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Social Relationships and Health: A Flashpoint for Health Policy

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Abstract

Social relationships—both quantity and quality—affect mental health, health behavior, physical health, and mortality risk. Sociologists have played a central role in establishing the link between social relationships and health outcomes, identifying explanations for this link, and discovering social variation (e.g., by gender and race) at the population level. Studies show that social relationships have short- and long-term effects on health, for better and for worse, and that these effects emerge in childhood and cascade throughout life to foster cumulative advantage or disadvantage in health. This article describes key research themes in the study of social relationships and health, and it highlights policy implications suggested by this research.

Keywords

relationships, social support, social integration, stress, cumulative disadvantage

Captors use social isolation to torture prisoners of war—to drastic effect. Social isolation of otherwise healthy, well-functioning individuals eventually results in psychological and physical disintegration, and even death. Over the past few decades, social scientists have gone beyond evidence of extreme social deprivation to demonstrate a clear link between social relationships and health in the general population. Adults who are more socially connected are healthier and live longer than their more isolated peers. This article describes major findings in the study of social relationships and health, and how that knowledge might be translated into policy that promotes population health. Key research findings include: (1) social relationships have significant effects on health; (2) social relationships affect health through behavioral, psychosocial, and physiological pathways; (3) relationships have costs and benefits for health; (4) relationships shape health outcomes throughout the life course and have a cumulative impact on health over time; and (5) the costs and benefits of social relationships are not distributed equally in the population.

WHAT DO WE MEAN BY "SOCIAL RELATIONSHIPS"?

Social scientists have studied several distinct features of social connection offered by relationships (Smith and Christakis 2008). *Social isolation* refers to the relative absence of social relationships. *Social integration* refers to overall level of involvement with informal social relationships, such as having a spouse, and with formal social relationships, such as those with religious institutions and volunteer organizations. *Quality of relationships* includes positive aspects of relationships, such as emotional support provided by significant others, and strained aspects of relationships, such as conflict and stress. *Social networks* refer to the web of

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social relationships surrounding an individual, in particular, structural features, such as the type and strength of each social relationship. Each of these aspects of social relationships affects health. We discuss the broad effects of these features of relationships for health, and, for ease of discussion, we use the terms "social relationships" and "social ties" interchangeably throughout this article.

SOCIAL RELATIONSHIPS BENEFIT HEALTH

Many types of scientific evidence show that involvement in social relationships benefits health. The most striking evidence comes from prospective studies of mortality across industrialized nations. These studies consistently show that individuals with the lowest level of involvement in social relationships are more likely to die than those with greater involvement (House, Landis, and Umberson 1988). For example, Berkman and Syme (1979) showed that the risk of death among men and women with the fewest social ties was more than twice as high as the risk for adults with the most social ties. Moreover, this finding held even when socioeconomic status, health behaviors, and other variables that might influence mortality, were taken into account. Social ties also reduce mortality risk among adults with documented medical conditions. For instance, Brummett and colleagues (2001) found that, among adults with coronary artery disease, the socially isolated had a risk of subsequent cardiac death 2.4 times greater than their more socially connected peers.

In addition to mortality, involvement in social relationships has been associated with specific health conditions as well as biological markers indicating risk of preclinical conditions. Several recent review articles provide consistent and compelling evidence linking a low quantity or quality of social ties with a host of conditions, including development and progression of cardiovascular disease, recurrent myocardial infarction, atherosclerosis, autonomic dysregulation, high blood pressure, cancer and delayed cancer recovery, and slower wound healing (Ertel, Glymour, and Berkman 2009; Everson-Rose and Lewis 2005; Robles and Kiecolt-Glaser 2003; Uchino 2006). Poor quality and low quantity of social ties have also been associated with inflammatory biomarkers and impaired immune function, factors associated with adverse health outcomes and mortality (Kiecolt-Glaser et al. 2002; Robles and Kiecolt-Glaser 2003). Marriage is perhaps the most studied social tie. Recent work shows that marital history over the life course shapes a range of health outcomes, including cardiovascular disease, chronic conditions, mobility limitations, self-rated health, and depressive symptoms (Hughes and Waite 2009; Zhang and Hayward 2006).

