Special Issue: Preregistered Studies of Personality Development and Aging Using Existing Data

Within-Couple Personality Concordance Over Time: The Importance of Personality Synchrony for Perceived Spousal Support

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Received: December 30, 2019; Editorial Decision Date: September 4, 2020

Decision Editor: Richard Lucas, PhD

Abstract

Objectives: Within-couple similarities in personality traits tend to be positively associated with relationship well-being. However, research in this area is typically based on cross-sectional designs, thereby limiting examination of longitudinal personality concordance. Given that life experiences shape within-person change in personality, and that partners within a couple often experience similar life events, investigation of within-couple personality synchrony and associations with marital outcomes is warranted.

Methods: Using data from 3,988 couples (mean age at baseline = 67.0 years, $SD = 9.6$), multilevel dyadic growth models estimated within-couple similarity in baseline levels, change, and occasion-to-occasion variability for each of the Big Five personality traits over an 8-year follow-up. Bivariate growth models examined the effect of within-couple similarity on perceived spousal support, accounting for dependency within couples.

Results: Adjusting for baseline age, education, functional ability, and relationship length, analyses revealed within-couple concordance between baseline levels of all 5 personality traits, as well as correlated within-couple fluctuations in neuroticism, extraversion, and openness over time. Similarity in openness, agreeableness, and neuroticism trajectories predicted spousal support. Couples were most similar in openness, showing correlated intercepts, change, and variability, and this longitudinal synchrony was particularly important for perceived spousal support in women.

Discussion: These findings provide evidence for longitudinal personality synchrony over time within older adult couples. Further, concordance in neuroticism, extraversion, and openness predicted perceived spousal support, though there may be some gender differences in personality dynamics and relationship well-being. Effects of similarity were relatively small compared to actor and partner effects of these traits.

Keywords: Dyads, Longitudinal change, Marriage, Personal relationships, Social support

The saying goes, “opposites attract,” yet spousal similarity and synchrony seems to be of supreme importance for relationships. In this study, we examine the extent to which personality traits change and fluctuate similarly within middle and older adult romantic partners over time, and if longitudinal personality synchrony is related

to perceived spousal support. To our knowledge, no study has previously examined personality trait development within couples over time; however, existing theory and research findings provide justification for the current investigation. Specifically, the theory of assortative mating suggests that individuals are more likely to engage in re-

relationships with those who have traits and characteristics most similar to their own (e.g., [Gonzaga et al., 2010](#); [Mare, 1991](#)). Consistent with this theory, existing literature suggests that when entering a relationship, partners tend to be similar in mental and physical health ([Kiecolt-Glaser et al., 2015](#)), disease ([Hippisley-Cox et al., 2002](#)), attitudes ([Luo & Klohnen, 2005](#)), and health behaviors ([Li et al., 2013](#); [Merler et al., 2007](#)). Furthermore, partners within a couple also tend to be synchronous on psychosocial measures over time (i.e., longitudinal concordance); within-couple trajectories of well-being, happiness, and health are closely linked in older adulthood, such that levels are initially similar, and also change and vary together over time ([Hoppmann & Gerstorf, 2016](#); [Hoppmann et al., 2011](#)).

Within-couple similarities are also associated with positive outcomes. For example, within-couple similarities in various aspects of sexuality are associated with sexual satisfaction ([Lykins et al., 2012](#)) and similarity in attachment styles is associated with satisfaction ([Luo & Klohnen, 2005](#)); likewise, within-couple discordance in mental health is associated with less marital satisfaction, more chronic health conditions, and increased risk of divorce ([Gerstorf et al., 2013](#)). Successful romantic dyads also tend to converge over time; that is, spouses' characteristics, health, and behaviors often become more similar as relationships develop ([Jackson et al., 2015](#); [Leong et al., 2014](#)), and that within-dyad convergence is associated with positive outcomes. For example, convergence in emotional characteristics and personal interests between partners predicts higher life satisfaction, cohesion, and reduced risk of separation ([Anderson et al., 2003](#); [Gonzaga et al., 2010](#)). An important aspect of relationship well-being is the degree to which individuals feel that they are supported by their partner. Perceiving more support from one's romantic partner is closely linked to relationship satisfaction ([Cramer, 2004](#)), and may be particularly important in older adulthood as individuals increasingly rely on a smaller network of close relationships to meet supportive needs ([Carstensen et al., 2003](#)). Indeed, middle-aged and older adults who report higher perceived support have been found to have higher self-rated health, fewer functional impairments, and reduced risk for mortality ([Birditt & Antonucci, 2008](#); [Holt-Lunstad et al., 2010](#); [Ryan et al., 2014](#)). These findings indicate that perceiving greater support from one's close relationships represents an important predictor of physical health and functioning later in the life span.

Thus, existing theory suggests, and supporting evidence shows, that romantic partners are often similar to each other across a variety of characteristics, and those within-couple similarities are often associated with positive outcomes, including perceived spousal support. Two mechanisms may account for within-couple similarity. Firstly, individuals may seek out mates who are similar to themselves, and secondly, individuals within a couple may become more similar to each other over time.

Similarities in within-couple dynamics and development across adulthood may also extend to personality traits.

Several studies report small-to-moderate within-couple associations in levels of the Big Five personality traits in young and older adult couples (e.g., [Glicksohn & Golan, 2001](#); [McCrae et al., 2008](#); [Youyou et al., 2017](#)). Given that the majority of research in this area is cross-sectional, however, it is unclear if similarities are the result of initial concordance (i.e., initial similarities) via assortative mating or through personality convergence (i.e., becoming more similar) over time. Nevertheless, partners reporting similar personality traits tend to differ in relationship characteristics relative to those with nonconcordant personalities. For instance, within-couple similarities in personality traits are positively associated with relationship well-being ([Gonzaga et al., 2007](#)), as well as relationship satisfaction in women, but not men ([Decuyper et al., 2012](#)). Other findings, however, have suggested that the impact of within-couple personality similarity on relationship well-being may be relatively small after accounting for personality trait levels in each partner ([Dyrenforth et al., 2010](#); [Furler et al., 2013](#)). Together, these findings suggest inter-couple differences in within-couple personality similarities, such that partners may endorse similar personality traits, but being more similar may not be consistently associated with positive marital outcomes. Additional research is needed to further clarify the impact of within-couple personality similarities on relationship well-being beyond actor and partner effects.

