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# A Pragmatic Research Philosophy for Applied Sport Psychology

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A pragmatic research philosophy is introduced that embraces mixed-method approaches to applied research questions. With its origins in the work of Peirce (1984), James (1907), Dewey (1931), and contemporary support from Rorty (1982, 1990, 1991), pragmatism emphasizes the practical problems experienced by people, the research questions posited, and the consequences of inquiry. As a way to highlight applications of pragmatism in sport psychology, pragmatism is compared to constructivism and positivism in terms of philosophical underpinnings and methodological applications. The pragmatic researcher is sensitive to the social, historical, and political context from which inquiry begins and considers morality, ethics, and issues of social justice to be important throughout the research process. Pragmatists often use pluralistic methods during multiphase research projects. Exemplar design types are discussed that logically cohere to a pragmatic research philosophy.

Debate and discussion concerned with knowledge construction have occurred throughout the history of science (Wilson, 1998). In the sport and exercise psychology literature, discussions have focused on divisions between

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the academic discipline and professional activities of applied practitioners, the appropriate sources of knowledge (e.g., interviews, observations, experiments), data analytic strategies (e.g., quantitative and/or qualitative), the underlying philosophies of various research methodologies, and the development of alternative paradigms (Brustad, 2002; Dewar & Horn, 1992; Dziewaltowski, 1997; Hardy, Jones, & Gould, 1996; Krane, 1994; Krane, Andersen, & Streat, 1997; Martens, 1979, 1987). While these discussions have influenced the field of sport psychology, there is still a need to develop and accept alternative ways of examining human behavior within sport and physical activity contexts (Brustad, 2002; Dewar & Horn, 1992). Hence, this paper will characterize a pragmatic viewpoint about the nature of paradigmatic controversies and present an alternative position that is guided by the practical concerns of applied sport psychologists and their clients (i.e., coaches and athletes). Pragmatism, with origins in the work of Peirce (1984) and James (1907), is a philosophy of knowledge construction that emphasizes practical solutions to applied research questions and the consequences of inquiry. The purpose of this paper is to offer researchers and practitioners in sport psychology integrated approaches to knowledge construction that logically cohere to a pragmatic research philosophy.

The primary motivation for the present discussion stems from the longstanding gap between academic and applied sport psychology practice. Martens (1979) was perhaps the first to express concern about ecological validity of laboratory-based sport psychology research. He noted the gap between field-based observations and orthodox approaches to knowledge construction when he claimed, “experiential knowledge and common sense have been more appealing, and usually more beneficial, than knowledge from sport psychology research” (p. 95). Martens (1979, 1987) recognized that reliance on orthodox scientific methods and a failure to pay attention to the unique sport and physical activity context lead to two divergent aspects of sport psychology, academic and applied. His solution was a heuristic approach that emphasized knowledge gained through field studies, idiographic, and introspective methods.

Brustad (2002) and others (Biddle, Markland, Gilbourne, Chatzisarantis, & Sparkes, 2001; Dewar & Horn, 1992) have called for the use of multiple methods and acceptance of alternative paradigms in the research process. Brustad (2002) noted “it is possible to use multi-method approaches to address any research question” (p. 34) while Hardy et al. (1996) offered the following: “At times it is best to use a qualitative methods, and at other times a quantitative approach. Because both methods have strengths and limitations, sometimes it may also be advisable to combine the two approaches” (p. 259). Consistent with these sentiments, we feel it is important to continue paradigmatic and epistemological discussion to advance the use of mixed-method forms of knowledge construction in sport psychology.