HOW DO RELATIONSHIPS BENEFIT HEALTH?

Once the clear link between social relationships and health was established, scientists devoted themselves to explaining how this occurs. Generally speaking, there are three broad ways that social ties work to influence health: behavioral, psychosocial, and physiological.

Behavioral Explanations

Health behaviors encompass a wide range of personal behaviors that influence health, morbidity, and mortality. In fact, health behavior explains about 40 percent of premature mortality as well as substantial morbidity and disability in the United States (McGinnis, Williams-Russo, and Knickman 2002). Some of these health behaviors—such as exercise, consuming nutritionally balanced diets, and adherence to medical regimens—tend to promote health and prevent illness, while other behaviors—such as smoking, excessive weight gain, drug abuse, and heavy alcohol consumption—tend to undermine health. Many studies provide evidence that social ties influence health behavior (see a review in Umberson, Crosnoe, and Reczek 2010). For example, Berkman and Breslow's (1983) prospective study in Alameda County showed that greater overall involvement with formal (e.g., religious organizations) and informal (e.g., friends and relatives) social ties was associated with more positive health behaviors over a ten-year period. Being married (Waite 1995), having children (Denney 2010), and ties to religious organizations (Musick, House, and Williams 2004) have all been linked to positive health behaviors (although, notably, as we will discuss below, marriage and parenthood have also been associated with behaviors that are not beneficial to health—including physical inactivity and weight gain).

Social ties influence health behavior, in part, because they influence, or "control," our health habits (Umberson et al. 2010). For example, a spouse may monitor, inhibit, regulate, or facilitate

health behaviors in ways that promote a partner's health (Waite 1995). Religious ties also appear to influence health behavior, in part, through social control (Ellison and Levin 1998). Social ties can instill a sense of responsibility and concern for others that then lead individuals to engage in behaviors that protect the health of others, as well as their own health. Social ties provide information and create norms that further influence health habits. Thus, in a variety of ways, social ties may influence health habits that in turn affect physical health and mortality.

Psychosocial Explanations

Research across disciplines and populations suggests possible psychosocial mechanisms to explain how social ties promote health. Mechanisms include (but are not limited to): social support, personal control, symbolic meanings and norms, and mental health. While most studies focus on only one or two of these mechanisms, it is clear that connections between mechanisms are complex, and that these interconnections may explain the linkage between social ties and health better than any single mechanism (Thoits 1995; Umberson et al. 2010).

Social support refers to the emotionally sustaining qualities of relationships (e.g., a sense that one is loved, cared for, and listened to). Hundreds of studies establish that social support benefits mental and physical health (Cohen 2004; Uchino 2004). Social support may have indirect effects on health through enhanced mental health, by reducing the impact of stress, or by fostering a sense of meaning and purpose in life (Cohen 2004; Thoits 1995). Supportive social ties may trigger physiological sequelae (e.g., reduced blood pressure, heart rate, and stress hormones) that are beneficial to health and minimize unpleasant arousal that instigates risky behavior (Uchino 2006). *Personal control* refers to individuals' beliefs that they can control their life outcomes through their own actions. Social ties may enhance personal control (perhaps through social support), and, in turn, personal control is advantageous for health habits, mental health, and physical health (Mirowsky and Ross 2003; Thoits 2006).

