

Understanding the Experience of Stroke: A Mixed-Method Research Agenda

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The use of both quantitative and qualitative strategies to examine a single research question has been a subject of considerable controversy and still remains a largely uncommon practice in the sociology of health and illness. Yet, when seeking to understand the meaning of a chronic disabling condition in later life from a social psychological perspective, a mixed-method approach is likely to provide the most comprehensive picture. This article provides an overview of the usefulness and appropriateness of a mixed-method approach to understanding the stroke experience. I comment on the current state of research on the experience of stroke, including epistemological and ontological orientations. Using real data examples, I address paradigmatic assumptions, methods of integration, as well as challenges and pitfalls in integrating methods. I conclude by considering future directions in this field of research.

Key Words: Stroke, Mixed methods, Quantitative, Qualitative

In the United States, and much of the developed world, stroke is one of the three leading causes of death (Staessen, Kuznetsova, & Stolarz, 2003) and is a major cause of long-term disability (Rosamond, Flegal, & Friday, 2007). Approximately 8% of community-dwelling older Americans (aged 65+) report ever having a stroke (Centers for Dis-

ease Control and Prevention [CDC], 2007). Although the proportion of people affected by stroke is relatively small, the impact of a stroke on the lives of survivors (and their caregivers) is substantial. In this article, I review research to date that aims to understand the experience of stroke. I first give an overview of the literature based on quantitative methods (such as survey techniques), and then, I review the information gleaned from qualitative studies of stroke. I argue that a more complete understanding of the stroke experience can be gained by integrating both quantitative and qualitative methods within a mixed-method research agenda. Strategies and techniques for integrating methods and the challenges and pitfalls in this process are discussed.

The Impact of Stroke on Well-being

Because a stroke results from cerebral ischemia (death of brain cells), the resulting impairments can have a widespread impact on the level of functioning of the body. Survivors may suddenly be left with paralysis or weakness in their arms or legs, memory problems, visual impairment (including cortical blindness), loss of sensation in or awareness of one side of the body, difficulty swallowing, and difficulty in understanding what is said and in finding words to communicate with others. Individuals may also become emotionally labile after a stroke, with sudden outbursts of crying or rage for no apparent reason. Personality changes may also occur. Individuals with strokes in the left hemisphere of the brain often adopt a slow, cautious behavioral style, whereas those with lesions in the

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right hemisphere of the brain can become uncharacteristically impulsive.

In my work with stroke survivors, I met former athletes who were suddenly struggling to walk. I met people who could no longer speak or read. For several weeks following a stroke, one woman was convinced that her left arm belonged to someone else. I interviewed one woman whose stroke had strangely impaired her ability to recognize faces, which posed a significant problem for her in social interaction. I spoke with a retired professor who suffered severe depression because his stroke had thwarted his plans to write his memoirs. His short-term memory was so impaired that he remarked to me "I've had a stroke is that it?"

Quantitative Studies of the Stroke Experience

Not surprisingly, these residual impairments and disabilities can pose a significant problem for the well-being of older adults, and a nontrivial body of literature has focused on understanding of the stroke experience. Much of this research has relied on objective measures of physical functioning and quality of life after a stroke (Seale & Davies, 1987), which are typically administered in a survey questionnaire (Clarke, Marshall, Ryff, & Wheaton, 2001; Shyu, Maa, Chen, & Chen, 2008; Pan et al., 2008). The analytic units therefore become variables, which are analyzed descriptively or in a hypothesis-testing framework (Bryman, 1984). Findings from this literature indicate that restrictions in mobility and physical functioning are repeatedly associated with a reduced quality of life after stroke (Ahlsio, Britton, Murray, & Theorell, 1984; Astrom, Asplund, & Astrom, 1992; Clarke, Black, Badley, Lawrence, & Williams, 1999; Clarke, Lawrence, & Black, 2000; Kim, Warren, Madill, & Hadley, 1999; King, 1996; Pan et al., 2008; Shyu et al., 2008), but social supports and educational resources have been shown to moderate the impact of functional status on well-being (Clarke, Marshall, Black, & Colantonio, 2002; Glass, Matchar, Belyea, & Feussner, 1993). Survivors also report difficulty with family and social relationships (Brocklehurst, Morris, & Andrews, 1981; Levasseur, Desrosiers, & Noreau, 2004), and residual difficulties with cognitive function pose an ongoing challenge for reintegration to normal living (Edwards, Hahn, Baum, & Dromerick, 2006). Poststroke depression is another common and serious complication (Angeleri, Foschi, Giaguinto, & Nolfe, 1993; Clarke et al., 1999;