Existing literature examining within-couple personality concordance is typically based on cross-sectional designs and analysis ([Schimmack & Lucas, 2010](#)), thereby limiting the possibility of examining within-couple personality convergence, as well as longitudinal personality concordance. Although research examining personality development across the life span suggests that personality remains relatively stable through adulthood, there are some discernible mean-level changes consistent with age-related development patterns (see [Roberts et al., 2006](#) for meta-analytic review). Further, despite relative stability of personality in adulthood, extensive evidence shows that personality traits change and vary over time at the within-person level (e.g., [Berg & Johansson, 2014](#); [Graham et al., 2020](#); [Mroczek & Spiro, 2003](#); [Small et al., 2003](#)). It is also the case that previous research investigating personality convergence has been largely based on research designs that do not adequately account for the possibility of within-couple personality trait change and variation over time. For example, research aiming to investigate the hypothesis of personality convergence used a large cross-sectional sample of married couples to examine the extent to which marital length was associated with similarities in personality traits ([Humbad et al., 2010](#)), positing that a positive association between length of relationship and personality trait convergence would provide evidence for the theory. Their analyses were not able to investigate longitudinal concordance, and although their results did not reveal within-couple personality convergence, findings could

have been affected by age, cohort, or between-couple differences, given the cross-sectional nature of their data. Likewise, a study examining within-couple personality convergence using two occasions of measurement 20 years apart found no evidence for couples becoming more similar over time (Caspi et al., 1992). Their results did reveal that within-couple concordance at baseline was maintained 20 years later, suggesting that partners within a couple may change in similar ways over time.

Analysis of two time points, however, limits the ability to capture occasion-to-occasion variability and change that may be occurring between measurement occasions, which is particularly relevant with widely spaced measurement intervals. Although this research provides a novel perspective by considering personality convergence in addition to personality concordance, examination of within-couple personality concordance at the between-couple level or using only two measurement occasions may miss opportunities to explore the possibility of dynamic and parallel patterns of personality development within dyads over time. That is, partners within a couple may maintain personality trait concordance over time, despite within-person change and variation from occasion-to-occasion. For instance, the dynamic interaction view of personality (Caspi, 1998; Neyer & Asendorpf, 2001) suggests that shared environmental influences and major life events among close relationships may lead to co-development of personality over time. In line with this paradigm, one would expect romantic partners to show coupled changes in personality as they face similar influences on their personality development.

To our knowledge, previous research has not investigated the possibility of longitudinal within-couple personality trait concordance. Parallel patterns of change in personality trait development may result from many of the same factors thought to affect convergence, such as mutual influence on each other's behavior, mental health, and physical health, as well as similarities in lifestyle and day-to-day environmental exposures (e.g., eating together, collective stressors; Kiecolt-Glaser & Wilson, 2017). However, instead of becoming more similar, partners within a couple may harmonize on aspects of personality change and variability, perhaps compensating for or complementing aspects of their partner. Consistent with dyadic synchrony literature (e.g., Coutinho et al., 2019; Hoppmann & Gerstorf, 2016; Hoppmann et al., 2011; Liu et al., 2013), we refer to within-couple parallel patterns of longitudinal personality trait change and variability as personality synchrony. Given that life experiences shape within-person change in personality (e.g., Roberts & Mroczek, 2008), and that partners' within a couple share similar environmental influences, investigation of the possibility of within-couple personality synchrony, as well as associations between personality synchrony and marital outcomes, is warranted.

The Current Study

Using data from a large nationally representative sample of U.S. adults, the present study sought to address two primary research aims: examine the extent to which romantic partners show similar trajectories of personality change and variability across a span of up to 8 years, and investigate whether longitudinal within-couple concordance in these traits predicts perceived support from one's spouse at follow-up. Addressing these research aims, we identified three main hypotheses which have been preregistered prior to data analysis. First, consistent with the considerable body of cross-sectional research on within-couple personality similarity (e.g., Youyou et al., 2017), we expected couples to report similar baseline levels for each of the Big Five personality traits. Second, we anticipated that couples will also exhibit similar patterns of change and variability in personality across the follow-up period. Third, we expected couples who exhibit similar trajectories of personality (intercepts, slopes, and occasion-specific residuals [OSRs]) to report feeling more supported by their spouse at follow-up. No specific hypotheses were made regarding gender differences in personality trajectories or associations with perceived support.

Method

Participants

Participants were from the Health and Retirement Study (HRS), a longitudinal panel study exploring the transition to retirement of American adults over the age of 50 and their spouses. HRS has collected data every 2 years since 1992, with additional refreshment cohorts added in 1998, 2004, 2010, and 2016. The main interview consists of a mix of in-person and telephone interviews assessing a range of variables including demographic, financial, occupational, and health information. Additional information on the HRS cohort and its procedures can be found elsewhere (Sonnega et al., 2014).

Beginning in 2006, HRS introduced a psychosocial questionnaire including items assessing personality and perceived social support. At the end of the main face-to-face interview, participants were provided with a paper version of the psychosocial questionnaire to be completed individually at home and returned by mail. This questionnaire was administered to a randomly selected half of households in 2006 and the other half in 2008, with repeated assessments at 4-year intervals. Data from these waves were aligned to represent Wave 1 (baseline), as well as Wave 2 and Wave 3 at 4-year intervals, in the current study.