Many studies suggest that the *symbolic meaning* of particular social ties and health habits explains why they are linked. For example, meanings attached to marriage and relationships with children may foster a greater sense of responsibility to stay healthy, thus promoting healthier lifestyles (Nock 1998; Waite 1995). Studies on adolescents often point to the meaning attached to peer groups (e.g., what it takes to be popular) when explaining the influence of peers on alcohol, tobacco, and drug use (Crosnoe, Muller, and Frank 2004). The meaning of specific health behaviors within social contexts may also vary. For example, Schnittker and McLeod (2005) argue that racial-ethnic identity may correspond with the meaning of certain health behaviors, such as consuming particular foods or avoiding alcohol, in ways that promote and sustain those behaviors. Moreover, the notion of "meaning" may help explain health behavior contagion across social networks: for example, the spread of obesity across social networks appears to be influenced by perceptions of social norms about the acceptability of obesity and related health behaviors (e.g., food consumption, inactivity) among network members who are socially close, rather than members who are simply geographically close (Christakis and Fowler 2007; Smith and Christakis 2008). In a more fundamental way, greater social connection may foster a sense of "coherence" or meaning and purpose in life, which, in turn, enhances mental health, physiological processes, and physical health (Antonovsky 1987).

Mental health is a pivotal mechanism that works in concert with each of the other mechanisms to shape physical health (Chapman, Perry, and Strine 2005). For instance, the emotional support provided by social ties enhances psychological well-being, which, in turn, may reduce the risk of unhealthy behaviors and poor physical health (Kiecolt-Glaser et al. 2002; Thoits 1995; Uchino 2004). Moreover, mental health is an important health outcome in and of itself. The World Health Organization identifies mental health as an essential dimension of overall health status (World Health Organization 2007). However, the prevalence of mental disorders and their consequences for individuals and societies are often underappreciated by policy makers and private insurers. Data from the National Comorbidity Survey Replication indicate that 26.2 percent of noninstitutionalized U.S. adults suffer from a mental disorder in a given year (Kessler et al. 2005). As the leading cause of disability in both low- and high-income countries, mental disorders account for over 37 percent of the total years of healthy life lost due to disability (Mathers et al. 2006).

Physiological Explanations

Psychologists, sociologists, and epidemiologists have contributed a great deal to our understanding

of how social processes influence physiological processes that help to explain the link between social ties and health. For example, supportive interactions with others benefit immune, endocrine, and cardiovascular functions and reduce allostatic load, which reflects wear and tear on the body due, in part, to chronically overworked physiological systems engaged in stress responses (McEwen 1998; Seeman et al. 2002; Uchino 2004). These processes unfold over the entire life course, with effects on health. Emotionally supportive childhood environments promote healthy development of regulatory systems, including immune, metabolic, and autonomic nervous systems, as well as the hypothalamic-pituitary-adrenal (HPA) axis, with long-term consequences for adult health (Taylor, Repetti, and Seeman 1997). Social support in adulthood reduces physiological responses such as cardiovascular reactivity to both anticipated and existing stressors (Glynn, Christenfeld, and Gerin 1999). Indeed, continuously married adults experience a lower risk of cardiovascular disease compared with those who have experienced a marital loss, in part due to the psychosocial supports conferred by marriage (Zhang and Hayward 2006).

THE DARK SIDE OF SOCIAL RELATIONSHIPS

While social relationships are the central source of emotional support for most people, social relationships can be extremely stressful (Walen and Lachman 2000). For example, marriage is the most salient source of both support and stress for many individuals (Walen and Lachman 2000), and poor marital quality has been associated with compromised immune and endocrine function and depression (Kiecolt-Glaser and Newton 2001). Sociological research shows that marital strain erodes physical health, and that the negative effect of marital strain on health becomes greater with advancing age (Umberson et al. 2006).

Relationship stress undermines health through behavioral, psychosocial, and physiological pathways. For example, stress in relationships contributes to poor health habits in childhood, adolescence, and adulthood (Kassel et al. 2003). Stress contributes to psychological distress and physiological arousal (e.g., increased heart rate and blood pressure) that can damage health through cumulative wear and tear on physiological systems, and by leading people of all ages to engage in unhealthy behaviors (e.g., food consumption, heavy drinking, smoking) in an effort to cope with stress and reduce unpleasant arousal (Kassel, Stroud, and Paronis 2003). The propensity to engage in particular risky health behaviors in response to stress appears to vary over the life course. For example, stress is associated with more alcohol consumption in young adulthood and greater weight gain in midlife (Umberson et al. 2010). Relationship stress also undermines a sense of personal control and mental health, both of which are, in turn, associated with poorer physical health (Mirowsky and Ross 2003).

