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Men's Social Relationships, Health, and Well-Being in the United States

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Men's health, well-being, and social connections have deteriorated in recent decades, yet few studies have examined how these domains codevelop across adulthood. Using three waves of longitudinal data from the Midlife in the United States, National Study of Health and Well-Being (n = 1,850), this study examined relationship quality (RQ) trajectories of men's romantic, familial, and friend relationships, and their associations with physical and mental health, and psychological and social well-being. The analyzed sample was mostly White, married or cohabitating, parents, and middle to upper middle class. Multilevel growth curve analyses showed that romantic, family, and friend RQ increased with age, with a nadir during early midlife and a rapid increase through late midlife for romantic partner and family RQ. Baseline centered multilevel models further showed that improvements in RQ were positively associated with improvements in health and well-being when modeled separately. When modeled jointly, both psychological and social well-being positively codeveloped with all three RQ domains, with the strongest associations for psychological well-being. Mental health positively codeveloped with romantic partner RQ, while physical health did not significantly codevelop with any RQ domain in the joint models. Changes in mental health and psychological well-being were most strongly associated with changes in romantic partner RQ, and changes in social well-being were most strongly associated with changes in friend RQ. These findings underscore the importance of fostering and maintaining varied and high-quality relationships for men's healthy aging.

Public Significance Statement
This 20-year longitudinal study shows that the quality of men's relationships with a romantic partner, family, and friends changes across adulthood and is linked with their physical health, mental health, psychological well-being, and social well-being. The findings highlight that romantic partnerships, family relationships, and friendships each play distinct roles in men's healthy aging. Efforts to strengthen and maintain high-quality social relationships may be an important component of promoting men's healthy aging.

Keywords: men, social relationships, health, well-being, adulthood

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Although the warning signs were present before, recent years have brought to the forefront the social relationship and health crises facing men. The crisis can be seen in rising adverse health and well-being outcomes among men, with research showing increases in depression (Goodwin et al., 2022; Weinberger et al., 2018), anxiety (Cao et al., 2024; Goodwin et al., 2020), loneliness (Buecker et al., 2021), and mortality attributable to drug overdose, alcohol liver disease, and suicide (Beseran et al., 2022; Yan et al., 2024). As a result of these trends and others, the gap between male and female life expectancy is the greatest it has been in 25 years (Tanne, 2022).

These functional declines in men's health and well-being have coincided with an erosion of men's social relationships. Over the past 3 decades, the number of men reporting having no close friends has risen fivefold (Cox, 2021). For those who do have close friends, fewer now report having three or more close friends (Cox, 2021), and the amount of time spent with friends has decreased (Kannan & Veazie, 2023).

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The data are available at https://www.icpsr.umich.edu/icpsrweb/ICPSR/series/203. The ideas and data appearing in this article were not disseminated previously. However, many publications have used the Midlife in the United States data set, a list of which can be viewed at https://midus.wisc.edu/publications/. Data come from the Midlife in the United States Study. Midlife in the United States was funded by grants from the John D. and Catherine T. MacArthur Foundation Research Network and the National Institute on Aging, National Institutes of Health (Grants P01-AG020166 and U19-AG051426).

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Romantic relationships show similar perturbances: Marriage rates continue to decline while singlehood rises (Fry & Parker, 2021), a plurality of men report dating has become harder (Brown, 2020), sexlessness among young adult men has doubled (Stone, 2025), and fewer adults cite romantic partners as a primary source of meaning (Van Kessel & Silver, 2021). Encapsulating these trends, men's time spent in social isolation increased by about 25% between 2003 and 2020, and while the COVID-19 pandemic accelerated these patterns, the evidence shows the broad decline in men's social networks began well before it (Kannan & Veazie, 2023).

Although this unwinding of men's social networks has been broad, it has not been universal, with household familial engagement standing out as a notable exception (Kannan & Veazie, 2023). Though men's engagement with members of their household has remained relatively steady, the nature of the household and men's role in it have changed substantially in recent decades. Parents are now more likely to be included in or intertwined with the household, as more adult men live in multigenerational households (Cohn et al., 2022) and remain financially dependent on their parents (Barroso et al., 2019) than men of previous generations. Men's role in the household has also expanded to include more unpaid housework and childcare than ever before (Hofferth & Lee, 2015; Parker & Wang, 2013; Sayer et al., 2004). The balance of paid work has also shifted in the household, with men's decreasing in recent decades while women's has been on the rise (Parker & Wang, 2013). These shifts have introduced additional challenges and opportunities into men's familial and romantic relationships, with potentially significant implications for men's health and well-being, further bolstering the case for more research investigating the connections between the health, well-being, and social relationships of men throughout adulthood. The present study seeks to answer that call by examining associations between three foundational social relationships in men's lives (i.e., romantic partner, family, and friends) and multiple dimensions of aspects of men's health and well-being over a 20-year period.

Growth and Thriving Through Relationships Across Adulthood

As evidenced by research showing the connection between relationships and health (Camirand & Poulin, 2022; Holt-Lunstad et al., 2010, 2015; Robles et al., 2014; Tunçgenç et al., 2023), close relationship partners do more than promote our survival; they help us thrive. With close others by our side, we can emerge from adversity better off, and we are supported to take advantage of opportunities that will help us grow and prosper (Feeney & Collins, 2015a, 2015b). Of note, in their model of thriving through relationships, Feeney and Collins (2015a) explicitly stated that "people are most likely to thrive when they are embedded in a network of responsive relationships (e.g., with friends, siblings, intimate partners, parents, mentors)" (p. 121).

The idea that a variety of relationships are important across adulthood dovetails with the convoy model of social relations (Antonucci et al., 2014; Kahn & Antonucci, 1980), which describes how individuals seek out, maintain, and prune social relationships across the lifespan. Different types of relationships differ in their quality, closeness, and function, and the degree to which people focus on specific relationships evolves over time as the individual develops through adulthood. Close relationships are typically maintained, while superficial relationships are often removed from one's convoy over time (Antonucci et al., 2019; Lang, 2000). The winnowing of relationship convoys that occurs with aging is further explained by socioemotional selectivity theory (Carstensen et al., 1999). As people age, they begin to prioritize the emotional meaning of their relationships (Wrzus et al., 2013), focusing on their closest social relationships, including romantic, family, and friendships, given their emotional importance. It is these close relationships that are expected to become increasingly important and intertwined with health and well-being over time (Ajrouch et al., 2024; Carmichael et al., 2015; Stafford et al., 2019).

In addition to illuminating the connection between social relationships and health across the life course, the convoy model of social relations also paves the way for us to understand how this connection may be different for men by noting how personal and situational characteristics influence critical components of our social networks (Fuller et al., 2020; Kahn & Antonucci, 1980). Gender and gender role norms are key personal and situational characteristics in that regard, as many men are socialized into and expected to adhere to masculine norms that emphasize characteristics like self-reliance, competitiveness, aggression, emotional suppression, and homophobia (Mahalik et al., 2003; O'Neil, 2008) that run counter to interpersonal intimacy processes (e.g., intimate disclosure) that are foundational to healthy social relationships (Laurenceau et al., 1998; Reis & Shaver, 1988). Given this incompatibility between certain masculine gender norms and key aspects of interpersonal relationships, men in relationships may find themselves experiencing gender role conflict, a condition where the conflict between restrictive male gender roles and situational demands leads to adverse consequences for men and their relationships (O'Neil, 2008). Evidence of such negative consequences can be found in the deep body of research linking such gender role conflict to a wide variety of negative outcomes in men's romantic, platonic, and familial relationships (O'Neil, 2008).