Participants were included in the present analyses if they had completed personality measures and reported being married or partnered at Wave 1. Couples were excluded if there were discrepancies between reported marital status and if they reported relationship lengths that differed by over 2 years. The resulting sample included data from

3,988 couples in heterosexual relationships, including participants aged 30–97 at baseline. Descriptive statistics for the sample are presented in Table 1.

Preregistration

Analyses and predictions for this study were decided upon prior to data cleaning and analysis. A detailed outline of this preregistration is available on Open Science Framework (URL: <https://osf.io/4xwvq/>), as well as Mplus scripts used for these analyses (<https://osf.io/hk8w6/>). A summary of the authors' past experience with HRS data and related variables is provided in Table 2. Both authors have published previously with HRS data and have some knowledge of overall descriptive statistics for the sample. However, neither have worked with dyadic data from couples in this sample. Some initial data cleaning was performed prior to preregistration to ensure there was sufficient data for analyses based on the number of couples and available personality assessments. Knowledge of the data at the time of preregistration was limited to basic descriptive statistics pertaining to the number of participants and missing data patterns for the personality variables.

Measures

Personality

Personality traits were measured at 4-year intervals using the Midlife Development Inventory (MIDI; Lachman & Weaver, 1997), which is a 26-item inventory assessing the “Big Five” personality traits (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness). Participants were provided with a series of adjectives and asked to indicate how well each adjective described

them on a scale from 1 (*not at all*) to 4 (*a lot*). Neuroticism was measured using four items (e.g., *moody*, *worrying*), openness from seven items (e.g., *creative*, *broad-minded*), while conscientiousness (e.g., *organized*, *thorough*), extraversion (e.g., *outgoing*, *talkative*), and agreeableness (e.g., *caring*, *sympathetic*) were assessed from five items each. Negatively worded items were reverse-coded prior to scoring. All personality items were recoded on a scale from 0 (*not at all*) to 3 (*a lot*), and mean values were then computed for each personality trait. However, with the small range of this scale, the neuroticism growth model experienced convergence issues centered around the small slope variance terms used to compute within-couple covariance. As such, this scale was instead summed to range from 0 to 12. The mean scores for the other traits were multiplied by 4 to be consistent with the neuroticism scale. This change

Table 2. Disclosures of Previous Experience With the Present Data

Disclosure statement	Response
1. Can you document (with data contract or something similar) that all team members have never had any exposure to the data before the preregistration was created?	No
2. Do you assert, even if no verifiable evidence exists, that all team members have never had any exposure to the data before the preregistration was created?	No
3. Do you assert that the author of the preregistration document did not have any exposure to the data before the preregistration, even if some co-authors have worked with the data?	No
4. Do you assert that the authors of the paper have had no exposure to the primary variables (including calculating descriptive statistics) in the analyses, even if they have worked with other variables from the same sample.	No
5. Do you assert that the authors of the paper have had no exposure to one or more primary variables (including calculating descriptive statistics), even if they have worked with some of the primary variables.	Yes
6. Do you assert that the authors of the paper have had exposure to all the primary variables, but that they have never done any analyses that examined their associations?	No
7. Does the primary analysis involve data from new waves of assessment that have never been analyzed (even if similar variables from prior waves had been examined by study authors)?	Yes
8. Have authors had exposure to variables in the same data set that might be expected to correlate relatively strongly with those used in the primary analysis for this paper (e.g., depression and loneliness; self-esteem and life satisfaction)?	No
9. Are you analyzing data from a subset of participants (e.g., a hold-out sample) who you have not studied before?	Yes

Table 1. Baseline Characteristics of the Sample ($N = 3,988$ Couples)

Variable	M(SD)/%		
	Total	Male partners	Female partners
Age	67.04 (9.57)	68.71 (9.31)	65.38 (9.54)
Race (% White)	88.3%	88.1%	88.4%
Education (years)	12.88 (3.00)	12.91 (3.24)	12.86 (2.75)
Relationship length (years)	37.74 (15.72)		
IADLs	0.17 (0.63)	0.18 (0.65)	0.17 (0.60)
Perceived spousal support	15.61 (3.91)	16.14 (3.49)	15.08 (4.23)
Openness	7.76 (2.19)	7.73 (2.19)	7.79 (2.19)
Conscientiousness	9.48 (1.91)	9.24 (1.93)	9.72 (1.85)
Extraversion	8.78 (2.23)	8.56 (2.25)	9.00 (2.19)
Agreeableness	10.02 (1.93)	9.48 (2.05)	10.56 (1.63)
Neuroticism	4.19 (2.41)	3.90 (2.37)	4.48 (2.42)

Note: IADLs = instrumental activities of daily living.

does not affect the estimates of within-couple correlations, but was made to facilitate comparability of the growth model parameters between traits.

The MIDI has been used extensively in past research to examine longitudinal associations between personality and outcomes such as sleep quality, physical health, and dementia risk (e.g., [Stephan et al., 2018](#); [Terracciano et al., 2017](#)). Tests of measurement invariance in the MIDI have found consistent variance across adult age groups, suggesting that participants interpret the measure similarly across the span of adulthood ([Zimprich et al., 2012](#)). Moreover, one multistudy coordinated analysis found that this measure showed comparable trajectories of personality trait change across adulthood as other personality inventories such as the Big Five Inventory ([Graham et al., 2020](#)). In the present sample, Cronbach α values remained fairly stable across the measurement waves, with conscientiousness displaying poorer reliability (Wave 1 = 0.68, Wave 2 = 0.68, Wave 3 = 0.68) at each occasion relative to neuroticism (Wave 1 = 0.70, Wave 2 = 0.71, Wave 3 = 0.72), extraversion (Wave 1 = 0.76, Wave 2 = 0.76, Wave 3 = 0.76), openness (Wave 1 = 0.79, Wave 2 = 0.79, Wave 3 = 0.81), and agreeableness (Wave 1 = 0.79, Wave 2 = 0.79, Wave 3 = 0.80) which demonstrated acceptable to good internal consistency.