It may seem obvious that strained and conflicted social interactions undermine health, but social ties may have other types of unintended negative effects on health. For example, relationships with risk-taking peers contribute to increased alcohol consumption, and having an obese spouse or friend increases personal obesity risk (Christakis and Fowler 2007; Crosnoe et al. 2004). This "social contagion" of negative health behaviors operates via multiple mechanisms (Smith and Christakis 2008). One key mechanism is social norms. Perceived social norms about drinking behavior influence alcohol consumption among young adults (Thombs, Wolcott, and Farkash 1997), and friendship norms about dieting influence unhealthy weight control (Eisenberg et al. 2005). Unsupportive social ties may also present barriers to improving health behaviors and outcomes. For example, Nagasawa and colleagues (1990) found that negative social environments and their perceived barriers predicted poor compliance to medical regimens among diabetes patients.

Caring for one's social ties may also involve personal health costs. For example, providing care to a sick or impaired spouse imposes strains that undermine the health of the provider, even to the point of elevating mortality risk for the provider (Christakis and Allison 2006). Caring for a sick or impaired spouse is associated with increased physical and psychiatric morbidity, impaired immune function, poorer health behavior, and worse health for the provider (Schulz and Sherwood 2008). Moreover, the recipient of care may be negatively affected by interpersonal interactions with stressed caregivers (Bediako and Friend 2004). Middle-aged adults, particularly women, often experience exceptionally high caregiving demands as they contend with the challenge of simultaneously rearing children, caring for spouses, and looking after aging parents (Spain and Bianchi 1996). The combination of smaller families (to share in the caregiving of aging parents) and an aging population

mean that the multigenerational demands of social ties may become more pronounced in the future.

CUMULATIVE ADVANTAGE AND DISADVANTAGE

All Americans are not at equal risk for risky health behaviors, morbidity, and premature mortality. Throughout life, we are exposed to social conditions that promote or undermine health, and over time these exposures accumulate to create growing advantage or disadvantage for health in socially patterned ways. Thus, social variation in relationships/health processes provides information that may be used to address social disparities in health.

The most salient social ties for health vary over the life course, with parents having the greatest influence on children's health, peers becoming particularly important in adolescence, intimate partners becoming most important in adulthood, and adult children taking an elevated role in later life (Umberson et al. 2010). The principal explanatory mechanisms may also vary over the life course. For example, stressful family interactions may have their greatest impact on children's health, while peer pressure and the social meaning of health habits (e.g., pressure to experiment with tobacco, alcohol, and drugs) may have their greatest impact in adolescent relationships, and social control of health habits may be most important in adult relationships.

Some effects of social ties are more immediate, while others slowly build over time. For example, at any given point in time, ongoing social ties affect mental health and health behavior—for better or for worse. These effects may or may not dissipate over time, but recent work on the effects of distressed, disrupted, and emotionally unsupportive childhood environments on adult health shows that these effects reverberate throughout the life course (Crosnoe and Elder 2004; Palloni 2006; Shaw et al. 2004). Certainly, chronic isolation or strain in social ties take an increasing toll over time on a host of health indicators including allostatic load (Seeman et al. 2002), blood pressure (Cacioppo et al. 2002), physical health (Umberson et al. 2006), and mortality risk (Berkman and Syme 1979).

COSTS AND BENEFITS OF SOCIAL RELATIONSHIPS: INEQUALITIES

Both quantitative (size and diversity) and qualitative (benefits and costs) aspects of social ties are demographically patterned and socially constructed. Regarding size, women tend to have larger confidant networks than men, as do whites compared with blacks, better-educated adults compared with less-educated, and, to a lesser extent, younger adults (McPherson, Smith-Lovin, and Brashears 2006). Moreover, the diversity of social ties varies in patterned ways with, for example, better-educated adults engaged in more diverse personal networks (McPherson et al. 2006). Sociodemographic variation in quantitative aspects of social ties may partly explain parallel variation in health disparities because both size (Brummett et al. 2001) and diversity (Cohen et al. 1997) of social ties enhance health. People with a greater number of ties have a larger pool of confidants from which to connect and to receive social support and health-relevant information.

