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Philosophical Underpinnings of Coaching Practice Research

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Research on coaching practice has mainly been undertaken through the disciplines of psychology and sociology. Very little scrutiny has been given to the philosophical underpinnings of these disciplinary positions and how they impact on research outputs in terms of descriptions and prescriptions. This article presents an overview of some of the most cited empirical research on coaching practice and shows how discipline and meta-theory have influenced a priori the results generated. Psychological approaches informed by scientism, and sociological approaches informed by interpretivism, present a dichotomized view of coaching practice, for example, concerning its relative simplicity and order. Yet these distinct disciplinary contributions remain important to the development of the field if it is understood that they contribute different layers of information and do different types of work. Once we have the meta-theoretical tools in place the results of this pluralism can be positioned and utilized.

Keywords Coaching practice, philosophy, meta-theory, disciplines

Introduction

Though coaching research has made considerable progress in its first 30 years (for a recent overview see Lyle & Cushion, 2010), there has been very little exploration within the field of the influence of disciplinary and associated underpinning philosophical positions and practices on research outputs (i.e., published articles and books). This article examines primary research on coaching practice and argues that discipline and meta-theory are highly important to understanding and positioning the increasing number of conceptualizations and indeed disagreements about coaching practice within the field (e.g., Brewer, 2007; Cushion, 2007). *Meta-theory* is taken to mean assumptions about the nature of the social world (ontology), assumptions about the nature of knowledge (epistemology), and approaches used to gain this knowledge (methodology/method) (Benton & Craib, 2001; Blaikie, 2007; Crotty, 1998). Social scientific researchers cannot escape their meta-theoretical assumptions so it is crucial to highlight the "unavoidable" influences associated with them if we are to progress (Rosenberg, 2008).

The argument is built up in several stages. The first section shows the connection between a number of key coaching practice research publications and their disciplinary alignments. The second section explores how disciplinary research practice in psychology and sociology has been influenced and shaped by underpinning philosophical assumptions. The point (at this stage) is not to highlight a preference for any specific disciplinary or meta-theoretical position, but rather to show the influence particular positions have on research outputs. The third section seeks to demonstrate how coaching practice research has been

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influenced by its disciplinary alignments and underpinning meta-theoretical assumptions. Thus, the basic strategy is to link coaching practice research to disciplines, disciplines to meta-theories, disciplines and meta-theories to particular types of influence on research, and analyze coaching practice research from this position. The final section suggests the implications of this analysis for understanding and placing coaching practice research.

Coaching Practice Research and Disciplinary Alignments

Since there are in excess of 1,000 research publications on coaching, a "frame" was developed to explore the relationship between coaching practice research and discipline in the limited space available (Table 1). The frame was constructed using the most cited and influential empirical research work on coaching practice and process. Citations reflect the recognition of peers and may, at times, extend to practitioner use. Empirical research not only provides the latest data on coaching but is also informed in this instance by the most recent and important theoretical and methodological advances in the field.

The frame was compiled using the following sources. A recent review conducted by Rangeon, Gilbert, Bruner and Côté (2012) provided a list of the most cited research on "coaching effectiveness," which has a significant overlap with the main concerns of coaching practice and process. Google Scholar provided a list of highly cited articles using the search terms *sport coaching*, *sport coaching practice*, and *sport coaching process*. An informal search of the research literature was undertaken to identify those well-known and commonly cited publications that were not identified in the first two stages, for example, by drawing on reviews by Jones and Wallace (2005), Trudel and Gilbert (2006), Cushion and Lyle (2010), and Abraham and Collins (2011b). A subsequent search was undertaken in September 2011 using Academic Search Complete to identify new articles to mid-2011 though none were added to the frame. There have certainly been important recent empirical contributions on coaching practice but they have yet to be heavily cited. The frame was then edited to exclude empirical research which drew on very similar conceptual and methodological strategies, for example, frequently cited work by Lacy and Darst (1985) and Black and Weiss (1992) utilized the concepts and methodologies established by Tharp and Gallimore (1976) and Smith, Smoll, and Curtis (1978), respectively. These former works were excluded to avoid duplication because the same disciplinary/meta-theoretical examination and conclusions would apply.

The frame includes 17 research articles and one book spanning the period 1976 to 2006. In terms of methodology, which after the specification of research question tends to be the main point of entry for researchers into the research process, some clear patterns emerge: 6 articles in the frame utilized quantitative methods, 11 used qualitative methods, and 1used a mixed method. All the quantitative papers were published before 2000. There was a significant increase in the use of qualitative methods after 2000. Only 9 of the 18 publications explicitly adopted a disciplinary position, for example, Gallimore and Tharp (2004) made clear that their 1976 work (Tharp & Gallimore, 1976) was situated explicitly in the discipline of educational psychology. Saury and Durand (1998) used the task activity/cognitive ergonomics model outlined by Fleishman and Quaintance (1984) that is commonly applied in occupational psychology. Cushion (2001) situated his PhD dissertation explicitly in the discipline of sociology. However, it was relatively straightforward to identify connections for a further eight giving 17 out of 18 in total. These were identified through specific theoretical influences, such as cognitive psychologist Johnson-Laird (1983) in Côté, Salmela, Trudel, and Russel (1995), or through publication name, such as the *Journal of Educational Psychology* for Feltz, Chase, Moritz, and Sullivan (1999).