Taken together, theory and research on the convoy model (Antonucci et al., 2014; Kahn & Antonucci, 1980), socioemotional selectivity theory (Carstensen et al., 1999), and thriving through relationships (Feeney & Collins, 2015a) tells us that close relationships are increasingly prioritized and influential for health and well-being through adulthood (Bruine de Bruin et al., 2020; English & Carstensen, 2014; Lang & Carstensen, 2002). Research and theory regarding male gender role conflict complicates this relationship, however, by demonstrating the ways in which the conflict between rigid conceptions of manhood and the demands of interpersonal relationships can adversely influence the structure, supportive functions, and overall quality of many men's social convoys throughout the life course (O'Neil, 2008). Therefore, research exploring the unique developmental trajectories and predictive power of the varied relationships that compose these close, consequential social networks, including romantic relationships, family relationships, and friendships, as well as what those relationships mean for men specifically is needed. The aforementioned trends in American men's social relationships and health also make such research particularly urgent.

Romantic Relationships, Health, and Well-Being

Robust evidence demonstrates that romantic relationships can serve as a source of human health and happiness (Holt-Lunstad, 2018, 2024). Romantic partnerships play a critical role in one's relationship convoy (Antonucci et al., 2014; Kahn & Antonucci, 1980) and are often the foremost relationship in an adult's life. More than simply having a romantic relationship, the quality of one's romantic relationship

matters. High-quality partnerships promote mental health and well-being, helping us to fulfill our fundamental need to belong (Baumeister & Leary, 1995), reducing the perceived burden of life's challenges and stressors (Coan & Sbarra, 2015), and facilitating thriving (Feeney & Collins, 2015a). Developmental research finds that for both men and women romantic relationship quality (RQ) tends to decrease between ages 20 and 40, with the nadir often related to the transition to parenthood (e.g., Delicate et al., 2018), and then gradually improves, plateauing in late adulthood (Bühler et al., 2021).

Romantic relationships also confer physical health benefits. Married people evince better health and lower mortality risk than nonmarried people (at least in the predominantly heterosexual samples included in most of the prior relevant work; Kiecolt-Glaser & Newton, 2001; Robles & Kiecolt-Glaser, 2003), and these benefits are even stronger for people in high-quality marriages (Coyne et al., 2001; Robles et al., 2014). Some research has suggested that these benefits are especially pronounced for men (Kiecolt-Glaser & Newton, 2001). For example, while married men and women both experience a mortality benefit relative to unmarried men and women, men benefit more than do women (Ross et al., 1990; Wang et al., 2020). Moreover, the mortality and health consequences associated with marital dissolution are more severe for men than for women (House et al., 1988; Wilson et al., 2025).

One of the purported reasons why men's romantic relationships are particularly intertwined with their health and well-being is because they tend to have narrower and less varied social networks than women, so they are more reliant on their partner (vs. others) for the fulfillment of their socioemotional needs (Kiecolt-Glaser & Newton, 2001). Indeed, men typically cite their spouse as their primary, if not sole, intimate connection and source of support (Phillipson, 1997). It has also been suggested that wives are more likely to encourage their husbands' positive health habits than are husbands to encourage health promotion in their wives (Umberson, 1992).

Familial Relationships, Health, and Well-Being

Men's relationship convoys also include family networks that are composed of caregivers, siblings, children, and grandchildren that serve an important role throughout the lifespan (Antonucci & Akiyama, 1987; Woods & Denton, 2014). In young adulthood, relationships with caregivers and siblings may be of primary importance, while in middle adulthood, men are often involved in caregiving for both their children and parents (e.g., Burke, 2017). Men in late adulthood may need to manage the simultaneous loss of their parents and the distancing of their children. Family relationships tend to become increasingly important with changes in time perspective that accompany aging (Carstensen et al., 1999), yet in older age there may be unique caregiving challenges that can contribute to relationship strain (Hillcoat-Nallétamby & Phillips, 2011; Kim & Yeom, 2016; Monin et al., 2019; Schulz et al., 2020).

The prominence of family relationships during adulthood makes them important. Indeed, the functioning of familial relationships contributes to mental health (e.g., depression, anxiety) and physical health (i.e., cumulative biological risk) in adulthood (e.g., Brooks et al., 2014; Priest et al., 2019; Rouxel et al., 2022; Woods & Denton, 2014). These associations may be bidirectional, with family RQ predicting subsequent changes in health and health predicting subsequent changes in RQ (Woods et al., 2020).

Some studies show that family RQ may be more important for women than men (e.g., Roberson et al., 2021; Walen & Lachman, 2000), others find no gender differences (Umberson et al., 1996), and still others find that family functioning may be even more critical for men (Cable et al., 2013; You et al., 2018). Although we focus here on family relationships broadly, it is important to acknowledge that the family relationships in one's convoy are not monolithic and there may be important differences among how relationships with caregivers, siblings, and children manifest for both men and women.

Friendships, Health, and Well-Being

Though critical to relationship convoys, friendship is unique in its ambiguity, multidimensionality, and malleability, describing various types of relationships with diverse functions and meanings that themselves change as a function of context, time, and individual differences (Adams et al., 2000; Lee, 2022). Research shows the men's friendship networks decline with age, both in terms of size (Cox, 2021; Sander et al., 2017; Schwartz & Litwin, 2018; Wrzus et al., 2013) and emotional support (Petrova et al., 2024). Indeed, the emotionally and physically intimate friendships of boys' youths often wither and fade away through late adolescence as the salience of and pressure to conform to masculine norms prioritizing heterosexual relationships and stigmatizing male homosocial intimacy as childish, feminine, or gay are heightened (Helgeson, 2020; Smiler & Heasley, 2016; Way, 2013). This is problematic in that high-quality, emotionally close friendships are associated with positive health and well-being outcomes across the life course (Ajrouch et al., 2024; Almquist et al., 2014; Alsarrani et al., 2022; Camirand & Poulin, 2022; Demir & Orthel, 2011; Marver et al., 2017; Narr et al., 2019; Pezirkianidis et al., 2023; Thompson et al., 2024).

Smaller friendship networks may indirectly impact men's health and well-being by reducing the opportunities they have to access the social, emotional, and functional benefits of friendship (Cable et al., 2013; Cox, 2021; Helliwell & Huang, 2013). Moreover, adult men are less likely to engage in the kind of intimate behaviors within their friendships that are most associated with positive health outcomes, particularly in their same-sex friendships (Demir & Orthel, 2011; Fehr, 2004; Movember, 2019). For example, data from the Survey Center on American Life revealed that men were significantly less likely than women to report emotionally intimate experiences with friends in the past week, such as receiving emotional support (21% vs. 41%), confiding personal issues (30% vs. 48%), or expressing love (25% vs. 49%)—and the discrepancies are even starker when looking at same-sex friendships specifically (Cox, 2021). Although focusing on these more intimate behaviors as a measure of friendship quality ignores the more practical forms of support that men often center in their friendships (Cancian, 1987, p. 701), both men and women report these kinds of behaviors to be central to quality friendships (Demir & Orthel, 2011; Fehr, 2004).

The Present Study

Framed by the convoy model of social relations (Antonucci et al., 2014; Kahn & Antonucci, 1980), socioemotional selectivity theory (Carstensen et al., 1999), and thriving through relationships (Feeney & Collins, 2015a), the present study seeks to increase our understanding of how men's social relationships and health and well-being are related during adulthood by examining two primary research questions. First,

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how does the quality of men's relationships with romantic partners, family, and friends change during adulthood? Based on our theoretical framework and empirical findings described previously, we expect that RQ will increase with age as the closest social relationships are prioritized and more peripheral relationships thin (Antonucci et al., 2014; Carstensen et al., 1999; Kahn & Antonucci, 1980). Further, as the friendship domain might be the place where winnowing is the strongest, we expect a relatively stable increase in friend RQ over time as more peripheral friendships disappear and closer friendships are retained.