Pan et al., 2008; Paolucci, 2008) affecting quality of life, functional recovery, and mortality after a stroke.

Yet, the documentation of such associations does not explain the underlying reasons *why* a stroke compromises well-being. What are the reasons why impaired mobility or dependence in activities of daily living, for example, are associated with a reduced sense of subjective well-being? We may be able to speculate why losing the ability to walk, to speak, or to eat can have dire consequences for one's sense of well-being, but such speculations cannot be verified in the existing body of quantitative research. As an epistemological consequence, "strict adherence to the outsider's perspective leads to the equally untenable position that disablement, although not independent of person, is independent of personal experience" (Peters, 1995, p. 138).

Moreover, quantitative results tend to emphasize aggregate relationships that are derived from the average associations between variables in a study population (e.g., statistical models regressing well-being on functional independence). As a result, deviations from these associations are not emphasized, even though the relationship between functional status and well-being is not perfectly correlated. In their review of patient outcomes following illness, Wilson and Cleary (1995) point out that there is not a direct one-to-one correlation between severity of functional limitations and well-being. In an aptly titled article, "There is more to life than putting on your pants" (Radomski, 1995), one occupational therapist notes that physical recovery from stroke is not necessarily indicative of a positive sense of well-being. Factors such as fear of criticism, loss of social roles, and lack of self-confidence have been found to be more important for some survivors' perceptions of well-being than functional independence (Angeleri et al., 1993; Labi, Phillips, & Gresham, 1980). Quantitative studies are therefore not well equipped to help us understand the often paradoxical observation that some people are emotionally devastated by stroke-related impairments, whereas others manage to retain their sense of well-being in the face of declining function. Here, a strictly objective perspective in which disease is independent of the person fails because "entire aspects of the phenomenon of illness remain inaccessible or incomprehensible to us" (Baron, 1985). Why are some people distraught by the inability to walk, for example, whereas others seem to retain their sense of well-being even

when confined to a wheelchair? The answers to such questions are not accessible in quantitative data. In order to understand these complexities, we need to turn to qualitative methods.

Qualitative Studies of the Stroke Experience

Perhaps because of its all-encompassing effects on one's ability to function in basic ways, considerable insight into the human experience of a stroke can be gained through a subjective research method. Qualitative research focuses on the complexities of how human beings make sense of their experiences. Implicit in this approach is that there are multiple subjective realities, which are constantly in flux. In contrast to the quantitative survey method, therefore, qualitative data are typically collected through in-depth interviews, focus groups, or participant observation, which are better able to capture the subjective dynamics of individual experience. Data collection and analysis occur simultaneously and interactively (Lofland & Lofland, 1995, p. 181), and the analytic phase typically begins as soon as the first data are collected because the findings are often used to direct the subsequent interviews (Strauss & Corbin, 1990). Transcripts are examined for concepts or themes using codes to identify and label them (Luborsky, 1994). In contrast to quantitative methods, therefore, patterns replace variables as the unit of analysis.

