (1997) conceptual discussions, that they are more likely to remain generally efficacious in major-games. One elaborated upon outcome of generalized contingency beliefs between personal resources is a psychological and affective state that can be regarded as performance-related optimism. Several of the major-games athletes interviewed by Schinke (2000) recalled that in successful tournaments, they had the appropriate mastery and coping responses to buffer against the overwhelming stress and rumination experienced by their adversaries. Herein is one more example where the relationship between major-games athletes and major-games results is tied to supportive assistance.

Conclusions

From the suggestions offered herein, it seems that the solutions to less than desirable results at major-games extend beyond financial resources to other accessible interventions via SI mechanisms. It seems reasonable based on Bandura's (1997) research that major-games athletes do not perform in a vacuum. Nor can their bottom-line games performance results be explained solely to financial sources. As Orlick and Partington (1986) and Botterill (1996) have recognized from their depth of experience as practitioners within high-performance sport, major-games context are complex. To buffer against the imbedded environmental complexities that are found within major-games situations such as Olympics, and moreover, garner confidence for long-term high-performance results, one aspect that major-games athletes seem to require is well-situated, knowledgeable and collaborative SI.

To flesh out the importance of SI functioning to major-games athletic performance, we have elaborated on their relation to all four sources of Bandura's (1986) efficacy information. It was suggested that one informational cue affecting the confidence of high-
performance athletes within major-games contexts is the personal experience of the athlete. It seems, based on Jackson's (1995) research on flow and Bandura's discussion on athletic efficacy, that outcome expectations and eventual performances are closely related to previous experiences and the related actions of supportive others within those experiences. Consequently, SI mechanisms - depending on their nature - hold the possibility of rendering the highly self-efficacious athlete as completely inefficacious, or of rendering the self-infficacious athlete as somewhat resilient (i.e., the result of a supportive SI) or as entirely despondent (i.e., the result of an unsupportive SI). The development of such behavioral responses, as Bandura (1990) has already noted, however, depends on how the respective athlete experienced success or lack of it at previous games and his or her subsequent interpretation of self in relation to performance context.

A vicarious observation of similar others within the major-games context also provide worthwhile performance-related information. It seems plausible that a viewing of similar others or teammates performing within the same environment can lower or heighten performance related outcome expectations. Such vicariously garnered information is not only gathered by viewing the observed athlete's performance, but also the observed performer coordinating personal efforts and abilities with the efforts and abilities of SI. Hence, what is learned through vicarious observation is the link between performer, internally and externally controllable factors, context and performance.

Additionally, Bandura (1997) and Gould, Hodge, Peterson and Giannini (1989) have noted that the persuasive information relayed by extended SI sources, providing they are viewed as creditable, can instill situational confidence. The caveat to persuasive information according to Bandura (1990) is that it be target specific information and that it again be suggestive of pathways, or contingencies, to success. For the personally inefficacious athlete, the inexperienced athlete, or the athlete who is both concurrently, the importance of persuasive information can serve as the difference between success and failure experiences within an immediate major-games context. The persuasion from creditable SI, in essence, rises to the fore when there is little personal experience from which to garner confidence. So, creditable SI sources of verbal support are arguably an important factor intertwined with outcome expectations, major-games performance and subsequent results.

The Final source of information garnered by the major-games athlete comes via personal psychosomatic cues. Cues classified as psychosomatic, according to Bandura (1997), include lethargy and other aversive bodily states, or optimal levels of activation and readiness indicated through enthusiasm, alertness and optimized arousal. As related to this discussion, psychosomatic information is drawn in part from athletes' referent expectation of self and context in relation to performance outcome. For the experienced major-games athlete, such visceral cues will in part come from variances in previously experienced and viewed contingencies between internally and externally controllable factors and subsequent success. For the inexperienced major-games athlete, psychosomatic cues will be drawn by the other three sources of efficacy information discussed herein: vicarious observations, persuasive information, and psychosomatic
cues. Psychosomatic cues are typically garnered from the vicarious observation of peer athletes functioning within their performance environments and the optimism of personal coaches. As both sources of support can vary in the adaptive nature of their content, so too, will the efficacy beliefs of the aspiring hypersensitive and inexperienced major-games athlete.

**Recommendations for Research and Intervention**

There are several implications that can be derived from this paper. In terms of research, it would be of some use to compare the ordering of sources of efficacy for experienced and inexperienced major-games athletes. It has been suggested in this paper that their priority might vary based on degrees of athletes' amassed elite sport experiences. In addition, it would be worthwhile assessing the relationship between athletes, their SI and final performance outcomes on-site immediately after performances are completed. The results gleaned could then be considered in relation to the behavioral intentions of personal and formal SI mechanisms - which could be elicited prior to athletic performances. Ultimately such comparisons could lead to multi-level interventions employing situation specific efficacy (see Bandura, 1997) and the explanatory based measures outlined by Rettew and Reivich (1995).

At the macro level, countries interested in improving the major-games performances of their athletes would be well served to develop or refine SI educational systems for formal and personal support mechanisms across sport disciplines including major-games organizations, national coaching affiliates and national sport organizations. Such interventions could encompass facilitative logistical and pedagogical strategies suited for major-games contexts and major-games athletes. At the micro level, mental training consultants consulting to their respective sports could develop standardized pre-competition protocols in conjunction with the athletes and their respective personal and formal support mechanisms. Such strategies would ensure that all members within the high-performance sport organization coordinate their resources in the development of appropriate mastery and coping strategies. Mental training consultants might also suggest the importance of formal constructive post-tournament debriefing sessions for athletes and SI wishing to pursue major-games interests in subsequent years. Debriefing sessions could increase the likelihood that performances are explained in a manner that facilitates future expectations of generalized efficacy, and subsequently, the achievement motivation that fosters eventual athletic and organizational brilliance.
References


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