

Beyond the Qualitative–Quantitative Dichotomy: Notes from a Non-qualitative Researcher

By: [Diane L. Gill](#)

This is an Author's Accepted Manuscript of an article published in

Gill, D.L. (2011). Beyond the qualitative–quantitative dichotomy: Notes from a non-qualitative researcher. *Qualitative Research in Sport, Exercise and Health*, 3(3), 304-311. doi: 10.1080/2159676X.2011.607184

as published in the *Qualitative Research in Sport, Exercise and Health* 2011 [copyright Taylor & Francis], available online at:
<http://www.tandfonline.com/10.1080/2159676X.2011.607184>.

Abstract:

Qualitative research provides lessons for the psychology of physical activity. Specifically, qualitative research highlights the social context, multiple truths and multiple paths to those truths. All methods are limited and all knowledge is incomplete. No one method can provide a complete understanding of complex, dynamic physical activity behaviour. Incorporating those lessons can broaden our vision to move beyond the qualitative–quantitative dichotomy and value all forms of scholarship in an engaged social psychology of physical activity.

Keywords: social context | dualisms | complexity | engaged scholarship | physical activity

Article:

In this paper, I offer my thoughts on qualitative research from the viewpoint of a predominantly quantitative researcher. More specifically, I will discuss the current and future place of qualitative research in sport and exercise psychology based on my personal experience. Like the other authors in this special issue, I have moved from my beginning graduate student days of striving to adhere to the standards of good scientific research and apply the newest statistical techniques, to incorporating a broader range of methods and appreciating the contributions of scholars with differing views and approaches. Many of the other authors in this issue have made similar journeys, and their insightful articles raise important points. In this article, I will reinforce several of those points and suggest that moving beyond the qualitative–quantitative dichotomy offers a promising path to a more engaged psychology of physical activity. Before presenting those views, I will follow one lesson learned from my contacts with qualitative research; that is, I will put my biases upfront in a brief reflective statement.

Reflective statement of a non-qualitative researcher

I am not a qualitative researcher. I do not describe myself as a quantitative researcher either, although I have played one often throughout my career. I do have some natural talent and a lot of training for quantitative research. I have always been comfortable with numbers and good at math. I ‘aced’ math courses in school, took an elective statistics course when no math was

required in my undergraduate programme, and scored near the top on the math section of standard exams. I liked math; numbers were fun to play with. Perhaps most of all, when you play with numbers, you get clear right-or-wrong answers to questions.

When I began graduate school at Illinois, I found I could use my math talents, and I took every statistics course that was offered. I also became part of an active research laboratory where I gained a solid grounding in the then-emerging social psychology and physical activity area, along with research habits and everlasting connections with great colleagues. The quantitative results from my graduate programme included my first data-based research publications; my MS thesis research on social reinforcement (Gill and Martens 1975) using MANOVA done with my own matrix algebra program (no SPSS or structural modelling programs then). Like many of my graduate school colleagues, and the other authors in this special issue, I was good at experimental (definitely quantitative) research.

As I moved into faculty positions at Waterloo and Iowa, I added research publications, mainly data-based, experimental studies and a line of research developing a competitive orientation measure. During that time, I also began to publish integrative scholarship in the form of chapters (not qualitative research but a move away from numbers) and develop interests in mixed topics and methods. I have moved further outside of the lines in my research and away from experimental methods during my time at University of North Carolina at Greensboro (UNCG). Most recently, I have been pursuing physical activity and quality of life in community-based programmes. With my graduate student colleagues, I have gone back to developing measures (Gill et al. 2011). However, at this point, quantity and quantitative research have faded in significance; I am much more interested in the participants and community service than the statistical results. I still like to play with numbers, but I know that those clear, precise answers may not be the ‘right’ answers.