Another complimentary rationale for the present manuscript stems from findings reported by Culver, Gilbert, and Trudel (2003). They reviewed 485 published studies in three major sport psychology journals (e.g., *The Sport Psychologist*, *The Journal of Applied Sport Psychology*, and the *Journal of Sport and Exercise Psychology*) to determine the number of studies that used qualitative (e.g., interviews, life histories, participant observation) versus quantitative methods (e.g., emphasis on numerical data and/or inferential statistics). Of particular interest here was that only 32 studies over a period of ten years used a combination of qualitative and quantitative techniques. This finding raises some interesting questions similar to those raised by Culver et al. (2003). First, are we to presume that many of the

important research questions in sport psychology can only be answered by one technique alone? And second, is it possible that multiple methods of data collection and analysis, used simultaneously, could answer important research questions more adequately? We argue the answer to question two is a resounding yes. In an attempt to back up this claim, we present an alternative philosophical and methodological paradigm for researchers and practitioners in applied sport psychology: pragmatism. What follows is a review of the historical roots of pragmatism. This review will provide the philosophical underpinnings of a pragmatic paradigm of knowledge construction for applied researchers in sport psychology. Then, specific design strategies and examples of published studies will be discussed followed by a review of pragmatic conceptions of validity in scientific inquiry.

Before giving a brief account of pragmatism, two caveats are in order. First, there are different forms of pragmatism and the reader is encouraged to see Murphy (1990), Diggins (1994), and Putnam (1995) to better understand the diverse representations of pragmatism. Our intent here is to present one form of pragmatism with the specific goal of offering applied researchers in sport psychology a philosophical and methodological framework for future research. Second, this work is intended to add to responsible and productive discussion surrounding the underlying assumptions of the research process (i.e., methodology) and the implications of adopting one paradigmatic approach over another. The arguments presented in this manuscript are consistent with the views of scholars who have encouraged acceptance and tolerance of diverse research epistemologies and methodologies in sport and exercise psychology (Biddle et al. 2001; Brustad, 2002; Culver et al., 2003; Hardy et al., 1996; Krane, 1994; Krane et al., 1997; Streaan & Roberts, 1992; Whaley, 2001).

### **An Introduction to Pragmatism**

The word pragmatism comes from the Greek word, *πράγμα*, which means action from which the English words “practice” and “practical” were derived. The term was popularized by William James in his publication *Pragmatism: A New Name for Some Old Ways of Thinking*. For James, pragmatism was not a program for what he called “solving names” such as God or answering questions about an absolute truth. Rather, pragmatism was an attempt to provide practical solutions to contemporary problems experienced by people and society. In this light, pragmatic thought was a “method only” intended to change existing realities through concerted effort and continued work (James, 1907, p. 51). Especially important to James (1907) were the “respective practical consequences” of work, a concern that has implications for the present manuscript (p. 45).

In more recent years, Rorty (1982, 1990, 1991) has emerged as a proponent of pragmatism. Rorty argued that the concept of knowledge as an accurate representation of truth needed to be discarded. From this perspective, the methods and theories of empirical science or any other discipline (e.g., theology) are not capable of describing truth once and for all. Pragmatists deny there is single reality and see no way for scientists or others to determine whether their theories are closer to the truth than are their colleagues. For these reasons, pragmatists have abandoned discussions that concern the correspondence of theory and reality in favor of dialogues where the value of different types of knowledge are viewed as tools for helping us cope with and thrive within our environment (Rorty, 1990).

Put simply, pragmatists opt for methods and theories that are more useful to us within specific contexts (e.g., answers to practical problems), not those that reveal underlying truths about the nature of reality. As Rorty noted, pragmatists are set apart from positivists and/or scientific realists who believe there is an objective truth or “God’s-eye view” of the world unobstructed by the influence of socio-cultural conditions and subjective biases (Rorty, 1990, p. 2). Pragmatists view this purported truth as being “irrelevant to our needs and our practices” (Rorty, 1990, p. 2) because such a view would not account for the peculiarities of our world (Williams, 1985).

Pragmatists further recognize that scientific inquiry is contextual in nature and that the past and current social, historical, and political conditions strongly influence the scientific process. Dewey (1931) noted “They [general ideas] are the basis for organizing future observations and experience” (pp. 32-33) while Rorty (1982) claimed that all inquiry begins with and is guided by the previous discourse that researchers inherit from their predecessors.

In summary, pragmatists evaluate research findings based upon their practical, social, and moral consequences as well as their bearing on the human condition. They consider the problems under study and the specific research questions as more important than the underlying philosophical assumptions of the method. Pragmatists typically use one or more methods deemed appropriate to the specific research question being asked while simultaneously considering the consequences of such inquiry (Cherryholmes, 1992; Howe, 1988; Rorty, 1982).