In contrast to the stability implied in the quantitative relationships, results from qualitative studies reveal that the trajectory of life after a stroke is a dynamic process characterized by uncertainty and variability, where unexpected plateaus or reversals in the recovery process can foster a sense of frustration and despair (Becker & Kaufman, 1995; Clarke & Black, 2005; Doolittle, 1992). Qualitative studies also emphasize the individual's perspective in the stroke experience and find that survivors define their losses and their recovery according to their own definition of the important or meaningful activities in life rather than in some normative definition of disablement (Clarke & Black, 2005; Dowswell et al., 2000; Ellis-Hill, Payne, & Ward, 2000; Gubrium, Rittman, Williams, Young, & Boylstein, 2003; Lister, 1999; McKevitt, Redfern, Mold, & Wolfe, 2004; Mumma, 1986; O'Connell et al., 2001; Pound & Gompertz, 1998). For example, in a 5-year descriptive study of 100 stroke survivors, Becker (1993) discovered that people described their stroke

experience based on the loss of their own subjective definitions of what was meaningful to them. Statements such as "I can't wear high heels any more," "My handwriting is not as good as it was," and "Sometimes I can't get the right words out" (Becker, 1993, p. 154) reflect the fact that individuals make sense of their stroke according to their own perceptions of what is important to them in their lives.

Expanding on this concept, Charmaz (1983, 1987), Kaufman (1988a, 1988b), and Corbin and Strauss (1987) proposed that the impact of a chronic disabling condition on subjective well-being is largely a function of the extent to which disabilities affect social roles or aspects of self that constitute salient components of an individual's identity. Using participant observation and open-ended interviews, Kaufman (1988b) found that the poststroke experience was largely an exercise in re-establishing a sense of identity. She noted that individuals searched for ways to build links between their new poststroke lives and their former selves. Instead of allowing their disabilities to overwhelm their lives, individuals sometimes attempted to find a way to "accommodate to an illness through altered or changed performances, and in doing so to give meaning to life despite ongoing and progressive body failure" (Corbin & Strauss, 1987, p. 271). As Becker (1993, p. 157) notes, a disabled stroke survivor may wish to play a nine-hole game of golf, but it may instead be sufficient for that individual to be able to "walk to the television and turn on a golf game" in order to maintain salient aspects of self and identity.

Yet, these qualitative studies are by necessity based on small and/or select samples, and as a result, the generalizability of the findings to the wider stroke population is limited (McKevitt et al., 2004). Moreover, qualitative results are not able to tell us how many survivors experience mobility restrictions or decreased well-being, nor is it possible to quantify the relative effect of different impairments on well-being. Qualitative and quantitative approaches therefore have made separate (each substantively important) contributions to our understanding of the stroke experience. But because these approaches are typically conducted in different studies, our understanding of stroke relies on research developed from two separate methodologies. As a result, we have a host of quantitative studies outlining the factors associated with subjective well-being in large, often representative, samples of stroke survivors. We can then turn to

the somewhat smaller body of qualitative studies to try to find results that may help us to understand the reasons why and how a stroke affects well-being. But in this process of trying to link findings across disparate studies, we run the risk of misattributing findings from one methodological arena across another.

For example, we know from quantitative survey data that stroke survivors with residual mobility impairments report a decreased sense of well-being. Separate studies using qualitative techniques have helped us to understand that this is because these impairments generate feelings of loss (of activities, abilities, social connections, personal characteristics, and independence) and are much more likely to have a negative effect on well-being when an individual's identity is tied to their lost ability (a recreational athlete, e.g., who loses his/her mobility). But for other less common or more complex associations, such as the finding that social supports moderate the impact of functional limitations on well-being, qualitative work may not exist that focuses specifically on the particular statistical interaction we are hoping to understand. Integrating such a patchwork of findings across methods therefore leaves large holes in our understanding of the stroke experience. Our knowledge is constrained to the small pool of more common findings that exist across both quantitative and qualitative studies (e.g., the effects of disability). As a result, we remain limited in our understanding of the many subtle aspects of the stroke experience, particularly in small subpopulations of stroke survivors (e.g., by race/ethnic group or in the very old). A more complete understanding of the stroke experience can therefore be gained by integrating quantitative and qualitative methods within a single research study.