Table 1
Frequently Cited Empirical Research Articles on Coaching Practice

Reference	Year	Methodology	Discipline	Meta-theory
1. Tharp & Gallimore	1976	Quantitative	Non-stated (Educational psychology)	Non-stated
2. Smith, Smoll, & Curtis	1978	Quantitative	Non-stated (Behavioral and cognitive psychology)	Non-stated
3. Chelladurai & Saleh	1980	Quantitative	Non-stated (Behavioral psychology)	Non-stated
4. Lyle	1992	Quantitative	Non-stated (Psychology)	Non-stated
5. Côté, Salmela, Trudel, & Russel	1995	Qualitative	Non-stated (Cognitive psychology)	Non-stated
6. d'Arripe-Longueville, Fournier, & Dubois	1998	Qualitative	Non-stated (Psychology)	Non-stated
7. Saury & Durand	1998	Qualitative	Psychology (anthropology/ ergonomics)	Non-stated
8. Côté, Yardley, Hay, Sedgwick, & Baker	1999	Quantitative	Non-stated (Psychology)	Non-stated
9. Feltz, Chase, Moritz, & Sullivan	1999	Quantitative	Non-stated (Educational psychology)	Non-stated
10. d'Arripe-Longueville, Saury, & Fournier	2001	Qualitative	Ergonomics	Non-stated
11. Cushion	2001	Qualitative	Sociology	Interpretivism
12. Poczwardowski, Barott, & Henschen	2002	Qualitative	Social psychology	Interpretivism
13. Potrac, Jones, & Armour	2002	Mixed	Sociology	Positivistic scientism and Interpretivism
14. Jones, Armour, & Potrac	2003	Qualitative	Sociology	Interpretivism
15. Jowett & Cockerill	2003	Qualitative	Psychology	Non-stated
16. Gilbert & Trudel	2004	Qualitative	Non-stated	Non-stated
17. Jones, Armour, & Potrac	2004	Qualitative	Sociology	Non-stated
18. Abraham, Collins, & Martindale	2006	Qualitative	Cognitive psychology	Non-stated

Note. The work of Gilbert and Trudel (2004) will not be discussed in this paper because of the difficulty attributing a disciplinary position. This work draws on both psychological models and the socio-cultural theory of Schön (1983).

Other articles were attributed a discipline based on the focus of the study, for example, Côté, Yardley, Hay, Sedgwick and Baker (1999) focused on coach behaviors, thus a link to psychology. Interestingly, 12 of the frame have a psychological orientation, and only 4 have a sociology orientation. In terms of meta-theory, only 4 out of the 18 studies made their underpinning assumptions explicit, and these were all in some way aligned to an interpretive position.

Meta-Theoretical Influences in Psychology and Sociology

This section shows how the disciplines of psychology and sociology have been influenced by underpinning meta-theoretical assumptions by drawing on literature dealing with disciplinary critique and the philosophy of social science (e.g., Baars, 1986; Benton & Craib, 2001; Pawson, 1989; Rosenberg, 2008; Valentine, 1982). This approach is then extended to highlight these same influences in coaching practice research in the next section. In building this argument, the exploration of psychology and sociology using meta-theoretical lenses is initially relatively "clean," but it is recognized that actual research practice (e.g., published psychological, sociological, and coaching practice research studies) will at times present a "muddier" picture. Indeed, a majority of practicing researchers are often only vaguely aware of their adopted philosophical frameworks and may often unconsciously "borrow" from others (Outhwaite, 1987; Pawson, 1989). This may create a patchwork of underpinning philosophical ideas in research accounts, not all of which will be consistent. This point made, however, the article will show how these initially presented "clean" influences provide significant insight into current dichotomies/tensions in coaching practice research.

Psychology and Its Meta-theoretical Influences

Though contemporary psychology draws on a range of meta-theoretical perspectives (Harré, 2006; Valentine, 1982), the mainstream position is generally associated with what might be called *scientism* (Baars, 1986). This is a broad inclusive account of empiricist, positivistic, post-positivistic, and mainstream contemporary social scientific research practice (Benton & Craib, 2001; Crotty, 1998; Williams, 2000b). This approach is based on ideas—perhaps erroneous (Bhaskar, 1975)—about how successes have been achieved in the natural sciences, and notably physics, and that these methods work equally well in the social sciences. *Scientism* is characterized as producing objective, value free, systematic knowledge about "real" psychological phenomenon, based on deterministic or probabilistic statistical/reductive laws/relationships between lower and higher order phenomenon. Information is gathered through observation, experiment, measurement, quantification, leading to generalized results, models, testing, prediction, and control (Valentine, 1982).

The shift from behavioral to cognitive psychology in the mid-twentieth century was accompanied by a "softening" of conceptual and methodological strategy. Researchers were now "allowed" to theorize about the less objectively, verifiable, unobservable mechanisms, processes, and concepts underlying cognition, and use a wider range of methods, including qualitative research designs and introspection (Benton & Craib, 2001). However, this did nothing, it is argued, to dampen practicing research psychologists' appetite for this version of objective empirical science (Baars, 1986). Similar connections and descriptions can be identified in the sport psychology literature. Though alternative meta-theoretical positions have been encouraged (Brustad, 2008; Strean, 1998) and practiced (Culver, Gilbert, & Trudel, 2003), mainstream sport psychology remains focused on the observation, experimentation, quantification, and statistical method of scientism (Biddle, 1997; McFee, 2005).

Sociology and Its Meta-theoretical Influences

Likewise, sociology draws on a range of meta-theories including the scientism outlined earlier. Indeed, the famous French sociologist Auguste Comte is cited as having originated the term *positivism* (Williams, 2000b). However, sociology, perhaps more than any other discipline in the social sciences, has been subject to meta-theoretical and methodological critique that has led to the formation of alternative but increasingly mainstream positions (Benton & Craib, 2001; Stones, 1998). Many of these positions have rejected the relevance of scientism for social analysis. These alternative approaches come in many varieties (e.g., critical/hermeneutic/historical/post-modern/reflexive/relativist/sociological informed philosophies) with different names and subtle positional differences (Benton & Craib, 2001; Blaikie, 2007; Ritzer, 1997; Williams & May, 1996). While recognizing these varieties it is sufficient for current purposes to capture this very broad "alternative" position through the term *interpretivism*. It is a significant undertaking to compress 200 years of social theoretical development into one expression and set of ideas. However, the term (*interpretivism*) is sufficiently rich to introduce and explore meta-theoretical influences in coaching practice research. Indeed, a number of notable writers compare positivistic scientism with an interpretive position as the two main meta-theories used in social science (e.g., Benton & Craib, 2001). The terms *positivism* and *interpretivism* are also commonly used in coaching practice research.