Second, how does the quality of men's relationships codevelop with their physical health, mental health, psychological well-being, and social well-being during adulthood? Again, drawing on our theoretical frameworks and previous research, we expect that changes in health and well-being will be positively linked with changes in RQ during adulthood. We extend existing theory and research (Antonucci et al., 2014; Carstensen et al., 1999; Kahn & Antonucci, 1980), however, by exploring the potentially unique trajectories and predictive roles of these three categories of our close relationship convoys, and specifically for men, a group who has experienced particular vulnerability in their social relationships and health and well-being during the past decades (e.g., Brown, 2020; Cox, 2021; Kannan & Veazie, 2023; Stone, 2025; Tanne, 2022). Given the relative importance of romantic relationships in the intimacy hierarchy, we expect romantic RQ to codevelop consistently with our varied outcome variables, whereas the codevelopment may be more domain specific or weaker for family and friend RQ.

Method

Transparency and Openness

The study performed a secondary data analysis of deidentified data from the Midlife in the United States (MIDUS), National Study of Health and Well-Being. The analysis was not preregistered. Data and study documentation are available through the MIDUS page on the Inter-university Consortium for Political and Social Research website (https://www.icpsr.umich.edu/web/ICPSR/series/203). Analysis code is available from the authors upon request.

Participants and Procedure

Data were obtained from the MIDUS, National Study of Health and Well-Being. MIDUS contains three assessment waves, with the initial assessment occurring between 1995 and 1996, the second assessment occurring between 2004 and 2006, and the third assessment occurring between 2013 and 2014. Participants were recruited using random digit dialing of individuals living in the United States who were 25–74 years of age, English speaking, and not institutionalized, with recruitment roughly balanced across the Northeast, Midwest, South, and West geographic areas within the United States (MIDUS, n.d.). Further information on study design, including data and documentation are available at https://www.icpsr.umich.edu/web/ICPSR/series/203. The analysis of secondary data for the present study was approved and conducted under the lead author's Office of Research Compliance. The present study uses longitudinal data from men who completed at least two of the possible three assessment waves (n = 1,850). The resulting sample was mostly White, married or cohabitating, a parent, and middle to upper middle class (see sample demographics in Table 1).

Measures

All composite measures were constructed under an assumption of τ-equivalence using the *cscore* package in R (Im, 2025). For measures comprising multiple subscales, τ-equivalent composite scores were first computed separately for each subscale. These subscale composites were then aggregated in a second stage to form the overall construct score, thereby preventing subscales with a greater number of items from exerting disproportionate influence on the higher order composite. Summary statistics for composite measures are presented in Table 2.

Demographics

Demographics included in the analyses were age (measured in years), education level, and household income (HHI). Education level included 12 categories, ranging from *grade school or less* to *doctorate or advanced professional degree*. HHI was measured in U.S. dollars, ranging from $0 to $300,000. To resolve the issue of large variable variance, HHI was recoded into seven broad income bracket

Table 1
Sample Demographics for the Analyzed Sample by Assessment Wave

Variable	Wave 1 analyzed sample	Wave 2 analyzed sample	Wave 3 analyzed sample
n	1,494–1,850	1,459–1,849	962–1,341
Age	47.54 (12.20) [24, 75]	56.49 (12.15) [32, 83]	64.24 (11.20) [42, 92]
Race			
White	1,716 (92.76%)	1,708 (92.37%)	1,195 (89.11%)
Black/African American	49 (2.65%)	53 (2.87%)	33 (2.46%)
Native American or Aleutian Islander	9 (0.49%)	29 (1.57%)	8 (0.60%)
Asian or Pacific Islander	9 (0.49%)	10 (0.54%)	4 (0.29%)
Other	23 (1.24%)	42 (2.27%)	88 (6.56%)
Missing	44 (2.38%)	7 (0.38%)	13 (0.97%)
Household income	$82,872 (62,097) [0, 300,000]	$79,346 (61,575) [0, 300,000]	$100,202 (75,146) [0, 300,000]
Education level	7.44 (2.53) [1, 12]	7.57 (2.62) [1, 12]	7.56 (2.61) [1, 12]
Married or cohabitating	1,485 (80.27%)	1,521 (82.26%)	1,078 (80.39%)
Parent	1,418 (76.65%)	1,583 (85.61%)	1,151 (85.83%)

Note. Means (and standard deviations) [Minimum, Maximum] are presented for continuous variables; % is presented for binary variables.

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Table 2
Summary Statistics for Composite Measures by Assessment Wave

Variable	*n*	*M*	*SD*	Minimum	Maximum	Skew	Kurtosis
Wave 1							
Partner RQ	1,494	3.28	0.46	1.25	4	−1.15	1.79
Family RQ	1,822	3.18	0.48	1.13	4	−0.85	0.95
Friend RQ	1,823	3.09	0.43	1	4	−0.26	0.26
Physical health	1,833	0.02	0.69	−4.10	0.98	−1.54	3.38
Mental health	1,833	0.00	0.69	−3.15	0.76	−1.83	3.71
Psychological well-being	1,828	5.58	0.76	2.72	7	−0.54	−0.07
Social well-being	1,818	4.66	0.95	1.60	6.93	−0.18	−0.27
Wave 2							
Partner RQ	1,459	3.33	0.46	1	4	−1.28	2.38
Family RQ	1,756	3.25	0.48	1.38	4	−0.98	1.25
Friend RQ	1,747	3.15	0.43	1.38	4	−0.29	−0.03
Physical health	1,766	0.03	0.69	−2.61	1.19	−0.97	0.86
Mental health	1,766	0.01	0.71	−2.76	0.92	−1.45	1.86
Psychological well-being	1,763	5.55	0.79	2.06	7	−0.52	−0.02
Social well-being	1,756	4.78	0.91	1.80	7	−0.10	−0.26
Wave 3							
Partner RQ	962	3.37	0.46	1.38	4	−1.25	2.01
Family RQ	1,192	3.27	0.49	1	4	−1.05	1.50
Friend RQ	1,189	3.21	0.44	1	4	−0.42	0.51
Physical health	1,207	0.01	0.61	−2.18	3.06	−0.63	0.98
Mental health	1,207	0.00	0.62	−2.31	3.31	−0.44	2.24
Psychological well-being	1,207	5.53	0.78	2.22	7	−0.47	−0.17
Social well-being	1,183	4.64	0.92	1.33	7	−0.07	−0.14

Note. Physical health and mental health are both standardized composites (see Measures section for details). Higher values equal more positive outcomes (e.g., better health, well-being). RQ = relationship quality.

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categories for analyses (1 = $0–$10,000, 2 = $10,001–$25,000, 3 = $25,001–$45,000, 4 = $45,001–$75,000, 5 = $75,001–$115,000, 6 = $115,001–$175,000, 7 = $175,001+).

RQ

RQ with participant's (a) romantic partner, (b) family, and (c) friends was assessed using the relationship support and strain measure (Schuster et al., 1990; also see Turner et al., 1983; Walen & Lachman, 2000). Each relationship subscale (i.e., romantic partner, family, friend) included eight items, four of which reflected relationship support (e.g., "How much can you rely on your [*relationship*] for help if you have a serious problem?") and four of which reflected relationship strain (e.g., "How often does your [*relationship*] let you down when you are counting on them?"). Participants responded to each support item (1 = *often* to 4 = *not at all*) and each strain item (1 = *often* to 4 = *never*) if they had that relationship at the time of assessment. The measures asked about each relationship without referring to the sex of the relationship partner, with resulting responses not distinguishing between same-sex or mixed-sex friendships, romantic relationships, or family relationships. Because the present study was most interested in examining overall RQ, a τ-equivalent composite RQ measure was calculated by reversing the relationship support items such that higher scores reflect more support (higher values initially represented less support) and averaging their responses with the relationship strain items (higher values initially represented less strain and remained scored in that direction) so that higher values on the composite measure indicated better RQ (romantic RQ $\omega_1 = .879$, $\omega_2 = .875$, $\omega_3 = .874$; family RQ $\omega_1 = .811$, $\omega_2 = .796$, $\omega_3 = .804$; friend RQ $\omega_1 = .723$, $\omega_2 = .708$, $\omega_3 = .716$).