Qualitative lessons

My research began as social psychology and physical activity in the early 1970s. Social Psychology and Physical Activity, the title of Martens (1975) book, described the emerging field. Rainer, who was my advisor, and the Illinois cohort were key in developing the research directions. Sport and exercise psychology has moved away from that early model and changed in many ways since then. My own research has also changed, but not quite in step with the larger field. I have cycled back to social psychology and physical activity, but my current scholarship is quite different from that of my early grad school days (see Gill 2009 for details on my journey). In particular, qualitative research and connections with scholars who use qualitative methods, including scholars in women’s and gender studies as well as in kinesiology, have informed and enriched my views of scholarship as well as my own research. These qualitative lessons include the following: (a) the key role of social context in psychology and behaviour, (b) there are multiple ‘truths’ and (c) there are multiple methods/paths to knowledge; no one method, path or truth is the correct one. These qualitative lessons, which are discussed in the following section, are connected with the themes that guide my social psychology and physical activity as outlined in my McCloy lecture (Gill 2009) – evidence for practice, beyond dualisms, and commitment to social justice and public service. Psychology teaches us the importance of individualising or tailoring our professional practice, but we are less likely to recognise the need

to contextualise. Qualitative research reminds us that context is everything, and the context is social. Our scholarship must be contextualised and move beyond dualisms to embrace complexities if we are to provide evidence that is truly for practice, and physical activity that serves the public.

Social context

Qualitative research emphasises the social context and highlights the power of the social that is too often neglected when we narrowly focus on individual behavior and conduct experiments and interventions that strive to eliminate the context. As Denzin and Lincoln (2008) note in the preface to the third edition of the widely cited handbook of qualitative research, the 'qualitative revolution' has overtaken the social sciences and related professional fields. Not surprisingly, much qualitative research related to physical activity comes from scholars based in social science. My UNCG colleague, Kathy Jamieson, brings a feminist, cultural studies perspective as well as qualitative methods to her own sport sociology scholarship, and she contributes to and challenges my work in many ways. Most of all, I am reminded that all behaviour is social, and we cannot understand people and their behavior without considering the social context.

Some of the most prominent psychology researchers have also highlighted the role of social context and social relations. Triadic reciprocal causation in Bandura's social cognitive theory reflects the dynamic interconnections of the person, behavior and environment. Bandura (2006, p. 164) explicitly stated, Social cognitive theory rejects a duality between human agency and social structure. That is, people create the social systems that affect their behaviour. Similarly, Mahoney (2005), whose insights always seemed 'right on' to me, noted that we co-create the world we experience, just as we respond to it.

As Denzin and Lincoln (2008) point out, qualitative research not only seeks to understand people in context, but also seeks to address inequities and advance social justice. My connections with sport studies, and particularly with women's and cultural studies, have helped me incorporate social justice and advocacy in my work. Psychology of physical activity research and practice must be social and contextualized to advance understanding, and we must advocate for inclusive physical activity that truly serves the wide range of participants and potential participants to make meaningful contributions.

Multiple truths/multiple paths/multiple methods

Qualitative research encompasses multiple methods, and researchers who use qualitative methods come from multiple disciplines with differing theoretical frameworks. Interactions with scholars who use qualitative methods have broadened my vision of research and opened my eyes to differing worldviews as well as differing approaches to scholarship.

One key assumption of qualitative research is that there is not one truth, but multiple truths. Given that multiple truths or multiple meanings are assumed, multiple methods or paths to those truths are logical. As Denzin and Lincoln (2008) note, qualitative research is inherently multi-method. They further note that multiple methods, or triangulation, are used to move towards an in-depth understanding, but not to uncover the one true answer. Indeed, another related

assumption of qualitative methods is that all knowledge is partial and incomplete. Given that there is no one correct truth, it follows that no particular method and no specific analysis, whether qualitative or quantitative, is the one correct method or analysis for a particular study or question. Thus, qualitative research is a lesson in humility. No matter how large our effect size or how consistently a particular theme is supported by participant interviews, observations and public records, we do not have the truth.

Mixed methods: add and stir?

