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A Discussion on Qualitative Research in Physical Activity

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ABSTRACT

Qualitative research in sport psychology has been increasingly on the rise, thereby allowing a greater understanding of the participant's experiences (see Dale, 1996). Exercise psychologists (e.g., Gauvin, 1990; Golberg, 1992; Whaley & Ebbeck, 1997) have also employed qualitative methodologies in their investigations, although to a much lesser extent. Consequently, there remains a need for additional studies, particularly in exercise psychology, as well as a review article on the use and future direction of qualitative research in the physical activity field. The purpose of this article is to provide an overview of the various ways in which qualitative methodologies can and has contributed to the knowledge and understanding of physical activity research. The discussion is organized into four sections highlighting, (1) the competing paradigms, (2) qualitative research in sport psychology, (3) qualitative research in exercise psychology, and (4) the future of qualitative research in physical activity.

Introduction

In the last decade, there has been a plethora of studies using “non-traditional” research methods in the study of physical activity. Sport psychology researchers, in particular, have used qualitative methodologies in an attempt to gain a greater understanding of the subjective experience of the athletes (e.g., Gould, Eklund, & Jackson, 1992; Munroe, Giacobbi, Hall, & Weinberg, 2000; Scanlan, Stein, & Ravizza, 1989). Because of these studies, several researchers have published review articles or discussion papers outlining the use (or misuse) of qualitative research in the field (e.g., Dale, 1996; Krane, et al., 1997; Sparkes, 1998; Streat & Roberts, 1992). These sport specific qualitative studies have provided in-depth analyses of athletes' and coaches' experiences that might have gone otherwise untapped. Researchers have been encouraged

to use this wealth of information in developing scales for psychometric analysis while consultants have been encouraged to develop more effective interventions. Exercise psychologists have also employed qualitative methodologies in their investigations (e.g., Gauvin, 1990; Golberg, 1992; Whaley & Ebbeck, 1997), although to a much lesser extent. Given the in-depth information gained from qualitative research in the sport domain, it is reasonable to assume that exercisers and exercise leaders would also benefit from an increase in qualitative research. Consequently, there remains a need for additional studies, particularly in exercise psychology, and ultimately a review article on the use and future direction of qualitative research in the physical activity field, including both sport and exercise.

This overall growth of qualitative research in the field of physical activity may have been due, in part, to those who felt that the “conventional “ methods (i.e., quantitative methods) of interpreting data may have been too limiting when investigating people and their situations (Eisner, 1997). The purpose of this article is to examine various ways in which qualitative methodologies can and have contributed to the knowledge and understanding of physical activity research, including both exercise and sport. Central to the definition of physical activity is movement (Bouchard & Sheppard, 1994). Bain (1995) further contends that the importance of movement lies in the impressions that it stimulates in the individual, arguing that subjective knowledge is therefore at the heart of sport related inquiry. Through qualitative methodology, physical activity researchers are able to examine the way people perceive, create and interpret their world. This methodology stresses the importance of studying the subjective experience of the individual, thereby providing a richness of information to the field of physical activity. The following discussion is organized into four sections highlighting, (1) the competing paradigms, (2) qualitative research in sport psychology, (3) qualitative research in exercise psychology, and (3) the future of qualitative research in physical activity.

The Competing Paradigms

The Competing Paradigms

Because qualitative and quantitative methods involve differing strengths and weaknesses, they constitute alternative, but not mutually exclusive, strategies for research. (Patton, 1990, p. 14)

The title of this section may be misleading, but a long-standing debate about which type of research still remains. Patton (1990) suggested a ‘paradigm of choice’. In other words, he felt researchers should not be bound to view the world through one set of lenses, but rather to let the research question be the factor in determining the chosen methodology.

The goals of these two competing paradigm are very different. Qualitative research (i.e., interpretive, naturalistic, constructivist, ethnographic, or hermeneutic) is that of description, thus providing the basis by which the reader can gain an in-depth understanding of how people make sense of their world. Denzin (1989) offered that the success of qualitative research depends on detailed accounts put forth by the investigator.

Qualitative methodology is a means of studying the subjective experience of the individual, thereby offering a detailed description of how one perceives, creates, and interprets one's world. In sport psychology research, qualitative methodology such as focus groups could be useful in exploring the meaning of anxiety to athletes (Moran, 2004). While in exercise psychology research, qualitative methods such as in-depth interviews could help establish whether more frequent exercisers have a rich more accurate understanding of their exercise injuries than do less frequent exercisers.

