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COMMENTARY

Adaptation Revisited: An Invitation to Dialogue

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Within this opportunity to dialogue in commentary exchange about a previously conceived adaptation model, published in the *Journal of Clinical Sport Psychology,* we revisit the utility of our model (Schinke et al., 2012a) and consider Tamminen and Crocker's (2014) critique of our earlier writing. We also elaborate on emotion and emotion regulation through explaining hedonistic and instrumental motives to regulate emotions. We draw on research from general and sport psychology to examine emotion regulation (Gross, 2010). We argue that when investigating emotion, or any topic in psychology, the process of drawing from knowledge in a different area of the discipline can be useful, especially if the existing knowledge base in that area is already well developed. In particular, we draw on research using an evolutionary perspective (Nesse & Ellsworth, 2009). Accounting for these issues, we clarify the adaptation framework, expand it, and arguably offer a model that has greater utility for use with athletes in relation to training and competition cycles and progressions throughout their career. We also clarify for the readership places of misinterpretation by the commentary authors, and perhaps, why these have resulted.

Keywords: adaptation, elite sport, intellectual connoisseurship

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For several years, our authors have engaged in research pertaining to the broad topic of elite athlete adaptation (e.g., Schinke, Gauthier, Dubuc, & Crowder, 2007; Schinke, Michel et al., 2006; Schinke, Battochio, Dubuc, Swords, Apolloni, & Tenenbaum, 2008; Schinke, Tenenbaum, Lidor, & Battochio, 2010). Our scholarship in this area began when the term "adaptation" was discussed by most of the participants in a research project with Canadian Aboriginal elite athletes approximately 10 years ago (see Schinke et al., 2006), though it should also be recognized that others have also used this term in their writing, including Orlick (1986) and Tenenbaum, Jones, Kitsantis, Sachs, and Berwick (2003). These athletes spoke of having to adapt to (i.e., tailor) their training practices to become part of their performance contexts so as to persist while at the same time seeking to establish a sense of comfort in their environments through positive social relations (Schinke et al., 2009). This early work on the part of the first author was his sojourn into scholarship relating to athlete acculturation, a form of adaptation that many elite athletes encounter within training and competition contexts (Schinke & McGannon, 2013; Schinke, McGannon, Battochio, & Wells, 2013).

Thereafter, two of our authors (Schinke and Tenenbaum) began to examine how amateur and professional athletes prepared for and performed in high profile sport contexts, such as consecutive Olympic competitions (Schinke, Battochio, Dubuc, Swords, Apolloni, & Tenenbaum, 2008) and during National Hockey League careers (Battochio, Schinke, Battochio, Eys, Halliwell, & Tenenbaum, 2010). We found in these writings, where we sought to understand adaptation in relation to specific sport disciplines that elite athletes engage in various forms of actions and reactions as they attempt to perform beyond previous performances throughout careers. We proposed that athletes who continue to garner sufficient skills to adapt to the complexity and dynamic nature of their successive performance environments, are better able to withstand the pressures of each performance as it is encountered, and also, to achieve a high level of proficiency over time (Schinke et al., 2012b). In these same writings, the reader finds that we considered athletes from the full spectrum of an athletic career. The stressors encountered from one stage to the next could be consistent or discrete, but just the same, the elite athlete moves along in a career trajectory, seeking to hone skills and decisions through cumulative practice, experiences, and ideally, having learned from these experiences. More recently, as our research group has expanded, so has the coverage of concepts being considered including emotion regulation (Lane, Beedie, Jones, Uphill, & Devonport, 2012), coping (Devonport, Lane, & Biscomb, 2013) and self-control (Beedie & Lane, 2012; Beedie, Lane, & Wilson, 2012; Lahart et al., 2013), and athletes from different stages of their careers including adolescent athletes facing competing stressors (Devonport et al., 2013).

Responding to the Commentary

Tamminen and Crocker (2014) raised a number of concerns pertaining to our earlier work. These concerns as we understand them include the following:

1. Our oversimplification of the adaptation process as proposed within our model.
2. Our characterization of adaptation as equilibrium.

3. Our representation of adaptation as a process and an outcome.
4. Our integration of scholarship relating to stress appraisal, self-regulation, and emotions.
5. Our integration of Fiske's (2004) core social motives as relating to an athlete's performance and our use of the term "pathways."
6. Question about whether our model could be testable—meaning its utility for sport psychology researchers.

In this work, we engage with the commentary provided by the aforementioned authors to augment our own thinking. Although critical, it is pleasing to read Tamminen and Crocker's article as it offers insight into how readers could interpret our work. There are parts of what Tamminen and Crocker suggest that build soundly and usefully upon our earlier work. There are also areas throughout where they provide commentary that clarifies our thinking and how the broader processes relating to adaptation might be framed and presented. Finally, there is commentary that we believe is misinterpretation and as such, we welcome the opportunity to respond. Tamminen and Crocker have offered comments on our paper, and these could be shared by the readership. Hence, we feel it is important to clarify what was meant. It is only by seeking clarification that dialog moves forward rather than going in circles. We begin this response with a general commentary of what adaptation is and how it was originally intended. The response then turns to adaptation as process versus outcome. Thereafter, our attention shifts to aspects of the model, where we engage with literature pertaining to stress appraisal, self-regulation, and emotions, and integrate these within a more comprehensive elaboration. Next, we propose the delineation of theoretical postulates to underpin our conceptual model. We conclude with a broader discussion pertaining to commentary, its importance, and the rightful place of dialogue among sport psychology scholars.