Perceived spousal support

Measures of perceived spousal support were completed along with the personality items in the psychosocial questionnaire at 4-year intervals. Participants completed a brief 7-item measure assessing positive and negative aspects of support from their spouse/partner. This brief assessment was derived from previously used and validated measures of relationship support (e.g., [Walen & Lachman, 2000](#)). Three items evaluated perceptions of positive support (e.g., “How much do they really understand the way you feel about things?”, “How much can you rely on them if you have a serious problem?”) and four items assessed feelings of negative support or strain (e.g., “How often do they make too many demands on you?”, “How much do they criticize you?”). Participants responded on a scale from 1 (*not at all*) to 4 (*a lot*), with negative support questions reverse-scored. These items were recoded on a scale from 0 (*not at all*) to 3 (*a lot*) and summed to indicate overall perceptions of support at each occasion ranging from 0 to 21. This scale demonstrated good internal consistency across measurement occasions (Wave 1 Cronbach α = 0.84, Wave 2 = 0.83, Wave 3 = 0.83).

Covariates

Models were adjusted for age (in years, centered on mean at baseline), years of education (centered on mean at baseline), instrumental activities of daily living (IADLs), and relationship length. IADLs were assessed via five items reflecting participants’ ability to perform everyday tasks including using the telephone, handling money, managing

medication, shopping, and preparing meals (see [Wallace & Herzog, 1995](#)). Participants indicated whether they were able to perform these tasks, and the items were summed to create a score from 0 to 5, with higher values indicating more functional limitations. IADLs were included to account for potential changes in support dynamics that could affect perceived support from one’s spouse. Relationship length was reported in years at baseline and centered at the sample mean. In some cases, partners were interviewed at separate dates, resulting in discrepancies between reports of relationship length. In such cases, the mean value of the couple’s responses was used.

Preregistered Analyses

Multilevel growth models for dyads (see [Laurenceau & Bolger, 2012](#); [Raudenbush et al., 1995](#)) were used to estimate the degree to which the Big Five personality traits covary at baseline and over time at the within-couple level. Five separate models were estimated with each personality trait modeled as a function of time in years since the baseline measurement. Personality trajectories were modeled for women and men, and allowed to covary, providing within-couple covariance values for intercepts, slopes, and OSRs. These covariance values represent the extent to which couples exhibit similar baseline levels (intercepts) and changes in each personality trait over time (slopes). In addition, OSR covariance values indicate the extent to which romantic partners similarly deviate from their own mean values at the same occasion. In other words, positively associated OSRs would suggest that on occasions when one partner reports higher values on a trait than is typical, their spouse reports concurrent increases in that trait relative to their typical level. To facilitate interpretation, covariance values were converted to Pearson correlation coefficients. Analyses were conducted in Mplus version 8 ([Muthén & Muthén, 2019](#)).

Next, fitted values for each parameter were extracted from the models, which were used to compute within-couple difference scores in intercepts, slopes, and OSRs. These values were then converted to similarity scores by computing the inverse of the absolute difference. Similarity scores were then z -transformed so that effects could be interpreted across the different parameters. Bivariate growth models were run to examine the effect of within-couple similarity in each parameter on perceived spousal support across the 8-year follow-up, accounting for the dependency of partners’ data ([Raudenbush et al., 1995](#)). The intercept, slope, and OSR parameters were included together as predictors of perceived support, while adjusting for baseline age, education, functional ability, and relationship length. Similarity in initial personality levels (intercepts) between partners was included as a predictor of men and women’s perceived support at baseline. Similarity scores for intercepts, slopes, and OSRs were included as predictors of rate of change in perceived support.

Deviations From Original Preregistration

The statistical analyses for this project required several researcher decisions. Many of these decisions (e.g., statistical plan, covariates to be included in models) were preregistered on November 5, 2019 on the Open Science Framework (URL: <https://osf.io/hmwbv>). Three aspects of the preregistration were modified: (a) We originally planned to use ordinary least squares regression to examine the effect of personality similarity on perceived spousal support. After learning a third wave of spousal support data was available for all participants, we decided to use multilevel modeling to predict longitudinal changes in support. (b) As mentioned, we originally intended to use mean values for the Big Five personality variables, but model convergence issues resulted from the small slope variance terms; therefore, we elected to use the summed values of these items. (c) Finally, reviewers of the first submission of this manuscript made some insightful and thoughtful recommendations, which deviated from our original plan. Specifically, reviewers suggested accounting for the potential impact of within-couple age differences, as well as actor and partner personality effects on perceived spousal support, as studies that appropriately account for actor and partner effects seem less likely to find similarity effects (e.g., Furler et al., 2013). We believe that the exploratory analyses recommended by reviewers provide additional, more nuanced understanding of within-couple personality trait synchrony. No alternative analyses or model decisions were made beyond what has been reported in the present manuscript.

Results

Within-Couple Synchrony in Personality Trajectories

As reported in Table 3, dyadic growth models estimated trajectories of each personality trait in couples across the 8-year follow-up. Overall, each personality trait remained fairly stable across the follow-up period, with only small annual decreases observed. However, there was significant variability in the slope parameters for each of the traits except for neuroticism, suggesting between-person differences in patterns of change over time. Women were significantly higher in each trait at baseline, with the exception of openness, where men and women reported similar initial levels. Considering within-couple similarities in these trajectories, intercepts were consistently correlated between partners. It should be noted that correlations were estimated independently for each parameter and differ in terms of corresponding error variance used to compute p -values. Thus, some estimates may be larger than others, but not statistically significant based on the precision of estimates for that parameter. For extraversion, couples reported similar initial values, $r = 0.07$, $p = .001$,

Table 3. Multilevel Models Estimating Longitudinal Change in the Big Five Personality Traits for Male and Female Partners