Physical Health

Physical health was measured using (a) self-reported physical health, (b) chronic physical health conditions, (c) acute physical health conditions, (d) instrumental activities of daily living, and (e) prescription medicines for physical health conditions. Perceived physical health was measured using a single self-report item asking respondents to rate their overall physical health on a 5-point scale (1 = *poor*, 5 = *excellent*), with higher scores reflecting better perceived physical health. Physical chronic health conditions were measured as a summed count of self-reported chronic conditions experienced in the past year, excluding emotional disorders. Due to distributional skewness, counts were top-coded at 10 or more and reverse-coded such that higher values reflected better physical health. Acute physical symptoms were measured using the self-reported frequency of nine acute physical conditions experienced in the past 30 days (P30D) on a 6-point scale (1 = *almost every day*, 6 = *not at all*). A composite score was calculated by averaging responses across the conditions, with higher values reflecting fewer average acute physical symptoms. Instrumental activities of daily living were measured using the seven-item Instrumental Activities of Daily Living Scale pertaining to the frequency with which one performs key activities (e.g., "walking more than a mile"). Each item was rated using a 4-point scale (1 = *a lot* and 4 = *not at all*). A composite score was calculated by averaging the reverse-coded responses across the activities, with higher values reflecting more frequent engagement in key physical activities. Medication usage for physical health conditions was measured as a summed count of self-reported prescription medication use for 11 chronic physical health conditions (e.g., diabetes, pain) in the P30D. The total count was reverse-coded, such that higher values reflected fewer medications

taken. A τ-equivalent composite physical health score was calculated by averaging the standardized versions of the five components of physical health ($\omega_1 = .825$, $\omega_2 = .818$, $\omega_3 = .845$), with higher scores reflecting better physical health.

Mental Health

Mental health was measured using (a) perceived mental health, (b) chronic mental health conditions, (c) acute mental health symptoms, and (d) prescription medication for mental/emotional conditions. Perceived mental health was measured using a single self-report item asking respondents to rate their overall mental health on a 5-point scale (1 = *poor*, 5 = *excellent*), with higher scores reflecting better perceived mental health. Chronic mental health conditions were measured as whether the participant experienced anxiety, depression, or other emotional disorder in the past year. The measure was reverse-coded to reflect better mental health with the absence of mental disorder symptoms. Acute mental health symptoms were measured using a self-reported frequency of experiencing irritability in the P30D on a 6-point scale (1 = *almost every day*, 6 = *not at all*). Medication usage for mental/emotional conditions was measured as whether the participant took prescription medication for nerves, anxiety, or depression in the P30D. The measure was reverse coded to reflect better mental health with the absence of needing medication. A τ-equivalent composite mental health score was calculated by averaging the standardized versions of the four components of mental health ($\omega_1 = .781$, $\omega_2 = .810$, $\omega_3 = .792$), with higher scores reflecting better mental health.

Psychological Well-Being

Psychological well-being was measured using the Psychological Well-Being Scale (Ryff, 1989). The scale includes 18 items reflecting six aspects of psychological well-being: (a) autonomy (e.g., "I have confidence in my opinions, even if they are contrary to the general consensus"), (b) environmental mastery (e.g., "In general, I feel I am in charge of the situation in which I live"), (c) personal growth (e.g., "For me, life has been a continuous process of learning, changing, and growth"), (d) self-acceptance (e.g., "When I look at the story of my life, I am pleased with how things have turned out"), (e) purpose in life (e.g., "I live life one day at a time and don't really think about the future"), and (f) positive relations ("People would describe me as a giving person, willing to share my time with others"). Participants responded to each item using a 7-point scale (1 = *strongly agree* to 7 = *strongly disagree*). Given that higher scores initially indicated more disagreement, responses to positive-worded items (e.g., "In general, I feel confident and positive about myself") were reverse coded and then averaged with negative-worded items (e.g., "I live life one day at a time and don't really think about the future") to create a τ-equivalent composite score ($\omega_1 = .829$, $\omega_2 = .859$, $\omega_3 = .849$) such that higher values indicated better psychological well-being.

Social Well-Being

Social well-being was measured using the Social Well-Being Scale (Keyes, 1998). The scale includes 14 items reflecting five aspects of social well-being: (a) social coherence (e.g., "I cannot make sense of what's going on in the world"), (b) social integration (e.g., "I feel close to other people in my community"), (c) social acceptance ("I believe that people are kind"), (d) social contribution ("I have something valuable to give to the world"), and (e) social actualization ("Society has stopped making progress"). Participants responded to each item using a 7-point scale (1 = *strongly agree* to 7 = *strongly disagree*). Again, given that higher scores initially indicated more disagreement, responses to positive-worded items (e.g., "I believe that people are kind") were reverse coded and then averaged with negative-worded items (e.g., "Society has stopped making progress") to create a τ-equivalent composite score ($\omega_1 = .826$, $\omega_2 = .833$, $\omega_3 = .833$) such that higher values indicated better social well-being.

Analytic Plan

Multilevel Mixed-Effects Models

Multilevel mixed-effects models were estimated to examine within-person change in RQ over time while accounting for between-person differences. The models were fitted using the *lmertest* package in R (Kuznetsova et al., 2017), with analyses involving observed data of participants contributing two to three repeated observations based on the number of MIDUS waves completed. Repeated assessments (Level 1) were nested within individuals (Level 2), accounting for the nonindependence of observations across time.

Initial unconditional models included only a random intercept to estimate between-person differences in romantic partner, family, and friend RQ. Subsequent conditional models were estimated separately for each RQ domain and included fixed effects of assessment wave, linear age, quadratic age, cubic age, and the Wave × Age interaction to evaluate age-related trajectories and potential time-period effects. The optimal model for each RQ was identified through hierarchical comparison of nested linear mixed-effects models using likelihood ratio tests based on maximum likelihood estimation, with final models refit using restricted maximum likelihood for inference. Model-implied trajectories were then visualized using estimated marginal means computed at each age represented in the analytic sample using the optimal models.

Baseline-Centered Multilevel Models of Within-Person Change

To examine within-person codevelopment, we estimated baseline-centered multilevel models of coupled change, in which time-varying predictors and outcomes were expressed as deviations from each individual's baseline level (Shane et al., 2023; Sliwinski & Mogle, 2008). This process-oriented approach evaluates whether intraindividual changes in predictors are associated with concurrent intraindividual changes in outcomes across time, rather than emphasizing lagged directional effects (Sliwinski & Buschke, 1999, 2004; Sliwinski & Mogle, 2008). Time-varying predictors and outcomes were baseline-centered by subtracting each participant's Wave 1 value from their corresponding values at subsequent waves, such that scores represented within-person deviations from initial levels rather than deviations from a sample mean (e.g., if Wave 1 = 3, Wave 2 = 5, and Wave 3 = 2, the baseline-centered scores for Waves 2 and 3 are +2 and −1, respectively).

Separate multilevel models were estimated for romantic partner, family, and friends RQ, in which baseline-centered changes in physical

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health, mental health, psychological well-being, and social well-being were entered as time-varying Level 1 predictors of baseline-centered changes in RQ. Linear time (wave) was included as a Level 1 covariate to account for overall time-period effects, allowing within-person associations to be interpreted as change-to-change relationships net of normative temporal trends. Random intercepts were specified to capture stable between-person differences in RQ, and random slopes for time were estimated when supported to allow for individual variability in longitudinal trajectories. Baseline demographic characteristics (age, educational attainment, and HHI) measured at Wave 1 were included as Level 2 covariates to adjust for between-person differences in initial levels of RQ and health. All models were estimated in R using the *lmerTest* packages.

Results

Correlations and Growth Curve of Age on RQ

As a basic investigation into directional associations, we first examined how the variables of interest were correlated at each wave (Table 3). All three RQs were positively related with all four health and well-being factors across each wave.