Adaptation, Balance, and Rebalance

Elite athletes are required to engage in effective responses throughout their athletic careers, such as promotion, demotion, injury, and retirement (see Stambulova, Alfermann, Statler, & Côté, 2009). One objective through these adaptations is stress reduction through a masterful integration of pertinent information and skills (Samuel & Tenenbaum, 2011a). When the reader revisits our earlier work, we stated that an adaptation is "the athlete's capacity to act and react competently to stressors perceived as significant in a sport context by restoring an internal sense of emotional and psychological balance" (p. 181). There is a diversity of stressors that elite athletes might encounter within and across stages of an athletic career that necessitate adaptation, such as experiences with injury, promotion, demotion, retention, wins, losses, and de-selection (Samuel & Tenenbaum, 2011b; Schinke, Cummings, & Bonhomme, 2013). Each of these stressors, though also others pertinent to each athlete, requires their own unique resolutions, informed by the athlete's sport background, current athletic status, and the sport. The nature of adaptation is always personally, contextually, and temporally informed as opposed to occurring or recurring devoid of contextual factors (e.g., Schinke, Michel et al., 2006). Though one might posit that by context we refer exclusively to the immediate sport context, we previously used this term more generally to refer to experiences within

a sport discipline. Second, through the term restoration, we have always intended its' meaning as relating to the athlete's comfort zone. Is an athlete's comfort zone reestablished or extended upon conclusion of a stress episode? With each adaptation, ideally the athlete extends personal capacities to adapt, suggesting that the process is continuous, not static (Schinke & McGannon, 2013; see also Chirkov, 2009). We have never believed that by referring to any sort of adaptation as outcome that an athlete returned to a previous state, with only previous understanding, though clearly the ambiguity in our language has led others to misconstrue.

The nature of the temporal process we have proposed, including its composite parts for the athlete to move through, suggests that we look at adaptation as highly dynamic, and perhaps more fluid than we might have articulated in the article under discussion. Consider the very fact that many of our research studies have integrated athletes from various stages of an athletic career, each in various high stress contexts, such as an Olympics (Schinke, Battochio, Dubuc, Swords, Apolloni, & Tenenbaum, 2008), National Hockey League careers (Schinke, Gauthier, Dubuc, & Crowder, 2007), or professional sport tournaments (Schinke et al., 2012b). In these studies, we have compared responses in earlier stages with those from later stages. The intent through such work was in part to consider just how athletes progress or remain static in their skills over the course of careers. We find that adaptation is a process that each athlete must engage in ongoing, with each circumstance reflecting a search for adequate solutions to the episode and its resolution.

With the response undertaken, an athlete learns to identify psycho-physiological states that associate with goal attainment (see Hanin, 2010). The context is an important factor when examining the nature of the psycho-physiological states (Beedie et al., 2011). Research indicates that emotional states associated with goal achievement in sport differ to those associated with associated goal achievement in an educational context (Lane, Thelwell, & Devonport, 2009). Within competition, an athlete is likely to prefer feeling emotions that help achieve goals (Lane et al., 2012), and evidence indicates that athletes report that hedonically unpleasant emotions, such as anger and anxiety, might in cases actually help performance (for reviews see Hanin, 2010; Lane et al., 2012; Wagstaff, Neil, Mellalieu, & Hanton, 2011). Hanton, Neil, and Mellalieu (2008) summarized the sport anxiety literature by suggesting that many athletes maintain high levels of performance when they reported feeling intense anxiety and tended to see anxiety as helpful of performance. However, it should be emphasized that preferences to experience unpleasant emotions are constrained to a specific task rather than an emotional state that someone wishes to feel over an extended period. A great deal of research has focused on regulatory efforts to increase hedonically pleasant emotions, an approach that appears appropriate as a long-term objective (Augustine & Hemenover, 2008, Consedine & Moskowitz, 2007; Stanley, Lane, Devonport, & Beedie, 2012).

However, the distillation of any stress to a size perceived to be manageable, with adequate responses, is not to say that earlier practice and experiences might not inform later one's, including one's efficacy to resolve current challenges. Elite athletes can adapt to each challenge by bringing forth their garnered experiences (Schinke & da Costa, 2001). For example, Olympians returning for a second consecutive Olympics might prepare for their current tournament by developing tactics and strategies based upon what was learned during earlier complexities at their first Olympics (see Schinke et al., 2008). Similarly, National Hockey League

players learn how to manage the pressures and expectations of each season based on skills acquired earlier in their careers (Battochio et al., 2010). Consequently, by considering our model in relation to the broader discussion of continuity, it makes perfect sense to add in a feedback loop that captures accumulation.