Integrating Qualitative and Quantitative Methods

The use of both quantitative and qualitative strategies in a single research project has been a subject of considerable controversy and still remains a relatively uncommon practice in the study of health and illness (for reviews, see Casebeer & Verhoef, 1997; Sale, Lohfeld, & Brazil, 2002). The methodological separation of quantitative and qualitative strategies stems from the perception that each method adheres to different ontological and epistemological paradigms (Bryman, 1984, 1988; Guba & Lincoln, 1989; Haase & Myers, 1988; Howe, 1985, 1988; Sale et al., 2002). According to this view, quantitative research falls

within a positivist paradigm, which assumes that the world around us is generally stable and predictable, conforming to common norms and patterns. As recognized by Marshall (1987, p. 41), "social life is more patterned than not, else chaos would reign more pervasively than it does." Qualitative research, on the other hand, is thought by some to fall within the interpretive paradigm, which assumes that the world is in a dynamic state of flux, with multiple subjective realities (Guba & Lincoln, 1989). Consequently, quantitative strategies are seen by some as appropriate for deductive explanatory analysis under standardized objective conditions, whereas qualitative techniques are used to explore research questions inductively in uncontrolled natural contexts.

But as Toombs (1987) points out, this dichotomy leads to a state of affairs in which "illness represents in effect two quite distinct realities, the meaning of one being significantly and qualitatively different from the meaning of the other." Moreover, Bryman (1988) questions whether the bond between epistemology and method is exaggerated, and Howe (1985, 1988) even argues that the quantitative–qualitative debate is itself a function of positivistic presuppositions. Along with a growing number of other pragmatists, Howe (1985, p. 17) argues that "the perception of a forced choice between value-laden qualitative methods and descriptive quantitative methods results from uncritical acceptance of positivistic epistemology." Howe's postpositivist position follows that of the philosopher Quine (1951), who first rejected the positivist notion that there is a precise relationship between empirical evidence and corresponding laws and theories. Rather, all knowledge is seen as theory laden and not neatly divisible according to the fact-value dogma. Haase and Myers (1988, p. 132) maintain that "both views of the nature of reality are compatible and essential to understand the human experience." Although multiple meanings can be derived from similar experiences, experiences can also be grouped "in order to have general principles from which to make sense of the world" (Haase and Myers, 1988, p. 132).

This approach coincides with my own ontological and epistemological perspective that reality is something that can be measured and generalized and also something that is unique to each individual. By approaching the study of well-being following stroke from both philosophical perspectives, a greater depth of knowledge can be obtained about the stroke experience. As Bryman (1988, p. 126)

concludes, “when quantitative and qualitative research are jointly pursued, much more complete accounts of social reality can ensue.”

Strategies for Integrating Methods

Casebeer and Verhoef (1997, p. 132) argue that rather than engaging in a philosophical debate, it is more instructive to see qualitative and quantitative methods as part of a continuum of research techniques, “all of which are appropriate depending on the research objective.” Greene, Caracelli, and Graham (1989) elaborate on this idea in their development of a conceptual framework for mixed-method inquiry. They maintain that a combination of methods is both appropriate and constructive when the two strategies “overlap in their intent, yet also capitalize on the strengths of one or both methods to secure additional information” (Greene et al., 1989, p. 262). The use of a mixed-method approach is particularly appropriate when the methods used are similar (such as a scaled quantitative questionnaire and a structured qualitative interview) and when the methods examine different facets of the same phenomenon.

There are a number of ways in which quantitative and qualitative methodological strategies can be integrated (Greene et al., 1989; Jick, 1979; Mark & Shotland, 1987; Morgan, 1998; Rossman & Wilson, 1985). One of the original strategies for mixed-method studies is *triangulation* (Denzin, 1978), which involves the use of two different methods and assessing the degree of agreement in order to enhance the validity of the findings (Mark & Shotland, 1987; Rossman & Wilson, 1985). In contrast, *complementary designs* (Greene et al., 1989; Sale et al., 2002) (also termed *complementarity designs* [Morgan, 1998] and *connected contributions* [Morgan, 2006]) use an interactive or dialectical method where the findings of one method are used to elaborate on or modify the questions examined in another method. These designs go beyond the classic triangulation approach by using an iterative approach to both data collection and analysis (Cook, 1985; Greene et al., 1989; Jick, 1979; Rossman & Wilson, 1985). Different methods are assigned to different goals within the overall study, and the results from one method are used to enhance the performance of another method (Morgan, 2006).