Next, we estimated multilevel growth curve models incorporating both time-period effects (indexed by wave) and age effects modeled using linear, quadratic, and cubic terms (Table 4). For each RQ domain, age was modeled using sequentially entered linear, quadratic, and cubic terms to evaluate potential nonlinearity and to determine the optimal functional form via hierarchical comparison of models using likelihood ratio tests (see Supplemental Tables S4–S6). Interactions between age and wave were also tested to assess whether time-period effects moderated age-related associations (see Supplemental Tables S1–S3).

Results indicated that romantic partner RQ (Model 2) and family RQ (Model 4) exhibited significant positive linear and quadratic age effects (p from <.001 to .004) alongside a negative cubic age effect (p from <.001 to .004). That is, RQ increased with age, accelerated through midlife, and subsequently plateaued or declined in later adulthood. Further, for family RQ, age negatively interacted with wave ($p = .011$), suggesting a diminishing effect of age as time periods progressed. In contrast, friend RQ was best characterized by a linear age effect with a modest positive time-period effect (Model 6), that is, the inclusion of quadratic and cubic age terms did not improve model fit (see Supplemental Table S3). For romantic partner and friend RQ domains, interactions between age and wave did not meaningfully improve model fit, indicating that these age-related associations were not moderated by time period (see Supplemental Tables S1–S3). Model-implied trajectories of RQ across age derived

Table 3

Pairwise Correlations at Each Assessment Wave Between Study Variables, Age, Education Level, and Household Income

Variable	1	2	3	4	5	6	7	8	9	10
Wave 1										
1. Age	—									
2. HH income	−.03	—								
3. Education	−.06*	.29***	—							
4. Partner RQ	.08**	−.02	−.02	—						
5. Family RQ	.15***	.03	.02	.33***	—					
6. Friend RQ	.11***	.08**	.07**	.30***	.48***	—				
7. Physical health	−.16***	.22***	.21***	.11***	.15***	.17***	—			
8. Mental health	.05*	.14***	.11***	.27***	.22***	.18***	.52***	—		
9. Psyc. WB	.03	.17***	.12***	.34***	.35***	.39***	.32***	.48***	—	
10. Social WB	.06*	.21***	.25***	.16***	.26***	.33***	.23***	.30***	.49***	—
Wave 2										
1. Age	—									
2. HH income	−.31***	—								
3. Education	−.09***	.35***	—							
4. Partner RQ	.15***	−.04	−.01	—						
5. Family RQ	.19***	.05	.03	.35***	—					
6. Friend RQ	.10***	.05*	.07**	.31***	.46***	—				
7. Physical health	−.31***	.30***	.25***	.07**	.11***	.14***	—			
8. Mental health	.00	.14***	.10***	.17***	.17***	.19***	.53***	—		
9. Psyc. WB	.03	.17***	.14***	.34***	.35***	.42***	.33***	.42***	—	
10. Social WB	.00	.20***	.27***	.21***	.28***	.37***	.28***	.27***	.57***	—
Wave 3										
1. Age	—									
2. HH income	−.30***	—								
3. Education	−.10***	.36***	—							
4. Partner RQ	.13***	−.02	−.01	—						
5. Family RQ	.18***	.06	.06*	.28***	—					
6. Friend RQ	.08**	.08**	.10***	.31***	.53***	—				
7. Physical health	−.23***	.32***	.26***	.13***	.17***	.20***	—			
8. Mental health	.12***	.13***	.13***	.25***	.29***	.27***	.52***	—		
9. Psyc. WB	.04	.23***	.20***	.36***	.33***	.42***	.34***	.45***	—	
10. Social WB	−.05	.24***	.35***	.22***	.28***	.36***	.35***	.32***	.55***	—

Note. HH income = household income; RQ = relationship quality; Psyc. WB = psychological well-being; Social WB = social well-being.
* $p < .05$. ** $p < .01$. *** $p < .001$.

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Table 4
Multilevel Growth Curve Results for Romantic Partner, Family, and Friend RQ

Predictor	Model 1: Partner RQ β [95% CI]	Model 2: Partner RQ β [95% CI]	Model 3: Family RQ β [95% CI]	Model 4: Family RQ β [95% CI]	Model 5: Friends RQ β [95% CI]	Model 6: Friends RQ β [95% CI]
Intercept	−0.016 [−0.058, 0.025]	−0.058* [−0.105, −0.011]	−0.007 [−0.045, 0.032]	−0.036 [−0.079, 0.007]	−0.012 [−0.050, 0.026]	−0.009 [−0.047, 0.028]
Wave		0.011 [−0.022, 0.043]		−0.025 [−0.054, 0.005]		0.048** [0.018, 0.077]
Age (linear)		0.214*** [0.155, 0.274]		0.248*** [0.193, 0.303]		0.114*** [0.072, 0.157]
Age^2 (quadratic)		0.046*** [0.023, 0.069]		0.031** [0.010, 0.052]		
Age^3 (cubic)		−0.037*** [−0.054, −0.021]		−0.022** [−0.037, −0.007]		
Age × Wave				−0.056* [−0.099, −0.013]		
Random effects						
σ^2	0.11	0.10	0.12	0.10	0.10	0.10
τ_{00}	0.11	0.29	0.12	0.72	0.09	0.10
τ_{11}		0.00		0.00		0.00
ρ_{01}		−0.81		−0.92		−0.48
ICC	0.51	0.53	0.51	0.59	0.48	0.48
N	1,659	1,659	1,849	1,849	1,850	1,850
Observations	3,915	3,915	4,770	4,770	4,759	4,759
Marginal R^2/conditional R^2	.000/.511	.022/.543	.000/.512	.036/.600	.000/.477	.021/.491

Note. RQ = relationship quality; CI = confidence interval; ICC = intraclass correlation coefficient.
* $p < .05$. ** $p < .01$. *** $p < .001$.

from the fitted multilevel growth curve models are presented in Figure 1.

Within-Person Codevelopment of Health and RQ

Seventeen respondents were missing the baseline Wave 1 data and thus were removed from the analyses, leaving 1,833 unique respondents with at least two waves of measurements. Results are presented in Tables 5–7. Health-related predictors were entered sequentially for each RQ domain to examine their isolated within-person associations and were subsequently included simultaneously to estimate their unique contributions in the full models. Within-person changes in romantic partner RQ (Table 5) and friend RQ (Table 7) were positively associated with within-person changes in physical health (Model 2), mental health (Model 3), psychological well-being (Model 4), and social well-being (Model 5) when modeled independently ($ps < .05$). As shown in Table 6, within-person changes in family RQ were not associated with within-person changes in physical health (Model 2) but were positively associated with within-person changes in mental health (Model 3), psychological well-being (Model 4), and social well-being (Model 5) when modeled independently ($ps < .05$). Model 6 in Tables 5–7 shows results from the joint models, wherein physical health, mental health, psychological well-being, and social well-being are all entered simultaneously with each RQ domain. When modeled jointly, both psychological well-being and social well-being yielded positive codevelopment with all three RQ domains (Model 6 in Tables 5–7). Psychological well-being demonstrated notably larger effect sizes than social well-being for romantic partner and family RQ. Mental health showed positive codevelopment with romantic partner RQ (Model 6, Table 5) but not with family ($p = .997$; Model 6, Table 6) or friend RQ ($p = .065$; Model 6, Table 7). Physical health did not exhibit significant codevelopment with any RQ domain in the full models (p from .349 to .918; Model 6 in Tables 5–7). Comparisons between the RQ models suggest that changes in mental health and psychological well-being were most strongly associated with changes in romantic partner RQ, while changes in social well-being were most strongly associated with changes in friend RQ.