The goal of quantitative research is that of prediction, hypothesis testing, and control. A sport psychology study using quantitative methods may examine motivational self-talk and its relation to performance in self-paced skills such as a golf putt or a tennis serve (Moran, 2004). An exercise psychology study using quantitative methods may wish to explore the relative effects of different environments on exercisers' moods (i.e., walking trails in a wooded area versus sidewalks in an urban city). In order for a study to be construed as quantitative, it has to satisfy four criteria including: (1) internal validity, the degree to which the results can be attributed to treatment, (2) external validity, the generalizability of the results, (3) reliability, the extent to which the findings can be replicated and, (4) objectivity, the extent to which the findings are free from bias (Guba & Lincoln, 1994). Many positivists felt that if the research did not satisfy the above four criteria, then it was not true research.

Because qualitative research methods typically include observations, narrative reports, and researcher-designed instruments (Goetz & LeCompte, 1984), it has been considered the exact opposite of quantitative research, which includes precise measurement, rigid control of variables and statistical analyses (Thomas & Nelson, 1998). Issues of reliability, validity, and objectivity have therefore been argued because qualitative research was not satisfying the above four criteria of quantitative research. Qualitative researchers have attempted to overcome these criticisms by developing their own language, such as triangulation and transferability, to verify their method of research (Creswell, 1994).

Triangulation is one method by which qualitative researchers strive to ensure validity. One specific type, analyst triangulation, involves the process of several researchers coming to a consensus (inter-rater reliability) on the coding of the data. Krane and colleagues (1997) suggested having your co-investigator challenge your codes, thereby acting as a 'devil's advocate', as an additional technique to control against bias.

Although deemed by some as inappropriate in qualitative research (Erikson, 1986), external validity or the generalizability of the results has been another subject of disagreement amongst qualitative critics. Interviews, which are one of the most common sources of qualitative data in physical activity research, are very time-consuming, thereby forcing researchers to reduce their sample size considerably. Due to the small sample, the generalizability of results has been scrutinized. Transferability, one way of addressing the positivist notion of generalizability, denotes the extent to which the investigator uses and communicates theoretical frameworks, research techniques and definitions that are

available and understood by researchers in the same or similar (Goetz & LeCompte, 1984).

Qualitative research provides insight into another person's reality. A qualitative research report provides the reader not with generalizations, but with tools for reflection. The knowledge produced is not a generalized law of behavior, but is new subjective knowledge constructed by the reader. The reader uses this new insight to create new meanings, and actions in his or her own life. (Bain, 1995, p. 244)

In effect, the reader, not the author, makes the generalizations (Lincoln & Guba, 1985; Streat, 1998).

A priori assumptions are another criticism with qualitative research. A priori assumptions are due, in part, to one of the fundamental goals of qualitative research, hypothesis generating. As Patton (1990) suggested, one way to control for a priori assumptions (e.g., biases) is to have a trained researcher gather the data. Because the researcher is the primary tool in qualitative research, the investigator must therefore have a good rapport with the subjects, possess superior interviewing techniques and ask questions in such a way that the interviewee will speak freely when conducting an interview (Thomas & Nelson, 1998). Krane and colleagues (1997) argue, "it is unrealistic to expect any researcher to begin a study without the requisite knowledge to understand the phenomena under consideration" (p. 216). As trained researchers, they are able to acknowledge and therefore appropriately address these biases. Ultimately, the researcher has a duty to clarify whether the research is descriptive or exploratory or guided by theoretical predispositions.

Qualitative researchers feel as though they are able to adequately address the issues of reliability and validity, with such techniques as triangulation and transferability. As well, with capable researchers collecting the data, the issue of objectivity should be satisfied.

Qualitative Research in Sport Psychology

In Locke's (1989) earlier work, he stated that the rules of qualitative analyses were less stringent than those of quantitative analyses thereby allowing much more opportunity for creativity. Because of this opportunity, qualitative research is comprised of various methodologies. The most commonly used methodology in sport, inductive content analysis of transcribed interviews, was presented by Scanlan et al. (1989) in their study with figure skaters and later used by Gould and colleagues (1992) and Jackson (1992). They presented figures indicating the raw data themes and the development of the higher order themes. Prior to Scanlan and colleagues' (1989) pivotal study, very few articles had been published in the area of sport psychology that had employed qualitative methodologies.