In general, we know little about how the benefits and costs of social ties vary across sociodemographic groups, but some evidence suggests that there is variation. Most attention has been devoted to gender differences, particularly in the context of marriage. Historically, marriage has conferred more health gains for men than for women. Men not only experience greater health benefits through the positive lifestyle and health behaviors that often accompany marriage (Waite 1995), they also experience fewer costs from spousal caregiving, childrearing, caring for aging parents, and balancing work/family demands (Spain and Bianchi 1996). The availability, costs, and benefits of social ties may also vary by race. For instance, blacks are less likely to be married than whites. Yet evidence regarding costs and benefits is mixed. African Americans may experience more marital strain (Broman 1993; Umberson et al. 2005; cf. Kiecolt, Hughes, and Keith 2008) and receive fewer economic gains from marriage compared to whites (Willson 2003), yet some studies find African Americans have historically received more health benefits from marriage than whites (Kiecolt et al. 2008; Liu and Umberson 2008). Disparities in the quantity and quality of social ties exist across socioeconomic statuses as well. More educated adults have a larger number of close confidants and may experience less stress in their relationships. For instance, women with a high school degree or less are roughly twice as likely to divorce within 10 years of their first marriage compared with women having at least a bachelor's degree (Martin 2006). Notably, differential access, benefits, and costs to social ties across sociodemographic groups are not immutable; recent work

shows that these differentials have changed significantly over time (Liu and Umberson 2008; McPherson et al. 2006).

SOCIAL TIES: AN INVESTMENT IN POPULATION HEALTH

Research shows that social ties influence multiple and interrelated health outcomes, including health behaviors, mental health, physical health, and mortality risk. Thus, a policy focus on social ties may prove to be a cost-effective strategy for enhancing health and well-being at the population level (McGinnis et al. 2002; Mechanic and Tanner 2007). Social ties may be unique in their ability to affect a wide range of health outcomes and to influence health (thus cumulative health outcomes) throughout the entire life course. Moreover, interventions and policies that strengthen and support individuals' social ties have the potential to enhance the health of others connected to those individuals. For example, reducing strain and improving health habits of a married person may benefit the health of both partners, as well any children they care for.

Recent work also shows that some health outcomes can "spread" widely through social networks. For example, obesity increases substantially for those who have an obese spouse or friends (Christakis and Fowler 2007), and happiness appears to spread through social networks as well (Fowler and Christakis 2008). These findings suggest that the impact of social ties on one person's health goes beyond that person to influence the health of broader social networks. Thus, policies and interventions should capitalize on this natural tendency for health-related attitudes and behaviors to spread through social networks by incorporating these amplification effects into the mechanics of interventions and their cost-benefit estimates (Smith and Christakis 2008).

Finally, enhanced relationship/health linkages can be viewed as preventive medicine. While social ties may serve to improve health outcomes for those who develop serious health conditions, social ties may help prevent these conditions from developing in the first place. Policies that promote and protect social ties should have both short-term *and* long-term payoffs. If social ties foster psychological well-being and better health habits throughout the life course, then social ties can add to cumulative advantage in health over time—a worthwhile goal for an aging population. Better health means reduced health care costs as well as better quality of life for Americans, regardless of their age.