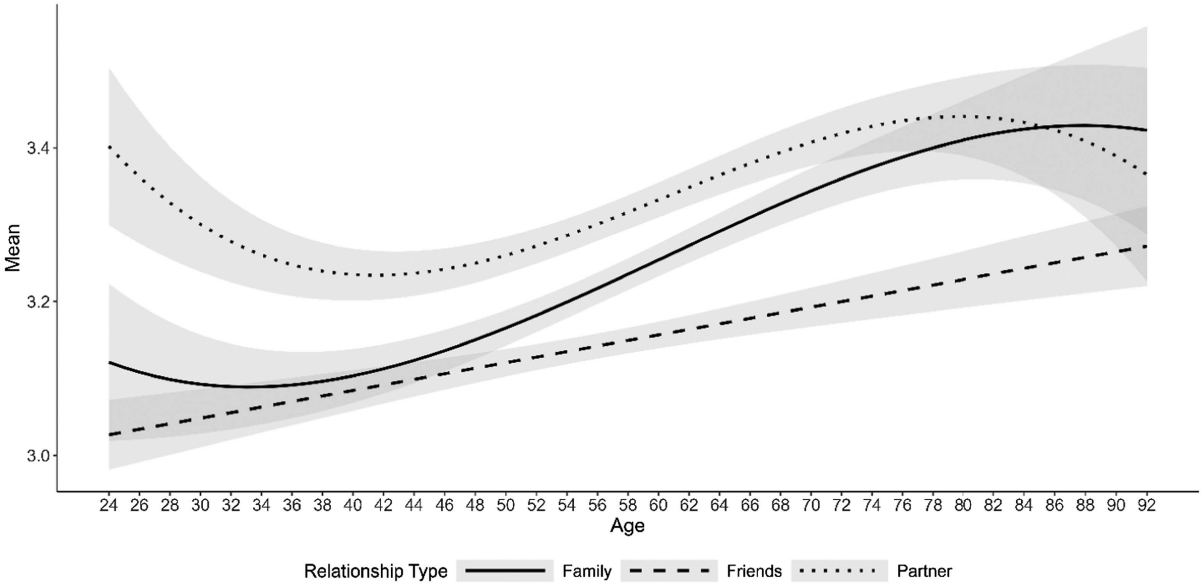
Discussion

Using 20-year longitudinal data, our study examined how men's social relationships, health, and well-being are interconnected. The results suggest that men's RQ changes during adulthood and that these changes are linked to health and well-being in meaningful ways. However, our sample was composed predominantly of White, middle-class, married or cohabitating parents from the United States who were mostly born in the mid-20th century. Interpretation of findings should be done with consideration of the distinct socio-historical contexts that framed this cohort's development through adulthood.

Perhaps the most widely studied social relationship for men is with their romantic partner. Compared to women, men benefit more from romantic relationships and suffer more when these relationships dissolve (House et al., 1988; Kiecolt-Glaser & Newton, 2001; Ross et al., 1990; Stronge et al., 2019). Our findings suggest that throughout most of adulthood, men view their RQ with their romantic partner more positively than their family and friend relationships. Even when facing the challenges of midlife (Infurna et al., 2020) when romantic

Figure 1

Model Estimated Trajectories of Romantic Partner, Family, and Friend Relationship Quality Across Adulthood



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partner RQ was at its nadir, most men in our sample still reported relatively positive RQ with their romantic partner, exceeding RQ with friends or family. Additionally, as expected based on socioemotional selectivity theory (Carstensen et al., 1999) and the convoy model (Antonucci et al., 2014; Kahn & Antonucci, 1980), our results showed a linear increase in partner RQ over time that intensified through late midlife before plateauing in late adulthood. That romantic partner RQ became generally more positive with time may reflect the relative value given to the emotional tenor of relationships that accompany aging (Carstensen et al., 1999). An alternative, but somewhat complementary, perspective is that the improvements in romantic partner RQ over time may, in part, reflect the culling of less satisfying relationships through separation or divorce. In what ways the positive trajectory we found is a product of selective ending and perhaps starting new romantic partnerships, or more reflective of general age-graded trends in emotional intimacy and closeness is an interesting area for future research to explore.

Family RQ also had a significant linear increase with age, suggesting that participants in our sample reported an increasingly positive relationship with their family. This may suggest that men view their family and romantic relationships through the same lens and that these relationships are shaped by similar circumstances as well as the shifting priorities that are linked to aging (Carstensen et al., 1999). However, family RQ remained at lower levels than romantic RQ through most of adulthood. This supports previous research illustrating the outsized role that a romantic partner plays for men (Ferrara & Vergara, 2024; Rosenthal, 1985). This may also reflect the fact that family relationships are a heterogenous category within one's relationship convoy (caregivers, siblings, children, grandchildren) and thus involve varied sources of potential strain (e.g., Hillcoat-Nallétamby & Phillips, 2011; Kim & Yeom, 2016; Monin et al., 2019; Schulz et al., 2020).

Friend RQ gradually increased throughout adulthood. Friendships are typically more peripheral than romantic partners and family in one's relationship convoy (Antonucci et al., 2019) and are thus more likely to be pruned. The linear increase in RQ through adulthood and within-person increases across assessment time points suggests that men in our sample were increasingly focused on maintaining the highest quality friendships as they developed through adulthood. This coincides with lifespan social relationship theories, such as socioemotional selectivity theory (Carstensen et al., 1999) and the convoy model (Antonucci & Akiyama, 1987; Antonucci et al., 2014; Kahn & Antonucci, 1980), which suggest that adults increasingly strengthen those social relationships that offer the greatest emotional rewards as they reach later stages of adulthood. However, given that much of our sample extended into late adulthood, it is possible that changes in friendship networks were in part due to friends dying and the strengthening of those friendships that remained. Future research should examine how older adults manage the death of close friendships, as well as how much of the changes in friendship networks at later stages are due to selective pruning or death.

Although the friend RQ trajectory differed from that observed for family RQ, both were reported at similar levels until midlife, after which family RQ rapidly increased and was consistently higher than friend RQ through the remainder of adulthood. Major changes during this time may partly explain this gap, such as possible improvement in RQ with children as they reach adulthood (Aquilino, 1997), the shrinking of social networks during retirement (Kauppi et al., 2021), and the progressive shift toward closest social ties through adulthood with family typically being closer than friends (Antonucci et al., 2019; English & Carstensen, 2014). Future research should further explore this time in the lifespan to see if this finding is replicated in a different sample and to better understand the reasons underlying this gap between family and friend RQ.

At every time point in the study, we found that RQ in each social domain was positively correlated with better health and well-being. This finding supports theory and research highlighting the connections between these indices of functioning and social relationships during adulthood (Ajrouch et al., 2024; Bruine de Bruin et al., 2020;

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Table 5
Romantic Partner Relationship Quality Baseline-Centered Multilevel Model

