Social Connectedness in Health, Morbidity and Mortality, and Health Care – The Contributions, Limits and Further Potential of Health and Retirement Study

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Abstract

This part of the mid-term review of the Health and Retirement Study (HRS) provides an overall assessment of the utility of HRS data for research targeting the nature and influence of social connectedness. As one of the major dimensions of the social aspects of psychosocial influences, social connectedness is among the most complicated in terms of definition, conceptualization, and measurement. However, the century-long body of theory and findings couple with a recent resurgence of research on the critical impact of these ties for health, illness, and health care to call for an examination of the richness in and limitations of current HRS data.

This assessment is comprised of three broad steps: 1) an overview of the nature of social connectedness, and of the dimensions and methodological approaches that can and have been used in studying health, health care, and aging; 2) the range, strengths and limitations of the HRS data on each approach; and 3) suggestions for potential directions to increase the utility of data collected and further research contributions from the HRS. While no tabular listing of items relevant to social connectedness is presented, the sets of items that tap this notion are referenced throughout.

Overall, the HRS represents one of, if not the most impressive data sets regarding the ability to examine the influence of social connectedness on health, illness and health care. Given different theoretical and methodological traditions of social connectedness (e.g., the local or ego-centered perspective; social support perspective; social capital perspective; Pescosolido 2006a), the HRS either currently offers a way to tap into various views of social connectedness or holds the potential to do so. Specifically, the HRS includes four kinds of social connectedness data: sociodemographic proxies that represent a tie (e.g., marital status) with detailed data on the nature of

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the bond; social support batteries which offer respondent perceptions of the overall positive and negative aspects of sets of relationships; eco-centric tie data, which provide a list of names or roles that can provide support (i.e. latent ties); and networks of event response in which respondents list individuals who were called upon (e.g., activated ties) under certain conditions. Given the individually-based and national scope of the HRS, the collection of full or complete network data is not feasible at present.

Four strategies could improve the collection and use of social connectedness data in the HRS. First, data collection sections that are explicit or implicit ego-centric name generators or activated ties lists could be expanded and refined to provide more complete data. Under the “looping” structure of the HRS, both the ego-centric and event response batteries can serve as a foundation for expanded network batteries. Second, given the increasing role of social media in contemporary American lives, the HRS section on the use of technology should be reviewed and expanded to tap into virtual ties. Third, locator data designed to improve follow-up of the HRS samples can form the basis of a network roster and for analyses of the dynamics of ties and its influence on health and health care. Fourth, while it is not possible to “go back” and recapture data about social connectedness, a sub study which targets the named “social convoy” over a person’s life (defined only as time in the HRS) would provide invaluable data that could not be collected from any other existing study. That is, while subject to a variety of criticism (e.g., telescoping effects), the ability to collect data on extent of turnover and the reasons for shifts in social connectedness would allow an analysis of the impact of social network dynamics in later life, potentially reveal key turning points in social network support, and offer targeted points of interventions for fostering the social connectedness that has, to date, been shown (in the HRS and other studies) to be so essential to health and well-being.

KEYWORDS: Health and Retirement Study
Introduction

The U.S.-based Health and Retirement Survey (HRS) began collecting data in 1992 using a multistage area probability household sample, screened for adults over 50 years of age, supplemented by a sample from the Medicare database. Using a longitudinal design and a basic core interview structure, the HRS was designed to mark the nature, effects of, and influences on the transition from active working status to retirement. However, the HRS collected data on a wide range of activities, statuses, and conditions for the target population, as well as for selected spouses, partners, siblings, and/or children connected to the focal respondents. In addition, over time, the HRS employed the use of topical modules and the addition of new birth cohorts (AHEAD, War Baby WWB, Children of the Depression CODA, Early Baby Boomer EBB) to expand its original scope.