PUBLIC POLICY: SOCIAL TIES AND HEALTH OF THE POPULATION

Social ties and their connection to health have important implications for health policy. Indeed, some existing social policies and programs implicitly and indirectly incorporate social ties as mechanisms for enhancing population health and well-being. For example, many programs concerned with health of the elderly (e.g., home health services and meal deliveries) direct attention to the impact of social isolation/connection on health. Healthy People 2010, a nationwide health promotion plan developed by the Department of Health and Human Services, recognizes that social ties play an important role in influencing health habits (U.S. Department of Health and Human Services 2000). The Healthy Marriage Initiative recognizes that marriages characterized by supportive interactions benefit the health of children as well as spouses (U.S. Department of Health and Human Services n.d.). The Family Medical Leave Act (FMLA) allows eligible employees to take up to 12 weeks of unpaid, protected leave over a 12-month period to attend to certain medical and family-related needs, such as the birth of a child or caring for an immediate family member (U.S. Department of Labor 2009).

Yet in some cases these policies and programs do not benefit the populations that need them the most, or they unintentionally undermine the health of the target population and others in their social network. For example, FMLA may benefit those who receive care, but it also may be financially prohibitive for caregivers who do not have an employed spouse or enough savings to support them through the time off work, yet those with the fewest financial resources and social ties may need assistance the most. Further, in rare cases, experimental programs have reported worse health outcomes among subgroups of participants. A randomized experiment of the effects of support groups for women with breast cancer found that, compared to women in the control group, the physical functioning of women who participated in the peer discussion group improved if they reported low levels of emotional support from their partners at baseline, but it deteriorated if they reported initially high levels (Helgeson et al. 2000). Another

psychosocial intervention tested individualized emotional and instrumental support services in an effort to improve one-year survival outcomes of adults recovering from myocardial infarction. This study found that, compared to a control group, men in the intervention group exhibited similar mortality rates while women exhibited higher mortality rates during the one-year follow-up (Frasure-Smith et al. 1997). Thus, we must develop a policy foundation that integrates scientific evidence on the linkages between social ties and health, and that foundation must do two things: (1) ensure that policies and programs benefit the populations that need them; and (2) maximize health-related benefits for recipients while minimizing costs for providers and recipients.

POLICY FOUNDATION

Poor mental and physical health and unhealthy behaviors exact a huge toll on individuals, families, and society. Solid scientific evidence establishing the causal impact of social ties on health provides the impetus for policy makers to ensure that U.S. health policy works to protect and promote social ties that benefit health. Scientific evidence supports the following premises, and it is from this empirical footing that we can build a policy foundation for promoting both social ties and health:

1. *Social ties affect mental health, physical health, health behaviors, and mortality risk*.
2. *Social ties are a potential resource that can be harnessed to promote population health*.
3. *Social ties are a resource that should be protected as well as promoted*.
4. *Social ties can benefit health beyond target individuals by influencing the health of others throughout social networks*.
5. *Social ties have both immediate (mental health, health behaviors) and long-term, cumulative effects on health (e.g., physical health, mortality), and thus represent opportunities for short- and long-term investment in population health*.

Although social ties have the potential to benefit health, policy efforts must recognize that social ties also have the potential to undermine health, and that the link between social ties and health may vary across social groups. For example, gender, race, and age are associated with different levels and types of responsibilities, strains, and resources in social ties that then influence personal health habits as well as the health of significant others. In order to be effective, policies and interventions must account for the ways in which social constraints and resources influence health across social groups (House et al. 2008). Moreover, care must be taken to develop strategies that increase the power of social ties to enhance individual health without imposing additional strains on care providers. Thus, we suggest two additional policy components for the basic foundation suggested above:

6. *Caveat: social ties—overburdened, strained, conflicted, abusive—can undermine health*.
7. *The costs and benefits of social ties are not distributed equally in the population (e.g., age, socioeconomic status, gender, race variation)*.

POLICY GOALS

How can policy makers use the scientific findings on social ties and health to advance population health and reduce social disparities in health? They can begin by addressing six fundamental goals.

Promote Benefits of Social Ties

Support and promote positive features of social ties (e.g., supportive interactions, healthy lifestyle norms). For example, Health and Human Service's Healthy Marriage Initiative is designed to promote positive marital interactions that may foster mental and physical health of couples and their children. This initiative uses a multifaceted approach, including public awareness campaigns on responsible parenting and the value of healthy marriages, as well as educational and counseling services delivered through local organizations such as schools and faith-based organizations. This goal should also speak to policies that deny marriage to same-sex couples. The absence of legal marriage may reduce the benefits of committed partnerships for the health of individuals in gay and lesbian relationships (Herek 2006; King and Bartlett 2006; Wienke and Hill 2009).