Interpretivism suggests that the objects of social analysis are fundamentally different to those studied through the natural sciences. Individuals and groups cannot be captured, it is argued, through rationalistic scientism and objectively verifiable laws. Instead, individuals and groups are self-conscious, intentional, and reflexive. Their thoughts and actions are value laden and situated in the subjective lived experience. There is no way to know the "real world," it is argued, beyond the actions, experiences, languages, meanings, beliefs, and symbols attached to the social world, and their structuring influence on communities notably in terms of rule following and power relationships. Some see this approach as a means of getting closer to the day-to-day "realities" of social phenomenon (e.g., Blumer, 1969). Others see this approach as suggesting that social researchers cannot develop knowledge of the world beyond cognitive or group "constructions" (e.g., Berger & Luckmann, 1967; Bloor, 1991). In the more extreme variants there is nothing more than constructions, no means of determining their epistemic value, and all "knowledge" is seen to be equal.

Interpretivism emphasizes an interpretive or hermeneutic dimension in decoding and critiquing meaningful social action. This requires methodologies that are more empathetic, idiographic, inductive, and heuristic. Research methods include, for example, historical analysis, ethnographic methods, grounded theory, action research and discourse analysis, using tools, such as semi-structured interviews, case studies, participant observation, and text analysis. Perhaps appropriately, it is difficult to quantify the use of interpretive meta-theory in sociology other than to suggest it is very significant (Payne, Williams, and Chamberlain [2004] provide some insight in a British context). What is clear is that it has been fundamental to the sociological understanding of sport (e.g., Jarvie & Maguire, 1994; Jones & Armour, 2000).

Disciplinary/Meta-Theoretical Influences on Psychological and Sociological Research Practice and Outputs

Though there are numerous descriptions and critiques of both psychological scientism and sociological interpretivism (e.g., Pawson, 1989; Trigg, 2001; Valentine, 1982), the main

focus here is on how each position treats *a priori* (a) the relative simplicity and order of social phenomenon, (b) the importance attached to context, and (c) the possibilities, limits, and use of research because these issues have particular relevance as we shall see to the discussion of coaching practice research (see Table 2).

Psychological scientism has a tendency to simplify and order its subject matter. This is an inevitable result, it is argued, of the use of reductionism, experimentalism, observational and self-report research strategies, and quantitative analytical methods (Baars, 1986; Valentine, 1982). Reductionism—the idea that lower level factors (e.g., biological, neurological or environmental determinants or influences) can account for higher level psychological or social phenomenon—simplifies (or ignores) the conscious, intentional, reflexive, emergent dimensions of human cognitions and behaviors (Martin, Sugarman, & Thompson, 2003), interpersonal group processes (Hogg & Abrams, 1988), and social structure (Tallis, 2011; Trigg, 2001). Experimental technique, in particular, seeks to limit the opportunities of human agents to respond as they would in everyday life (Archer, 1998; Wachtel, 1973). Observational data struggles to capture the multiplicity of influences in social systems because many are unobservable or tacit (Bhaskar, 1998). Attitudinal and narrative data are often uncritical of meaning and interpretation once again leading to superficial treatments (Blumer, 1956; Cicourel, 1964; Edwards & Potter, 1992). Quantitative analysis is subject to a range of problems related to how it represents the complexity of the social world and explores the relationships between component parts (Pawson, 1989).

Psychological scientism also involves the stripping of contextual influence from its research subjects (Eysenck & Keane, 2005). This is done through the process of identifying *universals*, that is, theories that "apply to all human beings, regardless of all the diversities associated with cultural variations and historical change" (Toulmin & Leary, 1985, p. 607). The use of experimental/controlled test conditions, in particular, seek to eliminate individual and contextual influences "to wash out 'bias' and reduce the evidence base to a common body of information" (Pawson, 2006b, p. 43). Indeed, this purgative process permeates scientism more widely in its treatment of the social world (Archer, 1998; Eysenck & Keane, 2005; Pawson & Tilley, 1997). Finally, psychological scientism has an optimistic view of knowledge generation (Benton & Craib, 2001). The positivistic scientific model emphasizes empirical knowledge accumulation, testing, and control. This knowledge can be used to identify and solve practical problems through a process of rationalistic "social engineering" (Benton & Craib, 2001). This means that universal descriptions very quickly become universal prescriptions for individual and social change (Stones, 1996; Trigg, 2001).

Sociological interpretivism, on the other hand, has a tendency to view social objects and structures as relatively complex. The emphasis on complexity can be seen as a reaction to the simplifications and orderings of positivistic social science. Individuals and groups are seen to be more than the product of rational, knowable, and predictable processes and sequences; they can think and act in complex and unpredictable ways. However, by building a response to scientism that focuses primarily on meaning and language, where ideas and knowledge are generated without reference to an enabling and constraining, direct or mediated external reality, and by neglecting the many commonalities and consistencies in the social world, interpretivism results in multiple perspectives and life-worlds (Benton & Craib, 2001; Bhaskar, 2011; Trigg, 2001). This position, therefore, inevitably emphasizes disorder, flux, and openness, as opposed to order, continuity, and constraint in social systems (Stones, 1996).