Effect	Male partners		Female partners	
	Estimate (SE)	p	Estimate (SE)	p
Neuroticism				
Intercept	3.88 (0.04)	<.001	4.48 (0.04)	<.001
Slope	−0.04 (0.01)	<.001	−0.05 (0.01)	<.001
Intercept variance	3.93 (0.11)	<.001	3.68 (0.11)	<.001
Slope variance	0.00 (0.00)	.095	0.01 (0.00)	.004
Residual variance	2.04 (0.07)	<.001	2.04 (0.06)	<.001
Conscientiousness				
Intercept	9.25 (0.03)	<.001	9.73 (0.03)	<.001
Slope	−0.04 (0.01)	<.001	−0.02 (0.00)	<.001
Intercept variance	2.43 (0.08)	<.001	2.31 (0.07)	<.001
Slope variance	0.01 (0.00)	<.001	0.01 (0.00)	<.001
Residual variance	1.40 (0.05)	<.001	1.13 (0.04)	<.001
Openness				
Intercept	7.72 (0.03)	<.001	7.78 (0.03)	<.001
Slope	−0.06 (0.01)	<.001	−0.05 (0.00)	<.001
Intercept variance	3.25 (0.03)	<.001	3.48 (0.09)	<.001
Slope variance	0.01 (0.00)	<.001	0.01 (0.00)	<.001
Residual variance	1.61 (0.06)	<.001	1.36 (0.05)	<.001
Agreeableness				
Intercept	9.49 (0.03)	<.001	10.56 (0.03)	<.001
Slope	−0.02 (0.01)	<.001	−0.02 (0.00)	<.001
Intercept variance	2.57(0.08)	<.001	1.75 (0.07)	<.001
Slope variance	0.01 (0.00)	<.001	0.01 (0.00)	<.001
Residual variance	1.63 (0.06)	<.001	1.01 (0.03)	<.001
Extraversion				
Intercept	8.55 (0.04)	<.001	8.99 (0.03)	<.001
Slope	−0.04 (0.01)	<.001	−0.03 (0.00)	<.001
Intercept variance	3.50 (0.10)	<.001	3.52 (0.09)	<.001
Slope variance	0.01 (0.00)	<.001	0.01 (0.00)	<.001
Residual variance	1.61 (0.06)	<.001	1.32 (0.05)	<.001

and OSRs, $r = 0.05$, $p = .024$, but not slopes, $r = 0.09$, $p = .464$. For neuroticism, male and female partners reported similar baseline levels, $r = 0.20$, $p < .001$, and OSRs, $r = 0.07$, $p = .001$, but did not exhibit similar change over time, $r = -0.16$, $p = .646$. Likewise, male and female partners were found to have correlated intercepts for conscientiousness, $r = 0.23$, $p < .001$, but not for slopes, $r = 0.24$, $p = .057$, or OSRs, $r = 0.00$, $p = .988$. Moreover, couples were similar in initial levels of agreeableness, $r = 0.21$, $p < .001$, but not slopes, $r = 0.15$, $p = .309$, or OSRs, $r = 0.01$, $p = .512$. Couples appeared to be most similar for the trait of openness, showing correlated intercepts, $r = 0.33$, $p < .001$, slopes, $r = 0.34$, $p = .013$, and OSRs, $r = 0.04$, $p = .050$. An illustration of these associations is provided in Supplementary Figure 1, which displays plotted trajectories in openness to experience for men and women in a random sample of 25 couples.

Personality Synchrony Predicting Perceived Spousal Support

Table 4 displays the results from the dyadic multilevel models of within-couple similarity in each trait predicting perceived support from one's spouse. Effects of covariates and similarity in intercepts for each trait on initial levels of perceived support are reported under the intercept headings in the table. Likewise, values under the slope headings indicate effects of covariates and within-couple similarity in intercepts, slopes, and residuals on rates of change in perceived support. Random effects reflect residual variances

in perceived spousal support after accounting for the above variables. Men perceived more support from their spouses at the initial assessment, and no significant change in perceived support was observed for women or men. Participants who were older at baseline reported higher initial levels of support, but steeper decline over time. Higher education was associated with perceiving more spousal support at baseline for women, but not men. On the other hand, higher education was related to increasing perceptions of support over time in men, but not women. Relationship length predicted only women's rate of change

Table 4. Dyadic Multilevel Model Predicting Perceived Spousal Support From Within-Couple Similarity in Each Big Five Personality Trait