### **Pragmatism and the Major Paradigms**

In order to demonstrate the strengths and flexibility afforded by the pragmatic research tradition, a more specific discussion about philosophical issues in research is warranted. Rather than abandoning discussions of this kind, as Rorty (1991) suggested, we have chosen to take part in them in order to facilitate dialogue with proponents of other research paradigms. As a way to highlight the philosophical underpinnings of pragmatic thought, the discussion that follows will review important terms related to the research process. Also included in this discussion are examples of how two relatively dichotomous paradigmatic philosophies, positivism and constructivism, are unique from one another. Because of space limitations, discussions about the broad array of post-positivistic and non-positivistic viewpoints (e.g., cultural studies, feminist, critical theory) are beyond the scope of this manuscript; Lincoln and Guba (2000) provided an excellent review of these philosophies. Rather than present all of these viewpoints, our intent is to contrast the major philosophical assumptions of positivism and constructivism in order to shed light on a pragmatic philosophy.

Epistemology refers to theories of knowledge, the nature and source of legitimate knowledge, and the ability of research subjects/participants to possess knowledge (Childers & Hentzi, 1995). Ontology generally refers to questions about the nature of reality, that which is real, and whether an “objective” reality exists “independent of the researcher” (Creswell, 1994, p. 4). Positivists adopt objective epistemological and ontological views that assume the existence of a real or true reality that can be measured and understood with the application of scientific methods devoid of any human contamination or subjective bias. The positivist also believes that scientific findings can be generalized across time and

in different contexts and their findings represent so called truths about the world devoid of the social, cultural, or historical context from which these findings were made (Lincoln & Guba, 2000).

In contrast, field based researchers and constructivists often embrace a subjective view of knowledge that is individualized and context specific (Lincoln & Guba, 2000). Generally speaking, a constructivistic philosophy focuses on the social, historical, and value driven process of knowledge claims and denies the existence of permanent (foundational) objective truths about reality. Thus for the constructivist, the epistemological and ontological positions embrace subjective views about reality constructed through transactions within the socially situated activities of people and communities (Lincoln & Guba, 2000).

The epistemological and ontological extremes represented by positivists and constructivists have led to contentious debates within the social and behavioral sciences including sport psychology (Brustad 2002; Dewar & Horn, 1992; Dziewaltowski 1997; Lincoln & Guba, 2000; Martens 1979, 1987). While positivists and constructivists appear to have dichotomous epistemological views (Lincoln & Guba, 2000), the pragmatist argues that a continuum exists between objective and subjective viewpoints the choice of which depends on the nature of the research question being asked and the particular point in the research process (Creswell, 2003; Tashakkori & Teddlie, 1998, 2003). Because knowledge construction is contextual in nature and influenced by the cultural, political, and historical conditions of the day, the pragmatist equates objectivity with solidarity and agreement that occurs through discourse and transaction within and between communities of people (James, 1907). In short, pragmatists test the veracity of facts through dialogue, the usefulness and consequences of knowledge, and negotiations within communities, all of which require ongoing dialog.

Both pragmatists and constructivists agree that the consequences of scientific inquiry require reflection and analysis. Both approaches consider the practical, moral, and ethical consequences of knowledge construction as important considerations in research (Dewey, 1931; James, 1907). Like constructivists, pragmatists would encourage scholars and practitioners to engage in moral and ethical discussions before, during, and after the implementation of scientific findings (Dewey, 1931; Whaley, 2001). However, unlike more radical forms of constructivism (Lincoln & Guba, 2000 review the varying forms of constructivism), pragmatists consider agreement within a scientific community as a way to approach objectivity. For the pragmatist, total agreement, complete objectivity, and the search for some ultimate truth are not considered useful endeavors (James, 1907). Rather, agreement within communities may allow a practical level of truth to exist, but such practical truths are those findings that prove useful within specific contexts (James, 1907). In other words, the pragmatist prefers to avoid debate about whether constructivistic or positivistic conceptions of truth are more accurate. The pragmatist considers the practical concerns with human existence, the research questions being asked, and the consequences of inquiry, to be more important than which version of the truth is better than another (James, 1907). As James (1907) asked “What difference would it practically make to any one if this notion rather than that notion were true? If no practical difference whatever can be traced, then the alternatives mean practically the same thing” (p. 45). With continued work and an examination of consequences, knowledge claims may be supported by the weight of evidence available and the logical arguments used to apply those claims. For instance,

sport psychology researchers and/or practitioners may test psychological interventions to improve sport performance. If agreement within a community were established that a specific intervention improved sport performance, then pragmatists would consider such agreement about research findings to approach an objective position.

