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Social Relations Across the Life Span: Scientific Advances, Emerging Issues, and Future Challenges

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Abstract

Accumulating evidence demonstrates the importance of social relations at all stages of life (infancy, childhood, adolescence, adulthood, and old age) and in diverse domains of life (including health and well-being). To illustrate the newest advancements in the scientific study of social relations over the life course, we address five emerging areas of importance: societal and demographic changes in family structure; effects of new technologies on social relations; the fundamental influence of context on social relations, illustrated with the sample case of health; the role of social relations in the unfortunate but pressing crisis of trauma among the increasing number of refugees worldwide; and, finally, effects of social relations on cognitive functioning in late life. Each of these areas highlights critical key concepts and methodological approaches, illustrating that the study of social relations is demanding but holds great promise for meeting the urgent needs of developmental science specifically and society generally.

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INTRODUCTION

Developmental psychology has a rich history of studying social relations—among infants, children, adolescents, and adults. Recent times, however, are perhaps the most exciting, in that we have seen the advent or application of impressive new life span theories and the emergence of innovative and sophisticated measures and methods as well as the availability of high-quality data. In addition, there is now widespread recognition that early-life events, in which social relations play a prominent role, affect concurrent and long-term outcomes. All of this has contributed to a significant accumulation of evidence demonstrating the importance of social relations at all stages of life (infancy, childhood, adolescence, adulthood, and old age) and in diverse domains of life (including health and well-being). In this article, we begin with a brief historical overview and provide a summary of basic concepts. We turn next to a presentation of traditional and new measurement tools, highlighting when and where these tools have been or are likely to be most useful. One of the most exciting developments in the field of social relations is the evolving awareness of the broader influence of social relations on other aspects of development. It would be impossible to cover all of these developments. We have thus chosen five diverse, critical, and emerging areas of importance in the field of social relations. These include societal and demographic changes in family structure; the effects of new technologies on social relations; increased awareness of the fundamental influence of context on social relations, illustrated with the sample case of health; the importance of social relations in the unfortunate but pressing crisis of trauma among the increasing number of refugees worldwide; and, finally, the cross-sectional and longitudinal effects of social relations on cognitive functioning in late life.

OLD, UPDATED, AND NEW THEORIES OF SOCIAL RELATIONS: A FEW SELECTED EXAMPLES

The pragmatist George Herbert Mead (1934) advanced a theory that the mind and self develop through social relationships. As such, Mead proposed that social relations are the basis of human

existence. Though Mead emphasized that interactions with other human beings form the basis of society, a key tenet of his argument was that communication with others facilitates the process through which individual identity arises. Social interactions, from birth through death, pivotally shape attitudes and behaviors. Not often recognized by psychologists, Mead's ideas represent some of the earliest thinking on the critical role of social relations in human well-being.

Most developmental psychologists are familiar with attachment theory and know of its early origins through the work of John Bowlby and Mary Ainsworth. Bowlby trained as a physician, psychiatrist, and psychoanalyst. In his *Attachment and Loss* trilogy, Bowlby (1969 [1999], 1973, 1980) presented the theory that is best known for linking psychoanalysis with developmental psychology, ethology, and systems theory. Bowlby's attachment theory was based on personal experience, widespread knowledge of diverse fields, and astute clinical observations. Although much subsequent work has focused on mother-child relations, Bowlby originally conceived attachment theory as a life span theory. Fundamentally, his theory was unique in its incorporation of characteristics from multiple disciplines. Ainsworth, at first Bowlby's colleague in London and later an independent academic scholar in the United States, made important contributions to the attachment field by translating Bowlby's theoretical writings and clinical observations into a more objective research endeavor by developing a verifiable, replicable measurement tool: the strange situation. While many have criticized the relatively subjective aspects of the instrument's scoring, it was critically influential in advancing the field by providing a measurement tool that could be consistently used in a laboratory and a home setting (Ainsworth & Bell 1970, Ainsworth et al. 1978).

While Ainsworth's early work tended to emphasize mother-infant attachment, as the field exploded so did this early limited focus. The study of attachment spread to include fathers and other caregivers and to follow these infants through early and middle childhood, and eventually to adolescence, adulthood, and later life (Antonucci 1976). To complement the expanded reach of this research, new research tools were developed, including the Attachment Q-Sort, the Attachment Story Completion Task, and the Child and Adult Attachment Interviews. In addition to the expansion from a mother-infant focus to an emphasis on older children, researchers also expanded their attachment interests to include the influence of attachment on childhood peer relations, school readiness and competence, adolescent and adult romantic relationships, and even attachment between adult children and their aging parents. The theory has also been expanded to include nontraditional families such as blended and stepfamilies, and teachers and adult friendships, as well as similar and different manifestations of attachment in different cultures. Increasingly sophisticated data have shown that social relations are critical for every aspect of development. New attachment research reflects developmental psychology's increased awareness of context, focusing on the relational interaction factors of attachment rather than the singular individual emphasis that has earmarked much of the original work in this field. Current theoretical and empirical work has expanded to reflect new developments in our science. This includes incorporation of new knowledge from other disciplines, such as the fields of biology, epigenetics, genetics, neurophysiology, neuropsychology, and psychoneuroimmunology. Reflecting these latest and interdisciplinary perspectives, new areas of influence are now being examined, such as how attachment security might influence prosocial behaviors, altruism, and empathy.

Other theories of social relations include socioemotional selectivity theory (Carstensen 1992, Carstensen et al. 2003), which focuses on life span motivational and emotional aspects of social relations as well as the time perspective of human relationships. While this theory also focuses on social relations, it situates them within the context of time, arguing that unlimited future time perspective leads people to have a broad and inclusive view of current and possible additional relations above and beyond ties with close family and friends. With a long-term and distal time perspective, as is typical of younger people, individuals tend to value current relationships but

also seek to expand the number and type of relationships they experience. The goal is not only emotionally based relationships but also relationships that provide new experiences, expand one's knowledge base, and/or provide new information and resources not readily available from close others. However, when future time perspective is short, as might be the case among older people or people with a serious illness, the goal of relationships becomes more immediate and present oriented, focusing on emotion or pleasure-related goals. In this context, then, people are more likely to restrict their associations to others who are important to them and with whom they feel especially close (Carstensen et al. 1999).