Do No Harm

Avoid policies, programs, and interventions that increase relationship burdens and strains or that undermine positive features of relationships. For example, many programs for the sick and elderly increase caregiving responsibilities for family members—responsibilities that may impose stress

on caregivers and on family relationships. This problem is exacerbated by hospital and insurance policies that force family members to provide medical care at home. These costs are borne more heavily by women, minorities, and those with fewer socioeconomic resources. Policy efforts should recognize that specific programs may benefit some groups but harm others.

Reduce Social Isolation

This addresses one of the most fundamental findings from research on social ties and health: The most socially isolated Americans are those at greatest risk of poor health and early mortality (Brummett et al. 2001). Policies can reduce the risk of social isolation in the first place by enhancing our educational system to impart social-emotional skills, interests in civic engagement, and meaningful employment (Greenberg et al. 2003); by ensuring that all communities are economically developed and contain public places to safely congregate and exercise (Mechanic and Tanner 2007); and by fostering stable marriages and families for all Americans. Notably, some groups are more likely than others to experience social isolation. For example, widowhood increases the risk of social isolation. Women are more likely than men to be widowed, and widowhood affects a higher proportion of African Americans than other races, and at earlier ages; among those aged 65 to 74, 24.3 percent of African Americans are widowed compared to 14.8 percent of whites (U.S. Census 2009). Coordinated programs could help identify socially isolated adults, perhaps through their physicians, and they could mobilize local resources to offer social and instrumental support to these individuals.

Reduce Harm

Prevent and alleviate negative features of social ties. For example, work to reduce strains for those who provide care to children, sick or impaired significant others, and the elderly, remaining cognizant of unintended effects on caregivers. In addition, prevent or alleviate harm caused by negative social ties, such as abusive parent-child relationships and strained marriages.

Coordinate Policies and Programs

Many existing policies and programs, at least implicitly, address some aspect of social ties in relation to health. These existing strategies can be mapped onto a general strategy of promoting positive relationship/health linkages. This will make gaps and overlaps between strategies more apparent, and it will allow greater coordination of services for helping professionals and for citizens seeking services.

Provide Help Where Help Is Most Needed

Some populations are at greater risk for illness and disease than others, and these groups should receive higher priority in policy efforts. In particular, some populations are more likely to be socially isolated (e.g., the poor and the elderly), and some are more likely to be burdened by caring for others in their social networks (e.g., women, especially African American women). Existing policies should also be re-evaluated to ensure that they help the populations that need them most. For instance, the FMLA may be entirely unhelpful for low-income adults who have no alternative source of income and are more likely to be without alternative sources of instrumental and emotional support.

FUTURE RESEARCH

Social scientists can advance this policy agenda by addressing several specific issues. First, it is important to identify individuals most at risk, as well as explanations for heightened risk. Individuals who are socially isolated may be at the greatest health risk. Several studies suggest that the relationship between social ties and health is nonlinear so that individuals with no social ties or very few social ties exhibit the most pronounced risk of poor health (Brummett et al. 2001; Cohen et al. 1997; Seeman et al. 2002). Despite the considerable evidence linking social isolation to poor health outcomes, the causal mechanisms are poorly understood. We need to investigate the possibility that differences between socially isolated and socially integrated adults—in health behaviors, emotional and instrumental support networks, physiological responses to anxiety, or other mechanisms—explain the linkage. Sociologists should direct attention to the social distribution of isolation and the possibility that the consequences of social isolation vary across social groups.