The particular sequencing of the qualitative and quantitative components within a complementary mixed-method design is informed by the research question (Morgan, 1998). More frequently, a

qualitative study is followed by a quantitative component to help extend what was learned through the testing of associations, for example. However, some argue that this contributes to a misconception that qualitative research is only exploratory and must be validated by quantitative work in order to be legitimized (Sale et al., 2002). But a quantitative study can also be followed by a qualitative component to help extend and elucidate the quantitative findings. Multiple sequences are also possible (Stewart, Makwarimba, Barnfather, Letourneau, & Neufeld, 2008), such as a preliminary qualitative study that is used to develop hypotheses, which are then tested in a quantitative survey, and followed by a qualitative focus group to better understand and test the validity of the quantitative findings.

However, in all these complementary designs, one component will typically be dominant, and many argue that the theoretical perspective of the dominant method drives the supplemental component (Morgan, 2006; Morse, Wolfe, & Niehaus, 2006). For example, Morse and colleagues argue that a supplementary quantitative component that follows from a dominant qualitative study is inductive and qualitative, regardless of the presence of the quantitative component. “Therefore, a mixed-method design *never* has two components of *equal* weighting” (Morse et al., 2006, p. 68, italics in the original). The implications of paradigm emphasis and the sequencing of the quantitative and qualitative phases should therefore be carefully considered in complementary designs (Johnson & Onwuegbuzie, 2004; Morgan, 1998).

An alternative mixed-method approach, outlined in Marshall (1999), used *multiple case studies* to generate and integrate in-depth data across several settings (corporate offices in Canadian and U.S. economic sectors). The case studies used focus groups and key informant interviews as well as survey data from employees and managers. Problems of inference using case studies are increased when a set of cases have been selected opportunistically, and Marshall (1999) draws on Ragin’s (1987) comparative method to use the logic of comparative case analysis to make and test generalizations across the set of seven case studies.

Integrating Methods in the Study of Stroke

In earlier work, Clarke (2003) used a mixed-method study primarily for the purposes of elaboration. Quantitative methods were used first with

a population-based survey of stroke survivors ($N = 282$) in order to identify the patterns and correlates of well-being following stroke. This was followed by a qualitative component (using focused interviews) with a separate subsample of stroke survivors ($N = 8$), which sought to better explain the underlying reasons for the observed patterns. Thus, the qualitative component did not follow a broad “grounded theory” approach (Glaser & Strauss, 1967) in which a phenomenon is explored without any preconceived agendas or hypotheses. However, at the same time, the purpose of the qualitative component was not simply to reiterate the patterns observed in the quantitative component. Although the qualitative study was conducted as a follow-up to the quantitative analyses, with the purpose of explaining the underlying patterns observed in the survey data, attention was also paid in the qualitative interviews to new insights and processes underlying the stroke experience that were not evident from the quantitative data.

The quantitative data indicated that physical and cognitive disabilities were strongly and negatively associated with well-being following stroke, but the data did not permit an understanding of the *reasons* for this association. Thus, the interview guide specifically asked about the importance of disability for well-being in the qualitative component. Results from the focused interviews suggested that the extent to which a disability restricts a person’s sense of self, as it contributes to his or her identity, is a critical pathway through which these stroke-induced disabilities affect well-being. Here, the qualitative findings helped to explain the underlying mechanisms by which residual physical and cognitive disabilities are associated with a reduced sense of well-being following stroke, namely that they prevent survivors from engaging in self-defining activities that constitute important aspects of their identity.

