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Review

Empathy in sports, exercise, and the performing arts

Vassilis Sevdalis [a,*], Markus Raab [a,b]

[a] Institute of Psychology, German Sport University Cologne, Am Sportpark Müngersdorf 6, 50933 Cologne, Germany
[b] Department of Applied Sciences, London South Bank University, UK

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ABSTRACT

Objectives: This review article provides a summary of the main findings from empirical studies that used empathy measurements in the domains of sports, exercise, and the performing arts (i.e., music, dance, and theatrical acting).
Method & results: The use of body movement is considered a common denominator across performance domains. Embodied accounts of cognition claim that the capacity to understand an individual's cognitive and affective states depend on the observer's sensorimotor experience and seek to identify the factors influencing this process. To describe the bidirectional links between empathy and performance domains, we divided the empirical studies into two categories: those that investigated factors influencing or inducing empathy, and those that investigated possible influences of empathic tendencies on neuro-cognitive functions and performance. Therefore, the review includes sections on (1) effects on empathy, including (a) gender, (b) learning and performance, and (c) prosocial contexts; and (2) the effects of empathy on (a) the brain and physiology, (b) perception–performance relations, and (c) prosocial behavior. This work has proven to be informative in unraveling the links between empathy and perceptual-motor processes across intrapersonal, interpersonal, and intergroup levels of analysis.
Conclusions: The reported findings are examined in relation to embodied accounts of perceptual-motor performance. Issues related to interdisciplinary dialog, implications for research, and applied practice are also discussed.

Introduction

Playing sports, performing music, and moving in rhythm are universal activities that aptly employ the human body to enable performance. In these domains, body actions can also be used to investigate aspects of cognition and interaction, which are manifested in performance (Phillips-Silver & Keller, 2012; Raab, Johnson, & Heekeren, 2009; Sevdalis & Keller, 2011b). This engagement of the body may involve, for instance, learning movement patterns, coordinating movements in space and time, or interacting with others to accomplish concrete objectives. Such skills require individuals to predict upcoming events, recognize others' intentions, and adapt one's own to others' actions (Sebanz, Bekkering, & Knoblich, 2006). These perception–performance relationships are underscored by empathic processes associated with the capacity to understand other individuals' affective or cognitive states.

Although the concept of empathy—originally *Einfühlung* (feeling into)—emerged in its current form from discussions on art and aesthetics toward the end of the 19th century (Gladstein, 1984), its definition and function remain heavily debated (Batson, 2009; Engelen & Röttger-Rössler, 2012). For the purposes of this review, empathy is broadly conceived as the capacity of an individual (observer) to engage a state similar to the state of another individual (target): This encompasses both affective and cognitive dimensions, as it can be triggered by both bottom-up and top-down pathways (Engelen & Röttger-Rössler, 2012; Preston & Hofelich, 2012; Preston & de Waal, 2002;). Recent theoretical and empirical work places empathic processes in a central position with regard to their contribution to social cognition, especially in the relationships between actions, emotions, sensations, and their perception (Decety, 2010; Keysers, 2011). Specifically, it has been suggested that observation or imagination of another individual's state prompts a matching of that state in the observer, with its associated neural, autonomic, and somatic responses (Preston & de Waal, 2002). This approach is compatible with the common coding principle, which posits a bidirectional link between perception and action, in terms of common perceptual-motor representations and shared resources in the brain's functional architecture (Hommel, Müsseler, Aschersleben, & Prinz, 2001; Prinz, 1990). These perception–action links seem to be hardwired and are considered

* Corresponding author. Tel.: +49 221 4982 5721; fax: +49 221 4982 8320.
E-mail address: v.sevdalis@dshs-koeln.de (V. Sevdalis).

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pivotal in the development of intention understanding and cooperation (Tomasello, Carpenter, Call, Behne, & Moll, 2005). However, the perception–action coupling regarding the degree of overlap between observer's and target's states is flexible: it can be modulated by a range of factors related to an individual's characteristics, sensorimotor experience, and interactions, of which one is empathy.