Another epistemological debate concerns the issue of time and context free generalizations. The pragmatist argues that scientists must be aware of the context within which research applications take place. Because time and context free generalizations tend to discount or eliminate the role of social-historical-contextual factors on human experience (Lincoln & Guba, 2000), a pragmatist would not be inclined to make such claims. Science, knowledge construction, and the practical concerns of people require ongoing deliberations about the use and benefits of knowledge at a particular time or place. Again, the iterative nature of knowledge construction requires scientists to continuously reexamine the application of research findings in many different contexts. This does not necessarily mean that scientific findings must be replicated continuously. Rather, the application and consequences of science must be reflected upon to ensure practical utility, social value, and fairness to anyone who might be or could be impacted by research findings.

### ***Research Methods***

Research methods are procedures, tools, or strategies of doing research while methodology refers to larger issues in the research process such as why particular methods are chosen (Smith, 1989). In other words, methods are equated with specific design elements and strategies of inquiry such as how to recruit participants, the type of data collected (i.e., numeric versus interview based); methodology is more closely linked to philosophical issues within the research process. For example, positivists believe only objective, tightly controlled, directly observable empirical data provide legitimate knowledge; therefore, experimental designs within contrived settings and quantitative representations of data are typically chosen. A positivist might approach the study of psychological stress by creating a contrived laboratory task that mimics a real world competition scenario. This approach may yield meaningful data about particular research questions, but the context with which stress and competition occur in actual athletic settings would not be readily apparent from the data. In contrast, constructivists disavow objective claims about reality and embrace time and context dependent explanations about knowledge that are explored through life histories, interviews, or participant observation. Elaborating on the example above, a constructivist would interview an athlete immediately following several athletic contests to understand an athlete's perceptions of competition stress. While mixing methods from different paradigms is possible, desirable, and often productive, the underlying assumptions of various paradigms (i.e., constructivists versus positivism) may contradict one another (Krane & Baird, in press; Lincoln & Guba, 2000). In other words, a constructivist may use quantitative data but will adopt a subjective epistemology, while a positivist who uses a post-experiment interview will do so under an objective epistemology.

Pragmatists are trained in, and “use pluralistic approaches to derive knowledge about the problem” under study (Creswell, 2003, p. 12). Because of the epistemological continuum noted above, the pragmatist will often use multiple and/or mixed method designs within single investigations and in an iterative

programmatic manner over several investigations. What follows is a review of some mixed-method design strategies that cohere to a pragmatic philosophy.

### **Mixed-Method Research**

Mixed-method research involves a combination of procedures where two or more data collection techniques and forms of analyses are used and both contribute to the final results (Tashakkori & Teddlie, 1998). As discussed by Creswell (2003) and Tashakkori and Teddlie (1998), mixed-method research involves both data collection techniques and analyses because the data collected dictates the analyses performed. In the following sections, we will review and adapt the mixed-method designs described by Tashakkori and Teddlie (1998) to the work of applied researchers in sport and exercise psychology. Specifically, we will discuss equivalent status designs, dominant-less-dominant designs, and designs with multilevel uses. Within this discussion, examples of published research studies that resemble the design types being reviewed here will be highlighted.

