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# Developing mixed methods research in sport and exercise psychology: Critical reflections on five points of controversy

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ABSTRACT

*Objectives:* To stimulate debate in sport and exercise psychology about the nature of mixed methods research as currently practiced and how this approach might develop in the future.
*Design:* An exploration of five points of controversy relating to mixed methods research.
*Method:* A presentation of critical reflections on the following. (1) Mixing methods as a non-debate, (2) Purists, pragmatists and mixing paradigms, (3) Integrating findings and representational forms, (4) Judgment criteria and mixed methods research, and (5) Power, politics and what counts in mixed methods research.
*Results:* The examples provided of mixed methods research in action indicate that a number of problematic issues regarding both process and product have been neglected.
*Conclusions:* Mixed methods research offers a number of conceptual, practical and pedagogical challenges that need to be addressed if this form of inquiry is to develop its full potential in sport and exercise psychology.



In a decade review (2000–2009) of qualitative research in three leading sport psychology journals, that included *Psychology of Sport and Exercise*, Culver, Gilbert, and Sparkes (2012) found that a total of 57 articles used mixed methods, which accounted for 31.1% of the articles classified as qualitative in their selected sample. Of these 57 mixed methods articles, '25 employed open-ended questions within a survey or test; 23 used tests and interviews; and 10 used systematic observation in conjunction with interviews' (p. 265). This suggests a growing acceptance of mixed methods research (MMR) in the field.

Moran, James, and Kirby (2011) propose that MMR 'has much to offer sport and exercise psychology researchers who believe that quantitative and qualitative methods may be combined effectively' (p. 367). The benefits proposed for undertaking a mixed methods study according to Doyle, Brady, and Byrne (2009), Hagger and Chatzisarantis (2011), Hesse-Beber (2010), Horn (2011), and Moran et al., (2011), include the following. *Offsetting weaknesses and providing stronger inferences*: the respective weaknesses of quantitative and qualitative methods can be overcome and neutralized by drawing on the complementary strengths of each other to provide stronger and more accurate inferences. *Triangulation*: this allows for greater validity in a study by seeking corroboration between quantitative and qualitative data. *Completeness*: using a combination of methods allows for a more complete and comprehensive picture of the studied phenomenon to emerge and can also generate new insights. *Hypothesis development and testing*: qualitative methods can be used to develop hypotheses that can then be tested by quantitative methods. *Instrument development and testing*: complementing quantitative methods with qualitative methods can assist in the further (and quicker) development of theory, and the development, testing, and refinement of psychometric instruments for use in subsequent quantitative studies. *Assisting sampling*: using quantitative survey methods can enhance purposeful sampling and case selection in qualitative studies whilst also helping to define a population of interest that was not anticipated. *Enhancing generalization*: Quantitative methods can be used to obtain a representative sample, with the goal of enhancing the generalizability or transferability of qualitative findings.

Despite these potential benefits, Mason (2006) makes the following comment in her review of strategies for MMR:

> Yet mixing methods for no good reason other than the sake of it can produce disjointed and unfocussed research, and can severely test the capabilities of researchers. Researchers

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> engaging in mixed methods research need to have a clear sense of the logic and purpose of their approach and of what they are trying to achieve, because this ultimately must underpin their practical strategy not only for choosing and deploying a particular mix of methods, but crucially also for linking their data analytically.
>
> Mason, 2006, p. 3

The views of Mason (2006) suggest that researchers in sport and exercise psychology are well advised to approach MMR with caution. Rich and critical debates within the social sciences about MMR show it is best viewed as a *contested* and *ambiguous* concept (Gill, 2011; Johnson, Onwuegbuzie, & Turner, 2007; Whaley & Krane, 2011). Creswell (2011), a leading advocate of MMR, highlights an extensive range of controversies in an emerging field that include the following: basic issues of the legitimacy and meaning, philosophical underpinnings, and the pragmatics of conducting a mixed methods study. These controversies, he argues, need to be squarely placed on the table for discussion and their presence honored. In this article, therefore, I offer some critical reflections on five points of controversy with the aim of stimulating dialogue within the sport and exercise psychology community about what MMR is, how it is currently practiced, how it might be developed in the future, and the pedagogical challenges that flow from all of this.

Gaining an understanding of MMR as an emerging field is difficult. The term 'mixed methods' has multiple meanings depending on the standpoint of the researcher (Creswell, 2011; Johnson et al., 2007; McGannon & Schweinbenz, 2011), and how it is enacted within the diversity of options for designing mixed methods studies as described by Teddlie and Tashakkori (2011). The terminology used is also problematic. Sometimes the terms paradigm and methodology, and methodology and method, are used interchangeably but at other times they are used to refer to different aspects of the research process. This has made it difficult for me to make sense of, and weave various stands of the MMR debate together in a coherent and consistent fashion. To alleviate this problem, but without the ability to solve it, I offer the following working definitions of key terms as reference points for my critical reflections that follow.