The charge here is to provide an assessment of the social aspects of the psychosocial data included in the HRS, including its present utility and its potential to provide data for new and challenging questions facing the next generation of research. According to a definition recently proposed in the International Journal of Epidemiology [http://ije.oxfordjournals.org/cgi/reprint/31/6/1091](http://ije.oxfordjournals.org/cgi/reprint/31/6/1091), psychosocial factors are those: “1) mediating the effects of social structural factors on individual health outcomes, or 2) conditioned and modified by the social structures and contexts in which they exist.” In this context, psychosocial factors would be considered more individual and intrapersonal factors, including stress, cognitions, satisfaction with support, self-esteem, and coping style, in contrast to the social environment which would reflect more group-context and external-to-the-person factors. However, the directed focus in the HRS charge to assess the social aspects of psychosocial factors blurs the line, in both theory and measurement, between psychosocial and environmental/contextual.

In recent discussions on the development of a psychosocial component for a toolbox to guide the next generation of genetic and epigenetic studies, NHGRI’s Phen-X Project Psychosocial Workgroup has included the following in its purview: personality (e.g., extraversion, agreeableness, conscientiousness, neuroticism, openness; impulsivity, temperament, executive function); identity and self; stress; behavioral history (e.g., violence and abuse); quality of life and social connectedness. Of these, social connectedness stands as the factor that best matches the task of assessing the social aspects of psycho-social factors. Further, the focus on social connectedness offers the broadest delimiter of the many concepts and measures that target the ties between and among individuals, organizations and communities. Finally, since current theory specifies that both the structure and content of ties work together to shape outcomes, an assessment
of the HRS data on the social aspects of psychosocial data requires a consideration of the totality of measures that tap into social connectedness.

Drawing from a CDC strategic directions document (Centers for Disease Control, 2008:3), social connectedness is defined as “the degree to which a person or group is socially close, interrelated, or shares resources with other persons or groups. This definition encompasses the nature and quality of connections both within and between multiple levels of the social ecology.” In particular, the CDC differentiates connectedness between individuals, connectedness of individuals and their families to community organizations, and connectedness among community organizations and social institutions. The CDC definition helps to demarcate issues related to the HRS since only the first two are within the scope of the HRS and within the purview of the psychosocial aspects of social connectedness. Further, the CDC recognizes that their definition includes “social support, social participation, social isolation, social integration, social cohesion, and social capital,” which are measured often, though not exclusively, through self-report. Attempts to define and sort out the differences among these various concepts used in research are admirable (e.g., Berkman and Glass, 2000; Lin, 2000; Pescosolido, 2006a). Yet, these attempts have arrived at no clear or agreed-upon consensus, in part because different aspects of social connectedness (e.g., social capital as a characteristic of individuals versus a characteristic of communities or other geographical areas) are sometimes mixed, even in measures.

As a result, an assessment of the social aspects of psychosocial factors in the HRS necessarily focuses on the fact that the data are self-reported, and as such, may touch on all of the elements often included as dimensions of social connectedness. Of course, the ability to attach community level “social capital” data, such as that described in Kawachi et al. (1999) is possible, though subject to concerns and special procedures regarding the protection of human subjects (e.g., promised confidentiality, anonymity). While this approach is currently being considered or adopted for many large scale data collection efforts and fits the focus of social connectedness, broadly defined, it remains outside the more narrowly defined scope of assessing the utility of HRS data based on self-report.

In sum, given the methodological nature of the task, this assessment takes a broad but clearly limited scope, using a framework based on the inclusion of any and all data in the HRS that can be used to examine the nature and influence of social connectedness. That is, while a tabular listing is not provided, this review considers, and notes by topic, all relevant measures. To assess the core, the HRS 2008 becomes the central interview schedule examined. Further, all topical modules are reviewed for relevance. In the end, five different categories of social connectedness data available in the HRS are examined here:

- socio-demographic proxies, including extended data relevant to the nature of social ties associated with such characteristics;
• social support batteries in which individual HRS respondents’ summary assessments of the positive and negative interactions are reported;
• data in which categories of individuals (e.g., spouse, children) are named as usual supports which can be seen as proto-egocentric, latent social networks; and,
• event response ties, where HRS respondents indicate who was called upon in particular situations, which can also be seen as proto-egocentric ties, but ones that were activated in response to a need or request (e.g., ADL assistance);
• Data on the use of technology which describes respondents’ use of the internet to establish or maintain virtual ties.