Second, the broader social context—as structured by age, class, race, and gender—influences the formation and quality of social ties as well as the processes through which social ties affect

health. However, the ways in which these structural variables shape social ties are not well understood, and few studies consider how these structural variables might modify relationship/health linkages. Likewise, social ties may shape the way that structural variables influence health. For instance, marital status may alter the inverse association between educational attainment and mortality risks, at least for men (Montez et al. 2009). This type of research is needed in order to identify at-risk populations as well as explanatory mechanisms linking social ties to health outcomes across social groups.

Third, past work on social ties and health habits tends to emphasize the benefits of social ties for health, yet research on stress clearly shows that strained social ties undermine health. Given the ability of social ties to have both positive and negative effects on health, existing research has likely underestimated the true impact of social ties on health. Future research should consider how the positive and negative facets of social ties work together to influence health outcomes, as well as consider how this balance may vary over the life course and across social groups.

A growing body of theoretical and empirical work illustrates how social conditions foster cumulative advantage and disadvantage for health over the life course. This may be a case of the rich getting richer while the poor get poorer, in that strained and unsupportive relationships in childhood launch into motion a cascade of factors—such as increased risk for depression, low personal control, and poor health habits—that lead to poorer health and more strained and less supportive relationships across the life course. Scholars should consider this cascading process, and they should identify at-risk populations as well as the most important modifiable risk and protective factors in their social relationships. Scholars should also help to clarify when social ties impact health habits, as well as identify which social ties are most important to health at different life stages.

In addition, future research will benefit from methodological considerations, including a greater focus on prospective survey designs and corresponding longitudinal analyses, dyadic information about social relationships, and qualitative data. Prospective designs are essential in order to consider how relationship/health linkages and explanatory mechanisms unfold over time. This approach fits with the life course notion that determinants of current health originate early in life and accumulate across the life span (Ben-Shlomo and Kuh 2002). Taking full advantage of prospective surveys through longitudinal data analysis and wider application of multilevel modeling could shed more light on the social processes involved in building, sustaining, and benefiting from social ties across the life course.

Most studies on social ties and health use individual-level data, as surveys typically collect information from one member per household. However, social ties, by definition, involve more than one person. Studies that include dyads show that individuals in the same relationship often experience and report on their relationship in quite different ways (Proulx and Helms 2008). Independent reports, as well as discrepancies between reports, may be linked to health outcomes. We should take advantage of existing longitudinal data sets that include more than one focal individual. New data collection efforts should go beyond the individual to include data from a range of linked social ties. As recent work shows, including reports from several network members may reveal important relationship/health linkages that go beyond one individual (Smith and Christakis 2008).

Finally, most research on social ties and health has relied on assessment of quantitative data sources. Quantitative data are essential for identifying patterns between variables in the general population and, particularly, for revealing how social location (e.g., as defined by life course stage, race, and gender) is associated with regularity in social experiences (e.g., relationships and health). However, population-level data are limited in their ability to reveal rich social contexts that allow us to analyze the meanings, dynamics, and processes that link social ties to health over time. Thus, blending qualitative and quantitative methods provides the opportunity to build on the strengths of both methodologies and to address how structure and meaning coalesce to shape health outcomes at the population level (Pearlin 1992). Information obtained from qualitative data may also suggest new explanations (e.g., new psychosocial mechanisms or connections between mechanisms) for relationship/health linkages, and for group differences in those linkages, and those explanations can be further explored using population-level data.

CONCLUSION

Solid scientific evidence shows that social relationships affect a range of health outcomes, including mental health, physical health, health habits, and mortality risk. Sociologists have played a major role in establishing these linkages, in identifying

explanations for the impact of social relationships on health, and in discovering social variation (e.g., by age and gender) in these linkages at the population level. The unique perspective and research methods of sociology provide a scientific platform to suggest how policy makers might improve population health by promoting and protecting Americans' social relationships. Recent and projected demographic trends should instill a sense of urgency in developing policy solutions. Specifically, the confluence of smaller families, high divorce rates, employment-related geographical mobility, and population aging means that adults of all ages, and in particular the elderly, will be at increasing risk of social isolation and shrinking family ties in the future (Cacioppo and Hawkley 2003).

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