Table 2
Frequently Cited Empirical Research Articles on Coaching Practice and Their Disciplinary and Meta-theoretical Underpinnings

	Psychological Scientism—Observational and Quantitative Approaches	Psychological Scientism—Qualitative Approaches	The French Psychologists/Sociologists	Sociological Interpretivism
Example References	1. Tharp & Gallimore (1976) 2. Smith, Smoll, & Curtis (1978) 3. Chelladurai & Saleh (1980) 8. Côté, Yardley, Hay, Sedgwick, & Baker (1999) 9. Feltz, Chase, Moritz, & Sullivan (1999) *Borderline* 4. Lyle (1992)	5. Côté, Salmela, Trudel, & Russel (1995) 15. Jowett & Cockerill (2003) 18. Abraham, Collins, & Martindale (2006) *Borderline* 12. Poczwardowski, Barott, & Henschen (2002)	6. d'Arripe-Longueville, Fournier, & Dubois (1998) 7. Saury & Durand (1998) 10. d'Arripe-Longueville, Saury, & Fournier (2001)	11. Cushion (2001) 14. Jones, Armour, & Potrac (2003) 17. Jones, Armour, & Potrac (2004) *Borderline* 13. Potrac, Jones, & Armour (2002)
Method	Quantitative	Qualitative	Qualitative	Qualitative/Mixed
Discipline	Behavioral, educational, and social psychology	Cognitive and social psychology	Cognitive ergonomics Cognitive anthropology Social theory	Sociology
Meta-theory	Non-stated (Scientism)	Non-stated (Mainly scientism)	Non-stated	Mainly interpretivism

Description of Coaching	Relatively simple/ordered. For example, coaching as behaviors (e.g., instruction, encouragement, and reinforcement; Smith et al., 1978)	Relatively simple/ordered. For example, coaching as the cognitive organization of specific knowledge components through "mental models"—organization, training, competition (Côté, et al., 1995).	Relatively complex/dynamic. For example, coaching as a complex constrained task which uses standardized routines, flexible planning, improvisation, which can also be "neither reason based or planned" (Saury & Durand, 1998, p. 264)	Relatively complex/problematic perhaps even incomprehensible/chaotic. For example, coaching as a social constructed messy reality or "swamp" (Cushion, 2001)
Importance of Context	Coaching behaviors seen as general/universal. For example, leadership behaviors seen as universal (i.e., applying to all "coaching behavior and its effectiveness"; Feltz, et al., 1999)	Coaches' cognitive structures, knowledge bases, decision making processes and relationship components seen as general/universal. For example, coaching knowledge is defined with reference to sports sciences, planning and preparation, practice activities, and coaching environments (Abraham et al., 2006)	Coaching is contextual and situational. For example, coaching strategies are significantly influenced by the social and cultural influences on a particular levels and types of sport (d'Arripe-Longueville et al., 1998)	Coaching is highly contextual and situational. For example, one football coach's knowledge and approach is highly embedded in his or her life history and practice experience (Jones et al., 2003)

(*Continued*)

Table 2
(Continued)

	Psychological Scientism—Observational and Quantitative Approaches	Psychological Scientism—Qualitative Approaches	The French Psychologists/Sociologists	Sociological Interpretivism
Application of Knowledge	Knowledge used directly to change coaches' behaviors. For example, behavior change techniques in experimental coaching clinics (Smith et al., 1978)	Coaching models and concepts used to support coach development. For example, coaching schematic used to provide a basis for coach education curriculums (Abraham et al., 2006)	Much more difficult to generalize/universalize coaching knowledge (Saury & Durand, 1998) though similarities noted with previous research (d'Arripe-Longueville et al., 1998)	Coaching knowledge is highly bound up in social practice thus it is difficult to generalize outside of that practice. Coach development based in practice experience (e.g., mentor; Cushion et al., 2003)

Sociological interpretivism also emphasizes the contextual nature of knowledge claims (Williams, 2000a). The plurality and multiplicity of the social world can only be understood, it is argued, with regard to local and historical context. Outlining the position, Guba and Lincoln (1989) suggest that, "phenomenon can be understood only within the context in which they are studied; findings from one context cannot be generalized to another" (p. 45). Finally, sociological interpretivists exhibit a greater degree of caution or indeed pessimism about knowledge claims and prescriptions. *Knowing* is seen as a verb related to action in practice rather than as a noun (formal knowledge). There is skepticism regarding "laws" and instrumental and technocratic solutions. Indeed, for many it is more appropriate to talk about "narratives" than "theories." As Sayer (2000) suggests, "[interpretivists] assume that because the world is so open, diverse and complex, nothing of lasting or universal application can be said about it, and because theory is so contestable and yet difficult to test, anything goes" (p. 30).

An Examination of Disciplinary and Meta-Theoretical Influence in Coaching Practice Research

This section provides a more detailed overview of the empirical research highlighted in Table 1 and explores the implications of its disciplinary and meta-theoretical allegiances on coaching practice descriptions and prescriptions (Table 2).

Coaching Practice Research and the Influence of Psychological Scientism—Observational and Quantitative Beginnings

Many of the earliest studies of coaching practice used behavioral, educational, and social psychological concepts to examine coach behaviors, leadership qualities or efficacies (e.g., Chelladurai & Saleh, 1980; Côté, et al., 1999; Feltz, et al., 1999; Lyle, 1992; Smith, et al., 1978; Tharp & Gallimore, 1976). These approaches utilized observational research and/or self-report questionnaires with coaches and athletes, and quantitative analytical approaches of varying degrees of complexity, to identify desirable coaching behaviors, for example, planning, instruction, observation, feedback, and reinforcement. Research was undertaken in a number of contexts—different sports/age groups/pathways—and the results were promoted as a means through which coaches could identify and improve the effectiveness of their coaching. For example, building on Smith et al. (1978), Smith, Smoll, and Curtis (1979) developed and tested their coach effectiveness training package.

Although the researchers responsible for this work may have set out with other intentions, namely, to analyze particular facets of coaching practice and/or establish development tools, these approaches were criticized for their partiality, selectivity, and an over-reliance on quantitative data to fully capture the breadth and complexity of coaching (Côté, et al., 1995). They were also criticized for lacking sufficient appreciation of coaching goals to position behavioral data and a lack of sensitivity to the coaching context (e.g., the difference between coaching in training and competition settings), leading to recommendations for practice improvement that were "absolutist" (Abraham & Collins, 1998). They were also criticized for providing overly rationalistic, technocratic, and sequential solutions that were not grounded in the realities of coaching, for example, linear, "paint-by-numbers" behavioral approaches to coaching rather than those grounded in the day-to-day problems and complexities that coaches face (Jones, 2000). Given the earlier analysis on discipline and meta-theory, a strong link, therefore, can be seen between this approach to coaching practice research and the description of psychological scientism and

its influences. Simple/ordered conceptual and empirical approaches led to simple, decontextualized, descriptions of coaching behaviors that were used uncritically to support coach development interventions (Table 2).