The convoy model represents an interdisciplinary perspective of life span social relations (Antonucci 2001, Antonucci et al. 2014, Kahn & Antonucci 1980). When first developed it sought to explain the important factors influencing social relations, arguing that characteristics of the individual, such as age, sex, race, and religion, and characteristics of the situation, such as family, school, and work, influence the type of social relations a person needs, exchanges, and values. The convoy model also sought to specify different aspects of social relations that should be considered in order to get a more complete picture of the individual's social relations. These include structural aspects of their social network: that is, objective characteristics of people with whom individuals have social relations, such as their age; whether they are a spouse, family member, or friend; and how long they have known the people that comprise their network. Also critical to convoy membership is the exchange of support—that is, what aid, affect, or affirmation is provided to and received by convoy members. And finally, relationships are defined by the individual's sense of satisfaction, adequacy, or quality of relationships. These multiple dimensions of social relationships were hypothesized and have been shown to influence an individual's health and well-being. Importantly, the convoy model presents social relations as dynamic and complex, changing over time in some ways but remaining stable in others (Antonucci et al. 2019).

SAMPLES, METHODS, AND MEASURES

Over the past decades, the quality of data available at each point in the life span has improved considerably. Early mother-infant attachment studies mostly used convenience or clinical samples, e.g., mothers being released from the hospital after childbirth or approached at well-baby clinics, or dysfunctional families in therapy (Main & Solomon 1986). These early studies provided important insights about mother-child attachment. With time, however, researchers have utilized increasingly sophisticated sample selection methodologies, recognizing the importance of population-level representative samples to the generalizability of their research findings. Whereas it is difficult to draw national samples of mothers and infants, careful selection and comparison of specifically identified samples allow for increasing recognition of what is unique and what is generalizable. In addition, a more open-minded approach to findings from other cultures made it possible to identify what was universally present in all well-conducted infant attachment research studies and what was influenced by cultural context (cf. Harwood et al. 1995). Studies in Africa, Germany, India, Israel, and Japan examined cultural differences in attachment and verified that differences in parenting beliefs and practices yielded differences in attachment (van IJzendoorn & Kroonenberg 1988). For example, Japanese infants who were rarely separated from their mothers, often spending hours carried around on their mothers' backs, responded very adversely to the strange situation, which was much stranger to them than to American children. While a majority of infants were classified as secure, a larger number of infants in Japan than in the United States were identified as insecure (Takashi 1986). Similarly, studies of infants living on a kibbutz in Israel (Sagi et al. 1985) and of infants in Germany, where parents value independence even in very young infants, indicated attachment patterns somewhat different from those seen in American samples

(Grossmann et al. 1985). Summaries of attachment research in other cultures confirmed that individualistic societies produced slightly different patterns of attachment than collectivistic societies (van IJzendoorn & Kroonenberg 1988).

Similarly, early childhood research began with small and rather poorly identified volunteer convenience samples and evolved to much more sophisticated population or school-based samples such as Project Talent and Monitoring the Future. As researchers then moved into the study of how childhood attachment styles influenced romantic relationships, they began with convenience samples of college students, using both survey research and experimental study designs. Later, studies became increasingly clever at using secondary data analyses of more representative national or regional samples such as the National Social Life, Health, and Aging Project; the Health and Retirement Study; Midlife in the United States; and the Wisconsin Longitudinal Study. These omnibus studies covered a variety of topics, including social relations, but often provided summary or aggregated data on social relations. Other studies, such as the regionally representative Social Relations Study (Antonucci et al. 2019), focus on social relations specifically and thus are able to provide in-depth, longitudinal, life span information concerning support network membership, support exchanged, and satisfaction with social relations. Normative and even longitudinal data are now available from most age groups, spanning infancy through old age. While early studies based on clinical samples were informative, confirmation and extension of those findings with more representative samples provide important insights into the nature of attachment across the life span.

Attachment studies, even in adults, usually target specific individuals, who are assumed to be the very closest social relations. Studies of social relations, especially among adults, often refer to the closest as well as less close relations. For example, studies guided by the convoy model use the hierarchical mapping technique (Antonucci 1986) to assess three levels of social relations based on emotional closeness. There is an interesting and important distinction that should be noted between the two commonly used measurement approaches to social relations because they influence the type of information acquired. In measures such as the strange situation, a specific person, for example, the mother, is targeted. The child's reaction to the mother and the mother's ability to comfort the child after exposure to a series of increasingly stressful circumstances are assumed to be an indicator of the child's security of attachment, i.e., the quality of their relationship. Many survey instruments use a parallel approach, identifying an individual, such as a spouse, parent, or child, and then move to assess how close the individual is—or feels—to the respondent. Another measurement approach is to allow the respondent to identify the person or persons to whom they feel close (i.e., name generators) rather than presenting them with the name or role of a specific person to whom they are expected to feel close. Instruments such as the hierarchical mapping technique are illustrative. This approach presents respondents with three blank concentric circles, symbolizing levels of closeness, and then asks them to populate the circles with people who are close and important to them on those three levels of closeness. In this approach there is no predetermined assumption concerning with whom the respondent would or should feel close to. Each strategy has significant advantages and disadvantages, and the choice of which to use should be based on the priorities of the investigator.

Additional advancement has been made in two areas marking current research on social relations. We now have extraordinary new methods of psychoimmunological and neuroendocrine assessment. For example, using cortisol assessments acquired through saliva, researchers have recently been able to analyze the degree to which social relations influence an individual's stress reactions. Another exciting development is the use of neuroendocrine assessments to assess the quality of an individual's social relations. These developments benefit from advancements in assessment techniques. Wearable devices are now available that allow the direct physiological assessment of

heart rate changes in reaction to specific social interactions. Further, the increased availability of functional magnetic resonance imaging permits the assessment of brain reactions to specific social experiences and circumstances. These developments are truly exciting and offer important new directions in the field.

A second important advancement is in the area of statistical techniques. These developments have both improved the evaluation of long-standing questions and allowed the examination of new and more advanced questions. In the early days of the field, assessments were limited to simple analytic strategies such as frequencies, correlations, and analysis of variance. Much more sophisticated techniques are now available. These include awareness of increasingly advanced regression techniques, which allow assessment of mediating and moderating effects; structural equation modeling, which allows assessment of relationships between latent and measured variables; actor-partner interdependence models, which account for the formerly intractable problem of nonindependence between two variables; and latent class analyses, which allow discovery of common typologies in social relations (e.g., family-focused typologies, friend-focused typologies, and diverse typologies that include both family and friends) and their unique influences on a range of outcomes.