Parameter	Estimate (SE)				
	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Male partners					
Intercept	16.18 (0.06)***	16.17 (0.06)***	16.17 (0.06)***	16.17 (0.06)***	16.18 (0.06)***
Age (decades)	0.20 (0.01)**	0.20 (0.01)**	0.20 (0.01)**	0.20 (0.01)**	0.20 (0.01)**
Education	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)
Relationship length	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Personality similarity (I)	0.07 (0.03)*	-0.02 (0.06)	-0.02 (0.04)	0.09 (0.04)*	0.09 (0.03)**
Slope	-0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Age (decades)	-0.03 (0.00)**	-0.03 (0.00)**	-0.03 (0.00)**	-0.03 (0.00)**	-0.03 (0.00)**
Education	0.01 (0.00)**	0.01 (0.00)*	0.01 (0.00)*	0.01 (0.00)*	0.01 (0.00)*
Relationship length	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Personality similarity (I)	-0.01 (0.01)	0.01 (0.01)	-0.01 (0.02)	-0.01 (0.01)	-0.02 (0.01)*
Personality similarity (S)	-0.00 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Personality similarity (R)	0.00 (0.01)	-0.02 (0.01)	0.03 (0.04)	0.03 (0.01)†	0.00 (0.01)
Functional ability	0.08 (0.09)	0.08 (0.09)	0.08 (0.09)	0.08 (0.09)	0.08 (0.09)
Random effects					
Intercept variance	7.87 (0.28)***	7.87 (0.28)***	7.87 (0.28)***	7.86 (0.28)***	7.88 (0.28)***
Slope variance	0.02 (0.01)**	0.02 (0.01)**	0.02 (0.01)**	0.02 (0.01)**	0.02 (0.01)**
Residual	3.94 (0.16)***	3.94 (0.16)***	3.93 (0.16)***	3.93 (0.16)***	3.93 (0.16)***
Female partners					
Intercept	15.07 (0.07)***	15.06 (0.07)***	15.06 (0.07)***	15.06 (0.07)***	15.06 (0.07)***
Age (decades)	0.20 (0.01)*	0.20 (0.01)*	0.20 (0.01)*	0.20 (0.01)*	0.20 (0.01)*
Education	0.11 (0.02)***	0.11 (0.02)***	0.11 (0.02)***	0.11 (0.02)***	0.11 (0.02)***
Relationship length	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Personality similarity (I)	0.08 (0.06)	-0.03 (0.06)	-0.03 (0.06)	0.07 (0.04)*	0.09 (0.03)**
Slope	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)
Age (decades)	-0.04 (0.00)*	-0.04 (0.00)*	-0.04 (0.00)*	-0.03 (0.00)*	-0.04 (0.00)*
Education	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Relationship length	0.00 (0.00)**	0.00 (0.00)**	0.00 (0.00)**	0.00 (0.00)**	0.00 (0.00)**
Personality similarity (I)	-0.01 (0.01)	0.02 (0.02)	0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Personality similarity (S)	-0.01 (0.01)	-0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	-0.00 (0.01)
Personality similarity (R)	0.03 (0.01)***	0.10 (0.01)†	-0.00 (0.02)	0.03 (0.01)†	0.00 (0.01)
Functional ability	-0.19 (0.12)	-0.19 (0.12)	-0.19 (0.12)	-0.18 (0.12)	-0.18 (0.12)
Random effects					
Intercept variance	11.94 (0.39)***	11.93 (0.39)***	11.94 (0.39)***	11.93 (0.39)***	11.94 (0.39)***
Slope variance	0.03 (0.01)***	0.03 (0.01)***	0.03 (0.01)***	0.03 (0.01)***	0.03 (0.01)***
Residual	5.25 (0.22)***	5.25 (0.22)***	5.26 (0.22)***	5.26 (0.22)***	5.26 (0.22)***

Notes: I = intercepts; R = occasion-specific residuals; S = slopes.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

in perceived support, with women in older relationships reporting slightly greater increases in support over time.

Similar openness intercepts predicted greater perceived support for men at the initial assessment ($\beta = 0.07, p = .017$), and similar openness OSRs were positively associated with rate of change in women's perceived support ($\beta = 0.03, p < .001$). In other words, for couples who showed similar patterns of variability in openness over time, women, but not men, perceived greater increases in support from their spouse. For the trait of agreeableness, similar within-couple intercepts were associated with higher perceived support at baseline in both women ($\beta = 0.07, p = .047$) and men ($\beta = 0.09, p = .037$). Finally, neuroticism intercepts predicted higher baseline perceived support in both women ($\beta = 0.09, p = .016$) and men ($\beta = 0.09, p = .003$), as well as decreasing support over time among men ($\beta = -0.02, p = .015$). Within-couple similarity in conscientiousness and extraversion trajectories did not predict initial levels or rate of change in perceived support.

Exploratory Analyses

Additional analyses were conducted to account for the potential effect of within-couple age discrepancies, and whether similarities in personality trajectories predict perceived spousal support after accounting for actor and partner personality effects. Results of these exploratory analyses are presented in [Supplementary Table 1](#). Larger age differences between partners predicted slightly less perceived support at baseline, but not change in support over time. Significant actor and partner effects were observed for each personality trait, suggesting that the amount of support one perceives from their spouse at a given time is affected by both one's own personality and that of their partner. For example, participants reported perceiving less support from their spouse if they themselves (men: $\beta = -0.30, p < .001$, women: $\beta = -0.32, p < .001$) or if their spouse scored higher in neuroticism (men: $\beta = -0.17, p < .001$, women: $\beta = -0.20, p < .001$). Some effects of within-couple similarity in personality trajectories were modified after adjusting for actor and partner effects. For example, the inclusion of actor and partner effects attenuated the association between initial personality similarity and initial levels of perceived support (intercept–intercept associations) for agreeableness and neuroticism, such that these effects were no longer statistically significant. On the other hand, the effects of similarity in openness remained relatively unchanged adjusting for actor and partner effects.

Discussion

Close social relationships, such as the relationship with one's spouse, represent important environmental influences on life-span health and development (e.g., [Bronfenbrenner, 1979](#)). Frequent interaction, shared experiences, and emotional transmission often lead romantic partners to become

more similar over time ([Kiecolt-Glaser & Wilson, 2017](#)). Though couples appear to experience similar patterns of change in behavior ([Jackson et al., 2015](#); [Leong et al., 2014](#)), mental health ([Gerstorf et al., 2013](#)), and other characteristics, whether couples experience similar patterns of personality change in adulthood is less clear. The present study sought to address this gap in the literature by examining similarity in longitudinal personality trajectories in a large sample of middle and older adult couples, as well as associations between similarity in personality trajectories and perceived spousal support. Consistent with cross-sectional studies (e.g., [Youyou et al., 2017](#)), romantic couples exhibited small (e.g., extraversion, $r = 0.07, p < .001$) to moderate (e.g., openness, $r = 0.33, p < .001$) baseline associations for each of the Big Five personality traits. However, there was less evidence for within-couple similarity in overall personality change over time, with significant slope–slope associations observed only for the trait of openness.