Coaching Practice Research and the Influence of Psychological Scientism—The Qualitative Turn

The response to the perceived shortcomings of these observational and quantitative approaches was an intra-disciplinary shift to cognitive psychology with particular reference to expertise development, as well as a change of methodological strategy. For example, Côté et al. (1995) used "mental models" (Johnson-Laird, 1983) and qualitative methods (Glaser & Strauss, 1967) to describe how coaches arrange and re-arrange particular knowledge components—organization, training and competition, the athletes' personal characteristics and level of development, the coaches' personal characteristics, and contextual factors—to meet the specific situational demands which arise in the coaching context. Abraham, Collins, and Martindale (2006) drew on the work of cognitive psychologist Anderson (1996) and qualitative methods (Patton, 1990) to describe coaching as a decision making process where coaches draw upon specific knowledge types (e.g., sports sciences, planning and preparation, practice activities, and coaching environments) to effectively perform the coaching task. When compared with the earlier observational and quantitative approaches these "models/schematics" provided a more holistic and comprehensive description of coaching: coaching goals, knowledge bases, behaviors, and decision-making processes underpinning coaching practice.

Similarly, research by Poczwardowski, Barott, and Henschen (2002) and Jowett and Cockerill (2003) drew on social psychological concepts and qualitative methods (e.g., Patton, 1990) to explore coach–athlete relationships in U.S. college gymnastics and UK/Greek high performance sport respectively. Poczwardowski et al. (2002) described coaching as a series of relationship building strategies (e.g., assessing need, caring, sharing, negotiation, and doing favors). Jowett and Cockerill (2003) suggested effective coach–athlete relationships could be understood through the constructs of closeness, co-orientation, and complementarity. This latter research, therefore, established another set of models or working concepts to explain coach–athlete relationships.

Though these studies—Abraham et al. (2006), Côté et al. (1995), Jowett and Cockerill (2003), and Poczwardowski et al. (2002)—explore slightly different research questions, there is considerable commonality in this body of work. These studies utilized psychological concepts and qualitative methods to produce what are relatively simple, systematic, and decontextualized descriptions of coaching practice and relationships especially when compared to sociological interpretive accounts. Though based on small samples with specific coaching populations (though Jowett and colleagues have undertaken extensive quantitative validation of their Coach-Athlete Relationship Questionnaire [CART-Q] instrument and concepts [e.g., Jowett & Ntoumanis, 2004]), these researchers were also quick to use their results to propose universal/generalizable approaches to inform coach development. Thus again, we can see a strong link with psychological scientism outlined in the third section.

The change in methodological strategy did not necessarily hinder this approach. Though qualitative research is often used in interpretivist approaches to highlight the complexity and contextuality of social phenomenon, it can also be used in a more positivist reductionist tradition (Alvesson & Skoldberg, 2009; Charmaz, 2005). For example, the "interpretive approach" of Poczwardowski et al. (2002) draws on Blumer's (1969) symbolic interactionism that—as noted earlier—is concerned more with understanding and

explaining day-to-day "realities" than extensive analysis of meaning and language. The disciplinary instincts of mainstream psychological scientism associated with these studies with its emphasis on simplicity, order, and utility, in other words, squash any potential methodological instinct to attend to, or report on, the problems, complexities, difference and detail of coaching practice (Table 2).

Coaching Practice Research and the French Psychologists—Introducing Context and Complexity

In the late 1990s, another strand of research emerged, again broadly situated within the discipline of psychology which criticized cognitive psychological models of coaching for their inadequate representation of the complexities of coaching practice (Cushion, 2007; Saury & Durand, 1998). In a frequently cited passage, Saury and Durand (1998) suggested that simple models of the kind offered by Côté et al. (1995) do not represent the "multidimensionality, simultaneity, uncertainty, publicity, and historicity" (Saury & Durand, 1998, p. 255) of coaching practice. d'Arripe-Longueville, Fournier, and Dubois (1998), d'Arripe-Longueville, Saury and Fournier (2001), and Saury and Durand (1998) provided approaches which attempted to remedy these "problems" by providing a more contextual and nuanced take on coaching models (d'Arripe-Longueville, et al., 1998), and, indeed, started to question whether "models" could adequately capture coaching practice at all (Saury & Durand, 1998).

d'Arripe-Longueville et al. (1998) used grounded theory (Glaser & Strauss, 1967) to unpack the relationship between coach and athlete performance goals, and the selection and use of specific cognitive and behavioral strategies in French elite judo. The result was significantly more sensitive to the contested and problematic nature of coaching. For example, d'Arripe-Longueville et al. (1998) described the use of undesirable/negative yet effective coaching strategies that they argued were justified by/result from the particular set of cultural and structural forces acting within the sport.

Saury and Durand (1998) used a task-activity/cognitive ergonomics theoretical model and grounded theory to produce a conceptualization of coaching practice that was significantly more sensitive to the constraints attendant in, and contextual influences on, the coaching task. This included recognizing the influence of coaching task complexity, variable weather conditions, and athlete and other stakeholder perspectives. The result was a presentation of coaching that focused significantly more on the complexity and dynamism of coaching *in situ*, in this instance in sailing, than previously offered. At best, coaching involved flexible planning and standardized routines; at worst it was "neither reason based or planned" (p. 264). Saury and Durand's (1998) article was significantly more inclined toward description than prescription than previous accounts, indeed, to the extent that they questioned whether their findings could be generalized from sailing and expert coaches to other sports and levels of coaching expertise. A similar, though methodologically more involved procedure, was utilized by d'Arripe-Longueville et al. (2001) in describing coach-athlete interactions in French elite archery.