Conversely, the qualitative accounts also indicated that when residual disabilities do not restrict salient aspects of a persons’ identity, then the relationship between physical dependence and decreased well-being no longer holds (Clarke, 2003). In this respect, the qualitative findings helped to explain why subjective well-being is not perfectly predicted by functional independence in the quantitative models. The qualitative findings indicated that psychological processes of adaptation can be important in reducing the adverse effects of functional disability on later life well-being, which may also account for some of the error term in the statistical models. Congruent with Atchley’s (1989) theory of continu-

ity, engaging in interaction with business colleagues even over less cognitively challenging matters or learning to drive a car again even with modifications is an example where survivors returned to valued self-defining activities, even in a modified form, in order to maintain a positive sense of well-being in the face of persisting impairments and disabilities.

By using both quantitative and qualitative methods to examine well-being following a stroke in later life, Clarke (2003) sought to gain a more comprehensive understanding of the stroke experience. Quantitative analyses of large-scale survey data described the factors that influence well-being in stroke survivors, emphasizing the overall prevalence and general salience of the findings. But the underlying *reasons* for the observed associations were not readily apparent from the statistical models. Quantitative investigators have typically had to speculate about the unseen processes that account for the observed relationships between variables. The use of qualitative data in a separate sample of community-dwelling seniors helped to shed light on the underlying reasons *why* and *how* these factors operate to affect well-being following a stroke.

To date, there are only a few other published studies using mixed methods with stroke populations, and these studies have focused exclusively on the delivery of health services or treatments (Hamilton, McLaren, & Mulhall, 2007; Koops & Lindley, 2002). Although the experience of stroke is an area of widespread interest, crosscutting both quantitative and qualitative literatures, there remains a dearth of studies examining the stroke experience using a mixed-method approach.

Challenges and Pitfalls

The lack of mixed-method research on the stroke experience is likely due to a number of factors. The use of an integrated methodological approach is typically associated with increased costs, logistical complexity, and a host of methodological difficulties surrounding the interpretation and integration of findings. Such methods require more comprehensive methodological training and interdisciplinary collaboration (Bryman, 2007; Stewart et al., 2008).

Along with others (Bryman, 2006, 2007; Sale et al., 2002), I would argue that the biggest challenge in all mixed-method research is ensuring that the findings are integrated. It may be relatively easy to implement two methodological components in a

study, but the more challenging part (regardless of the particular strategy taken) is the integration of findings across methods. In their review of the mixed-method literature, Caracelli and Greene (1993) note that only 5 studies integrated results both in their analysis and in their interpretation and another 18 did so only at the level of interpretation. Other studies did not report data analysis, or kept the two strategies for data analysis, and their results, separate ($n = 25$). Similarly, in a more recent review, Bryman (2006) found that only 18% genuinely integrated the findings across methods.

A related problem surrounds the challenges of reporting and disseminating results from mixed-method research. Creswell and Tashakkori (2007) argue that both the quantitative and the qualitative components of the manuscript need to be well developed, each with its own set of questions, data, analysis, and inferences. Yet, although the manuscript should have two distinct strands, the quantitative and qualitative components must be convincingly integrated and linked. "The expectation is that by the end of the manuscript, conclusions gleaned from the two strands are integrated to provide a fuller understanding of the phenomenon under study" (Creswell and Tashakkori, 2007, p. 108).

An additional challenge identified by numerous researchers surrounds the reconciliation of divergent findings across methods (Mark & Shotland, 1985; Morgan, 2006). However, Jick (1979, p. 603) describes this as the particular strength of mixed methods because they "can play an especially prominent role by eliciting data and suggesting conclusions to which other methods would be blind." Conflicting or paradoxical results across methods can be seen as an opportunity to initiate "a substantial alternation in the overall perspective with which the problem as a whole is viewed" (Barger & Duncan, 1982, p. 5). Or as Greene and colleagues (1989, p. 260) put it, both consistencies and discrepancies "can be intentionally analyzed for fresh insights invoked by means of contradiction and paradox."