More About Adaptation as Process and Adaptation Outcomes as Indicators

There are additional places in our provisional model that would benefit from delineation, and one such area is a revisiting of the aforementioned discussion about adaptation as a process and adaptation as outcome, indicative of adjustment. Athletes accumulate experiences throughout careers, and as we have clarified, these accumulations suggest that each encounter is in part its own episode, though also infused with knowledge gained from past experiences. As well, throughout each encounter, the researcher and practitioner might also consider how the athlete is developing, meaning the athlete's current status and what are the remnants of experience taken from one or a series of earlier experiences. By clarifying whether one is considering adaptation as a shorter- or longer-term process or in relation to outcomes that provide indicators of adjustment would provide useful avenues through which to consider each athlete's development. As a process, one might consider, either the movement through a given episode, the processes garnered during one career stage, or a transition from one stage to the next stage (Schinke et al., 2012b). Conversely, if one's focus is the athlete's current status, the indicators of adjustment that Tamminen and Crocker have identified would become what the athlete and practitioner ought to understand. These indicators, such as well-being and pleasant mood (see Beedie, Terry, Lane, & Devonport, 2011), would provide information regarding how to work effectively during current consultations, permitting good access to whether the athlete is acting or reacting within a given sport circumstance in a manner that is contributing to a positive sport experience.

Let us now return to our previous model, where we referred to adaptation as process and outcome. As part of the model, a flowchart was provided, that suggests athletes move through a process of adaptation in relation to a given challenge or circumstance (Figure 1). Referring to the bottom part of the model, where the performance has been completed, we wonder if the resulting adaptation state allows place for the adaptation indicators that Tamminen and Crocker consider. We agree that there ought to be several possible indicators considered by the practitioner, such as those delineated by these authors, however, ought these indicators to be part of the modular representation, and really is this part of the commentary offering something new?

Fiske's Core Motives

Over the course of several years, a few of our authors have integrated Fiske's (2004) core social motives while considering the adaptation processes of elite amateur and professional athletes. Fiske proposed five core social motives delineated as (a) understanding, (b) belonging, (c) trusting, (d) control, and (e) self-enhancement. Of these five motives, Fiske revealed belonging as underlying the remaining four motives, with control and understanding presented as cognitive, while trust and self-enhancement were revealed as affective. Our authors have used these core social

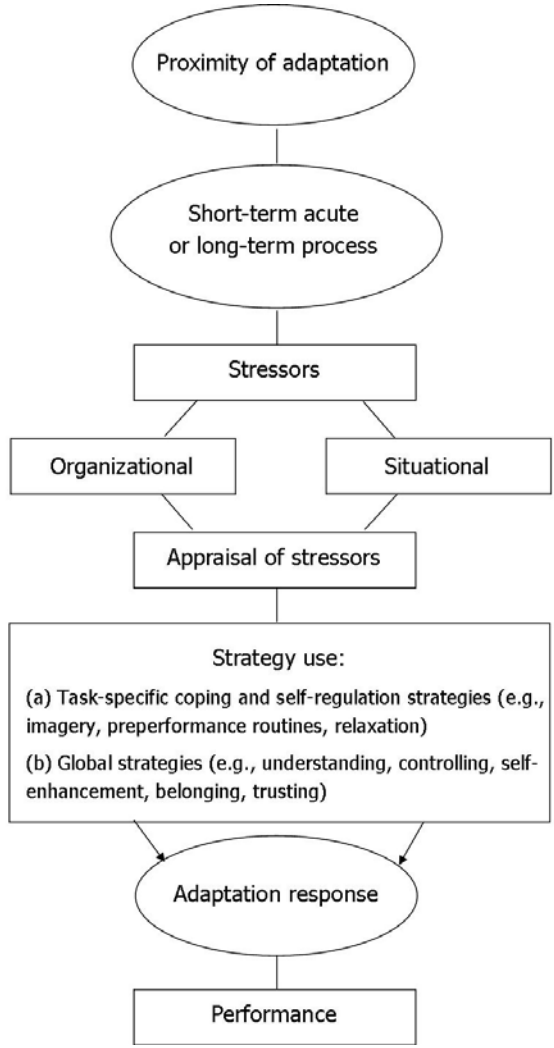

Figure 1 The process toward adaptation.

motives to explain adaptation processes during sport performance. Within these attempts, the motives were thematized into more specific subcomponents throughout a series of research projects (e.g., Battochio et al., 2013; Schinke, Gauthier, Dubuc & Crowder, 2007; Schinke et al., 2008). For example, the motive of understanding was refined in the aforementioned projects into understanding oneself, one's teammates, one's coaching staff, one's opponent, and one's required performance level. These more precise aspects, in keeping with the original intent for this framework, have been found to be highly interpersonal in the sense that elite athletes tend to interpret the self and sport context, with constructive or destructive help from

coaches, teammates, sport science staff, and even family members. The question we ponder in relation to the athlete's performance, and the search for understanding throughout, is whether it is a unitary process or one embarked upon with help and guidance from others? Though it was not articulated with precision in our earliest piece, a closer inspection of the empirical data founding the more general applied contribution presently under commentary reveals strong evidence of social and relational processes at the center of understanding. One finds a similar pattern within the remaining four core motives. For example, the motive of self-enhancement is provided within earlier work as defining into self-enhancement through efforts and abilities. Again, when considering the commentary and our use of the motive, we pondered whether its' subthemes were achieved in isolation and also, to what end? Relating to one of the sport contexts we have examined through three consecutive research projects, the National Hockey League player, the athletes augmented their efforts and abilities not only for their own interest, but also, and most importantly, to be an effective contributor to their respective teams. After all, without effective contributing, survival in an NHL team would become highly unlikely. Indeed, the NHL player can only survive in a group—not in isolation. Hence, these athletes needed to gain acceptance through interpersonal relationships and ongoing athletic developments that aligned with the team as a whole.