Of the studies referenced in the frame, the work of d'Arripe-Longueville, et al. (1998; 2001) and Saury and Durand (1998) is perhaps the most difficult to place in terms of disciplinary and meta-theoretical influences (Table 2). Similar to Abraham et al. (2006) and Côté et al. (1995), these researchers drew largely on psychological concepts and qualitative research designs. So why did the latter focus more on the stabilities and commonalities of coaching, while Saury and Durand (1998) and d'Arripe-Longueville et al. (1998; 2001) focused more on the complexities and dynamics of practice? The French psychologists

may have been working toward different objectives (e.g., detailed descriptions of coaching practice rather than models to inform coach development). Perhaps there was recognition that previous research approaches, for all their good intentions, had not sufficiently captured the complexity of coaching practice in French judo and sailing. Perhaps it was the theoretical work on which these studies were informed (e.g., course of action analysis; Theureau & Jeffroy, 1994), and/or anti-positivist sociological interpretive orientated approaches (Schön, 1983).

While the recognition of the contextuality, complexity, and dynamism of coaching has been a very welcome, indeed invaluable, addition to the coaching literature, it is interesting that the verbatim quotations presented by Saury and Durand (1998), for example, suggest nowhere near the level of complexity that the authors themselves report (or how this work has subsequently been treated). A careful reading of their evidence does not suggest unmanageable complexity. Rather it suggests coaches' flexibility in setting contextually appropriate goals, for example, to match weather conditions and the use of reasonably set routines to achieve them. The "complexity" described, it appears, emerges by comparison to the relatively simplistic descriptions/models of coaching practice that preceded this work. But does this mean the practice described is complex? Saury and Durand's (1998) work is cited as providing the beginnings of the "complexity revolution" in coaching (Jones, Bowes, & Kingston, 2010), but we clearly have to be careful as researchers when considering what we mean by *complexity* (complex defined by, and compared to, what?), and how much is real or imagined through particular disciplinary, meta-theoretical, and theoretical lenses.

Coaching Practice Research and the Influence of Sociological Interpretivism

If Saury and Durand's (1998) article hinted at a new approach to conceptualizing coaching, the dominance of coaching practice research accounts informed by psychological scientism were challenged more comprehensively from the discipline of sociology. Beyond a change in parent discipline, these researchers drew more explicitly on meta-theoretical arguments to critique existing positions. Previous accounts were described as being positivistic, reductionist, fragmented, rational, and technocratic (e.g., Jones, 2000). This presented coaching practice, it was argued, as being too simplistic, stable, sequential, and abstracted to provide useful information to coaches (e.g., Jones & Wallace, 2005).

The sociological perspective drew explicitly on interpretive meta-theory and qualitative research designs to conceptualize coaching practice as a human, relational, situated, and holistic phenomenon (e.g., Jones, Armour, & Potrac, 2003; Potrac, Jones, & Armour, 2002). Central to this approach was an understanding of coaches' biographies (Jones, Armour, & Potrac, 2004), their agency, and the group, institutional, cultural, and structural forces that impacted upon them (e.g., Cushion, 2001). Related to this was a focus on the rules, roles, interactions, discourses, and power relations between stakeholders—athletes, coaches, and relevant others (e.g., Cushion & Jones, 2006; Jones, et al., 2003). Coaching had a level of complexity, dynamism, and contextual and local character (mainly in UK professional soccer), it was argued, that was previously unrecognized. For Jones and Wallace (2005), in particular, this complexity and dynamism provided coaching with an uncontrollable, incomprehensible, and contradictory quality. The sociological interpretive perspective placed a higher value on description and critique using a number of theoretical lenses such as Bourdieu and Foucault (e.g., Jones, Potrac, Cushion, & Ronglan, 2011) than developing formal structured approaches for coach development. Where prescriptions were

offered they reflected this revised conceptualization of coaching as "practice," for example, the importance of experience (Cushion, Armour, & Jones, 2003; Jones, et al., 2004), access to reflective and problem solving tools (e.g., Jones & Turner, 2006), and guided development (e.g., from a mentor [e.g., Cushion, et al., 2003]; Table 2). The work of Jones, Cushion, Potrac, and colleagues has provided a valuable sociological lens on coaching that continues to develop momentum in terms of publication outputs but is also subject to some criticism that will be outlined shortly.

Multi-Disciplinary Approaches

Before concluding this section, it is worthwhile noting some relatively recent conceptual developments within the coaching practice research literature. If the "sociological turn" represented one of the more significant recent contributions to conceptualizing coaching practice, this does not mean that the field has remained static since. There have been a growing number of research accounts that have begun to combine psychological, sociological, and other disciplinary perspectives to explore, in particular, the relationship between coaches' agency and structural conditions. For example, Bowes and Jones (2006) integrated work on complexity theory that has its roots in mathematics, relational schema from social psychology, and sociology to describe coaching as a complex interpersonal system. Jones and Wallace (2005) utilized work on management, education, and sociology to describe coaches as orchestrators in complex and ambiguous social environments. Potrac and Jones (2009) recommended "micro-politics" as a lens to understand the problematized and contested "logic in action" of coaching. Hemmestad, Jones, and Standal (2010) propose the use of "phronetic social science" to breakdown the theory–practice gap in coaching by emphasizing coaches' contextualized "practical wisdom."

As might be expected, however, from researchers who largely work within a sociological interpretive perspective, an emphasis on the complexity and dynamism of coaching practice has remained intact. This has drawn a counter response from researchers working with psychological approaches. Lyle (2007), for example, suggests that the case for the complexity and dynamism of coaching has been overstated. Abraham and Collins (2011a) suggest good coaching is systematic and researchers' attentions should now focus on breaking down the complexity into useful pointers.

Understanding and Placing Coaching Practice Research

If the previous section has been successful, it should now be clear that disciplinary and meta-theoretical allegiances have had a significant *a priori* influence on the most cited and influential coaching practice research in terms of descriptions and prescriptions. It suggests that not only do psychological and sociological positions focus on different layers of coach practice (e.g., the behavioral, cognitive, and social) but also to think of their subject matters in fundamentally different ways, use different concepts and methodologies, and do different types of work.