CHANGING SOCIETAL AND FAMILY STRUCTURE

There have been significant changes in societal and family demographics that are fundamentally changing the nature of social relations. To begin, over the past 150 years, the economic foundation of society has shifted from one based primarily on agriculture and then manufacturing to one based on service provision and information technology (Jorgenson 2001, Schettkat & Yocarini 2006). As a result, the need for higher levels of education has arisen, changing the type of work available for the average person as well as the ways in which families form and change. Such shifts have led to marriage and childbearing occurring at later ages, which affects social relations. In particular, the family has been undergoing many significant structural changes (Antonucci & Wong 2010). At the turn of the twentieth century, mortality, i.e., lower life expectancy, limited length of marriage. As mortality rates decreased and life expectancy increased, traditional families included a man and a woman in their first marriage, with two or more children who were biological children of both parents. People married young, usually in their late teens or early twenties, and raised their children in these intact families, connected to family and friends. In 1950, the average age of first marriage was 22 for men and 20 for women. By contrast, in 2018, the average age of first marriage was 29 for men and 27 for women. The traditional nuclear family, consisting of one father, one mother, and their biological children, is no longer representative of families today. In 2000, this pattern was not even close to a majority, with only 24% of all US households consisting of a married couple and their children (Jacobsen & Mather 2010). Families now are characterized by great variety, including same-sex marriage, and those related by biology, adoption, marriage, remarriage, dependence, obligation, and affection (Bedford & Blieszner 1997, Connidis & Barnett 2018, Crawford 1999, Rothausen 1999).

People are marrying later and having fewer children, if at all. Interestingly, even though people are marrying later, these late first marriages are not likely to be the only path to family formation. More people are living together before marriage, and some are never marrying. People are having children later in life, and having fewer children. In fact, more people are voluntarily choosing to remain childless. On the flip side, more people, mostly women, are choosing to be single parents, a pattern first manifest among some ethnic minority and lower-socioeconomic-status groups but now common across all groups. Among older people, a new increasingly common type of family formation has been labeled living apart together. In these situations, older people, often widowed or divorced, declare a commitment to each other, have an intimate relationship, and spend a great deal of time together but maintain separate households (Connidis & Barnett 2018).

Age at the birth of first child has also undergone significant changes. First-time mothers in 2017 averaged 26 years of age, significantly older than in 1972, when the average age of first-time mothers was 21 years. The comparable figure for fathers is currently 31 years of age, up from 27 years of age in 1972. This trend is replicated in most of the developed world. There is an additional layer of complexity not reflected in these average numbers but definitely worthy of note. These changes are not universal but rather are average numbers that mask important geographic differences. In 2016 women in New York City were having children at 31 years of age, and those in San Francisco were having children at 32 years of age. By contrast, women in Todd County, South Dakota, and Zapata County, Texas, were having children 10 years younger, at 20 and 21 years of age, respectively (Bui & Miller 2018, Cahn & Carbone 2010). These are important differences that have lifetime implications for many aspects of the lives of both the mother and her children, not the least of which are the social relations of both. People who marry and have children later tend to be better educated and have higher lifelong income as well as fewer children. Women who are younger when they become mothers are less likely to be married, tend to be less educated, have lower lifelong income, and have more children. Further, these limitations tend to replicate themselves generation after generation. And finally, these issues are important because each of these factors has critical implications for social relations.

Families with many children, lower education levels, and lower incomes are less geographically mobile and tend to live close to their extended families. On the one hand, family relations are paramount, and people both turn to and expect help from their family members. They are more religious and tend to hold low-wage labor or service jobs. On the other hand, they have fewer friends, are less likely to continue in school, and have family relations that are more likely to have high levels of stress (Cahn & Carbone 2010). In addition to economic shifts, demographic changes also influence family structure. While demography may not be destiny, it certainly influences it.

Population demographics indicate important changes in the age distribution or shape of the population. Previously, the general population consisted of societies that included more children and increasingly fewer people in each additional age category—that is, the largest age category was the youngest, and the smallest age category was the oldest, creating a pyramid-shaped population. This population distribution has been stable for generations. However, it has gradually been changing, primarily but not exclusively because fewer children are being born at the same time that life expectancy is increasing. We now have what has been called a beanstalk- or barrel-shaped population, with approximately equal numbers of people in each age category. These demographic changes mean that while there are fewer children, those children are likely to have parents who are alive throughout their entire childhood and adulthood. Families more often include multiple generations: children, parents, and grandparents. In fact, we now experience three-, four-, and occasionally five-generation families. These different family structures create very different family social relations and consequent family dynamics.

With the advent of changing demographics, many other conventions are changing. Divorce rates are high, and many children are being raised in nontraditional households. At one point as much as 50% of the married population had divorced at least once (Wilcox 2009). Many people remarry, sometimes (though not always) forming a second family, thereby creating stepfamilies and blended families. Of course, these situations create even more complicated parent-child relations. In addition, depending on the age of the parent, they could soon be faced with caregiving for a spouse, elderly parent, or grandparent. C.W. Sherman et al. (2013) have documented that spousal caregiving among late-life remarried dyads can be fraught with significant negativity; caregiving between remarried spouses and their partners' children can often be characterized by disagreements, mistrust, and disappointments.

The above examples provide illustrative cases of changes in family structure. Though the discussion of family change is not exhaustive—for example, other family forms are emerging, such as same-sex marriages—each dimension of change either has been documented to influence or is assumed to influence social relations.

ROLE OF TECHNOLOGY

Technological advancements are fundamentally changing social relations and the ways in which people relate to one another. Technology has invaded every sector of life, including social relations, especially by way of social media and social devices. Evolving modes of contact and communication potentially produce new types of social relations and can affect existing types of social relations in profound ways. Social contact can now include texting, social media, phone calls, and in-person contacts. We define social media as any form of electronic communication, which might include websites for social networking and microblogging. Social media refers to electronic communication through which users create online communities to share information, ideas, personal messages, and other content such as videos.

The modes of contact available have expanded exponentially over the past several decades. The internet, which emerged over 30 years ago, initiated multiple new means by which people connect and communicate. Today, smartphones are revolutionizing communication patterns, profoundly changing how we connect to others but with little regard to the psychological and sociological effects of these changes. New technologies now facilitate connections between individuals wherever they are rather than in specific locations, as users are no longer restricted by having to be at a particular place to connect. Moreover, developments in smartphone, social media, and wireless internet technologies have extended the reach of any one individual, increasing the ways in which contact may occur between people. While they increase connectivity at one level, concern has also been raised that these electronic forms of communication lack the close, personal connection that informs an individual how others are reacting to their communication. Thus, the immediate contingency of in-person contact is lost.

