

First Notes

PASS 1

PRIMARY SOURCES

1. **Coping Skills and Self-Efficacy as Predictors of Gymnastic Performance**

1.1. According to Fitzpatrick (4) the most commonly reported attributes distinguishing between high and low levels of gymnastic performance were psychological factors, in contrast with the general belief that successful performance is mainly influenced by ability (29). Thus, the psychological skills of gymnasts can influence their capability to perform successfully in a competition. These coping skills refer to the cognitive and behavioral efforts to overcome, reduce or tolerate internal and/or external demands caused by a stressful situation. Coping with stress is not directly related to the final outcome of the effort. This means that coping is defined by the efforts to control the challenge of a situation, regardless of an athlete's success (5) (p. 1).

2. **Self-belief does make a difference: A reciprocal effects model of the causal ordering of physical self-concept and gymnastics performance**

2.1. As is the case in many disciplines, in sport/exercise settings self-concept is frequently posited as a mediating variable that facilitates the attainment of other desired outcomes such as physical skills, health-related physical fitness, physical activity, and exercise adherence (Marsh, 1997, 2002). The rationale behind this research is that individuals who feel positively about themselves in a particular domain— in this study the physical domain—are more likely to pursue and achieve desirable outcomes in that domain than individuals who do not feel positively about themselves (p. 3).

3. **Are there specific conditions for which expertise in gymnastics could have an effect on postural control and performance?**

3.1. In [gymnastics], and specifically in the floor exercise for male gymnasts, maintaining postures is needed and required by the international codification [1]. The “legmount”, the scale (two postures on one leg with the other leg fully extended in a front, side or rear split position in the first one or lifted backward in line with the trunk bended forward parallel to the floor for the second one) or the handstand on the floor are such examples. Before attempting or learning these specific and difficult postures, gymnasts are first trained to maintain less specific ones, such as the unipedal; a posture that any healthy human could perform (p. 76).

4. Exploring Visual Patterns and Judgments Predicated on Role Specificity: Case Studies of Expertise in Gymnastics

4.1. The contextual approach suggests that cognitive processes (e.g., perception) are dependent on interactions with the environment, indicating that perceptual mistakes could be influenced by memory (Jacoby et al. 2001; Ste-Marie et al. 2001). For example, the decisions of referees may be mediated by their current and previous behaviors (i.e., sequential effects) or by their visual perspective when viewing a sport sequence (i.e., a positioning effect). In contrast, the embodied approach focuses on the relationship between cognitive processes, the body and movement (Goldman and de Vignemont 2009). Errors in perception emerge when people misinterpret the actions of other individuals from their own motor representations (Jeannerod 2001) (p. 935).

5. Gymnastic judges benefit from their own motor experience as gymnasts

5.1. Fast and complex movements characterize several gymnastic skills; therefore, judges have a highly challenging and difficult mission. Research on gymnastic judges has shown they also have to cope with imperfect positioning (Plessner & Schallies, 2005), sequential effects influenced by previously judged performances (Damisch, Mussweiler, & Plessner, 2006), and conformity bias (Boen, Van Hoya, Auweele, Feys, & Smits, 2008). The question arises concerning the information sources judges use to overcome these obstacles. Researchers have examined different factors, such as gaze behavior (Bard, Fleury, Carriere, & Halle, 1980; Ste-Marie, 2000), anticipation (Ste-Marie, 1999), and judging experience (Plessner & Schallies, 2005; Ste-Marie & Lee, 1991) (p. 603).

6. Expressiveness of gestural communication through body actions

6.1. The human body is, through its structure and mobility, a mirror of the infinite psychics hue that animate the individual. Receptive to everything that happens inside and outside, the dancer/athlete conveys and transpose[s] his psychic and infinite fluctuations, into a multitude of possibilities and expressions to those around him or her. His body becomes a micro-universe in which the muscular tensions, his own breathing and his sensory channels instruments, the nonverbal communication individual instruments, [represent] a present reality, of which the performer is not always aware of. The gesture is, most often, a voluntarily controlled movement that carries the semantic load of the message (p. 53).