The national sample frame of the HRS makes the collection of data for a complete or full network approach, which attempts to describe and analyze whole network systems (i.e., ties among all individuals in the “sample”) less relevant and impossible, at least under current technological constraints. However, the HRS approach offers the possibility of expanding the nature of data collection on social connectedness, particularly social networks, to continue to advance our understanding of the role of social ties in many key phenomena captured in the HRS (e.g., health, illness, health care, fiscal and social well-being, mortality). While it may be argued that the HRS did not intend to emphasize comprehensive social network measures, others may argue critical new developments (Valente, 2010; Christakis and Fowler, 2009) are emerging which point to the value of considering movement in this direction. In addition, unlike many other immutable factors (e.g., race, gender) that may be involved in shaping and/or improving the social, health, and other dimensions of well-being of the population, the ability to mark social ties that may underlie or play out through these factors to influence these phenomena offers direct targets for program and policy intervention (Pescosolido, 2010).

Overall Assessment: The HRS in Perspective

The HRS serves as a model for longitudinal survey analysis data used to illustrate the analysis of “true panel survey” data which allow “understanding societal- and individual-level change over time” (Heeringa et al., 2010: 382). As such, the ability to examine the impact of changing social connectedness (as measured in the replicating core) on key phenomena of interest represents a unique opportunity in the HRS. In addition, while less prevalent, social connectedness data which tends to be richer in select topical modules (see below) has been replicated in whole or in part, offering the ability for more detailed examination of changing social dynamics and their influences.
The original focus on those people born between 1931 through 1941 who were residents of the conterminous U.S. in the spring of 1992 was appropriate for the life course target of the HRS but somewhat limiting in assessing the general influence of social connectedness. However, the addition of other birth cohorts (AHEAD, 1923 or earlier birth cohort since 1993-94; CODA, 1924-1930 since 1998; War Baby 1942-1947; Early Baby Boomer 1948-1953) increases representatives of the population but also the complexity and care needed to merge files, data construction, and analysis. This is a point that will find voice repeatedly through this assessment. However, the potential of the HRS data to map the nature and influence of social connectedness has not been captured by the catalogue of HRS-based scientific publications to data. Of the almost 500 publications listed in Medline, only 15 specifically list “social networks” or “social support” as a key word (another 39 focus on the marital bond, per se). This potential will require a creative rethinking of the HRS data and rigorous and sophisticated file reconstruction. While complicated, the reimagining of data is currently being pursued in the development and empirical examination of multi-level data and in the repurposing of data to explore social connectedness. The HRS data are a public, scientific good. Their value are increased and the significant, public investment enhanced when data can be repurposed to follow-up on exciting findings as Christakis and Fowler (Christakis and Fowler, 2007; 2008; Cacioppo et al., 2009) have done with the classic Framingham Heart Study data.

To that end, and from the start, the HRS went beyond the standard individualistic focus characteristic of many, if not most, large-scale, nationally representative studies. This provides greater opportunity to examine information and influence from social connectedness. This richness is reflected in terms of the HRS file levels – household, respondent, sibling, HH member and child, helper (person or org providing help on ADLs or IADLS,) and transfer files (to child or grandchild; also from child FC). In addition, the focus on social ties both within the core and across a number of modules providing additional data on social ties is equally unusual in such efforts. To my knowledge, no other national survey that has a focus on health provides as much detail and depth on issues relevant to social connectedness.

**Pseudo Networks: Socio-Demographic Proxies**

Although classic sociological theory has predicted the growing importance of marking social ties directly, rather than making assumptions about support from socio-demographics (White et al., 1976; Simmel, 1955), analyses of the HRS data have added to the body of research that suggests the importance of social connectedness in many social statuses, particularly marriage and other forms of...
coupling/uncoupling. For example, being part of a couple is associated with better health, especially for immigrants (Hao and Johnson, 2000).