Predictor	Model 1 β [95% CI]	Model 2 β [95% CI]	Model 3 β [95% CI]	Model 4 β [95% CI]	Model 5 β [95% CI]	Model 6 β [95% CI]
Intercept	−0.001 [−0.039, 0.037]	−0.001 [−0.038, 0.037]	−0.001 [−0.038, 0.036]	−0.001 [−0.037, 0.036]	−0.001 [−0.038, 0.037]	0.000 [−0.036, 0.036]
Baseline covariates						
Age	0.076*** [0.039, 0.113]	0.089*** [0.051, 0.127]	0.079*** [0.042, 0.115]	0.076*** [0.040, 0.112]	0.084*** [0.047, 0.121]	0.081*** [0.044, 0.117]
Education	−0.001 [−0.040, 0.039]	−0.007 [−0.047, 0.032]	−0.005 [−0.044, 0.034]	−0.003 [−0.041, 0.035]	0.002 [−0.038, 0.041]	−0.004 [−0.042, 0.034]
Income	0.028 [−0.012, 0.067]	0.029 [−0.011, 0.069]	0.026 [−0.013, 0.065]	0.014 [−0.024, 0.052]	0.026 [−0.013, 0.066]	0.014 [−0.024, 0.052]
Time-varying						
Wave	0.100*** [0.071, 0.129]	0.133*** [0.100, 0.166]	0.128*** [0.099, 0.158]	0.111*** [0.083, 0.140]	0.105*** [0.076, 0.134]	0.130*** [0.098, 0.162]
Physical health		0.078*** [0.042, 0.114]				0.002 [−0.035, 0.039]
Mental health			0.176*** [0.144, 0.209]			0.116*** [0.081, 0.151]
Psychological well-being				0.262*** [0.231, 0.294]		0.221*** [0.188, 0.255]
Social well-being					0.123*** [0.090, 0.155]	0.051** [0.018, 0.083]
Random effects						
σ^2	0.1	0.1	0.1	0.09	0.1	0.09
τ_{00}	0.03	0.03	0.03	0.03	0.03	0.02
ICC	0.22	0.22	0.21	0.21	0.22	0.21
N	1,448	1,448	1,448	1,445	1,441	1,440
Observations	3,562	3,562	3,562	3,554	3,536	3,531
Marginal R^2/conditional R^2	.016/.229	.021/.232	.047/.249	.085/.279	.031/.240	.101/.291

Note. CI = confidence interval; ICC = intraclass correlation coefficient.
** $p < .01$. *** $p < .001$.

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Table 6

Family Relationship Quality Baseline-Centered Multilevel Model

Predictor	Model 1 β [95% CI]	Model 2 β [95% CI]	Model 3 β [95% CI]	Model 4 β [95% CI]	Model 5 β [95% CI]	Model 6 β [95% CI]
Intercept	−0.001 [−0.034, 0.033]	−0.001 [−0.034, 0.033]	−0.001 [−0.034, 0.033]	−0.001 [−0.034, 0.032]	0.000 [−0.034, 0.033]	0.000 [−0.033, 0.033]
Baseline covariates						
Age	0.036* [0.003, 0.069]	0.041* [0.007, 0.075]	0.037* [0.004, 0.070]	0.034* [0.001, 0.067]	0.042* [0.009, 0.075]	0.037* [0.004, 0.071]
Education	−0.002 [−0.037, 0.033]	−0.004 [−0.040, 0.031]	−0.003 [−0.038, 0.032]	−0.01 [−0.044, 0.025]	−0.003 [−0.038, 0.032]	−0.009 [−0.043, 0.026]
Income	0.040* [0.005, 0.075]	0.040* [0.005, 0.075]	0.039* [0.004, 0.074]	0.029 [−0.006, 0.063]	0.038* [0.003, 0.073]	0.029 [−0.006, 0.063]
Time-varying						
Wave	0.102*** [0.076, 0.128]	0.113*** [0.084, 0.142]	0.109*** [0.083, 0.135]	0.113*** [0.088, 0.139]	0.107*** [0.081, 0.133]	0.116*** [0.087, 0.144]
Physical health		0.028 [−0.003, 0.060]				0.002 [−0.031, 0.036]
Mental health			0.052*** [0.023, 0.081]			0 [−0.031, 0.031]
Psychological well-being				0.182*** [0.154, 0.211]		0.161*** [0.130, 0.191]
Social well-being					0.110*** [0.081, 0.138]	0.065*** [0.035, 0.094]
Random effects						
σ^2	0.11	0.11	0.11	0.11	0.11	0.11
τ_{00}	0.03	0.03	0.03	0.03	0.03	0.03
ICC	0.22	0.22	0.22	0.22	0.21	0.21
N	1,770	1,770	1,770	1,766	1,762	1,760
Observations	4,598	4,598	4,598	4,586	4,564	4,557
Marginal R^2/conditional R^2	.013/.229	.014/.229	.016/.232	.046/.256	.025/.231	.049/.252

Note. CI = confidence interval; ICC = intraclass correlation coefficient.
* $p < .05$. *** $p < .001$.

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Table 7
Friend Relationship Quality Baseline-Centered Multilevel Model

Predictor	Model 1 β [95% CI]	Model 2 β [95% CI]	Model 3 β [95% CI]	Model 4 β [95% CI]	Model 5 β [95% CI]	Model 6 β [95% CI]
Intercept	0.001 [−0.032, 0.035]	0.001 [−0.032, 0.035]	0.001 [−0.032, 0.035]	0.001 [−0.032, 0.034]	0.001 [−0.032, 0.034]	0.001 [−0.031, 0.034]
Baseline covariates						
Age	−0.007 [−0.040, 0.026]	−0.001 [−0.034, 0.033]	−0.006 [−0.040, 0.027]	−0.007 [−0.040, 0.025]	0.007 [−0.026, 0.040]	0.006 [−0.027, 0.039]
Education	−0.008 [−0.043, 0.027]	−0.011 [−0.046, 0.024]	−0.009 [−0.044, 0.026]	−0.014 [−0.048, 0.020]	−0.01 [−0.045, 0.024]	−0.015 [−0.049, 0.019]
Income	0.015 [−0.020, 0.050]	0.015 [−0.020, 0.050]	0.015 [−0.020, 0.050]	0.004 [−0.030, 0.039]	0.012 [−0.023, 0.047]	0.004 [−0.030, 0.038]
Time-varying						
Wave	0.124*** [0.098, 0.150]	0.139*** [0.110, 0.168]	0.129*** [0.102, 0.155]	0.135*** [0.109, 0.160]	0.130*** [0.105, 0.156]	0.140*** [0.112, 0.168]
Physical health		0.036* [0.004, 0.067]				0.016 [−0.017, 0.049]
Mental health			0.031* [0.002, 0.060]			−0.029 [−0.061, 0.002]
Psychological well-being				0.177*** [0.148, 0.205]		0.141*** [0.111, 0.172]
Social well-being					0.173*** [0.144, 0.201]	0.136*** [0.106, 0.165]
Random effects						
σ^2	0.09	0.09	0.09	0.09	0.09	0.09
τ_{00}	0.03	0.03	0.03	0.02	0.03	0.02
ICC	0.22	0.22	0.22	0.21	0.22	0.21
N	1,771	1,771	1,771	1,767	1,763	1,761
Observations	4,588	4,588	4,588	4,576	4,553	4,546
Marginal R^2/conditional R^2	.016/.229	.017/.230	.017/.230	.047/.251	.045/.252	.063/.264

Note. CI = confidence interval; ICC = intraclass correlation coefficient.
* $p < .05$. *** $p < .001$.

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English & Carstensen, 2014; Lang & Carstensen, 2002; Stafford et al., 2019; Steptoe et al., 2013) and the notion that high-quality relationships can promote personal thriving (Feeney & Collins, 2015a). However, our findings provide some additional nuance by showing how changes in RQ and health and well-being are interrelated, finding positive linkages across each element. In the paired models that examined the quality of each relationship with each health and well-being indicator separately, health and well-being codeveloped with RQ such that within-person increases over time in one were associated with within-person increases over time in the other. The one exception was for physical health and family RQ, where associations were positive but not significant. Our validated measures of psychological well-being (Ryff, 1989) and social well-being (Keyes, 1998) both included specific aspects related to interpersonal functioning (e.g., positive relationship with other aspects of psychological well-being; social integration aspect of social well-being), while our measures of physical health and mental health did not. Mental and physical health composites also included comparatively more objective and concrete aspects, such as health conditions and prescription treatments. These measurement differences may help explain the general pattern where associations between RQ and psychological and social well-being were typically stronger than between RQ and mental and physical health, though others are possible. The one exception to this pattern was for romantic partner RQ, where mental health was more strongly related than was social well-being in both the paired and joint models. Social well-being is geared toward measuring one's functioning within society more broadly, which may not match as cleanly with the emotional intimacy aspects of romantic partner RQ.