If there are multiple truths to be uncovered, and multiple methods are desirable, then mixed methods seems the way to go. Even in the earlier days of sport psychology research, before Scanlan et al. (1989) published her initial qualitative findings in *Journal of sport & exercise psychology* as a model for the rest of us, Landers (1983) made a case for mixed methods in his paper, 'Whatever happened to theory testing in sport psychology?' Although Dan was arguing for theory testing and a heavily quantitative research approach, he also argued for mixed methods in citing a model of programmatic research as beginning with exploratory field studies, progressing through field and laboratory experiments, and eventually moving back into the field in validation studies. Indeed, many researchers have incorporated mixed methods, and particularly qualitative methods, to enhance their research. Several authors in this issue have described how the addition of qualitative methods to their previously all-quantitative research has led to new findings, interpretations, and directions. Most often, those of us who primarily use quantitative methods have added open-ended questions to quantitative surveys, or used interviews/focus groups with participants, and we have typically used relatively simple coding strategies in our analyses. Those of us who have been fortunate to collaborate with experienced qualitative researchers may have been involved in, or more likely witnessed, more interpretive practices within qualitative research.

Like many others, I have found that my forays into qualitative methods have yielded new insights, interpretations and directions. Several years ago, I was collaborating with a motor behaviour colleague on a funded project looking at motor and psychological correlates of falls in older women. Our design and measures were clearly quantitative. As an add-onto the project, I interviewed participants asking about physical activity as well as falls. The questions were straightforward and our analyses were not very sophisticated. Indeed, the interviews were not related to our research questions, and no results were published. Still, I got much more from those interviews and my interactions with the women than from all the statistical and published findings. I learned that these women, who were not particularly athletic or in specific activity programmes, valued physical activity in their lives. Physical fitness was seldom mentioned, but they did cite contributions to overall health, and clearly saw social and emotional benefits. Most notably, many expressed a more holistic, integrated contribution of physical activity to quality of life. Those interview findings and my continuing reflections over several years contributed greatly to my current physical activity and quality of life research. My conceptual framework and my methods have broadened as we have gone beyond numbers to ask participants about their views and interpretations. That has not added publications, but that approach has deepened my understanding and suggested new research directions.

Cautionary notes for mixing methods

Although I fully believe that we should always recognise multiple truths and multiple paths to knowledge in our research, mixed methods must be intentionally planned and approached with caution. Mixed methods are likely to work best when those particular mixed methods or collaborating researchers are addressing the same research questions, and when the underlying assumptions are consistent. Different methods (data collection, analysis strategies) may mix well, but different methodologies and research paradigms (underlying philosophies, epistemologies) do not mix so easily (see Smith (2007) or Denzin and Lincoln (2008) for a more knowledgeable discussion of methods, methodologies and epistemologies). Mixing coded open-ended responses with quantitative surveys is not likely to present problems. However, many qualitative methods, particularly interpretive practices, emerge from different research paradigms than quantitative methods. Even different qualitative methods, or different quantitative methods, may be based in differing philosophical frameworks. Scholars who are predominantly qualitative researchers are likely to operate from different philosophical and epistemological frameworks. Collaborators operating from different paradigms will have difficulty staying on the same path, may not even have the same destination in mind, and methods may not mix very well.

Qualitative–quantitative: what was the question?

As many others have suggested, the research question should drive the method. Good research is based on good questions, not a particular method. My favourite advice, as I have related elsewhere (Gill 1997, Gill and Williams 2008), comes from the Cheshire Cat, as related by Lewis Carroll in 1865. As Alice (who can be seen as a searching researcher) was wondering/wandering around, she asked the Cheshire Cat (who can be seen as the research advisor) which way she should go. Ches returned with a question – where do you want to get to? When Alice replied that she did not much care where, Ches responded, ‘Then it doesn’t matter which way you walk’. Good questions tell us where we want to go; if you do not have a good question, it does not matter what methods you use.

Lewis Carroll makes the point much more memorable than I can. Good stories do that – and that is another lesson from qualitative research – but more on that later. Now, I will complicate the advice a bit. Generally I am a strong advocate of clear, concise language, but I will follow the lead of qualitative scholars and try to go deeper. The question–method relationship is more complicated than simply stating that the question should drive the method. Questions set our destination, but they often also set the direction or path. Questions do not arise out of thin air. Rather, our questions come from us (the researchers) and are influenced by a host of factors including our training, experiences, and immediate surroundings. Many of us are already well down the path of quantitative research (even in graduate school); we know the landmarks, pitfalls, shortcuts, and we have made good progress – we cannot just turn around or wander off into the woods. Still, we can stop and look around, check out other paths, or perhaps take a detour. Even if we do not jump over to a qualitative path, if we at least recognise that there are multiple paths, and even different destinations to get to, our research will be richer.