Coaching researchers working from within a psychological scientivist perspective are meta-theoretically hardwired to breakdown and structure coaches' behaviors, cognitive knowledge bases, and decision-making processes using universal representations and rules, often with the explicit aim of providing development tools for coaches. Thus, when the sociological interpretivists argue that these models fail to capture the nuance of coaching as a social practice (e.g., Cushion, 2007), they are probably correct, but then this was never the psychologists' intention. On the other hand, coaching researchers working from

within a sociological perspective are meta-theoretically hardwired to explore the social complexities, contingencies and problematics of coaching with an explicit aim of describing and critiquing coaching practice and educational approaches as well as proving their own related solutions. Thus, when the psychologically orientated researchers suggest that sociological approaches have placed too much emphasis on the complexity of coaching they do so from a position that values the relative simplicity and structure of models to capture coaching and its development (e.g., Abraham & Collins, 2011a). Yet, this latter position often undervalues the contribution of sociological interpretivist oriented research in terms of providing a detailed description of the contextual and contested features of coaching and coach education.

These differences in research focus and approach have not always been recognized in coaching research commentaries and reviews. Disciplinary and meta-theoretical playfulness or confusions have often meant that coaching researchers have engaged in a game of "whose position is best" or have clumsily conflated approaches and ideas. The result is the promotion of particular positions that stray outside their adopted disciplinary and meta-theoretical territory to "make a play for the center ground" (i.e., to state boldly what coaching is like, or how coach learning and development should be organized, with a view to promoting their chosen position above others).

For example, sociologically informed positions have suggested that since psychological models are so conceptually clean and abstracted from the realities of coaching they are inevitably inadequate as development tools (e.g., Jones & Wallace, 2005). Thus, when the former reconceptualize coaching as complex social practice, this leads them to propose development approaches more related to practice experience and to suggest that development "models" aligned with other perspectives have limited or no value. Coaching models may not capture the detailed contextual complexity of coaching in the same way as sociological interpretive accounts, but does this mean these tools lack value? Coaching models most certainly do not offer a "paint-by-numbers" approach to coaching as is often suggested (e.g., Jones & Wallace, 2005). Indeed, these psychological models make very little mention of coaching practice (i.e., the doings of coaching), as will be suggested shortly. Instead, they offer tools for coaches to think about, use and apply in and out of their practice. The "complexity" is identified and potentially negotiated by these models, not in research descriptions, but by coaches thinking about and applying these tools to their coaching practice (Abraham & Collins, 2011a, 2011b).

The sociological interpretive position has done much to improve the conceptualization and critique of coaching practice and development. However, as a critical epistemology it can be guilty of lacking the same criticality of its own assumptions and influences. As an approach that aims to capture "the realities of coaching," the result at times can appear very unrealistic. The foregrounding of the social, political, relational and contingent qualities of coaching has been welcome, but the result has often been a highly problematized and politicized complexity—a kind of "blanket politicization and complexity"—that many coaches (and researchers) may fail to recognize (Lyle, 2007). An appreciation for the realities of coaching would also suggest a different balance between theoretical and empirical work. To justify the attack on coaching models the sociological interpretive position should extend its arguments beyond the paradigmatic (which, of course, has its place) to encompass more specific focused empirical research work on this issue. Undoubtedly, this work once undertaken, would demonstrate both weaknesses and strengths in the use of these models in practice. Thus, the sociological interpretive approach, which is set-up to be contextually sensitive and nuanced, needs to be more sensitive and nuanced in its treatment of others' work and notably models.

Another position seeking to occupy the center ground of coaching research is a psychologically informed perspective that suggests coaching researchers should support an "integrated-nested" theoretical position and "cull" others (Abraham & Collins, 2011b). This is based on the idea that coaches can draw on planning and decision making mechanisms and repertoires at different levels—macro, meso, and micro—and this attends to the social and political complexities raised through other approaches just mentioned. Though this approach presents some interesting and useful ideas, an alternative interpretation of this work is that this "integrative and unifying" position is nothing of the kind. It is simply an extended restatement of older ideas that focus on one layer of coaching (i.e., the coach and his or her cognitive strategies, and is informed by one, perhaps, two models of learning and development [e.g., Schön, 1987; Vygotsky, 1978]). In other words, this position is far from offering the comprehensive restatement of coaching that it suggests.

Coaching certainly has a cognitive component; who would dispute that coaches gain knowledge, think, and make decisions, and Abraham and Collins' (2011b) approach offers some very interesting ideas for coach development in this regard. However, by recognizing that coaches' planning and decision-making capacities and strategies are informed by information and activities at different layers—macro, meso and micro—in different ways does not remove the need to understand and explain, for example, coaches' non-cognitive concerns (e.g., physical, ethical, and/or affective), or the more practice based social situations and problems they encounter in specific contexts. As Billet (2001) suggests, cognitive approaches "fail to account for the sources of knowledge, and their formation and transformations in the social world" (p. 432). The application of cognitively influenced development tools by coaches to their practice experience is not sufficient in themselves to describe and prescribe coaching practice. We also need research that explores the structure and detail of coaching practice to develop a more robust understanding to support coaches, coach developers, and others. Even if there was consensus, therefore, on the effectiveness of Abraham and Collins' (2011b) model of coaching and coach development, it still needs the materials (e.g., information on practices) to facilitate and challenge its effective use. This necessarily requires different approaches to research including, it is argued, those on the list to be "culled."

There are also concerns that this body of work (Abraham & Collins, 1998, 2011a, 2011b; Abraham, et al., 2006; Abraham, Collins, Morgan, & Muir, 2009) draws on an increasing patchwork of theory and concepts that has been scrutinized and critiqued elsewhere, for example, Anderson's (1996) Adaptive Control of Thought (ACT) theory has its problems and critics (Eysenck & Keane, 2005), but not in coaching. More specifically, there has been no examination of how the resultant composite models work for coaches empirically. Indeed, as the theoretical elaboration has grown this body of work appears to be driven by a personal rather than empirical view of coaching—how could it be anything else with such limited underpinning evidence available (e.g., Abraham et al., 2006)? These specific weaknesses aside, the implications of "culling the field" around one model in a relatively immature field such as coaching research suggests either provocation (being kind) or hubris/mistakenness (being less kind). It also suggests a worrying misunderstanding of the history of progress in the natural and social sciences. Finally, it seriously underestimates what alternative positions have achieved/are attempting to achieve.