In joint models, which tested unique associations between within-person changes in RQ and health and well-being, changes in physical health were not a significant predictor of changes in RQ, and changes in mental health were only positively related to romantic partner RQ. Comparing across RQ models, changes in psychological well-being and mental health were most strongly associated with changes in romantic partner RQ, while changes in social well-being were most strongly associated with changes in friend RQ. Psychological well-being and social well-being are considered independent yet related constructs, with psychological well-being more focused on self-functioning and social well-being focused on functioning with society (Keyes, 2005). Each of our relationship domains captured close relationships; however, they do progressively shift from proximal to distal as we move from romantic partner, to family, to friendships. This may partly explain why psychological well-being was the strongest correlate of RQ across all relationship types but that the strength of association with psychological well-being decreased while the strength of association with social well-being increased as we moved from romantic partner, to family, to friend RQ. Although not hypothesized, these differences may also indicate distinct functions that different types of relationships may play as suggested by the convoy model (Antonucci et al., 2014; Kahn & Antonucci, 1980). For example, previous research shows that romantic partners can influence physical health (Rook & Charles, 2017), especially for men (Kiecolt-Glaser & Newton, 2001). Physical health too could influence RQ, as suggested by previous research on the challenges to RQ that can emerge when caring for and being cared for by a partner (Hillcoat-Nallétamby & Phillips, 2011; Kim & Yeom, 2016; Monin et al., 2019; Nieuwenhuis et al., 2018; Schulz et al., 2020) and the importance of physical intimacy for RQ (Beaulieu et al., 2023).

Each RQ had positive associations with social well-being, but these associations were typically strongest for friend RQ. This highlights the need for men to develop and maintain social relationships, and perhaps especially friendships, as they age to buffer against age-graded (Suanet et al., 2024) and cohort-graded increases in loneliness (Infurna et al., 2025). As friendships become more difficult to make and maintain, efforts to do so are increasingly important. Some helpful possibilities include prioritizing time, seeking social opportunities, taking agency over one's own friend network, normalizing emotional intimacy in friendships, providing structured opportunities for social engagement, and stronger and more consistent messaging about the health and well-being importance of friendships in adulthood (Botha & Bower, 2024; Ferrara & Vergara, 2024; Granderson et al., 2024; Huxhold & Fiori, 2024; Neilson & Maitland, 2025; Ratcliffe et al., 2021).

The significant but comparatively weaker associations between family RQ and health and well-being are also interesting. Research shows women's outsized role in maintaining, strengthening, and developing family connections (Ferrara & Vergara, 2024; Rosenthal, 1985). Men (compared to women) may experience more strain in relationships with their caregivers and receive less support from their adult children, particularly if they are divorced (Umberson et al., 1996). These patterns persist across generations as well, with young adults consistently reporting stronger connections to their mother's than their father's side of the family (Leopold et al., 2025). Our findings suggest that these weaker connections to family may be reflected in correspondingly weaker connections between family RQ and health and well-being. It may also reflect the fact that family as a category includes a heterogeneous array of individual relationships (e.g., caregivers, siblings, children, grandchildren), and as such, it is possible that we are collapsing across a set of associations between RQ and health and well-being of different strengths. This is an important area of future research.

Constraints on Generality

This study provides a lens through which to view how men's social relationships, health, and well-being codevelop during adulthood. However, generalizing the study findings should be done cautiously given the unique demographic composition and sociohistorical context of our sample. The longitudinal data allowed an examination of how changes in social relationships were associated with changes in health and well-being, but the lag between each assessment was 9–10 years. This timespan may mask abrupt changes in relationships, health, and well-being. For example, a participant whose children were toddlers in the first assessment would have adolescents at the second assessment and adult children at the third. Likewise, within the 10-year timespan between assessments, significant others may have passed away, negative relationships may have ended in divorce or separation, and the participant may have entered a new romantic relationship. Research using shorter time frames, perhaps targeted to specific life phases or transitions, would complement the study findings by providing an alternative time perspective on how acute or immediate changes in relationships, health, and well-being are interlinked.

We created more global measures of RQ, health, and well-being because of the expanded time frame in our study. However, doing so prevents us from uncovering how specific aspects of relationships, health, and well-being are interrelated. The study measures were also self-report which could be biased, and participants may not be fully aware of their own health. We also only examined romantic

partner, family, and friend RQ. There are many other social relationships that people make, maintain, and prune throughout adulthood, such as work colleagues, neighbors, and other social connections. Recent research illustrates the potential health and well-being implications of the quantity of these more peripheral social connections (Huxhold et al., 2020). Future research examining the RQ of close and peripheral social connections, using multiple respondents to capture RQ, disentangling selective and situational factors for why relationships change, and using biological data or health records would help provide a more complete picture of how men's social relationships, health, and well-being are connected during adulthood.

The study used data from a U.S. national sample of adults. However, this sample was not representative of the current U.S. population nor representative of other countries. Most notably, most of the study sample was White, married or cohabitating, a parent, and highly educated. These demographic discrepancies may become more pronounced with population changes over time (Vespa et al., 2020). Moreover, the study provided longitudinal data points spanning ages 25–93, but the largest share of responses was from midadulthood. The relatively small number of responses during young and late adulthood introduced considerable variability into our estimates of adulthood trajectories of RQ. Future research that captured a representative sample of adult men, examined these processes in other countries or cultures, or examined specific subgroups would help us better understand how well the study findings generalize to different populations and whether the patterns we captured may have changed with time. Future research with more recently born cohorts would also help examine whether the study findings are replicated or modified as technological advances and shifting social and cultural norms continue to shape our health, well-being, and social relationships in meaningful and unique ways.

Implications

The current work was guided by theory and research on the thriving through relationships model (Feeney & Collins, 2015a, 2015b), the convoy model of social relations (Antonucci et al., 2014; Kahn & Antonucci, 1980), and socioemotional selectivity theory (Carstensen et al., 1999). Consistent with these frameworks, our research highlights the importance of men's convoys of social relationships. Our sample, however, was mostly White, middle-class, married or cohabitating parents from the United States born in the mid-20th century. The sociohistorical contexts that framed our sample's development should be considered when interpreting our study results. Although future research should examine how well our findings hold up over time and translate to other samples, the present study found that the quality of men's relationships with their romantic partner, family, and friends was interwoven with their health and well-being throughout adulthood. The results indicate that these components of healthy aging are positively connected, both concurrently and longitudinally and helps to explain why declines in men's health and well-being in the past decades are co-occurring with the deterioration in their social relationships. This underscores the importance of taking a holistic approach to men's healthy aging that seeks to understand and improve social connection alongside health and well-being.

Our study further advances the aforementioned theory and research by providing a more nuanced evaluation of three major categories of relationships including romantic relationships, family relationships, and friendships and their unique and joint connections to health and well-being. Romantic partner RQ was most strongly linked to men's mental health and psychological well-being, suggesting efforts to improve one of these components should consider how both are interrelated. Family RQ followed a similar trajectory as romantic partner RQ but at lower levels, and linkages with health and well-being were comparatively weaker. This may be capturing the more secondary social roles that men historically play in the family. Friend RQ was notably lower than both romantic partner and family RQ throughout most of adulthood but had the strongest ties to social well-being.

These results also have practical implications for men's lives, particularly given the crises men have faced in recent years with respect to both health and well-being and their social relationships. Given the robust connections between romantic partner RQ and health and well-being efforts to support happy long-term partnerships is a worthy endeavor. These findings also suggest that normalizing men's emotional connection and place with their family may help improve their RQ as well as their overall health and well-being. Although policy that helps men build social connections may be a helpful step in addressing loneliness, our findings speak to the need to go further than simply increasing men's social connections and instead focus on strategies that help men develop and maintain high-quality friendships. Overall, developing and testing interventions that foster men's personal norms around increased emotional intimacy in their romantic relationships, family relationships, and their friendships has the potential to bolster the quality of these relationships and ultimately benefit men's health and well-being.

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