Connecting qualitative lessons with social psychology and physical activity

These qualitative lessons – social context, multiple truths and multiple paths – have guided me on my research path, and these qualitative lessons are evident in my current view of social psychology and physical activity. That is, our psychology of physical activity scholarship must move beyond dualisms to recognise complexities, provide evidence that is for practice, and promote physical activity as social justice and public service.

Social to the front

First, the social lesson is evident in that ‘social’ moves to the front. We often cite the bio-psycho-social model as a guide in our research and practice, and that is a good model. However, our research, which has never given the social component the leading role, has shifted even more to the ‘bio’ side over my career, and the social is largely ignored. All behaviour is social, and the social context is critical to understanding behaviour. The social context is particularly critical in the psychology of physical activity and the larger field of kinesiology, which has an applied, professional mission in a particular social context. As an applied area with a professional mission, we are concerned with physical activity in the real world. Real-world behaviour is complex and dynamic, as well as social. That is, the bio, psycho and social are interconnected and the relationships are constantly in flux.

Beyond dualisms

Dualisms tend to simplify and obscure more complex reality. It is easier to think in terms of black-and-white and place people and behaviours into categories. Dualisms may be understandable, but they do not help us understand reality. Dichotomies, including the mind–body, nature–nurture, sport–exercise and qualitative–quantitative dichotomies, foster separation rather than connections. Qualitative research and quantitative research have much in common and overlap in many ways, and both encompass diverse methods. We miss that complexity when we rely on a simplified dichotomy.

Qualitative research helps us broaden our vision to move beyond dualisms to recognise multiple truths and multiple paths, and see the complexities and connections. As noted earlier, Bandura’s recent descriptions of the person–behaviour–environment triad recognises the dynamic, reciprocal connections and complexities. Mahoney’s (2005) constructivist approach to behaviour clearly reflects a social, complex and dynamic view. As Mahoney argues, given such dynamic complexities, human development can be glimpsed, but never completely predicted or controlled. Similarly, Fisher (2008) former president of the Society of Behavioural Medicine highlighted the social, dynamic, complex nature of health behaviour as follows:

Integrating our positivist roots with a postmodern recognition of the contingent nature of all things – whether the long allele is good or bad depends on its context – forces us to a broader approach to knowing that embraces and studies context, rather than the quixotic view that the only real knowledge requires that we control it. (p. 16)

As qualitative research suggests, there are multiple truths and many paths to understanding. All knowledge is incomplete, and no particular method captures the dynamic complexity of physical activity behaviour.

Let's get real

Real-world behaviour is complex, dynamic and social, but it is easy to get lost in the complexities if we stay in our academic research homes. Both qualitative and quantitative research fall short in developing evidence that is truly for professional practice. To be for practice, and to promote physical activity as social justice and public service, we must move beyond typical academic research to other types of scholarship. Most of our quantitative and qualitative research reflects scholarship of discovery in Boyer's (1990) terms. As Boyer argued, all four forms of scholarship – Discovery, Integration, Application and Teaching – are important and inextricably connected. In an earlier paper (Gill 2007), I argued that integration is the essential, yet most neglected scholarship for kinesiology. Integration is particularly critical for professional practice.

Here, I further argue that the scholarship of application, which is now often termed scholarship of engagement, is the key for practice and public service. Engaged scholarship goes beyond both quantitative research and qualitative research. Quantitative methods can provide statistical significance, publications and good evidence. Qualitative methods can provide deeper understanding and enrich that information with narratives – stories. Stories can be much more compelling than numerical data to all types of audiences, and particularly to the public and policy-makers. However, to have real-world impact in our communities, we must do more than present data and stories; we must be engaged and listen. Boyer (1990, p. 23) noted that the scholarship of application is not a one-way street:

It would be misleading to suggest knowledge is first discovered and then applied . . . the process is far more dynamic . . . New understandings can arise out of the very act of application – whether in medical diagnosis, serving clients, shaping public policy or working with the public schools. In activities such as these, theory and practice vitally interact, and one renews the other.