Today's youth have used these new technologies their entire life. They have often been described as digital natives (L.E. Sherman et al. 2013). Though older adults lag behind youth in terms of use, mobile phones and personal computers with internet access are, nevertheless, the most popular digital devices used by older adults (Marston et al. 2016). According to the Pew Research Center, more than 91% of adults 65 and older owned a cell phone in 2019, up from 57% from 2010 (Pew Res. Cent. 2019, Zickuhr & Madden 2012). At the same time, use of different modes of contact may vary according to age, as well as other personal characteristics such as education level, gender, and race (Hargittai 2010). Embracing new technologies that facilitate use of various communication modes, and the content of such communication, is likely unevenly experienced. Devices are being used by people of all ages, from young children, who might use them for entertainment or as educational tools, to older people, who are known to use them to remain connected with family, especially grandchildren. Other uses include accessing new forms of health care delivery, such as telehealth, in which people acquire expert information about health issues and/or are guided in the treatment, intervention, and rehabilitation of a specific condition. In sum, mounting evidence suggests inequality in digital device use, yet the benefits and drawbacks of various contact modes are not well understood.

There is concern that the latest forms of contact and communication threaten community ties in the United States (Althaus & Tewksbury 2000), yet these very same modes of contact represent viable alternative sources for developing a sense of community in situations where mobility is limited or restricted. For instance, research shows that these technological developments greatly expand options for older adults, with positive effects for their well-being (Elliot et al. 2014, Sims et al. 2017).

The extent of the influence of social media and social devices (e.g., smartphones) on social relations is unknown, but psychologists see the need for more information on this topic and are rapidly acquiring it. For now, the verdict is inconclusive, but evidence is accumulating supporting both the positive and negative effects of technology on social relations. What is known thus far, on both the positive and negative sides, is briefly outlined below.

Social media and social devices have several beneficial effects. They allow people to maintain contact with family and friends multiple times during the day without being intrusive. Nonurgent discussions can easily take place without interrupting any sensitive ongoing interaction; for example, decisions about an after-work event can take place at work without others at work being aware and without requiring attention at an inopportune moment. In addition, social media and social devices allow us to maintain contact with family and friends at a distance. People who live across town, across the country, or across the world can be reached relatively inexpensively. This has allowed significant relationships that might otherwise have deteriorated to remain consistent and regular despite physical distance. Evidence is also accumulating that technology is an important educational asset. People who might otherwise find educational resources unreachable now have ready access to vast amounts of educational information. Another benefit, mentioned above, is related to health education, health information, and health intervention. Captured under the generic label telehealth, this use of technology has been especially critical for people who are housebound, live in rural areas, or can attend to health issues only at specific but inconvenient times of the day. It has resulted in significant improvements in treatment and rehabilitation efforts and has increased the availability and variety of health care delivery options. It also permits access to urgently needed information instantly. In general, these uses of social media and social devices contribute in important ways to maximizing individual connectedness and enabling access to needed information, thereby helping us do our best in achieving a variety of life goals (Barbosa Neves & Casimiro 2018, Czaja 2017).

At the same time, there have been signs that there can be negative effects of social media. Involvement with social media and use of social devices are time consuming and can be addictive. In addition, counterintuitively given that social media is supposed to increase our feelings of connectedness, it can be isolating (Barbosa Neves & Casimiro 2018). People have been known to forgo personal face-to-face contact in order to continue their online interactions. Social media can also make a person more aware of the degree to which they have not been included in events to which others have been invited. A related problem is that social media can be used to purposefully exclude others. In addition, people who spend too much time online are losing their ability to connect with and/or communicate with people in person. Some young people have even reported that if they cannot order their pizza online but rather only by phone, they will not order from that vendor. This seems to be a potentially debilitating limitation. A final problem is the unknowing consumption and promotion of unverifiable "facts"—i.e., completely fabricated untruths.

The above problems outlined somewhat naive or innocent negative aspects of social media and device use. However, there are considerably more negative, destructive, and problematic uses of social media. These are outlined briefly next. First, it allows irresponsible behavior to be communicated widely and anonymously. People are often not identified and therefore are not held responsible even for completely inappropriate, unsocial, and irresponsible behavior (Antonucci et al. 2017, Hemsley et al. 2018). Social media has created and facilitated an entirely new area of inappropriate peer relationships—cyberbullying. This involves using electronic communication to bully someone and usually involves sending unkind, insulting, or threatening messages. While bullying is a long-standing problem among children, cyberbullying brings this type of behavior to a new level, especially because most children are cyberbullied when they are alone and have little opportunity to defend themselves or enjoy the support of others. This, in turn, can increase

the opportunities for bullying to reach beyond school hours and grounds, thus amplifying the negative impacts. Relatedly, social media has been used to enable vindictive behavior such as posting private photos or messages, e.g., revenge pornography. When engaging in these behaviors it is relatively easy to maintain anonymity. It is also possible to create and perpetuate unverifiable "facts." People can completely fabricate events, circumstances, and relationships easily and purposefully with malice, little forethought, and no consequences. Social media is now a large unchecked forum of perpetuating fake news. This does not refer to simple mistakes or errors in reporting but rather to stories that are deliberately created to misinform and/or deceive readers. It has been widely used to influence people's political views but can also be used to shape, limit, enhance, or encourage specific social relations. If one joins or participates only in limited online sites, one's worldview can be severely limited. In fact, some have argued that social media and the use of social devices permit and facilitate specific political, societal, and social manipulation.

Technological advances are changing the world in which we live, including the very nature of social relations. The potential negative characteristics of some forms of social media and the way some social devices are used are cause for alarm. In addition to obvious alarm alerts such as fake news and cyberbullying, there may be important fundamental aspects of social relations that are not being learned when people overuse social media and underuse direct social contact. Important skills are learned through interpersonal interactions. In Japan, hikikomori, the abnormal avoidance of social contact, typically by adolescent males, has been identified. These young men are known to be nocturnal, spending long and late hours surfing the web. They become recluses in their parents' homes, completely unable to work or go to school for months or years. However, there are also interesting and positive ways in which technology is influencing social relations. An ever-increasing number of people are meeting online. A recent study (Cacioppo et al. 2013) reported that approximately one-third of married couples met their spouse online. Even more impressive is that these marriages were less likely to end in divorce, and those who remained married were happier and more satisfied than those who met in more traditional ways. The use of technology to provide support, to enhance learning, and to facilitate various forms of engagement are important positive developments for the field of social relations. Social media and social devices are with us, for better or for worse. It will be important to monitor new developments and intervene in ways that maximize the positive and minimize the negative influences of technology on social relations.