However, on reflection, when we move beyond our own research to the explanation of these motives and the others in the original submission that spurred the current exchange, it becomes clear why commentary of our usage of Fiske's terms raised a red flag—it should have. Indeed, reviewing our explanation of terms such as understanding within the text, they are phrased as existing within the individual as opposed to being socially underpinned and focused on relationships and the group context. As Tamminen and Crocker (2014) identified in terms of Fiske's intended application of the core social motives, each one is steeped in social exchanges and group processes, with those processes clarifying whether and how one might adapt. We agree with this view and find that in every elite sport context, athletes enter into highly interpersonal environments, and so, the more deliberate focus on relationships in relation to Fiske, though also more deeply considered within a broader model, adds much more clarity to the broader discussion of adaptation processes.

We move now to the question of core motives and our use of the term pathway. When reviewing Fiske's text, the reader finds that core social motives are elaborated upon as "fundamental, underlying processes that impel people's thinking, feeling, and behaving in situations involving other people" (p. 14). Fiske clarified that a motive "creates a psychological force for a person, who is located in a particular situation or life space" (p. 14). Extending upon a more person-focused viewpoint, Fiske explained that social motives "operate as person-in-situation principles". Hence, the core social motives inform cognition and affect, with the given context filtered through the person's interpretations. If we are to return briefly to what might be meant by the words "psychological processes that impel people's thinking," what is meant by the word "impel?" The language used above to describe what a motive is, or should be, seems as open to interpretation as what belongs as a core motive, altogether. Words such as impel, process, and force, do not suggest inertia. Rather, these terms are highly dynamic. To us, the more pertinent question is whether to use the term motive or pathway for what appears to be a splitting of hairs. We concede to retain the original language proposed by Fiske, while clarifying that both options suggest development within a process.

Adaptation Revisited

Within this section, we speak to developments in our thinking, beyond those responded to already. These new aspects relate to two general types of adaptation—a slow adaptation process and a fast adaptation process (see Figure 2) and also the personal nature of the model, accounted through the athlete's cultural identity. Throughout the discussion, we draw from stress appraisal, self-regulation, and emotion.

Figure 2 Fast and slow adaptation.

Adaptation: Slow and Fast Processes

Tamminen and Crocker in their critique of our work, and also various theoretical writings such as Vallerand and Blanchard (2000), have mentioned the sequential process of stimulus-cognitive appraisal-emotional response. Cognitive appraisal, either reflective or intuitive, is usually associated with emotional responses that result in adaptive or maladaptive behaviors (outcomes) with some probability (note that we view the mental sequence in probabilistic rather than deterministic terms). When emotions are interpreted as functional (Hanin, 2010), they may facilitate performance (e.g., positive adaptation), but when perceived as dysfunctional, the emotions may interfere with it and result in performance decline (Hanin, 2000, 2010). A great deal of research has demonstrated that emotion-performance is highly individualized (see Hanin, 2010 for a review), and that individuals develop preferences to experience supposedly unpleasant emotions before and during competition (Hanton et al., 2008; Lane et al., 2012; Wagstaff et al., 2011).

The notion that supposedly unpleasant emotions anger and anxiety might be helpful to performance is consistent with the proposition made by evolutionary psychologists that each emotion is similar to a computer program designed to help accomplish a specific task (Nesse & Ellsworth, 2009). Evolutionary psychologists argue that emotions mainly exist, and have evolved, to help survival. Baumeister, Vohs, DeWall, and Zhang (2007) suggested that "if the total net effect of emotions were to cause behaviors that were maladaptive, such as by reducing survival and reproduction, then natural selection would likely have phased emotion out of the human psyche" (p. 168). From an evolutionary perspective, Lane, Beedie, Devonport, and Stanley (2011) noted that the action tendencies associated with the emotions of fear/anxiety and anger (withdrawal and approach respectively) evolved to help us survive in situations that were not unlike sport, that is, the challenges routinely faced by our predecessors were often physical, competitive, and

goal oriented (Nesse & Ellsworth, 2009). Therefore, the idea that in sport, athletes welcome these action emotions is plausible and consistent with evidence found by Lane et al.

Evidence shows that there are considerable individual differences in terms of adaptive state. Depending on individuals' psychological dispositions, some may perform best under high arousal levels, perceive the situation as challenging, and therefore enhance performance—a positive adaptation state. A state of positive adaptation is noticed when one's emotions and self-efficacy lead to a state of resourcefulness, and a maladaptive state is one which the performer feels that personal ability is insufficient to successfully achieve positive outcomes (e.g., helplessness). Consequently, we argue that adaptation state is a term, which describes a cyclic process whereby the performer seeks to maintain "in the zone" (i.e., in a flow-like state) where emotions facilitate performance, and in turn performance facilitates self-efficacy and emotions deemed optimal for subsequent performances [for further reading we refer the reader to Hanin (2000, 2010)—the individual zone of optimal functioning (IZOF), and Kamata, Tenenbaum, and Hanin (2002)—the individual affect-related performance zones (IAPZ)].