#### ***Equivalent Status Designs***

Equivalent status designs can involve both qualitative and quantitative approaches in either temporal order. Consistent with a pragmatic epistemology, researchers and/or practitioners who are trained in multiple methods often favor the equivalent status design. With this design, both qualitative and quantitative approaches contribute equally to the final results, the results of phase one somehow inform phase two, and neither approach is viewed as more important than the other (Tashakkori & Teddlie, 1998). For instance, Gould, Udrey, Tuffey, and Loehr (1996a) and Gould, Tuffey, Udrey, and Loehr (1996b), in two stages, assessed the levels of burnout experienced by competitive junior tennis players. In the first stage, a battery of measures was administered to 62 junior tennis players and discriminant function analysis helped identify the defining psychological characteristics of burned out players. Then, 10 participants who scored highest on measures of burnout and perfectionism were interviewed to shed further light on the psychological characteristics of burned out junior tennis players. Although the two studies independently contributed to our knowledge of burned out junior tennis players, the value of this two-stage approach was made evident by the authors' conclusions regarding the salience placed on social psychological factors by the 10 interview participants, and the support offered to Smith's (1986) cognitive-affective stress model of burnout. In this case, both stages of data collection provided useful information to help scientists and practitioners identify the characteristics and experiences of burned out junior tennis players.

Alternatively, Streat (1998) discussed another potential application of qualitative methods as researchers can use interview data as a basis for designing survey measures. This approach is consistent with an equivalent status design as long as both studies contribute independently to new knowledge and study one somehow informs study two. For instance, Conroy, Poczwadowski, and Henschen, (2001) used interviews to enhance understanding of individuals' emotional responses to failure in stage one. Their interviews, along with extensive theorizing about the fear of failure construct, formed the theoretical rationale toward the development of items for the Fear Appraisal Inventory designed and psychometrically tested during stage two (Conroy, Willow, & Metzler, 2002). The findings from both studies provided researchers and practitioners a practical means to assess fear of



failure within the context of sport, and both studies independently contributed new knowledge to the literature.

Equivalent status designs could also involve both qualitative and quantitative data collection techniques used in a parallel or simultaneous manner. As with the study designs described above, this form of data collection involves dual and equal contributions to the final results by both qualitative and quantitative forms of data collection and analysis. Chase, Lirgg, and Feltz (1997) presented an excellent example of an equivalent status design. They simultaneously tested aspects of Bandura's (1977, 1986) self-efficacy theory while inductively building a new theory concerned with the information used by coaches to form efficacy judgments. Specifically, Bandura's previous theoretical writings influenced the authors' theoretical rationale, the study design, and creation of items to measure coaches' efficacy. The authors also used an inductive open-ended approach and created a conceptual framework of important sources of efficacy information used by coaches. In this case, the conceptual framework developed from the inductive analysis of coaches' open-ended responses were usefully combined with the quantitative analyses and both forms of data were used to support the authors' conclusions that coaches' efficacy expectations can influence the performance of athletes.

### ***Dominant-Less Dominant Design***

Another mixed-method approach involves the use of one dominant method while a relatively smaller part of the study uses an alternative method. The dominant-less dominant design may appeal to researchers or practitioners who strongly favor one research approach, but collaboration with researchers who have different training and/or epistemological viewpoints is needed. For instance, Chaffin and Imreh (2002) assessed the practice of a concert pianist as she learned Presto, of J. S. Bach's Italian Concerto. In this study, the researchers were interested in the performance cues (e.g., features of music attended to during performance) identified by the learner for the Presto to determine whether there were specific places during the piece more difficult to remember than others. The main unit of analysis was the number of starting or stopping places identified through audio recordings during an extended learning period. Secondary data collection involved a post experiment interview concerned with when the learner was thinking about the identified performance cues during memory runs and a recorded performance. In this case, the researchers used the interview data in a less dominant manner as a manipulation check of their quantitative findings.

A second approach to the dominant-less dominant design would involve the simultaneous or parallel collection of both qualitative interview and quantitative survey data. For instance, Gould, Dieffenbach, and Moffett (2002) interviewed 32 Olympic champions, their coaches, and a parent or guardian to examine the psychological characteristics of the athletes. At the same time, the authors administered a battery of survey measures to compliment their interview data. Although the authors contended that qualitative interviews were the primary methods used, their results were presented and discussed in a complimentary manner thus fitting the description of a parallel-simultaneous dominant-less dominant design. The value of this design was that both forms of data collection, with a unique and difficult-to-attain participant population, allowed the researchers to bring multiple epistemological views and interpretations to the research process.