CONTEXTS OF SOCIAL RELATIONS: HEALTH STATUS

Contexts in which people find themselves vary over the life course and have important implications for the form and function of social relations. We consider the context of health status as an illustrative example of how social relations influence and are influenced by the context within which they occur. Research on links between health and social relations has predominantly focused on examining how and to what extent social relationships affect a range of health outcomes. Far fewer studies have sought to examine the other direction of this relationship. There has been recent renewed interest in better understanding the impact of health and changes in health status on social networks and support, in particular in the gerontological literature. This has contributed to a general growth in the gerontological social network literature, including a focus on factors that influence older adults' social networks (Cornwell & Schafer 2016).

As noted above, social relations are multidimensional. They can be described in terms of their structural characteristics (e.g., size, composition), are dynamic, and are influenced over time by personal (e.g., age, gender) and situational (e.g., role position) characteristics (Antonucci 2001, Kahn & Antonucci 1980). The situation of poor health or the so-called sick role (Parsons 1951) has received little attention in the literature in terms of its ability to alter social networks. Similarly,

Bury's (1982) work on chronic illness as biographical disruption suggests specific ways through which the onset of health problems can shape social networks. For example, the onset of a chronic illness can serve as a biographically disruptive event—that is, the type of event that can alter the structure of everyday life and influence social relationships by altering norms of reciprocity and mutual support (Bury 1982). Ties with friends and the larger community, Bury argues, become disrupted in the context of chronic illness not only because of functional disability associated with the illness but also because of the social stigma attached to some conditions. This disruption can lead to dependence, social isolation, and restriction of mobility (Bury 1982). In sum, health problems can result in reduced energy, functional impairments, and social stigma. They also require significant time commitments to attend medical appointments and engage in chronic illness self-management regimens. Consequently, health problems often significantly impact with whom, how, and when we interact, both cross-sectionally and longitudinally.

Previous studies examining the effects of health on social relationships have generally done so within age-restricted segments of the population, e.g., only among adolescents (Haas et al. 2010, Schaefer et al. 2011) or older adults (Aartsen et al. 2004; Schafer 2011; Stoller & Pugliesi 1988, 1991). Other research has examined the process within specific illnesses (e.g., HIV/AIDS, arthritis, breast cancer, stroke) or has addressed the impact on specific relationships (e.g., spouse/partner, caregiver) (Bolger et al. 1996, Fitzpatrick et al. 1988, Northcott et al. 2016). Recent research has advanced our understanding of health as a context in studies that focus on both age- and illness-specific research.

Age-Specific Studies

As noted above, studies considering the influence of general health on social networks have tended to focus on specific age groups. For example, Haas and colleagues (2010) examined the influence of general health on social networks among adolescents. They found that poor health in adolescence leads to a short-term reduction in network size, which was consistent with their proposition that the development and maintenance of social networks requires energy and that, when one is in poor health, energy levels may be reduced, making these activities more difficult. Similarly, Cornwell (2009) argues that poor health may lead to a decrease in social network size because the stress associated with health problems can dissolve weak social ties, leaving intact only strong relationships. This context of dissolving weak ties and increased reliance on existing ties may result in an increase in the number of relationships perceived as close and essential, an argument consistent with Löckenhoff & Carstensen's (2004) contention that people who perceive their time as limited prefer emotionally close relationships over weaker ties. These arguments are consistent with previous studies of older adults, which have found that declining health status is linked to network increases in the presence of family (Aartsen et al. 2004), close ties (Schafer 2011), and support received from more distant network members (Stoller & Pugliesi 1988). Receipt of support from more distant network members when sick may stem from an accumulation over time of social resources when in good health. As a result, when a person is sick, they are able to make withdrawals from their support bank (Antonucci et al. 1990, Lang et al. 1997). This hypothesis is supported by results from Schafer's (2013) research conducted within a continuing care retirement community. He found that residents in better health were more advantageously positioned within the structure of the community social network.

Illness-Specific Studies

Another key area concerns studies examining the influence of a particular illness on social relationships. For example, in the context of rheumatoid arthritis, Fitzpatrick and colleagues (1988) found

that disease-related characteristics (e.g., severity) have no impact on the availability or adequacy of close social relationships. However, more diffuse relationships (e.g., neighbors and friends) were negatively affected by the condition. Bolger and colleagues (1996), in a study of breast cancer patients, found that significant others continued to provide support in response to the physical dimensions of the condition but withdrew emotionally based support.

Others have argued that people living with more stigmatized conditions such as diabetes, HIV/AIDS, or mental disorders may choose to sever relationships with people who are not compassionate or understanding of their condition, leaving intact only emotionally close ties (Carstensen & Fredrickson 1998, Haas 2002, Link et al. 1989). These findings are similar to findings by Trindale and colleagues (2018). They found that among a sample of college students, more illness-related shame was negatively associated with social relationship quality. Furthermore, they found that fear of receiving compassion from others and experiential avoidance mediated this association. Others have demonstrated how disease-specific attributes can influence social relationships beyond stigma. This includes lifestyle modifications often required to manage specific conditions or address particular symptoms (e.g., dietary and exercise behaviors, self-care regimens), which may result in the disruption of relationships in which these behaviors were not previously engaged (La Greca 1990). More recently, Northcott and colleagues (2016) conducted a systematic review of studies examining the impact of experiencing a stroke on social networks and social support. They found that there was a reduction in social networks following a stroke, with nonfamily relationships being most vulnerable. They also found that family members often were stable network members following a stroke, but there was observable strain in these relationships.

Given the differences in social relationships across the life span, it is logical to expect that the way in which health can affect social relationships similarly differs. For example, the impacts of health on social relationships may be more dramatic at younger ages, when health problems are less normative. However, times in the life span when health transitions are common and dramatic may also be accompanied by more noticeable impacts of these changes on social relationships. To address these questions, both life span and longitudinal data are needed.