A theory that links affective states to performance, and is conceptually linked to the main assumptions of the IZOF and IAPZ is the individual psychological crisis theory (IPCT; Bar-Eli & Tenenbaum, 1989). The IPCT views the athlete as a dynamic, open system that responds to environmental stimuli with certain probability levels. The athlete continuously processes information and makes decisions aimed at maximal adaptation of the system to the environmental conditions via the reduction of event uncertainty. Accordingly, physiological arousal is viewed as the energizing component of motivation, and the cognitive component as its direction within a bilateral transaction process (Nitsch, 1982). Continuous exposure to similar situations and conditions (e.g., experience) shifts the cognitive operational mode from an intentional to an automated mode. Accordingly, the adaptation process reduces the vulnerability of the performer to choke under pressure and/or uncertainty. The degree of adaptation success depends on the degree an athlete assimilates and accommodates the arousal-coping strategies, which alter over time. The vulnerability to slumps is related to the quality and quantity of cognitive mechanisms available to cope with the emerging emotional state, the level of attained simplification and routine of relevant responses, and the point of equilibrium between damaging and contributing effects resulting from the emotional state of the athlete. Using the inverted "U" function, the athlete can shift among three basic states: hypo-activation, optimum activation, or hyper-activation at any moment in time. The probability of a maladaptive state increases as the individual shifts away from the optimal state toward the hypo- or hyper-activation states.

Accordingly, we consider the automated and/or intentional cognitive and motor processes, which take place under competitive conditions, as fast adaptation processes. The psychological techniques used by the performer to achieve an optimal adaptation state and avoid a maladaptive state (e.g., hyper-activation—hypo-activation) are placed on a time axis ranging from a preperformance routine through the on-line routine, to a postperformance routine. A preperformance routine includes self-regulative actions, such as goal-setting, breathing, imagery, boosting self-confidence, emotional control, and such (see Lidor, 2010). It could also include a number of self-regulatory strategies that the athlete has learned via experience

(Stanley, Beedie, Lane, Friesen, & Devonport, 2012). An on-line routine consists of controlling emotions, making adjustments and elaborations, and implementing perceptual-cognitive strategies, such as visual attention, anticipation, and decision-making. A post performance routine consists of evaluative processes accounting for the "expected-observes" performance gap (see Figure 3). The pre- and postperformance routines are slow adaptation processes, while the on-line routine is fast, and in many cases, automatic. Slow adaptation to new situation, such as cultural adaptation, is longitudinal in nature and is clustered within slow adaptation.

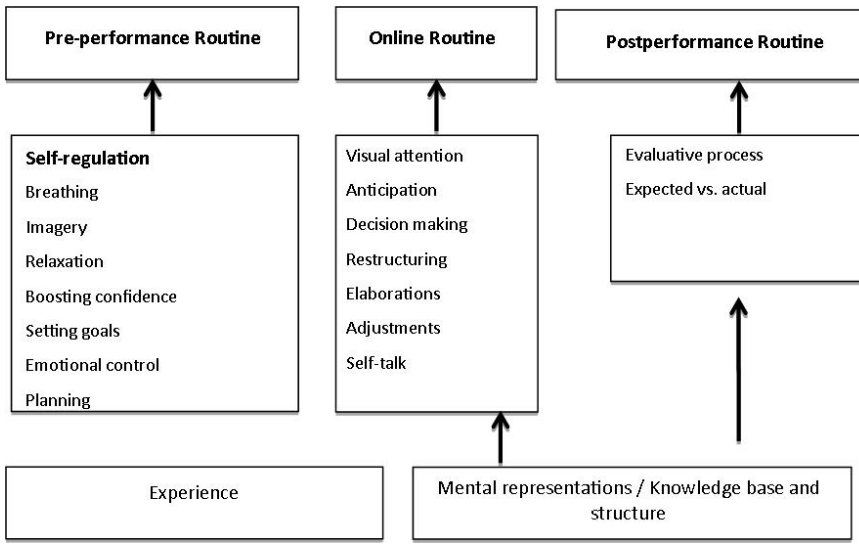

Figure 3 The process of adaptation: from pre- to postperformance routines controlled by the cognitive capacity which alters with repeated exposure.

An example of an effective routine that can assist individuals in attaining an optimal state of adaptation in performing self-paced motor tasks is the Five-Step Approach (see Lidor, 2007). The Five-Step Approach is composed of five subroutines, each of which has been subjected to a fair amount of scientific scrutiny: readying (trying to be consistent in attaining the preparatory state for the act), imaging (mentally picturing oneself performing the act), focusing attention (concentrating intensely on one relevant feature of the situation), executing (performing without thinking about the act itself or the possible outcome), and evaluating (using available feedback information from which to learn). The first three routines of the Five-Step Approach—readying, imaging, and focusing attention—can be used as preperformance routines. Focusing attention and executing (fourth subroutine) can be used as on-line routines, and evaluating (fifth subroutine) can be used as postperformance. Laboratory and field inquiries (e.g., Lidor, 2004) revealed that individuals who were taught how to use the routines of the Five-Step Approach achieve better results than those who did not learn how to activate them.