The simultaneous/parallel dominant-less dominant design type is ideally suited to the work of applied sport psychologists who might have unique opportunities to collect diverse forms of data with small numbers of athletes or significant others within the athletic context.

### ***Multilevel Approaches***

While the preceding sections of this manuscript have focused on design issues, recent developments in statistics offer potential new design formulations in applied sport psychology. Specifically, the advent of multilevel modeling and specifically hierarchical linear modeling (HLM: Raudenbush & Bryk, 2002) can help researchers address pervasive design challenges in the social and behavioral sciences. Researchers in sport psychology (Pasevich, Estabrooks, Brawley, & Carron, 2001) and other disciplines (Arnold, 1992; Goldstein, 1995; Morris & Normand, 1992; Rosenberg, 1973) have noted the challenges associated with hierarchical or nested structures within the social and behavioral sciences. Pasevich et al. (2001) claimed that athletic teams can be conceptualized as groups nested within larger organizational units, while factors at each group level may differentially impact performance. If repeated observations are collected with a group of athletes from different teams, athletes on the same team would likely exhibit more similarities to one another than athletes on different teams. The observation that individual, group, and organizational factors are unique entities leads to violations of statistical independence and any between group differences would be unaccounted error variance using traditional statistics (Raudenbush & Bryk, 2002). To analyze multilevel data of this nature, HLM analyses allow researchers to assess individual behavior while controlling for the unique variability associated with moderator variables such as group membership, level of athletic competition (Raudenbush & Bryk, 2002), and personality characteristics (David, Green, Martin, & Suls, 1997). While applications of HLM remain scant in sport and exercise psychology (see Giacobbi, Hausenblas, & Frye, 2005, for an exception), Pasevich et al. (2001) noted the vast potential of HLM to address many important research questions in sport and exercise psychology.

Multilevel research can also be used to collect quantitative data on one level and qualitative data on another. For instance, a sport psychologist working or doing research with collegiate athletes could administer the Group Environment Questionnaire (Brawley, Carron, & Widmeyer, 1987) to athletes from various schools. At the same time, the researcher could interview coaches and athletic directors to better understand how group level variables such as institutional, academic, and athletic priorities are related to interactions within teams. The coach/athletic director data could be used to make the athlete level data more meaningful and understandable, and vice versa. Multilevel approaches can be used simultaneously or sequentially.

In summary, equivalent status designs involve two stages of data collection with either form of inquiry preceded by the other. Both elements of the design involve dual contributions to the literature and data collected in stage one somehow informs data collected in stage two. The dominant-less dominant design also involves either form of inquiry followed by the other with one method forming the dominant unit of analysis. Another variant of the dominant-less dominant design would comprise two forms of data collected in a parallel or simultaneous manner. Similar to equivalent status designs, dominant-less-dominant designs allow the

use of objective and subjective viewpoints, diverse forms of data collection, and the possibility of multiple ways to interpret the data. As long as epistemological differences can be put aside and researchers adopt the pragmatic maxims, these design strategies could provide a useful way for researchers and practitioners to engage in collaborative projects to address applied research questions. Finally, multilevel approaches offer pragmatic researchers new and innovative ways to advance applied research. We would argue that familiarity with multilevel approaches could lead to creative new strategies for mixed-method researchers. The focus now turns to pragmatic conceptions of validity.

### **A Pragmatic Critique of Validity in Science**

A positivist embraces rigid criteria and the application of accepted methods to make validity claims. This position considers the application of rigorous or foundational criteria as a means to gain scientific truths unimpeded by human bias (Lincoln & Guba, 2000). In contrast, constructivists, like pragmatists, reject permanent or universal truths and instead argue that valid truth arises out of relationships, negotiations, or dialog between members of communities (Lincoln & Guba, 2000; Sparkes, 1998). In this light, pragmatic conceptions of validity call for extended discussions about the practical utility, role, and impact of science within specific contexts (Dewey, 1931; James, 1907). Classical pragmatists, like Peirce (1984) and Dewey (1931), explicitly discussed the consequences and outcomes of inquiry (i.e., practical, ethical, and moral) because research outcomes are directly linked to claims about validity in the scientific process. As such, these outcomes should be viewed as guiding principles that require ongoing discussions about the application of research in sport psychology.