Research is also needed to help better understand whether and how health affects social relationships across various personal characteristics. One such personal characteristic is socioeconomic status, because of its known influence on both the structure and the composition of social relationships (Ajrouch et al. 2005, Broese van Groenou et al. 2006). For example, among those with higher socioeconomic status, poor health may have less of an influence on social network change due to the ability of economic resources to limit or offset the negative consequences of poor health. Further, more resources in this context may reduce the need for the sick individual to rely on closer ties for care, resulting in stability as opposed to the growth in the number of close relationships that has been found in some studies of older adults. Thus, socioeconomic resources in the context of ill health have been shown to have a significant influence on the social relations of the individual experiencing the health problem.

The issue of context is both pervasive and complicated. For example, social relations can alter the effect of personal characteristics on health. Antonucci and colleagues (2003) were able to demonstrate the power of social relations to attenuate the well-established link between socioeconomic status and health. In their regionally representative sample, they found that men with low education (a proxy for socioeconomic status) who had larger networks and who perceived emotional, financial, and sick care support to be available from a child reported high levels of health similar to highly educated men. Thus, the context can both influence and be influenced by social relations.

CONTEXTS OF SOCIAL RELATIONS: CULTURE AND RACE/ETHNICITY

One key area of developmental psychology that may be especially relevant to social relations over the life span involves the contexts of culture, ethnicity, and race. The concept of culture is traditionally understood through the study of race, ethnicity, and national origin. Indeed, scholarly attention to culture is growing across multiple disciplines as a result of demographic changes in the United States and increasing contact with different parts of the globe. Data from the most recent US Census indicate that diversity by race and ethnicity is growing at a rapid rate. For instance, more than half the total US population growth between 2000 and 2010 occurred as a result of dramatic increases in the Hispanic population; moreover, the Asian population grew faster than any other major racial group during the same time period, increasing by 43% (Humes et al. 2011). The rise in US racial and ethnic diversity, especially growth in the Arab, Hispanic, and Asian populations, may be attributed to high levels of immigration, particularly through family reunification policies (Lee 2013). Immigration facilitates contact between various groups of people, making cultural differences appear tangible and immediate. Beyond immigration, crossing of borders also arises due to the ease and affordability of travel as well as possibilities now available through technology (e.g., the internet). Hence, contact between various cultural groups has increased dramatically over the past decades, calling attention to the need to better understand contexts of culture in social relations.

Though there is the need to better understand the cultural context of social relations, the contexts of race and ethnicity shape the impetus for community connections. For instance, Ajrouch (2017) found in a study of multiethnic Muslim older adults that community-building outside of the family held unique significance for African Americans, who often were Muslim converts and hence experienced distance from family who did not convert. Likewise, community-building for Albanians was discussed as an outlet for elders who become isolated from the ethnic community because of geographic distance. Hence, though a similar need for connecting with community is identified across racial and ethnic groups, the specifics of why community-building is important may vary. Such nuance illuminates the importance of race and ethnicity as a critical context for better understanding social relations.

A related area of social relations that benefits from attention to the contexts of culture and race/ethnicity is the topic of elder care. How do various racial and ethnic groups care for elders? What expectations exist among the young and old? Studies around the globe show consistently that young people fully expect and desire to care for their elders (Jackson et al. 2008). However, the means and resources available to care for older family members within a society differ, which furthermore may shape cultural expectations among older adults for their own care (Ajrouch et al. 2018). Institutional practices in the United States, for example, promote independence. Support for programs and policies that facilitate elders' living alone and away from family signify the value of independence, yet they have the effect of defining at a societal level what the expectations are and simultaneously devaluing practices that stray from the projected ideal. This cultural value of independence, nevertheless, connects society to communities, families, and individuals, albeit sometimes in a conflicted manner. Identifying the cultural aspects of an issue, such as care, illuminates how the context of culture shapes social relations.

Though the cultural value of independence may shape preferences for and effects of social relations, the disadvantaged social positions of some racial/ethnic minorities are also important contexts to recognize. In a recent study of a regionally representative sample of children, Manalel & Antonucci (2019) found that black and white children exhibited different social network profiles. White children were more likely than black children to be in a "Friend and Family"

profile compared to a "Close Family" profile. One could speculate that the racial context for black children might cause them to remain within the safety of close family ties without venturing outside the family to what might be perceived as a potentially threatening environment. Issues of race/ethnicity also affect social relations in later life. For instance, growing evidence shows that race/ethnicity and stress intensity (e.g., discrimination) influence how and whether social relations protect health in later life. Sheffler & Sachs-Ericsson (2015) found that perceived social support benefited health for blacks regardless of stress level but benefited health for whites only in low-stress situations. Moreover, social relations, which represent a multidimensional concept (Antonucci et al. 2014), have now been shown to manifest differently across racial and ethnic groups (Sheffler & Sachs-Ericsson 2015, Strom & Egede 2012, Uchino et al. 2016). Arab Americans report greater contact frequency with social network members than blacks and whites, yet their networks comprise lower proportions of individuals of the same ethnicity compared with the networks of both blacks and whites (Ajrouch & Antonucci 2018). Such differences may reflect cultural world views that arise from individuals' being embedded within larger systems of norms that create, sustain, and reinforce unfair treatment (Ajrouch 2015, Alegria et al. 2011). Given that preferences for and characteristics of social support, as well as stress levels, differ by race and ethnicity (Viruell-Fuentes et al. 2012), social relations may not benefit health in the same manner across racial/ethnic groups (Sheffler & Sachs-Ericsson 2015, Strom & Egede 2012, Uchino et al. 2016). In sum, the contexts of culture, race, and ethnicity yield critical directions for understanding the form and function of social relations.

SOCIAL RELATIONS, TRAUMA, AND REFUGEE DISPLACEMENT

Refugee status is forced upon individuals who instinctively seek to escape threats to their livelihood. Refugees leave their homes to avoid death, imprisonment, conscription, and other tragic outcomes. Ultimately, they are displaced. Displacement, or being forced out of one's home or homeland, may last for months, years, or a lifetime. Events that precipitate refugee displacement may instigate trauma. Trauma and its deleterious consequences are likely to vary in important ways across the life span, in both childhood and adulthood. Traumatic events are often separated from the daily stressors that may follow, such as poor nutrition and housing or lack of educational and employment opportunities (Miller & Rasmussen 2010a,b; Neuner 2010). Yet daily stressors arising from a traumatic event must be understood as connected to the event, not separate from it. To this end, the goal of the present section is to discuss how social relations influence an individual's ability to survive, cope with, and recover from trauma that results from refugee displacement. Examples of how social relations serve to buffer the stressors associated with refugee displacement are discussed below in the context of children and adults.