Previously, we omitted discussions pertaining to culture within our proposed adaptation model. Indeed, we have indicated already that acculturation is a type, or subset of adaptation. In addition to athletes' acculturation processes, which are considered in several other publications by our authors (e.g., Schinke & McGannon, 2013; Schinke, McGannon, Battochio, & Wells, 2013) and others (e.g., Campbell & Sonn, 2009; Kontos, 2009; Ryba, Haapanen, Mosek, & Ng, 2012), any model that reveals athlete adaptation processes ought to account for culture, and the fact that it is a slow, and continuous process (Chirkov, 2009; Schinke et al., 2013). We have found in our own experiences that in many elite sport contexts, athletes, their teammates, and coaches each have their own unique cultural standpoints (Ryba, 2009). Pertaining directly to the athlete's standpoint, whether an athlete is more individualistic or collective through socialization would inform how a challenge is approached, perhaps with more focus on either personal or organizational resources (Kontos, 2009; Kontos & Breland-Noble, 2002; Schinke, Yukelson, Bartolacci, Battochio, & Johnstone, 2011). The emerging trajectory of cultural sport psychology reveals a breadth of characteristics that inform the richness of an athlete's identity, including ability or disability status, race, ethnicity, nationality, gender, sexual orientation, and socioeconomic background, among a breadth of pertinent considerations (Schinke, Hanrahan, & Catina, 2009). These aspects color how the athlete views self, training context, social support, and the process of competing throughout an adaptation. Given that the commentary authors mentioned the word culture once in passing, relating to the importance of personal characteristics and their deeper integration in a model of adaptation, the reader now finds its formal integration as part of how and why one might seek to adapt in a certain manner, alone or with others, and in the ways they relate with or disengage from their environment.

Self-regulation and Emotions Targeted Toward "Optimal Adaptation"

Self-regulation and emotion regulation are terms that have been used interchangeably by some authors (Vohs & Baumeister 2013). Vohs and Baumeister argue that self-control can be trained, and therefore self-control training could aid in research designed to have considerable social, health, and economic benefits including reducing crime to helping people stick to exercise programs, to helping business leaders manage risk to helping athletes perform under pressure.

Enacting a regulation strategy is thought to be influenced by the resources available for self-regulation. The predominant ego-strength model of self-control (Gailliot 2008; Gailliot & Baumeister, 2007) proposes that regulation relies on a limited self-control resource that may be based on blood glucose. Recent research has sought to challenge the notion that the limitation of self-control is one of allocation rather than supply (Beedie & Lane, 2012). They based their argument on the evolution of mental processes at the species level, adaptation of these processes at the individual level, and the physiology of glucose transport. Beedie and Lane have proposed a resource allocation model of self-control (RAMS) in which resources are allocated according to personal priorities. Beedie and Lane argued that emotions and energy mobilization are closely related, arguing that emotions can help release energy used via self-control pathways (Beedie et al., 2012). From an applied perspective, developing strategies that consume fewer resources is desirable, a

point emphasized in a recent study that examined emotions and emotion-regulation strategies in ultra-endurance athletes (Lahart et al. 2013; Lane & Wilson, 2011).

Emotion regulation is the automatic or deliberate use of strategies to initiate, maintain, modify or display emotions (Gross & Feldman-Barrett, 2011; Gross & Thompson, 2007). Emotion regulation is proposed to be part of a self-regulatory process in which individuals consciously or nonconsciously monitor the emotions they are experiencing, and develop strategies to maintain or change emotions to desirable levels (Gross & Thompson, 2007; Lane et al., 2012). Studies indicate that people organically use conscious and nonconscious strategies to regulate their emotions (see Thayer, Newman, & McClain, 1994), a finding that has been supported when athletes were examined (Stevens & Lane, 2001). Further, evidence suggests that athletes use psychological skills without having received formal training (Thomas, Murphy, & Hardy, 1999). Lane and Wilson (2011) demonstrated that athletes reporting strong beliefs in their ability to regulate emotions reported less pronounced spikes in intense unpleasant emotions during multistage endurance performance.

According to Bar-Eli and Tenenbaum (1989) emotions and psycho-regulative processes are experienced consciously and interact continuously with each other throughout a competition. When emotions are associated with an optimal performance state, the psycho-regulative process is directed to preserve this state in the form of stabilization. Thus, we consider the fast adaptation process as an ongoing interactive process seeking stabilization. In contrast, following an appraisal phase, when emotions are interpreted as unpleasant, the psycho-regulatory system seeks to modify this state into a positive "end-point" which is a temporary state during the unfolding contextual framework. In the case of hypo-activation, one strives for mobilization to reach optimal activation (i.e., arousal) level. Conversely, under a hyper-activation mode, the psycho-regulatory mechanism strives toward relaxation of the current state to reach a homeostatic emotional state required for an optimal performance. Because of the unfolding dynamical and uncertain competitive environment when the current state is appraised as optimal, then stabilization regulations are employed to maintain the system in an equilibrium state, but modification regulations in the form of mobilization or relaxation are employed if the emotional state fluctuates and seeks for a balance. Thus, an athlete's ability to regulate emotions aimed at attaining (or maintaining) an optimal state of adaptation is considered a key concept in our view. Indeed adaptation is a fluid state that depends on emotional-cognitive processes aimed at a desired "comfort zone." It is also important to consider the point that the intensity of emotions will tend to vary from task to task (Tamir, 2009) and therefore, an athlete will wish to experience a different constellation of emotions away from competition. Lane et al. (2012) suggested that researchers and practitioners should firstly examine the intensity of emotions associated with optimal performance, examine strategies that athletes use to manage their emotions, and thirdly assess the strength of beliefs that using these strategies will be effective should help.