These findings may appear to support the notion of assortative mating, yet it is possible that the consistent within-couple associations between baseline personality traits could be explained by personality convergence earlier in the relationship. Research involving younger adult and newly wed couples has found evidence for personality convergence in the early years of the relationship ([Gonzaga et al., 2007](#)), but not in middle-aged adult couples ([Gonzaga et al., 2010](#); [Humbad et al., 2010](#); [Rammstedt et al., 2013](#)), suggesting that personality convergence may occur primarily in the beginning of the relationship. It is also possible that partners whose personality traits are highly dissimilar or diverge substantially early in relationships are no longer together later in life. In the present study, participants reported mean relationship length of nearly four decades, and we were only able to include participants who still reported being in a relationship during the waves that personality assessments were administered. As such, it is not possible to discern whether “baseline” personality similarities are attributable to selection effects at the start of the relationship or convergence over time, nor the degree of bias introduced due to only including intact couples. Nonetheless, this adds support for personality concordance among close social relationships.

Within-Couples Associations in Personality Change

Previous studies have reported conflicting findings regarding within-couple associations between personality change over time. For instance, several studies have highlighted that major life events and shared experiences in couples may affect personality trait change ([Bleidorn et al., 2018](#); [Mund & Neyer, 2014](#)). With these common environmental influences, one might expect romantic partners to report parallel changes over time. However, with the exception of openness to experience, couples in the present study

did not show similar overall change in personality across the study. Other factors beyond shared environmental factors, such as genetics or biological determinants, may account for differences in personality change in middle-to-older adulthood (Costa et al., 2019). Indeed, underlying biological changes brought about by health-related changes or development of dementia have been shown to coincide with personality change in older adults (Berg & Johansson, 2014; Yoneda et al., 2020). Though shared environmental influences may result in co-development of personality (Caspi, 1998; Neyer & Asendorpf, 2001), neurological change is an individual process with underlying changes occurring sometimes decades prior to the emergence of clinical symptoms (e.g., Hall et al., 2000). As such, individual factors are also likely to influence personality development in middle-to-older adulthood.

Despite the lack of similarity in overall change across the study, couples showed some similarity in occasion-to-occasion fluctuation in extraversion, neuroticism, and openness. These findings suggest that couples experience similar patterns of variability relative to their own levels over time. These represent novel findings given that research on within-couple personality change has typically examined change between two time points, which are unable to capture such patterns of variability over time. Thus, while less support has been found for close social relationships influencing overall change in personality over time (Borghuis et al., 2017), common relationship factors may exert greater influence on patterns of variation relative to one's typical levels.

Considering the significant within-couple association between overall changes in openness, common life events may have more of an impact on levels of and changes in openness, relative to other traits. For example, engagement in mentally stimulating activities has been shown to promote increases in openness in older adults (Jackson et al., 2012). Given that couples often spend the majority of their leisure time engaged in activities with their partner (Voorpostel et al., 2010), shared engagement in such activities may facilitate concurrent changes in openness. As such, synchrony in openness may be particularly important for older couples, though our analyses did not explicitly consider life events or shared activities. Additionally, given the age range of couples included in HRS, we cannot be certain if these findings would generalize to younger couples. Similarities in openness are associated with greater relationship stability and decreased likelihood of separation (Rammstedt et al., 2013), further suggesting that synchrony in openness may be important for relationship success into older adulthood.

Within-Couple Personality Similarity and Perceived Support

Consistent with previous findings (Chopik & Lucas, 2019; Decuyper et al., 2012; Dyrenforth et al., 2010), baseline similarities for several, but not all, personality traits

predicted relationship well-being. Higher similarity parameters for the traits of openness, agreeableness, and neuroticism were associated with greater perceived spousal support. As in past research (e.g., Decuyper et al., 2012), we observed several gender differences in the associations between personality similarity and support. For example, similar occasion-to-occasion variability in openness predicted increases in perceived support for women, but not for men. Further, higher concordance in initial levels of neuroticism was associated with decreasing perceived support for men. This finding may reflect differences in the nature in which men and women interpret and use support. Men generally report their spouse as their primary support provider and tend to receive less social support from individuals outside of their romantic relationships (e.g., Walen & Lachman, 2000).

Notably, the effects of personality similarity were relatively small, particularly when compared to actor and partner personality effects on perceived spousal support. With the exception of the trait of openness to experience, associations between personality similarity and perceived spousal support were attenuated after accounting for actor and partner effects. These findings align with more recent research showing little or no impact of personality similarity on relationship well-being (Dyrenforth et al., 2010; Furler et al., 2013).

Strengths, Limitations, and Future Directions

The present study has several strengths including a large longitudinal sample of older couples, the analysis of overall change as well as within-person fluctuations in each trait, and the use of dyadic multilevel models accounting for within-couple covariances. However, some limitations should guide future investigations. One notable limitation is that only three waves of personality data were available; as such, analyses were limited to modeling linear effects over time. The inclusion of additional personality assessment occasions would build on the present work in two ways. First, it would permit modeling of nonlinear changes in personality that may occur across middle-to-older adulthood. Indeed, previous investigations of personality change across the span of adulthood have noted curvilinear changes in several of the Big Five traits (Graham et al., 2020; Mroczek & Spiro, 2003; Roberts & Mroczek, 2008). Second, the inclusion of additional time points would likely help to improve the estimate of overall change, thereby improving the reliability of OSRs as markers of within-person deviations relative to one's own expected values. Though the OSR values may reflect true personality fluctuations from occasion-to-occasion, these values also encompass model error that may be compounded by poor fit of participants' intercept and slope values to the observed data.

An additional limitation is that the current study was only able to examine perceived spousal support as a marker of relationship well-being. Similarity in conscientiousness

and extraversion did not predict perceived spousal support; however, it is possible that personality similarity may influence other components of relationship well-being, such as relationship satisfaction (Gonzaga et al., 2007). In addition, it is challenging to disentangle age effects from the impact of long-term relationships in older adulthood (Horn & Röcke, 2020). Specifically, the average relationship length in HRS is nearly 40 years; as such, age-related personality development and partner co-development and influences on personality development are inextricably linked within these romantic couples.