More recently, Bloom, Crumpton and Anderson (1999) used systematic observation and interviews in order to gain an understanding into the teaching behaviors of a Division

1 basketball coach. Systematic observation has been employed by numerous sport psychology researchers to examine the behavior of expert coaches at all levels (Lacy & Goldston, 1990; Smith & Smoll, 1990). As well, in-depth interviews have been used with coaches to examine factors considered important to coaches (Bloom, Durand-Bush, & Salmela, 1996; Côte, Salmela, & Russell, 1995).

Open-ended questionnaires have been used by some researchers in an attempt to gain insight into athletes' thoughts and perceptions (e.g., Martin, 1997; Munroe, Estabrooks, Dennis, & Carron, 1999). Munroe and colleagues (1999) utilized open-ended questionnaires to identify group norms present in sport teams. As practitioners, if we can anticipate the evolution of these norms, we can take action to avoid or shape the development of such generalized expectation about behavior. As can be seen above, there are many benefits, from a practical perspective, of using the qualitative methodology in sport research.

Although the case study is a descriptive research technique often used in quantitative research, it is also used as a qualitative method in sport psychology research (Heyman, 1990; Savoy, 1993). Case studies (Merriam, 1988) examine most or all the potential aspects of a distinct unit or case in order to gain a greater understanding about other similar cases. A case may be an individual, a family, a team, or a community. In the sport context, Savoy (1993) employed a case study approach when she examined a mental training package over the course of the season with a basketball player, while Krane, Greenleaf and Snow (1997) used unstructured interviews to examine the achievement motivation of an elite gymnast. Finally, Striegel (1993) used a case study approach to examine anger in tennis players. All these studies were conducted with the assumption the respective cases are representative of many other such cases. As Gould and Udry (1994) suggested in their review of psychological skills for performance enhancement, additional research using case study methodologies must be employed as a means of identifying personality and situational factors influencing athletes.

Focus groups seem to be more pervasive than ever in sport psychology literature. The focus group is a technique used to interview a group of people on a specific topic. It is an efficient form of data collection in that the researcher can accumulate information about several people in one session (Thomas & Nelson, 1996). Gould, Guinan, Greenleaf, Medbery, and Peterson (1999) used focus groups with US Olympic athletes to find out their perceptions on mental skills and strategies. This methodology was employed because of a need to examine these issues from a broad perspective. The focus group was used in conjunction with a mass mail-out survey and telephone interviews. What ensues from focus groups, such as with Gould, Guinan, et al., can have important implications for interventions. Knowing the factors that are associated with enhanced performance can help sport psychologist develop more effective interventions. Gould, Damarjian, and Medbery (1999) also conducted focus group interviews with junior level tennis coaches. From Gould, Demajian, et al.'s investigation, an integrative model was developed that could be used as a guide for coaches to develop mental skills training as well as to direct future research in the area.

Sparkes (1998) reiterated other qualitative researchers' views by arguing that for "sport psychology to grow and qualitative forms of inquiry to fully contribute to an understanding of sport psychology phenomena, different methodologies and the varying forms of knowledge gained from them must be appreciated, encouraged and embraced with theoretical tolerance and respect" (p. 365). Over the years, researchers have used, and continue to use, multiple methods of qualitative research in order to gain a greater understanding of athletes' and coaches' behaviors.

Qualitative Research in Exercise Psychology

The field of exercise psychology is perpetually growing and expanding. It is therefore important that our conceptual horizons keep expanding. Again, one means of exploring our conceptual horizons is through the use of various methodologies (i.e., qualitative methods).

In his 1994 book on exercise adherence, Dishman stated the importance of conducting more studies using qualitative methods in order to understand the process of personal motivation for physical activity. Over the years, several researchers have used qualitative techniques to examine issues including the exercise constraints in older adults (Whaley & Ebbeck, 1997), the motivational features of exercise and lifestyle (Gauvin, 1990), and the descriptors of exercise in older women (Schneider, 1996). In Whaley and Ebbeck's study, they employed a qualitative perspective to examine issues pertaining to exercise constraints among older adults. Past research in this area has been limiting due to the fact that research focused on constraints considered important by the investigators, not the exercisers themselves. By using a qualitative approach, Whaley and Ebbeck were able to gain valuable information on these constraints.

Just as in sport psychology research, exercise psychology research tends to use interviews as a primary data-gathering tool. Sihvonen, Rantanen, and Heikkinen (1998) interviewed elderly people in order to examine the changes in physical activity levels over a five-year period. Henderson, Ainsworth, Stolarczyk, Hootman, and Levin (1999) combined interviews and physical activity records to gain a holistic understanding of physical activity patterns in women of color. Finally, Lindgren and Fridlund (1999) conducted interviews with non-active women in order to develop a theoretical understanding of what could influence exercise adherence. Interviews provide in-depth information that may not otherwise be available through paper and pencil tests.