According to Bar-Eli and Tenenbaum (1989) and Tenenbaum, Edmonds, and Eccles (2008; see also Tenenbaum et al., 2009) conceptualization, competitive events may require compensatory self-regulatory mechanisms, but these may be prevented through anticipatory mechanisms. A sequence of interplays between preventive and compensatory self-regulatory mechanisms takes place to stabilize

the emotional-operational state of the performer, and bring it to an optimal affect-related performance zone. While anticipating upcoming events, emotions can be compensated with respect to feeling tense, anxious, or uneasy, and preventive measures may take place depending on the athlete's interpretation of these emotions. For some athletes, these intense emotions might serve a signal function that the event is important and prompt regulatory behaviors such as mentally or physically preparing for competition (Hanin, 2010; Lane et al., 2012). Athletes continually reappraise their performance processes and interchangeably shift from an anticipatory active mindset to outcome-emotions mindset (Hanin, 2000). When debilitative emotions are experienced, these are associated with impaired energy mobilization and utilization accompanied with performance decline. The efficient utilization of energy resources is the main indicator of a proper use of regulatory mechanisms, and the more efficiently athletes use them, the better they perform. Emotions after competition can be compensated for subsequent competitive events. Therefore, both emotions and their associated self-regulatory mechanisms are learned and stored as mental representations in long-term memory. In expert athletes, this association is easily retrieved and applied, whereas in novices the process requires much mental effort, and is largely inefficient (see Tenenbaum, 2003, Tenenbaum et al., 2009). Recent research revealed that individuals with good emotional control abilities use fewer resources than those with poor emotional control (Niven, Totterdell, Miles, Sheeran, & Webb, 2012), a finding that emphasizes the value of encouraging athletes to consider using emotion regulation strategies. In terms of the effectiveness of strategies, Miles, Sheeran, and Webb (in press) found that more frequent use of coping strategies did not predict well-being one year later, but that well-being depended on people using effective strategies more often and ineffective strategies less often.

To summarize, self-regulation, emotion regulation, and self-control strategies used by athletes are aimed at stabilizing the emotional-mental-motor systems, and allow decisions and motor actions to be balanced within the optimal emotions-related performance zone. The strategies employed to reach a state of stabilization depend on the athlete's immediate and subsequent stress appraisal levels (Folkman & Lazarus, 1985). Since highly skilled performers' mental representations associate emotions with adequate motor performance, it is probable that these knowledge structures enable them to cope efficiently with stress, resulting in performance enhancement; this is in contrast to a low skill-level performer, who lacks emotions-motor-coping linked representations in long-term memory. Indeed emotions during competitive conditions are temporarily regulated, as the situation requires, and this is considering here as a fast process. However, we consider a more lasting change of emotional adaptation and reactions to the competitive task as deeper and longer-term, ultimately resulting in a positive approach to any stressor.

Most of the studies on the implementation of self-regulations and coping strategies by athletes in competition were correlational in nature and avoided the dynamic nature of the emotions-coping-performance linkage, which is a cornerstone of the IPCT, IZOF, and IAPZ theoretical conceptualizations. Seeking social support, elevated effort, and problem-focused strategies were the most commonly used by middle distance runners who experience performance slumps (Madden, Kirkby, & McDonald, 1989). Stressful appraisal was associated with strategies such as increased effort and resolve, problem-focused strategies, social support

seeking, and wishful thinking (Madden, Summers, & Brown, 1990). Batting slumps were associated with more extensive use of emotion-focused strategies, whereas problem-focused strategies were associated with increased self-efficacy in baseball (see Hardy et al., 1996). Higher self-handicappers used more emotion-focused, detachment/avoidance, and wishful thinking strategies and less task-focused or cognitive strategies. Crocker (1992) reported that athletes use the following coping strategies to better adapt to the situational demands: active coping, problem-focused coping, seeking social support, positive reappraisal, self-control, wishful thinking, self-blame, and detachment. He further stated that when performance slumps are experienced, problem-focused strategies are the most adaptive strategies, whereas wishful thinking and detachment are the most maladaptive. Three decades of research on athletes' use of self-regulatory skills by Thomas, Murphy, and Hardy (1999) indicated that the most used self-regulatory skills by athletes were self-talk, mental imagery, goal-setting, and relaxation. Rather than pointing out inconsistencies in our views on adaptation, we have clarified and provided a more representative framework on adaptation, which shares clarity and ecology.

More generally, Tamminen and Crocker (2014) claim that our initial model is limited in that it does not allow the reader to generate testable hypotheses. We believe that our model allows the reader to assume that when coping strategies are used appropriately, the adaptation process will be sounder. More specific hypotheses can pertain to each of the adaptation stages. Furthermore, hypotheses pertaining to skill-level differences can be made, and tested. However, we also argue that Tamminen and Crocker do not distinguish between "model" and "theory." A model provides general relations and a conceptual framework. A theory provides a sound basis for generating and testing hypotheses. In our previous and current papers we introduced models and not a theory.