Some Suggestions

Based on the work presented in this article, a number of suggestions are offered about how coaching practice research might progress.

1. A plea for the recognition of philosophy. Coaching research should recognize more explicitly the implications of its disciplinary and meta-theoretical choices that have a significant impact on coaching practice descriptions and prescriptions. This starts with researchers writing for other researchers—as Sayer (2000) suggests, "let's not kid ourselves: much of the time social scientists' work only influences a handful of peers" (p. 34). Clarity of perspective will help researchers to place and undertake their research but also help others to interpret it. Notably, any meta-analysis of coaching practice research should be informed by the consideration of research purpose/questions, disciplinary and meta-theoretical positions, as well as variation in research subjects. We need to avoid situations where we are critical of descriptions of coaching practice when it is the purpose of the work, or disciplinary and/meta-theoretical alignments that are at issue. All researchers work with their own theoretical "models" of coaching practice and development (Blaikie, 2007)—even the sociologists (cf. Cushion, 2007)—and all are subject to their own specific underpinning assumptions.

2. Coaching research can be positioned realistically, pragmatically, and dialectically. The "realistic pragmatism" of Nicholas Rescher (2000) suggests that we have no option but to accept a mind-independent reality as a precondition for research work. This means that we must accept that there is a "coaching reality" that acts an enabler of and constraint on coaching research ideas regardless of the lens and tools used. As Cushion & Lyle (2010) suggest, coaching practice research should be judged on its ability to account for the "real" target phenomenon (i.e., coaching). If coaching models become so abstracted, or the descriptions of coaching so contested and problematic as a result of disciplinary and philosophical allegiances that they are unrecognizable to coaches, coach developers, and researchers alike, then the field is heading toward serious difficulties. The reality of coaching practice is the ultimate constraint on the viability of research accounts in terms epistemic significance and practitioner value.

This way of thinking, however, also offers a pluralistic pragmatic view of knowledge accumulation in which most coaching practice research will say something useful about coaching irrespective of its assumptions and influences (e.g., about coach behaviors, cognitions, and social dimensions). Indeed, it is quite normal that there will be a range of research models and approaches used to describe, understand, explain, and even change coaching. Conceptualization is a normal part of the social scientific process (Sayer, 2000). Our understanding of coaching, either as researchers or practitioners, involves synthesizing the implications of coaching research models and approaches against research and practical experiences into a meaningful and coherent picture of coaching with each lens adding something new and different if only in a minor way. Thus, we should encourage disciplinary, meta-theoretical and methodological pluralism avoiding any "cull" while recognizing the objectives, strengths, and weakness of these positions. The debate between "sides" should be seen as dialectical and constructive. For all the apparent posturing, the psychologists and sociologists have evolved their positions to take account of the others' arguments and coaching research (at least) has benefitted considerably from it. Perhaps, with this, we are moving to an increasingly multi-layered and interdisciplinary understanding of coaching practice and its development.

3. There is space for an alternative approach to conceptualizing coaching practice that seeks to identify the causal factors underpinning coaching outcomes. I have argued elsewhere for the use of an alternative critical realist conceptualization of coaching practice as a multi-layered relational phenomenon (e.g., between the physical, psychological and

social [North, 2013]). In this position, researchers use theory and evidence to speculate about the underlying and often hidden causal structures and forces at these different layers and how they determine and explain particular coaching outcomes in particular contexts. For example, coaching outcomes may depend on a combination of weather conditions, the cognitive and behavioral resources and strategies of coaches and athletes, and the wider social forces that play out beyond this. This approach could provide detailed accounts of coaching practice that extends beyond simple models and/or avoids the built in assumption of problematized social complexity.

Findings and approaches from a variety of disciplinary and meta-theoretical frameworks can contribute to this basic explanatory strategy—making this approach interdisciplinary and inclusive. Though scientism tends to offer a successionist view of causation based on regularities and a limited role for theory, and interpretivism is generally not concerned with causal explanation rather interpretive understanding or *verstehen* (Benton & Craib, 2001; Blaikie, 2007), there remains a rich seam of evidence to explore that can contribute to layered causal explanation (Pawson, 2006a, 2006b). Further, as Outhwaite (1987) argues, researchers often work with a "nocturnal philosophy," meaning they contradict their chosen disciplinary/meta-theoretical approach and these philosophies are often causal/critical realist in nature (Miles & Huberman, 1994; Outhwaite, 1987; Pawson, 1989).

4. There is a need for more focused empirical research. There is a significant weight of theoretical and conceptual development in coaching research on very few important empirical studies. Only a handful of the 1,000 or so published research articles provide empirical backing—and some are cited *ad mortem*. Theories are applied layer on layer to the limited evidence —with the theoretical weight growing more pervasive and ominous as the empirical evidence strains underneath. There is no suggestion that theory from other domains does not provide useful insight to understand coaching practice and development. On the contrary, theory is central to knowledge development and understanding (Layder, 1998). But should we perhaps be more humble/cautious about the way we use and criticize theory until we understand how it works in practice (i.e., to support coaches)? Where is the examination of the multitude of conceptual and developmental approaches provided in the literature? Do these approaches help us to understand coaching and develop coaches empirically? How are particular positions being modified/changed by the evidence to do their work better?

Conclusion

This article has argued that disciplinary and philosophical assumptions have a significant *a priori* influence on coaching practice research. In many instances arguments about the nature of coaching practice and implications for coach development reflect little more than differences in paradigmatic approach. By being clear about underpinning assumptions we have a better chance of progressing the field and informing practitioners. This allows for an inclusive, dialectical and constructive, approach to coaching knowledge generation by recognizing the aims, strengths and weaknesses of different positions and practices.

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This article provides the early foundations for a new wide ranging philosophical analysis of sport coaching research and the implications of different research approaches for describing, explaining and changing coaching practice. Particular emphasis has been and will

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