Focus groups have been a viable method of data collection employed in the smoking cessation literature (Balch, 1998; Manfredi, Lacey, Warnecke, & Balch, 1997; Shervington, 1994). More recently, Munroe, Sullivan, Rodgers, & Hall (in preparation) conducted focus groups with avid exercisers, moderate exercise and obese exercisers as means to gather information on the images used during exercise. Furthermore, Eyler, Baker, Cromer, King, Brownson, and Donatelle (1998) conducted focus groups with women over 40 years of age in order to explore patterns of physical activity among minority women. Lastly, active and sedentary women were part of a focus group examining the variability of participation in health promoting forms of physical activity

(Cousins & Keating, 1995). Through the use of this qualitative methodology, researchers can then tailor the interventions to meet the needs of the population in question.

Open-ended questionnaires, analyzed inductively, have also been a means of gathering data in exercise psychology research. Hausenblas, Hall, Rodgers and Munroe (1999) used an open-ended questionnaire to examine the nature of imagery use in exercisers. From those responses, a questionnaire was developed to assess imagery use by exercisers. Fox and Corbin (1989) employed much the same methodology. They employed open-ended questionnaires to identify important contributors to the physical self-esteem of a college age population. The findings from these questions were then used as a basis for a physical self-perception scale.

Qualitative methods offer an in-depth understanding into a person's experiences. They allow the reader to locate the meaning in people's lived experiences and to provide vivid descriptions nested in a real context (Miles & Huberman, 1994). With the influx of this methodology in the sport literature, thereby giving rise to a plethora of qualitative review articles (Dale, 1996; Krane et al., 1997; Sparkes, 1998), one could assume that it is only a matter of time before we see the same type of growth in the exercise literature.

The Future of Qualitative Research in Physical Activity

As previously mentioned, the interview is the most readily used tool to collect qualitative data. However, one type of interview that requires further attention in the physical activity field is the focus group. The researcher is able to gather information on multiple people in one session, allowing the researchers to probe and ask for additional clarity. As Gould et al. (1999) stated, the focus group is "useful for understanding abstract topics and discovering new insights" (p. 128). The focus group may prove especially exciting for researchers working with exercise groups. One could use focus groups to gain a greater understanding to such questions as the social support of exercisers, the imagery use and self-talk in exercisers, or reasons for dropping out. Also, as was found in the sport literature (Gould et al., 1999a), focus groups can provide a time for the participants to reflect on their participation. It is therefore, not only a means of collecting valuable information, but also a means of debriefing. Focus groups may become the qualitative method of choice for physical activity researchers because they allow for a greater understanding of specific topics.

Although focus groups are a viable means of collecting data, they are not without limitations. Group dynamics is one factor that may pose potential problems within a focus group. Some participants may be reluctant to state their views in such a public form. For instance, focus groups may not prove beneficial for persons with eating disorders or exercise addiction because these topics are many times held in secret. Also, the focus group limits the amount of questions that can be asked. Patton (1990) suggests that the focus interview may provide quality controls in that false or extreme views may come from it. By videotaping the focus group, the researcher can gather both verbal and non-verbal information. Note taking is also a suggested way to denote certain points of emphasis. Another limitation with focus group interview is that you cannot be sure that

each group discusses identical issues equally. Researchers who employ this method are encouraged to use inter-rater reliability as a mean to enhance the trustworthiness of the data (Lincoln & Guba, 1985).

The phenomenological interview is a further methodology that has been given little attention in both sport and exercise psychology (Dale, 1996). It is a method of data collection that provides information on the experiences of the participant (athlete or exerciser). This type of interview allows the interviewee to be the expert. All questions in the interview follow a dialogue, much like the conversation between two people, and are “aimed at learning more about the respondent’s experience instead of confirming the interviewer’s previously held hypothesis” (Dale, 1996, p. 313). This type of interview may prove useful for coaches and/or leaders who want to individualize their interventions.

An additional method of qualitative data collection that is underrepresented in the applied field of sport and exercise psychology, although used extensively in other applied disciplines, is the case study (Strean & Roberts, 1992). “The case study relies on interviewing, observing, and document analysis” (Denzin & Lincoln, 1998, p. 29). Savoy (1993) and Krane et al. (1997) both demonstrated the utility of case studies in sport psychology interventions in their research with a basketball player and gymnast, respectively. Faulkner & Sparkes (1999) conducted a case study on exercise as a therapy for schizophrenia. Although used to a much lesser extent than in sport, the case study may be a valuable research tool in understanding the interventions in an exercise setting.