However, while the debate on the influence and functions of marital status continues, at least to some extent, the HRS data goes a long way toward getting underneath the meaning of the marital bond by producing a unique set of information on the history and nature of that tie. Much of the same is the case for information on household members and children (Sections A and B of Core; also Post-Exit data). These data allow for a deeper analysis and understanding of the role of marital ties. For example, Brown et al. (2005) analyzed 1998 HRS data, finding that, even when level of social support is controlled, married men report the lowest levels of depression, compared to cohabiting and married women, as well as cohabiting men. These results suggest the need for greater complexity in theorizing and analyzing the influence of social connectedness. Currently available HRS data remain untapped in pursuing these directions.

In addition to complex and rich data on current and changing marital/partnering status, the HRS has a range of other data that tap into social engagement and integration through typical socio-demographic questions. HRS data include individuals’ participation in community organizations (HRS 2002 Module 11), religious organizations (HRS Core and HRS 2000 Module on Alternative Medicine), volunteer work (HRS, Wave 3, Module 5) and activities (same, Q. 6, visiting family and friends; also HRS 2008 Participant Lifestyle Questionnaire, Q. 67 and 7 of 18 current activities). Finally, most, if not all of the 17 statuses that Thoits (1995) conceptualizes as critical to the role that multiple identities play in physical and mental well-being can be constructed from HRS data.

In brief, the use of socio-demographics represents the lowest level of data that can be used to examine the role of social connectedness. However, even with such measures, the HRS data have been under-utilized both in taking advantage of the detail aligned with information on socio-demographic positions and in examining changing network ties over time given the surplus that is available longitudinally. This is especially the case for marital status, given the depth and richness of the HRS data (e.g., Section E of the Core).

However, it is not recommended that the HRS use this approach to improve the instrumentation that would increase the study’s analytic potential. That is, adding additional variables relevant to social integration, engagement, or support for any number of socio-demographic variables would increase respondent burden, the complexity of data skip patterns in the HRS, and the likelihood that there will be dissimilar data across socio-demographic batteries. Each of these challenges would decrease the ability to create comparable measures across the data set. Though this type of “domain” approach would provide more data, there are more efficient ways to accomplish the improvement.
of social connectedness data in the HRS that would increase the parallelism of data collected on each tie that is needed for “seeing” and analyzing the structure of social networks and support that surround the focal respondent.

Social Support Batteries

A second, and more direct, way to conceptualize the overall social connectedness of HRS respondents is through the specifically targeted summary items and batteries that appear in the core and the modules. The HRS offers data on social support levels and satisfaction that have produced interesting and important findings. For example, satisfaction with social support reduced the stress related to illness for people with cancer; however, only a main effect, not the buffering model, was supported (Forjaz, 2000). For those with diabetes, illness related support increased adherence but had little effect on health outcomes (Nicklett, 2010). Okura et al. (2009), also targeting diabetes, found that social support for diabetes care did, in fact, modify the relationship between cognitive impairment and glycemic control, but only for those in the lowest cognitive quartile (mail survey on diabetes, 2004 HRS).

These types of HRS measures of social connectedness are, perhaps, the most used in analyses. Examining them in some detail reveals a great deal of attention to and diversity in these summary approaches in the HRS. For example, in Section D of the core, embedded in a battery tapping “usual activities” is one question about frequency of social interaction: “How often do you visit with family or friends, either in person or on the phone?” The CES-D includes one indicator of isolation (How much of the time during the past week...you felt lonely?; see also HRS 2008 Module on Participant Life Style which includes items on perceived loneliness).

The richest detail, not surprisingly, appears in particular modules targeted to social support. Module 6 of the 2002 HRS (and repeated in 2004) includes a 4 item battery assessing respondents’ perceptions of the lack of companionship; feeling left out; feeling isolated, and feeling alone. This Loneliness battery (Hughes et al. 2004) provides an overall assessment of the lack of social connectedness. Module 6 (HRS 1994) appears to be the first explicit social support module (and pioneering for a large-scale, nationally representative survey). Module 2 (HRS 2002) and Module 6 (HRS 2004) also have a major social connectedness component, including batteries that measure loneliness, stress and social support/social burden.