Empirical research on empathic processes covers a wide range of topics and is encountered in a number of disciplines within the humanities, social sciences, and also neurosciences. Such investigations include, for instance, observing individuals in pain or distress (e.g., Jackson, Meltzoff, & Decety, 2005; Lin & McFatter, 2012), comparisons between age groups or developmental trajectories (e.g.,Mella, Studer, Gilet, & Labouvie-Vief, 2012; Sucksmith, Allison, Baron-Cohen, Chakrabarti, & Hoekstra, 2013), and animal models (e.g., Ben-Ami Bartal, Decety, & Mason, 2011; Chen, Panksepp, & Lahvis, 2009). The role of empathy has also been examined through other perspectives, for example, in film (e.g., Davis, Hull, Young, & Warren, 1987), visual arts (e.g., Freedberg & Gallese, 2007), and fiction (e.g., Oatley, 2012). In certain domains, such as sports and performing arts, research concerning empathic processes has the potential to bridge specialized interests in an interdisciplinary manner, to the extent that a common denominator exists across these fields: body movement (and in a broader sense, motor performance). Recent approaches within an embodied cognition framework provide evidence that the capacity to understand an individual's cognitive and affective states depend on the observer's sensorimotor experience and seek to identify the factors influencing this process (Kontra, Albert, & Beilock, 2012; Sevdalis & Keller, 2011b). Empathy, as a means of embodying another individual's states, may be particularly potent in situations that involve the trained human body in motion. Sports and performing arts are prime areas where embodiment is manifested and can be assessed. Despite this potential, there is currently no publication that synthesizes empathy research by incorporating perspectives from diverse performance domains that commonly utilize human body movement. In this article, we review empirical studies that employed measures of individuals' empathic tendencies in performance domains such as sports, exercise, and performing arts (i.e., music, dance, and theatrical acting) and discuss their implications for these fields.

Approach

This review covers empirical studies on empathy that used various behaviors in performance contexts to investigate perception–action–emotion links in individual, interpersonal, and intergroup settings. In this sense, the review complements previous reviews on neuroscientific, cognitive, and social aspects of empathy (e.g., the special section in *Emotion Review*, 2012, *4*(1), 3–97; see also Gladstein, 1984 and Wispé, 1987 for historical overviews), which rather neglected the relation between empathy and performance in applied domains related to human movement. In applied domains such as sports, exercise, and the performing arts, understanding the functions of the performing body is at the center of the researcher's and practitioner's inquiry. The ultimate goal of such engagement is to optimize sensorimotor performance and social-emotional well-being. This optimization process entails neurophysiological, cognitive-emotional, and social-interpersonal aspects (cf. Collins, Button, & Richards, 2011; Murphy, 2012). Thus, this plurality of perspectives on empathy across performance domains highlights the need for an overview of published research to facilitate further theoretical, empirical, and applied advances.

In this review, we include only studies that used empirical assessments of empathy (e.g., by correlation analyses or group comparisons) in the domains of sports, exercise, and the performing arts and refrain from mentioning studies that reported implications for empathy but did not explicitly conduct an empathy assessment. Research on related constructs, such as emotional intelligence and emotion regulation, is also not covered. To organize the literature in a plausible way, we divided the empirical studies into two large categories: those that investigated factors influencing or inducing empathy and those that investigated possible influences of empathic tendencies on neurocognitive functions and performance.[1] This division will be of assistance in discussing the bidirectional links between empathy and performance domains. Thus, the following review includes sections on (1) effects *on* empathy, including (a) gender, (b) learning and performance, and (c) prosocial contexts; and (2) the effects *of* empathy on (a) the brain and physiology, (b) perception–performance relations, and (c) prosocial behavior. Finally, in the discussion, we examine the reported findings in relation to embodied accounts of human performance, as well as issues concerning interdisciplinary dialog, research implications, and applied practice.

Empathy and performance: literature review

Influences on empathy

Gender

Differences in empathic tendencies have been found repeatedly to be influenced by the gender of the participants (Eisenberg & Lennon, 1983). Similar trends have been observed across performance domains. In sports-related research, male and female participants appear to differ with regard to empathy. Specifically, one study compared empathic tendencies in the course of a sports-based intervention program whose aim was to create opportunities for prosocial development: Female participants obtained significantly higher scores compared to male participants on the perspective-taking subscale of Davis's (1980) Interpersonal Reactivity Index (Brunelle, Danish, & Forneris, 2007). Moreover, participation in the same sports activity in a competitive context had different meanings for male and female individuals: Compared to males, females valued the interpersonal dimensions of playing soccer more highly and obtained higher scores in the empathic concern and personal distress subscales of Davis's (1980) Interpersonal Reactivity Index (Borman & Kurdek, 1987). In another study assessing soccer players' prosocial and antisocial behaviors across a wide age range (i.e., from adolescence to 47 years old), female individuals showed higher levels of empathy than males, with the empathy scores accounting for the sex differences found in antisocial behaviors (which were higher in males than in females; Kavussanu, Stamp, Slade, & Ring, 2009). Finally, to investigate empathy in coach–athlete dyads across a range of team and individual sports, recent research employed the empathic accuracy paradigm (wherein the capacity to accurately perceive the thoughts and feelings of an individual is measured by comparing the self-reports of that person to the inferences about that person; cf. Ickes, Stinson, Bissonnette, & Garcia, 1990): Female coaches were found to be more empathic than male coaches, although coaches' empathic accuracy was not influenced by the gender of their athlete; with regard to athletes, however, there was an interaction such that the highest empathic accuracy was shown for female athletes working with male coaches (Lorimer & Jowett, 2010b).

[1] "Influence" here is used with the aim of structuring the literature and does not refer to causality in the statistical sense; nor is it used to interpret correlational as causal evidence.