In a more recent discussion of Boyer's 'scholarship reconsidered', Rice (2005) more explicitly called for collaborative interaction in the scholarship of engagement. He noted that the scholarship of application conjures up images of a one-way relationship from expert to recipient. Engagement is collaborative and multidirectional, and is necessarily local, rooted in a particular time and place. Engaged scholarship is a truly collaborative and contextualised process.

My current research on physical activity and quality of life in the community demands such an engaged scholarship. I am striving to be a more engaged scholar in all of my scholarship. I see engaged scholarship as the path to a psychology of physical activity that has real impact. Qualitative research helps us see the critical role of the social context and recognise multiple truths and paths to understanding. Incorporating those lessons can broaden our vision to move beyond the qualitative–quantitative dichotomy and value all forms of scholarship in an engaged social psychology of physical activity.

Notes on contributor

Diane L. Gill, PhD, is a professor in the Department of Kinesiology and the Linda Arnold Carlisle Distinguished Excellence Professor of Women's and Gender Studies at the University of North Carolina at Greensboro. Her research emphasises social psychology and physical activity, with a focus on physical activity and psychological well-being. Current research efforts focus on physical activity and quality of life within the context of community-based programmes. As well as her research activity, over the last 10 years she has devoted a large share of her scholarly work to more integrative and applied scholarship. Her scholarly publications include the text, *Psychological Dynamics of Sport and Exercise*, several book chapters and over 100 journal articles.

References

Bandura, A., 2006. Toward a psychology of human agency. *Perspectives on psychological science*, 1, 164–180.

Boyer, E., 1990. *Scholarship reconsidered: priorities of the professoriate*. Princeton, NJ: The Carnegie Foundation.

Denzin, N.K. and Lincoln, Y.S., 2008. *The landscape of qualitative research*. 3rd ed. Los Angeles, CA: Sage.

Fisher, E.B., 2008. The importance of context in understanding behavior and promoting health. *Annals of behavioral medicine*, 35, 3–18.

Gill, D.L., 1997. Measurement, statistics and research design issues in sport and exercise psychology. *Measurement in physical education and exercise science*, 1, 39–53.

Gill, D.L., 2007. Integration: the key to sustaining kinesiology in higher education. *Quest*, 59, 270–286.

Gill, D.L., 2009. Social psychology and physical activity: back to the future. *Research quarterly for exercise and sport*, 80, 685–695.

Gill, D.L. and Martens, R., 1975. The informational and motivational influence of social reinforcement on motor performance. *Journal of motor behavior*, 7, 171–182.

Gill, D.L. and Williams, L., 2008. *Psychological dynamics of sport and exercise*. 3rd ed. Champaign, IL: Human Kinetics.

Gill, D.L., Chang, Y.-K., Murphy, K.M., Speed, K.M., Hammond, C.C., Rodriguez, E.A., et al., 2011. Quality of life assessment in physical activity and health promotion. *Applied research in quality of life*, 6, 181–200.

Landers, D.M., 1983. Whatever happened to theory-testing in sport psychology? *Journal of sport psychology*, 5, 135–151.

Mahoney, M.J., 2005. Constructivism and positive psychology. In: C.R. Snyder and S.J. Lopez, eds. *Handbook of positive psychology*. New York: Oxford University Press, 745–750.

Martens, R., 1975. *Social psychology and physical activity*. New York: Harper and Row.

Rice, R.E., 2005. Scholarship reconsidered: history and context. In: K.A. O'Meara and R.E. Rice, eds. *Faculty priorities reconsidered*. San Francisco, CA: Jossey-Bass, 17–31.

Scanlan, T.K., Ravizza, K., and Stein, G.L., 1989. An in-depth study of former elite figure skaters: I. Introduction to the project. *Journal of sport & exercise psychology*, 11, 54–64.

Smith, B., 2007. The state of the art in narrative inquiry: some reflections. *Narrative inquiry*, 17, 391–398.