These questions and question sets represent the unique breadth on issues of social connectedness of the HRS. They provide a sense of the content or overall sense of the respondent’s social circumstances. For example, a battery that appears on a number of modules (e.g., HRS 2008 Participant Life Style) has 7
items evaluating partner or spouse support/critique which is sometimes repeated for living children, people who live with you, friends, and co-workers (if working). The items that ask about how interested the person is in the way “you feel,” how much “you can open up,” and can “relax and be yourself with,” tap into positive social support. A set of items that follow ask whether these individuals or groups “make too many demands,” “criticize,” or “let you down” tap into negative aspects (Loneliness 4-item battery, Module 6, 2002 and 2004 HRS).

Three excellent aspects of this general HRS approach stand out. First, the focus on each “sector” of the social network – partner/spouse, children, immediate family and friends, represents a real strength of the HRS approach. These questions tap a range of tie types. Second, tapping both positive and negative assessments is crucial, more in line with social network theory and beyond the usual scope of social support batteries. Third, each assessment is followed by additional summary measures, also an asset because they provide a deeper understanding of social connectedness.

However, these batteries also illustrate the limitations which decrease the utility of HRS data for empirical analyses targeted to social network hypotheses. Most importantly, the follow-up questions are not parallel across the batteries that ask about individuals or groups of individuals. A measure of closeness follows the spouse/partner battery while a “frequency of contact” measure and a question about how many living children the HRS respondent has “a close relationship with” follows the children battery. Without parallel items, the ability to create a sense (and measure) of the network and the relative importance of different types (e.g., friend, child) and dimensions (e.g., frequency, closeness) is lost.

In terms of potential improvements to the HRS, the essential tension that arises from the strengths and limits of current HRS measures for this type of social connectedness data is one that confronts every longitudinal study. On the one hand, even the analysis of existing data produces findings that suggest new directions or corrections to the existing measurement strategy. On the other hand, using that knowledge to refine, adapt or replace measures destroys the “series,” impeding the ability to rigorously examine change over time. In this case, the argument for the latter, given the near absence of longitudinal data, is stronger.

The data and findings from the special diabetes supplement, noted above, raise an additional, but more general, question about the nature of social connectedness. The issue of generic versus specifically targeted measurement has been raised on other health and well-being contexts as varied as quality of life and health beliefs. For example, Hays and colleagues (1995) have developed measures of quality of life specific to HIV. Rosenstock’s (1966) Health Belief Model specifies that individuals’ sense of susceptibility to specific conditions (e.g., breast cancer) and the efficacy of medical procedures (e.g., mammograms) are
essential to understanding health and illness behaviors. Regarding social networks, more specifically, there is preliminary evidence that the ties related to health (as in the diabetes examples above) are more influential in shaping behavior and outcomes than either general networks or overlap networks (Perry and Pescosolido, 2010). The use of specifically targeted supplements appears to be a good avenue for the HRS to continue to pursue.

Proto-Egocentric Networks - Latent or Generic Ties

In a number of instances in the HRS, there is a “looping” structure which mimics the more typical structure of social network instrumentation. For example, latent networks are clearly demarcated with regard to children – all the children that live within 10 miles, within 2 blocks, and the one that is closest. An instruction to the interviewer indicates a “loop” for each child that includes how often they have contact with the respondent, and whether the respondent has helped grandchildren or great grandchildren (i.e., family transfer data). Later in the interview (e.g., Section F of the Core), this same approach is employed but asks about the HRS respondent’s mother, father, etc., in a nearly parallel set of questions (e.g., how often they have contact, whether they provide help to the HRS respondent in terms of time, assistance, money etc.). There is also a nearly parallel sibling “roster.”