Perhaps, an even more fundamental question posed by Mark and Shotland (1985, p. 357) is "Can we be sure that the different methods are actually focusing on the same question?" This mirrors the ongoing debate and tension surrounding the reconciliation of philosophical and paradigmatic assumptions in mixed-method research (Greene, 2008; Morgan, 2007). Rigorous attention to sample selection, data collection instruments, and the analytic process, performed in an iterative manner, is fundamental to ensuring that

the two components of a mixed-method study are researching the same question.

Future Directions

There are a number of ways in which the development of mixed-method designs can enhance our understanding of many social phenomena, including the stroke experience. Here, I touch on two directions for future development, which I see as especially promising. First, although longitudinal studies are becoming more common with quantitative data, longitudinal qualitative data are relatively scarce. Yet, much can be gained by integrating methods longitudinally. In a study of 30 older adults conducted over a 4-year period, Wenger (1999) was able to understand the process of change underlying support networks in later life. She found that losses, additions, and replacements took place gradually in the support network over time. Such insights are not as readily accessible with cross-sectional qualitative methods. Longitudinal processes are likely to be particularly relevant in the understanding of stroke, where temporal process of adaptation and adjustment are likely to influence survivors' sense of well-being dynamically over the poststroke period. Linking qualitative findings over time to longitudinal changes in quantitative data would be a particularly valuable contribution.

Second, there is a pressing need to improve our ability to investigate the experience of stroke in those populations that are typically excluded in both quantitative and qualitative studies. I refer specifically to those stroke survivors with aphasia, who because of their inability to comprehend or express language are either excluded from research projects altogether, or the use of proxies is assumed to tap their experience. Roughly, half of stroke survivors with left brain damage have some degree of aphasia (Kertesz & Black, 1985). Spatial and perceptual problems, such as hemispatial neglect, occur in 50%–80% of individuals with right brain damage (Hier, 1983). Neglect is the clinical term for a syndrome that is the inability to attend to or respond to information from the side of space contralateral to the side of brain damage. Separate from, but also associated with neglect, is anosognosia, which is a lack of recognition of one side of one's body, and can also include a denial of the illness. These complex impairments, which are unique to the stroke experience, often mean that these people are excluded from research that relies on gathering data

through language or that a complete account of their experience cannot be accessed. Hilari, Wiggins, Roy, Byng, and Smith (2003) have been developing quantitative scales to study quality of life in people with aphasia. These measures combined with qualitative techniques that rely on nonverbal symbols (i.e., color) could make a valuable contribution to our understanding of the experience of stroke.

There are also a number of topical areas where a mixed-method approach could provide new insight into areas of the stroke experience, from onset to recovery. A mixed-method approach could be particularly useful in understanding the processes that lead to delays in hospital arrival and admission following stroke (McKevitt et al., 2004). Such a study could integrate data from practitioners, policy makers, as well as stroke survivors in order to better understand the potentially deadly delay between the onset of symptoms and the hospital presentation. Finally, McKevitt and colleagues raise the exciting prospect of integrating qualitative research within the context of randomized controlled trials in order to better develop stroke interventions and their delivery. The increasing acceptance of mixed methods by national funding agencies is encouraging, and resources are available for the practical task of designing mixed-method research proposals (Creswell & Plano-Clark, 2006), including materials from a recent workshop devoted to the design and conduct of mixed-method research for health professionals (National Institutes of Health, 2004).

Conclusions

According to Schutz (1967), sociology should be concerned with the “process of meaning establishment and understanding occurring within individuals, the process of interpretation of the behaviour of other people, and processes of self-interpretation” (p. 11). Yet, the broader conflict between the normative and the interpretive paradigms in sociology still persists. It seems that little has changed in the 35 years since Dawe (1970) recognized that there exist two social philosophies diametrically opposed in their theory of human activity. “They posit antithetical views of human nature, of society, and of the relationship between the social and the individual” (Dawe, 1970, p. 551). The integration of quantitative and qualitative methods is a solid step toward the reconciliation of these two views and also toward the advancement of our understanding of the stroke experience.

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