Drawing on the work of Kuhn (1970), I take a paradigm to be a set of basic beliefs, and a worldview that defines, for its holder the nature of the world, our place in it, and the possible relationships we can have to this world and its parts. Denzin and Lincoln (2005) propose that paradigms are generated and characterized by how researchers respond to the following questions: What kind of being is the human being? What is the nature of reality? (*ontological* questions); How do we know the world, and what is the relationship between the knower (the inquirer) and the known (or knowable)? (*epistemological* questions).

How these philosophical questions are answered informs a theory of how inquiry should proceed in practice, and how researchers might go about gaining access to, and knowledge of the world. This is the *methodological* aspect or process of doing research that involves a general approach to studying a given topic or problem. Whaley and Krane (2011) locate methodology as the bridge between epistemology and methods. Methodology is the framework guiding why specific methods or procedures are used in our research. In contrast, *methods* are best described as specific *techniques* or procedural tools for generating data (e.g., observation, interview, questionnaire), and then analyzing it (e.g., statistical analysis, narrative analysis, discourse analysis). Methodology, therefore, is much more than method.

Having clarified key terms from my perspective, it should be noted that many mixed methods researchers do not necessarily do the same when writing on the topic. This has led Creswell (2011) to ask, 'Why do mixed methods writers not clearly distinguish among methods, designs, and paradigms?' (p. 273). In the sections that follow, therefore, the reader needs to be aware of terminological slippage in some of the articles that I refer to in offering my critical reflections about five points of controversy. This should be seen as an inherent dilemma within the emerging field of MMR that is beyond the scope of this article to resolve.

## Critical reflection 1: mixing methods as a non-debate

Once the terms *method* and *methodology* are differentiated, then MMR in sport and exercise psychology is something of a non-debate. As Smith (1989) points out, if the question is narrowed down to whether or not researchers operating in different paradigms can borrow techniques from each other, or mix quantitative with qualitative methods, then the answer is an uninteresting *yes*. The question about mixing methods is of no great concern because the *logic of justification* for any given approach to inquiry, at the paradigmatic level, does not set detailed, rigid boundaries for the practical application or use of techniques. This view is supported by a number of recent paradigm reviews.

Lincoln, Lynham, and Guba (2011), Sparkes and Smith (2014), and Whaley and Krane (2011) provide a review of the ontological and epistemological assumptions informing a range of paradigms that include the following: positivism, postpositivism, constructivist, phenomenological, critical theories, participatory, and poststructuralism. They illustrate how the different philosophical assumptions of each paradigm shape the goal of inquiry, the role of values, the role of theory, the voice represented, the researcher role, and the legitimacy criteria called upon to judge the inquiry. For example, given its view of knowledge as observable, empirical, quantifiable and verifiable, positivism has prediction and explanation as its goal of inquiry with the role of the researcher being that of a disinterested and detached scientist. In contrast, given its view of knowledge as multiple, situated, and socially and historically bounded, then critical theory has empowerment and emancipation as the goal of inquiry. Here, the role of the researcher is that of transformative intellectual in the form of advocate or activist. Likewise, given its ontological and epistemological position, positivism adopts an experimental and manipulative methodology. In contrast, given its different positioning on these issues, constructivism adopts a hermeneutical/dialectical methodology.

Even though Lincoln et al. (2011), Sparkes and Smith (2014), and Whaley and Krane (2011) illustrate how the philosophical assumptions informing a paradigm influence its methodology, they make no claims that these determine the methods used in any given study. They are right not to do so because exactly how data are collected is not something that the researcher's ontological or epistemological position prescribes. Researchers of any paradigmatic persuasion are free to choose any methods they like. This is why, at a very basic level, I propose that MMR is a non-debate.

Moving beyond a basic level, things get more interesting and more debatable. As Willig (2001) reminds us, not *all* research methods are compatible with *all* paradigmatic assumptions and *all* methodologies. Having noted that there is some flexibility in relation to choosing methods, she argues that a researcher's ontological, epistemological and methodological commitments do constrain which methods can be used. As an example, Willig suggests that the philosophical assumptions and methodology of social constructivism are not compatible with methods that are designed to measure variables in a population. This is because social constructivism problematizes constructs such as 'psychological variables', questions their validity, and seeks to explore the various ways in which they are 'made real'. This, Willig argues, 'cannot be