These, as noted above, come closest to providing ego-centric network data. However, two comments are in order. First, they are missing key elements that would be typical in a social network battery (e.g., any measures of affect regarding the tie). This could be captured by expanding the questions in the “loop” or by asking a summary positive and negative support assessment at the end of each battery. Second, the batteries would need to be reconceptualized for each “name generator” so that follow up questions are both reasonable and parallel. Third, social network researchers with field experience would suggest that all names be listed before the looping sequence is initiated. Much like Kessler and colleagues (1984) found with the stem questions that “trigger” the more detailed sections of an epidemiological instrument designed to indicate whether respondents meet diagnostic criteria, repeating each loop sequentially tends to truncate respondents’ willingness to provide positive responses to later questions. Similarly, respondents tend to truncate naming social network ties once they figure out that each name triggers another dozen or so questions.

All of these issues suggest that there is great potential in this part of the HRS to reconsider, reconceptualize, and retool instrumentation to collect data on the nature of individuals’ social network ties. The suggestions and concerns listed here represent only preliminary considerations. However, given how little the detail on these proto-network batteries appears to have been used to date by
researchers, this may be the area where the least damage would be done to the longitudinal component while improving HRS data quality on social networks.

**Proto-Egocentric Networks – Event Response or Activated Ties**

Traditionally, much of the focus of the social connectedness analyses using the HRS data, whether focusing, for example, on social support or specifics such as marital status, has been on epidemiological issues. However, much of the focus on the development of social network instrumentation has been on issues of utilization of ties, both formal and informal, in response to crises. This bifurcation of research trajectories in epidemiology and health services research is, to a large extent, responsible for much of the diversity of measurement and theorizing regarding social connectedness. These lines of research have virtually ignored one another, producing little joint accumulation of theory, measurement, or knowledge (Pescosolido, 2006b).

HRS data on how individuals respond to specific needs or crises tends to follow a traditional approach to health services research. While the focus on availability and accessibility (both geographic and financial) of formal care is critical, the opportunity to understand the role of social connectedness in shaping response trajectories or health care outcomes is less systematically inventoried in the HRS. For example, while there is little in the HRS Core to trace the network patterns or pathways to care, Module 6 on Coping Strategies (HSR 2008) asks generally about the frequency of getting help from “friends, relatives, or people in your church to help make it easier to bear” (i.e. “it” refers to demands of home, work, etc.). In addition, respondents are asked what they are most likely to do (and how often) following a “stressful event or day.” Finally, a generic question is asked regarding seeking “help from counselor, minister, or other professional person.” Module 10 on Dental Health, Access to Care and Utilization (HRS 2008) uses a different, but equally traditional approach, which asks respondents if they needed dental care, whether they sought help, and the reasons they did not. Module 2 on Alternative Medicine (HRS 2000) asks about a wide range of complementary, alternative practices (e.g., vitamin supplements, herbs) and practitioners (chiropractor, massage therapist) using the stem: “Have you ever been treated by…” [Emphasis added] This has been a usual methodological approach in national studies (Kessler et al., 2004), which, essentially, provides “prevalence” data of a sort.

There is any number of good reasons why this approach has likely been the HRS route to the response to problems. Some are listed above. However, given critiques of the body of utilization research over the last two decades, these approaches have serious limits. Most importantly, given the charge of this document, the HRS has not taken advantage of the growing body of research that
offers a new theoretical and measurement approach to understanding the role of social networks in the response to, rather than the cause of, problems (see Pescosolido and Boyer, 1999; Pescosolido, 2006b for reviews). As early as their 1976 national study of health care utilization, Andersen and his colleagues (2007) retooled their instrumentation in the face of frustration with traditional measurement approaches. Ahead of their time in many ways, the methodological tools to analyze these complex data were not readily available. However, by the 1990s, new analytic approaches were being brought to bear on understanding the role of social networks in the utilization of services. While this work was based on a range of earlier, in-depth and small scale studies that had established that individuals in crisis activate any number of network ties (e.g., Clausen and Yarrow, 1955; Freidson, 1970), the idea that large scale data could be collected and analyzed in this way required a “jump start” (Pescosolido, 1992).