7. Affordances in Interaction: The Case of Aikido

7.1. Scholarship inspired by J. J. Gibson is showing considerable interest in multiagent environments and interactive behavioral dynamics (Warren, 2006), which underlie everyday social activities (Fusaroli, Raczaszek-Leonardi, & Tylen, 2014; Marsh, 2015) but also decision making in domains such as soccer, basketball, boxing, social dances (Araujo, Davids, & Hristovski, 2006; Bourbousson, Seve, & McGarry, 2010a, 2010b; Esteves, de Oliveira, & Araujo,

2011; Hristovski, Davids, & Arujo, 2006; Kimmel, 2012; Kimmel & Preuschl, 2015; Passos, Davids, & Chow, 2016; Torrents, Hristovski, Coteron, & Ric, 2016; Travassos et al., 2012), and robotics (Horton, Chakraborty, & St. Amant, 2012; Ibanez-Gijon, Diaz, Lobo, & Jacobs, 2013). In behavioral dynamics, due to real-time coupling between bodies, a new decision opportunity presents itself frequently. In dance and high-paced sports this can be up to several times a second. To succeed with this, agents must source cues from other agents whom they supply with cues in return. Typically, the behavioral dynamics are not scripted (p. 195-196).

8. Performance and Health Concepts in Artistic Gymnastics

- 8.1. The extreme forces placed on the gymnasts' body in combination with the repetitive movements and high training hours are more than likely a major factor behind the reportedly high incidence of injuries (Lilley, 2006). Although the types of injuries sustained in gymnastics are comparable with many other sports, gymnastics is unique in that the gymnasts receive the majority of their training during their childhood years (Sands, 2000) (p. 52).

SECONDARY SOURCES

1. Embodied Cognition With and Without Mental Representations: The Case of Embodied Choices in Sports

- 1.1. We argue that when embodied choices in complex environments such as sports are considered, taking two recently discussed theoretical approaches into account can be useful. One of them assumes that there is mediation between a person and the environment through mental representation, and the other assumes direct contact between a person and the environment and thus no need for mental representation. Both approaches will be used to contrast interpretations of embodied cognition in sports (p. 2).

2. Optimizing Performative Skills in Social Interaction: Insights From Embodied Cognition, Music Education, and Sport Psychology

- 2.1. Expert musicians and skilled athletes often display the stunning ability to adapt to, and coherently engage with, the shifting demands of their contingent milieu. A sudden change in the tempo of a music performance or the emergence of a particular spatial configuration of players in team sports requires the immediate generation of appropriate novel actions to keep the music "alive" or the sport performance possible. Traditionally, this process is described as a largely automatic mechanism, where little or no attention is dedicated to the generation and enactment of the new actions (see Dreyfus and Dreyfus, 1986; Schmidt and Wrisberg, 2008) (p. 2).

3. Introduction: when embodied cognition and sport psychology team-up

- 3.1. [...] excellence in sporting skills inspires embodied cognition by exhibiting tangible evidence that the details of our bodily constitution are not accidental to our mental powers, but define them in various inherent ways: not only because the informational processes that realize our intelligent functions are specifically regulated, distributed, filtered, or scaffolded by the physical and biological compound that implements them (Shapiro 2011); but also because the modes and the efficacy of our practical intelligence primarily depend on the originary unprincipled engagement with a perceptual environment that can only be discovered by and become meaningful to an embodied agent (p. 213).

4. Moving Wisdom: Explaining Cognition Through Movement

- 4.1. Starting with the notion of activities for which performance, movement, and the pursuit of excellence are central, the two driving questions are: 1) what may be fruitful ways to modify existing research mores and theoretical assumptions in cognitive studies? In this regard, this study is an overture to expand the cognitive canon. And, 2) how do we integrate the cognitive sciences with the normative? Uniquely, the normative weight to excel is derived not only from conceptual requirements from the ethical sphere, but also from work in the mind sciences and skillful coping that is connected to standards inherent to and resulting from the active pursuits central to this examination—sports, performing and martial arts, and crafts. Animate bodies, in particular as incorporated into active pursuits, best show the connection between the normative and the cognitive, and how these correlate with bodies, their kinetic capabilities, and the context of a community (p. 59).