Adaptation Postulates

Based upon what has been written to this point in the dialogue, we think and feel it useful to clarify some of the underpinnings, or postulates that inform discussions relating to our adaptation model. These postulates follow below:

1. Adaptation is a broad term that encompasses specific types of adaptation, such as the athlete's adaptation to (a) a training context, (b) one performance or a broader sporting event, (c) a career transition, (d) acculturation, (e) a life change, or (f) injury.
2. Adaptation includes both micro and macro cycles. In one sense athletes are expected to adapt to each progressively challenging context they engage in. In a second sense, adaptation is a continuous process that can help the athlete progress from one challenge to the next. As such, adaptation is both finite in relation to a context and its resolution, and at the same time, continuous in relation to amassed experiences and how these influence a broader athletic career and one's life.
3. In relation to the micro and macro cycles brought forth in postulate two, there are indicators of effective and ineffective adaptation. These indicators must be considered during each challenge and also, as in relation to successive challenges in pertinent contexts as they accumulate.

4. Adaptation is social and contextual. Though much of the focus is placed upon the athlete's adaptation, the process of adaptation is highly social, with the movement through a given experience or across experiences influenced by the social support of coaches, teammates, and sport science staff and also the given sport circumstance.
5. Adaptation can be classified into slow or fast processes. The slow processes require deliberate effort, can be socially supported, and certain cases have no clear outcome other than feeling more comfortable and at ease. Fast processes are in many instances (though not necessarily) automatic, might shift in some cases from automatic to deliberate controlled states, in cases depend on perception-action coupling, and the adaptation state alters within an on-going process (e.g., competition).

The Subtext of Commentary Writing

We wish to thank the commentary authors and senior editorial staff of the *Journal of Clinical Sport Psychology* for the opportunity to revisit our work, engage in meaningful dialogue, and better what we proposed for applied practitioners. The intended objective through our original work was to present concepts that foster adaptation processes among elite athletes through direct and indirect means. There is much to be gained from this exchange, including, but not limited to the clarity and application of terminology, though also the interpretation of the topic and writings from one scholar to the next. Indeed, as we engaged in this dialogue, we did arrive at an important insight: that there is not a singular or monolithic understanding shared across scholars. As Smith and Sparkes (2011) have recently articulated: " . . . we resist the impulse to state that one response is better than the others, or that one is the only way to respond . . . This is because prescribing this is the right or wrong way to respond . . . and offering the assurance of knowing what response a person should give . . . would risk monological finalization" (p. 48). Authoring commentaries in a manner whereby the reader is asked to believe in unquestionable truths and one interpretation as correct over another reproduces a stagnant academic world, derived from a single standpoint, with little diversity and tolerance.

It seems upon reading and rereading the commentary article that preceded this dialogue piece, that there is a somewhat problematic tone in the writing, and we propose that this tone is perhaps the weakest part of the commentary, in both process and outcome. In process, as the reader will find in each of the sections preceding this one, we engaged in meaningful dialogue with the commentary authors, and sought to advance our perspective relating to elite athlete adaptation. However, terms such as *fail, misappropriate, misrepresent,* and *inaccuracy,* among a breadth of other language, speak to an antagonistic approach that we suggest ought not to be part of academic dialogue. Affirming our point, the *Publication Manual of the American Psychological Association* (sixth edition, 2010) provides the following: "Scientific writing often contrasts the positions of different researchers. Differences should be represented in a professional, non-combative manner" (p. 66). Scholars engage in research and practical dialogue to advance their fields and to better their own thinking and practices. Some of what is developed in each submission might serve as progression, with other ideas requiring refinement, clarification, debate, and reconciliation. Relating to outcome, we find a definitive tone and factual language

used in their commentary in areas that are inherently subjective in nature. The subject areas of stress appraisal, coping, self-regulation, emotion regulation and emotions are vast areas to understand. Within each of these literatures, there are many views that reveal as much divergence as convergence. Recently, Parkinson (2012) commented on definitions of emotions: "Everyone knows what an emotion is, until asked to give a definition," citing Fehr and Russell's (1984), a comment that also indicates that despite nearly 30 years of research, there is no commonly agreed definition of emotion.

We hope that the readership will engage in this dialogue, with the goal of contributing interpretations, useful applications, and vibrant discussion that encourages inclusiveness and diverse perspectives. From these solutions better ecological approaches can be developed that extend this contribution and the commentary that preceded it.

In conclusion, dialogue, in our view, is about reaching across differences (see also Smith, Collinson, Phoenix, Brown, & Sparkes, 2009). Scholars with diverging views and interpretations do not have to agree with one another, but we do need to listen and reflect to move forward and continue in dialogue (McGannon & Johnson, 2009; Schink et al., 2012c). From our vantage, the first knee jerk reaction to the commentary piece was not to respond, but then we realized that acting (or reacting) in such a manner would indicate silencing, disengagement, or retreat. What would be the benefit of such a response to the readership and the authors? The counterpoint of attempting to silence another scholar, or approaching another's work without caring and self-reflection, even in terms of one's tone and why it is as it is, limits discussions, and replaces dialogue with monologue, where people claim the last word for oneself, contributing to fracture, mal-adaptive exchange, and intolerance.

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