The HRS has seed bed batteries that could be adapted to move toward these approaches to coping and utilization. For example, a number of issues raise questions of who exactly provides support – Section W (Core) asks if respondents have mortgage difficulties (e.g., possibly facing foreclosure); if any family member helped by providing some sort of instrumental support; and then asking respondents to “choose all that apply” (e.g., child, parent, sibling, grandchild, other). The reciprocal question is asked regarding the respondent’s provision of financial or other assistance to others.

Similar sets of questions occur in Section M (Core) on what employers did in the face of impairment (with nine different versions of the nature and timing of the impairment relative to work status); in Section N (Core) on health services and insurance regarding individuals who helped the respondent “make the decision about which plan to choose” and about the decision-making regarding signing up for Part D of Medicare; in Section G on functional limitations and helpers (which employs the loop structure for up to 6 or 15 helpers, depending on the stem). These are, essentially, name generators for activated ties which might be considered in a larger, more holistic perspective to provide data on the “convoy,” to use Antonucci’s term (e.g., Antonucci and Akiyama, 1993), that surround individuals. Creating a parallel set of items that elicit the names throughout the interview and then are followed, perhaps at the end of the interview, with detailed information regarding the nature of the relationship (both positive and negative), the nature of the assistance, and its efficacy would allow researchers to understand to whom people turn, what they provide and how well it works. Rather than offering a summary of the utility of support, it provides direct data for intervention targets.

It is important to note that, as mentioned earlier, these data appear to have been under-utilized in the HRS. Even though it would require some creative data and analytic manipulation, these data, as currently collected, provide insight into
the role of social connectedness on the response to problems. An in-depth review of the potential of the HRS to break new ground in health service research would require a more in-depth review and consideration of the potential harm to the “series.” However, much of the transformation of these proto-networks batteries into ones that are considered basic network batteries requires the addition of factors, rather than their replacement. For example, on one roster, the interview is instructed to tell respondents that this information is needed because “relatives can have important effects on your life, especially if someone in your family needs help.” This approach lends itself easily to expansion to get at network ties, particularly because the HRS already goes deeper, with a “have no contact” response and marking timing of network ties events (e.g., death or stop living together).

Another approach, more holistic and comprehensive, would use all batteries that, in essence, are “name generators,” including the household and follow-up contact rosters, and would begin a list of network ties that would be augmented by each of the places in the core and modules that ask for specific names or roles. This would provide a master list that would create a detailed sense of social connectedness. However, this represents a major task, and while it would provide very rich and detailed data on social connectedness, it would have to be considered in light of the larger goals and respondent burden of the current HRS fielding task. With the caveat that it is obviously something that appeals to social network researchers, even seen as necessary to continued research progress on both influences and effects, this approach might address the concern with social connectedness on the HRS, drawing additional researchers to the unique data that would be available in the HRS.

The Gold Standard: Full Network Data?

Data that approximates social networks, most purely defined, requires the ability to mark the ties between all members of a clearly defined universe, or at least can approximate such an accounting. As noted earlier, representative population-based samples are outside of the scope of this kind of data collection. Even if such ties were to be asked in the HRS, the data would be so sparse as to be unusable. There are procedures which can be used to demarcate the “small world” networks of a particular respondent’s social ties. For example, in the General Social Survey and other studies, the roster approach can produce a matrix of names (i.e., a density matrix) which allows for the collection of data on the connections between each person named by the respondent as a network tie. While interesting and useful, this does not approximate, in any way, the full network approach. Research that has data similar to the HRS, and has data on network respondents (i.e., those mentioned) as well as focal respondents, has been used for both
substantive and methodological analyses (e.g., Pescosolido and Wright, 2004; Wright and Pescosolido, 2002). Again, going out one step may improve our understanding of the network and its influence, but it does not approximate the full network approach.