Childhood

The development of the self occurs in childhood and depends on key social relations, usually family members, whose interaction with and care for children ensure healthy growth. Yet, for refugees, this development can be hampered by the ongoing stressors and less-than-optimal circumstances of displacement. Parental stress poses enormous risks. Children may exhibit negative psychological reactions to the event that initiated displacement, such as war, but they are also distinctively influenced by parental reactions to the same event. For instance, Eruyar and colleagues (2018) show that parental psychopathology has a significant negative influence on children's mental health beyond the effects the children experience from the traumatic event itself. Young children depend on stable, responsive caregiving from family members. Effective parental social buffering alleviates enduring adverse effects on physiological and emotional capacities (Dalgaard et al. 2016). Indeed,

social support has been found to serve as a protective factor that ensures positive parenting within the contexts of war exposure and resulting refugee displacement (Sim et al. 2018). For mothers in particular, overall social support may exert a more helpful effect on parenting resilience than either emotional or instrumental support alone (Sim et al. 2019). Parents and family constitute a key relationship for children; stable and responsive caregiving from trusted adults generally can prevent or lessen the activation of the stress response (Nelson et al. 2014). Further, families do not exist in a vacuum. Support from relationships outside of family are also critical. A major area of social relations that can be disrupted by refugee displacement is the lack of opportunity for children to engage in social play and exploration. Beyond the support of parents, children benefit enormously from play activities and relations with peers (Mead 1934, Yogman et al. 2018). This deficit is sometimes addressed via programs meant to provide materials to support play and initiate opportunities for engaging with social peers (see iACT 2018 for an example).

Adulthood

Transitioning from childhood to adulthood requires supportive relationships in any context, but this transition poses unique challenges in refugee situations. Fleeing from one's home brings with it the loss of relationships with extended family and the wider community. Such loss puts heightened pressure on the immediate family unit to buffer against the loss of broader social relations (McMichael et al. 2011). Further, many refugee youth struggle in school and lack adequate involvement from their parents (Weine 2008), who are often facing their own health and social challenges.

Trauma from refugee displacement has the potential to disrupt various elements of adult well-being, including cognitive and emotional aspects, all of which may be compromised by limited opportunities for family formation, growing despair, chronic stress, and isolation (Strong et al. 2015). The threat to mental health ultimately challenges the ability to enact adult roles. Yet providing access to strong social support networks ensures better well-being. For instance, a study of resettled African refugees in Australia showed that food insecurity was lower when social support was prevalent (Gichunge et al. 2015). An important element of social support for adult refugees, however, is community engagement. Social isolation exacerbates poor health and well-being among refugees (e.g., Wagner et al. 2015). Ensuring opportunities to engage outside of family confines can promote important opportunities for support (Gerber et al. 2017), which, in turn, may serve to buffer the deleterious effects of traumatic events and their aftermath. Such opportunities potentially relieve pressure on immediate family, thereby expanding resources that facilitate effective coping.

Among older adults especially, trauma may not offer growth possibilities to the same degree as it does for youth (Powell et al. 2003). For instance, trauma from war and displacement has been found to trigger the onset of self-neglect in later life (Lien et al. 2016). The higher chance of self-neglect underscores the importance of social relations for adult refugee well-being. Adult refugees continue to develop into later life and hence encounter various normative role transitions. For older adults, the desire for generativity, or imparting one's knowledge to younger generations, arises (Erikson 1993). In old age, wisdom from life experiences and cultural transmissions from old to young provide a sense of security and belonging in the young, promoting strong generational ties (Thomas 2004). Hence, key resources for subsequent generations are threatened when the geographical and social disruptions inherent in refugee displacement interfere with expected adult development and role transitions.

Social relations with family serve as a key resource across the life span to ameliorate the negative effects of displacement and separation. However, the types of social relations that matter most vary.

For example, optimal social relations with parents during childhood are critical to help children cope with not only the traumatic event but the daily stressors that follow. Play with other children also serves as a key mode of relating. Adulthood brings with it the need to forge relations outside of family, especially to prevent social isolation. For older adults, intergenerational relationships that allow for cultural transmission and sharing of expertise with the younger generation may be crucial to the well-being of both the young and old.

LIFE COURSE SOCIAL RELATIONS AND COGNITIVE DEVELOPMENT IN LATE LIFE

With the aging of the population, there is growing interest in the potential relevance of social relations for age-related health concerns. Cognitive decline is among the most frequently identified health concerns of older people (Malani et al. 2019), and cognitive status contributes substantially to overall quality of life, particularly among community-dwelling older adults (Borowiak & Kostka 2004). Indeed, having high cognitive abilities is a core component of successful aging (Rowe & Kahn 1998). While age is the primary risk factor for cognitive decline and dementia, accumulating evidence supports the importance of several modifiable risk and protective factors, including engagement through social relations (Livingston et al. 2017).

Disparate studies have documented associations between social relations and both slower cognitive decline (Barnes et al. 2004, Béland et al. 2005, Ellwardt et al. 2013, Windsor et al. 2014, Zahodne et al. 2019a) and lower risk of incident dementia (Amieva et al. 2010, Bassuk et al. 1999, Crooks et al. 2008, Fratiglioni et al. 2000, Rafnsson et al. 2017). These studies point to potential protective effects of multiple aspects of social relations, including the dimensions of structure (Barnes et al. 2004, Bassuk et al. 1999, Béland et al. 2005, Crooks et al. 2008, Fratiglioni et al. 2000, Rafnsson et al. 2017, Zahodne et al. 2019a) and quality (Amieva et al. 2010, Ellwardt et al. 2013, Rafnsson et al. 2017, Windsor et al. 2014). Yet mechanisms underlying associations between social relations and age-related cognitive decline and disorders are likely multifactorial. Social relations confer protection against chronic diseases and mental health disorders through various behavioral, psychological, and biological pathways (Berkman et al. 2000, Uchino 2010). Because chronic diseases (Wei et al. 2019) and mental disorders (e.g., depression; Cherbuin et al. 2015) are independent risk factors for accelerated cognitive decline and dementia, they may at least partially mediate the effects of social relations on cognitive outcomes in older adults. Though social relations may exert more direct effects on brain structure and function, it is also possible that different mechanisms underlie the cognitive benefits of different aspects of social relations (Zahodne et al. 2019a).