Qualitative research has been used repeatedly as a basis for scale/questionnaire development, models, or intervention strategies in both sport and exercise research. However, it is important to keep in mind that qualitative research need not always be followed up with quantitative research, nor does qualitative analyses need to be followed up with quantitative analyses. In the earlier years of qualitative methods in sport psychology, Scanlan and colleagues (1989) were able to please both sides of this “competing” paradigm and thereby gain entry into an otherwise “quantitative” field by combining qualitative (interpreting interviews) and quantitative (providing frequency scores).

Some researchers (Andersen, Williams, Aldridge, & Taylor, 1996) would contest that combining both quantitative and qualitative analyses in one study does not serve either paradigm very well. They question frequency being used as a measure of meaningfulness of the subject’s experience. For instance, is a lower frequency number any less meaningful than a more frequently cited experience? Many researchers have suggested that the research question drive the methodologies employed (e.g., Krane et al., 1997; Patton, 1990). If the inclusion of a frequency table adds nothing to the study, then researchers should not feel compelled to include one simply because this technique had been used in the past.

However, there can be tremendous value in combining qualitative and quantitative data gathering techniques (i.e., mixed methods). Such was the case in Gould et al.’s

(1999a) study with Olympic athletes, which combined focus groups, surveys and telephone interviews. Manfredi et al. (1997) also used mixed methods to examine smoking cessation among low socio-economic status African American women. They employed surveys and focus groups to discover themes and images salient to the participants. Together the multiple methods complemented and explained each other. Denzin and Lincoln (1998) state, “the use of multiple methods (or triangulation) reflects an attempt to secure in-depth understanding of the phenomenon in question” (p. 4).

The use of multiple methods could be used to a greater extent in the physical activity research. Areas for future examination using multiple methods could include; exercisers’ and non-exercisers’ thoughts and attitudes on the benefits of being physically active, leadership styles, social cognitive variables and their effects on exercise motivation and adherence, factors related to exercise adherence and attitudes and/or beliefs, self-esteem, and self-efficacy. The combination of multiple methods adds rigor, breadth, and depth to any investigation (Flick, 1992)

Weinberg and Comar (1994) further suggested that in addition to the empirical intervention research, qualitative methodologies have provided greater understanding to the types of interventions and the types of consultants that most positively affect the performance of an athlete. Therefore, it is important to continue to use these qualitative methods in order to learn the most from our athletes, coaches, and exercisers.

Conclusion

As previously stated, much of the qualitative research in physical activity has been conducted in the area of sport psychology (e.g., Côté, et al, 1995; Gould, et al., 1992; Scanlan, et al., 1989). Krane et al. (1997) recently maintained that after 10 solid years of qualitative research, it should now be acceptable in the sport psychology literature to publish a qualitative study without having to explain the data collection and analyses procedures employed. The same should hold true for exercise psychology. If we could move away from explaining the methodology in such depth as has been common practice, this would allow more opportunity for the researchers to describe in detail the richness of the data found (Kerry & Armour, 2000; Krane et al., 1997). With each additional qualitative study that is conducted, a greater appreciation for this type of methodology is achieved.

For our field of sport and exercise psychology to grow, it is important to answer the questions asked by using the best possible methodologies. As Streaan and Roberts (1992) stated, “to ignore other points of view, or to dismiss a variety of methodologies is to miss out on possible sources of understanding and ways of advancing our field” (p. 56). Qualitative research is by no means the only legitimate way to do research but it is one in which you can fully understand what the person is experiencing which is not always achievable through the use of numbers. Qualitative research offers an additional method by which researchers can use their strengths and abilities to suit their interest. Drawing on Eisner’s (1997) point from the education research he stated that:

Young scholars, although not exclusively, are trying to invent new forms of research that they believe are better suited for studying the educational worlds they care about. (p.263)

As young scholars in the physical activity field, the world we care about is comprised of people and how sport and exercise affect them. Although qualitative research has been around for many years, there still remains a need for greater balance between “scientific and subjective knowledge” (Bain, 1995, p. 239). Moreover, there is a need for a review on the use (and misuse) of qualitative methods in exercise psychology. Trail blazing, especially in a methodological sense, is never easy, thus requiring fortitude and perseverance. These various methods of research foster creative thoughts and allow us to view ideas from a different perspective, thus being of great valuable to the physical activity field.

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