From a pragmatic perspective, research findings, outcomes, and consequences require dialog and discussion within the scientific community. Since morality and ethics are part of the scientific process (Bernard, 2000), the pragmatic moral/ethical rule is to continuously reflect on the many possible consequences of scientific inquiry. Dewey considered two ethical perspectives for the scientist to consider. The first perspective occurs at the front end of inquiry and is concerned with the overarching ideals, values, and purposes that guide inquiry. The second perspective is the test of consequences that occurs when research results are applied or disseminated in some practical manner. Along these lines, we consider the following questions, similar to those discussed by Whaley (2001), to be important for researchers to consider: (a) What questions are being addressed and are these questions relevant to the individuals being examined and/or society as a whole? (b) Who are the participants? Is the research sample diverse in terms of race, age, ethnicity, socioeconomic status, and sexual orientation? (c) What implications do the study findings have for diverse groups of individuals? If the findings do not generalize to diverse groups, do the study authors address these limitations? (d) Finally, are attempts made to disseminate the study findings to people who might benefit from this knowledge (e.g., coaches, athletes, psychologists)? We agree with Whaley's (2001) proposal that researchers should consider reflections about the research questions being asked, who should be sampled, why the sample was chosen, and how researchers choose to practice science as integral to scientific advancement and the promotion of social justice. Such questions are important for applied researchers throughout the research process and are consistent with

the pragmatic moral and ethical views described above.

The contemporary writings of Schwandt (1996) and Messick (1995) also evoked pragmatic conversations about validity. Schwandt (1996) argued for the development of a “practical philosophy” where inquiry is judged by how well research reports stimulate judgment, “practical wisdom,” and dialog between “critical parties to the research encounter” (p. 69). Schwandt noted the biggest challenge for the “practical philosopher” involves the application of general theories or principles to particular cases (i.e., deduction). Schwandt (1996) claimed “The aim of such inquiry is not to replace practitioners’ common sense knowledge of their respective joint practices with allegedly more sophisticated, theoretical, scientific knowledge but to encourage practitioners to critically reflect on and reappraise their commonsense knowledge” (p. 64). The practical application of scientific findings is especially important for the work of applied sport psychologists and/or the scientist-practitioner where knowledge dissemination about the ethical and valid delivery of psychological services requires continuous reflection, dialog, and public discourse.

Messick’s notion of “consequential validity” is consistent with Schwandt’s (1996) call for ongoing dialog and discussion between those involved with, or impacted by, the research process. While Messick’s critique is specific to the validation of psychological tests and measures, there are close parallels to lessons learned in the sport psychology literature. For instance, the valid and ethical use of personality inventories in sport is an important issue (Vealey, 2002). When practitioners use and market personality inventories as screening tools or make predictive claims about sport performance, issues of consequential validity are raised. Without extensive testing and evidence to form the basis of such claims, personality tests should not be used or marketed in such a manner (Vealey, 2002). In short, any use or application of psychological tests or principles would raise pragmatic issues of validity and dialog between communities of people would be encouraged.

## Conclusion

The pragmatic philosophy presented in this manuscript offers a variety of potential applications in sport psychology. We discussed examples of published studies that used mixed-methods of analysis in the applied sport psychology literature. As a concluding point, we feel it is important to note that we do not encourage the “atheoretical” practice of science. Rather, we would argue the use of mixed methods within a pragmatic philosophy would help address applied research questions from a theoretical perspective. James (1907) offered the following perspective about how pragmatism could influence the way theories are used in science:

Theories thus become instruments, not answers to enigmas in which we can rest. We don’t lie back upon them, we move forward, and, on occasion, make nature over again by their aid. Pragmatism unstiffens all our theories, limbers them up and sets each one at work. (p. 52)

By embracing an eclectic research approach, and by considering the consequences of inquiry, future collaborations between academic and applied sport psychologists might be enhanced. It is our hope that the pragmatic research

philosophy presented here will open doors to collaborative opportunities for individuals interested in exploring applied research questions from multiple perspectives.

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