We consider first that structural aspects of social networks may benefit cognitive health through mental stimulation. This claim is reminiscent of pragmatism (Mead 1934) as well as early attachment research suggesting that contingent interaction between mothers and infants is the core developmental mechanism of attachment (Ainsworth et al. 1978). With respect to cognitive health, it has been argued that, for example, creating and maintaining relationships involves coordinating actions with others (Brent et al. 2014) and negotiating the needs of another person, which requires cognitive resources and effort. Social interactions also provide opportunities for complex interpersonal communication, which not only engages cognitive resources related to attention, language, and memory but also exposes individuals to new ideas and challenges them to navigate interpersonal situations in real time. Taking part in social interactions more frequently or with a greater number or variety of network members provides more opportunities to engage these cognitive processes. According to the "use it or lose it" hypothesis, maintaining a high level of mental activity may prevent cognitive decline (Hultsch et al. 1999). The theory of cognitive reserve articulates

that cognitively challenging activities and experiences can help to maintain cognitive functioning in the face of aging and disease through the development of more efficient or alternative neural networks (Barulli & Stern 2013). Indeed, a clinicopathological study documented an attenuated negative impact of neurodegenerative pathology on cognitive performance among older adults with larger social networks during life (Bennett et al. 2006). Thus, the mental stimulation inherent in social interactions may make the neural networks that support cognition more robust to age-related pathology.

Second, we consider that social relations could influence brain and cognitive health related to stress and coping. In particular, it may be that the quality of social relations is not necessarily linked to stress in a systematic way but that the presence of these resources among individuals with high stress may mitigate the negative effects of stress on brain and cognitive health. Specifically, satisfying relationships provide desired levels of social support, and social support is a valued resource that individuals use to cope with stressful life events (Cohen & Willis 1985). Perceived stress, which reflects not only the presence of a stressor but also one's appraisal of the stressor and one's personal resources that are available to manage it, is an independent risk factor for cognitive impairment (Katz et al. 2016, Koyanagi et al. 2019), cognitive decline (Aggarwal et al. 2014, Turner et al. 2017), and dementia (Johansson et al. 2010, Nabe-Nielsen et al. 2019). Mechanisms underlying the negative cognitive effects of perceived stress include glucocorticoid-mediated structural and functional changes in regions that support high-level cognitive functioning, such as the hippocampus (Cerqueira et al. 2007, Lupien et al. 2009, McEwen & Robinson 2012). Indeed, the hippocampus has a high density of glucocorticoid receptors (Conrad 2008), and preserved hippocampal volume is a key predictor of cognitive stability in older adults (Li et al. 2016). Thus, high-quality relationships may benefit cognition by buffering against the deleterious effects of chronic stress on the brain (see Zahodne et al. 2019a).

Most studies on social relations and cognitive aging measure aspects of social relations only during late life, in part due to the limited availability of life course longitudinal data. However, the convoy model of social relations posits that social relations build from previous experiences (Antonucci et al. 2014). Thus, aspects of social relations earlier in life, including childhood, may have long-term effects on later-life cognitive development by shaping patterns of social relations throughout adulthood. Enduring effects of early-life social relations on later-life cognitive development may also reflect more proximate effects of social relations on cognitive development during childhood, as cognitive ability measured early in life is a long-term predictor of cognitive ability in older adulthood (Gow et al. 2008). Indeed, higher-quality mother-child positive relationships at the age of 4 years prospectively predict school achievement at the age of 12 years independent of maternal IQ, socioeconomic status, and children's mental ability at the age of 4 years (Estrada et al. 1987). Positive interactions with parents at very young ages can enhance the flow of information, scaffold learning of preliteracy and premathematics skills, and provide a stable emotional base from which children can explore the world (Estrada et al. 1987, Hess et al. 1984).

Studies providing evidence for the long reach of early-life social relations on later-life cognitive development primarily rely on retrospective reports of the childhood social environment. While retrospective reports have been criticized for potential recall bias, perceptions of childhood relationships remain stable from adolescence to adulthood (Bell & Bell 2018, Rossi & Rossi 1990) and through adulthood (Yancura & Aldwin 2009). Further, a recent 25-year longitudinal study found no differences between prospective and retrospective measures of the childhood social environment in the prediction of adult outcomes (Bell & Bell 2018).

Several studies have now documented associations between retrospectively reported childhood social relations and cognitive functioning in adulthood. For example, Sharifian and colleagues

(2019), using data from the Health and Retirement Study of adults over 50 years old, found that reports of higher maternal relationship quality predicted less decline in episodic memory 6 years later. Furthermore, this effect was partially mediated by less loneliness and fewer depressive symptoms. In the Wisconsin Longitudinal Study, both positive and negative mother-child interactions reported at the age of 29 to 79 years were independently associated with episodic memory functioning assessed more than 10 years later, but only positive mother-child interactions additionally predicted less subsequent memory decline over the following 4 to 6 years (Sharifian & Zahodne 2019). The effects of positive mother-child interactions were partially mediated by higher educational attainment, as well as greater marital satisfaction at the middle time point. Finally, in the REGARDS (Reasons for Geographic and Racial Disparities in Stroke) study, greater retrospectively reported childhood social support predicted better episodic memory functioning in middle to late adulthood, and these effects were partially mediated by higher educational attainment, less perceived stress, and lower body mass index (Zahodne et al. 2019b). Together, these studies not only provide evidence for enduring effects of early-life social relations on cognitive development decades later but also suggest that underlying mechanisms may include academic competence, social resources available in adulthood, and better mental and physical health. Therefore, the role of social relations in cognitive aging may be best understood from a life span developmental perspective.

CONCLUSIONS AND FUTURE DIRECTIONS

Developmental psychology specifically and developmental science more generally benefit from an impressively improved awareness of how to conceptualize and measure social relations. In addition, high-quality data have made clear the long reach of social relations for a wide-ranging number of important areas of interest across the life span. This article has focused on five of these areas of interest: societal and demographic changes in family structure, technology, context, trauma and refugee displacement, and cognitive health. Each is importantly placed within a life span perspective highlighting critical issues and emerging awareness and data but also emphasizing that these are evolving areas, increasingly and urgently affected by current events. The future of the study of social relations is demanding but holds great promise for meeting the urgent needs of developmental science specifically and society generally.

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