The HRS (and other data sets like it) is unlikely to solve the problem of collecting full network data, and it is not clear if this would even be a priority. However, two types of specialized data collection could be considered. The first would use a cluster of the HRS sample and, essentially, create a geographic sampling unit for detailed network study. The second, which seems both more interesting and more plausible, would be to mount a one-time study that would create a full listing of individuals mentioned as helpers, household members, etc. across HRS waves and explore the longevity, turnover, and influences of network dynamics. Given findings on the importance of social ties to older Americans’ health (e.g., Heller and Swindle, 1983) and concerns that the “social convoy” is increasingly problematic with advancing age, such a study would be path-breaking and essential to preventing, rather than trying to repair, issues in the social connectedness of individuals throughout the life course.

Virtual Ties

To this point, the social connections that HRS respondents report are generally face-to-face (e.g., household members). However, given the increasing use of virtual means of connections, coupled with concerns about whether different age groups/cohorts have been left behind in the digital age, it is useful to review the sections of the HRS that deal with technology to consider if and how respondents specifically use these means to connect to others. Specifically, in 2002, the HRS fielded a module on internet use that asks about personal use of the “Internet, to send or receive electronic mail or for any other purposes.” Additional questions ask about internet use by other household residents, whether respondents not currently using the internet are likely to do so in the next two years, and whether “all of your friends, your relatives, and other people you know” use the internet (five response categories on the latter range from “almost all use” to “almost none use”).

While these questions provide a broad sense of virtual connectedness, the degree to which that connectedness is social is limited. Specifically, questions ask about internet use for email, seeking health information, financial information, travel reservations, bill paying, and “get news, weather, or sports information.” Only two questions (“Do you send or receive email to any of your children? To any of your grandchildren?”) provide a direct indicator of internet use for personal connection. Since the internet has been seen as having potential for social support from existing ties or new groups (e.g., disease-specific chat rooms),

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the HRS could expand consideration of technology questions that indicate whether and how respondents are or remain soundly connected.

Conclusion

According to the CDC (2008:4):

At the level of individual connectedness, a very clear pathway is that in times of stress, the number and quality of social ties people have can directly influence their access to social support – regardless of whether that support is instrumental or emotional, actual or perceived. …Close and supportive interpersonal relationships also appear to confer general psychological benefits independent of stress that increase physiologic functioning, such as cardiovascular, endocrine, and immune systems....Close and supportive interpersonal relationships may also help to discourage maladaptive coping behaviors such as suicidal behaviors or substance use and by virtue of normative social influences encourage adaptive coping behaviors such as professional help-seeking.

That said, research on social connectedness is not unequivocal. For example, using HRS data, Bozo et al. (2010) found that the influence of satisfaction with family/friends and spousal support was small and had a surprisingly negative effect on illness status in 2002. Neither has the potential of HRS data on social connectedness been mined to its full potential to help unravel when, how, why, and whether social connectedness matters. Over 15 articles appear to have used some measure of social connectedness in their analyses of HRS data. Some studies, however, use targeted social support as a sampling or inclusion criteria for analyses. Langa et al. (2001) selected senior respondents with high levels of disability and low levels of social support (i.e., unmarried, living alone) in their analysis of the impact of home care policy shifts in the 1990s. Often, measures of social connectedness are simply used as controls (e.g., Buckley et al., 2000; Lee et al., 2009; Perreira et al., 2001; Wolinsky, 2010; Lising et al., 2010).

This suggests that more work needs to be done and the HRS, in its current version, offers a great deal of untapped potential. Some might argue that while the foundations for the importance of social connectedness have been established, starting perhaps with the pioneering epidemiological findings from the Alameda County Study and health service research findings from a group of studies including Fred Davis’ Passage Through Crisis (1963), we are at the beginning of
a new era where “Network Science” will bring new approaches to bear on our understandings of how social ties matter for health, illness and health care. Even with no changes, the HRS data offers a rich resource; however, with some alterations, it would provide even greater utility to understanding and improving the health and well-being of the U.S. population.

References


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