Future research could also build upon the present study by examining the impact of personality similarity and synchrony over time on additional predictors of relationship well-being, such as relationship satisfaction or intimacy. In addition, because of the lack of couples in homosexual relationships with available personality data in HRS and our use of growth models for distinguishable dyads (Laurenceau & Bolger, 2012), the present analyses included only couples in heterosexual relationships. Thus, results may not be generalizable to same-sex relationships. Same-sex couples may experience more similarity in life events and stressors (LeBlanc & Frost, 2019), potentially contributing to more opportunities for associated personality change and variability. Future research including a more diverse sample of couples would advance the understanding of within-couple personality similarity, synchrony, and convergence. Finally, additional research is needed to examine factors that may predict within-couple similarity and dissimilarity in personality trajectories. For instance, the transition to retirement may lead to discernible personality changes beyond those attributed to aging and adult development (Schwaba & Bleidorn, 2019). Differences in partners' retirement timing could thus lead to discrepancies in personality trait change. Other couple- and individual-level characteristics such as emotional closeness, physical health, leisure activities, and lifestyle may affect the degree to which middle and older adult couples show similar patterns of personality change over time.

Conclusions

Using a statistical model of dyadic longitudinal personality concordance, the present study found support for within-couple similarity in baseline personality, as well as synchrony of within-person fluctuations in personality over time. Notably, gender differences were observed in the effect of personality similarity on perceived support, suggesting that personality dynamics may affect relationship well-being differently for men and women. Specifically, longitudinal synchronous change and variation on measures of openness seemed particularly important for women. Given that marriage, cohabitation, and romantic relationships are the primary setting for social relationships for many adults, particularly in older adulthood (e.g., Carstensen et al., 2003), and the important

role of relationships for late-life health and functioning (Kiecolt-Glaser & Wilson, 2017), better understanding of personality synchrony and interdependence could help facilitate better health and well-being outcomes in couples.

Supplementary Material

Supplementary data are available at *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* online.

Funding

Research reported in this publication was supported by the Integrative Analysis of Longitudinal Studies of Aging and Dementia research network under the National Institute on Aging of the National Institutes of Health (P01 AG043362); Social Sciences and Humanities Research Council of Canada (SSHRC; to T. Yoneda); Alzheimer Society Research Program (ASRP; to T. Yoneda and N. A. Lewis); Health and Retirement Study is supported by the National Institute on Aging (U01 AG009740) and the Social Security Administration in the United States.

Conflict of Interest

None declared.

Acknowledgments

The authors would like to thank Drs. Andrea Piccinin and Scott Hofer, as well as the Editor and two thoughtful peer reviewers, for their helpful comments on the manuscript. This work utilized publicly available data from the Health and Retirement Study (HRS) which can be accessed at <https://hrs.isr.umich.edu/>.

References

- Anderson, C., Keltner, D., & John, O. P. (2003). Emotional convergence between people over time. *Journal of Personality and Social Psychology*, 84(5), 1054–1068. doi:10.1037/0022-3514.84.5.1054
- Berg, A. I., & Johansson, B. (2014). Personality change in the oldest-old: Is it a matter of compromised health and functioning? *Journal of Personality*, 82(1), 25–31. doi:10.1111/jopy.12030
- Birditt, K., & Antonucci, T. C. (2008). Life sustaining irritations? Relationship quality and mortality in the context of chronic illness. *Social Science & Medicine* (1982), 67(8), 1291–1299. doi:10.1016/j.socscimed.2008.06.029
- Bleidorn, W., Hopwood, C. J., & Lucas, R. E. (2018). Life events and personality trait change. *Journal of Personality*, 86(1), 83–96. doi:10.1111/jopy.12286

- Borghuis, J., Denissen, J. J. A., Oberski, D., Sijsma, K., Meeus, W. H. J., Branje, S., Koot, H. M., & Bleidorn, W. (2017). Big five personality stability, change, and codevelopment across adolescence and early adulthood. *Journal of Personality and Social Psychology*, 113(4), 641–657. doi:10.1037/pspp0000138
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Carstensen, L. L., Fung, H. H., & Charles, S. T. (2003). Socioemotional selectivity theory and the regulation of emotion in the second half of life. *Motivation and Emotion*, 27(2), 103–123. doi:10.1023/A:1024569803230
- Caspi, A. (1998). Personality development across the life course. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (pp. 311–388). Wiley.
- Caspi, A., Herbener, E. S., & Ozer, D. J. (1992). Shared experiences and the similarity of personalities: A longitudinal study of married couples. *Journal of Personality and Social Psychology*, 62(2), 281–291. doi:10.1037//0022-3514.62.2.281
- Chopik, W. J., & Lucas, R. E. (2019). Actor, partner, and similarity effects of personality on global and experienced well-being. *Journal of Research in Personality*, 78, 249–261. doi:10.1016/j.jrp.2018.12.008
- Costa, P. T., Jr., McCrae, R. R., & Löckenhoff, C. E. (2019). Personality across the life span. *Annual Review of Psychology*, 70, 423–448. doi:10.1146/annurev-psych-010418-103244
- Coutinho, J., Oliveira-Silva, P., Fernandes, E., Gonçalves, O. F., Correia, D., Perrone Mc-Govern, K., & Tschacher, W. (2019). Psychophysiological synchrony during verbal interaction in romantic relationships. *Family Process*, 58(3), 716–733. doi:10.1111/famp.12371
- Cramer, D. (2004). Emotional support, conflict, depression, and relationship satisfaction in a romantic partner. *The Journal of Psychology*, 138(6), 532–542. doi:10.3200/JRLP.138.6.532-542
- Decuyper, M., De Bolle, M., & De Fruyt, F. (2012). Personality similarity, perceptual accuracy, and relationship satisfaction in dating and married couples. *Personal Relationships*, 19(1), 128–145. doi:10.1111/j.1475-6811.2010.01344.x
- Dyrenforth, P. S., Kashy, D. A., Donnellan, M. B., & Lucas, R. E. (2010). Predicting relationship and life satisfaction from personality in nationally representative samples from three countries: The relative importance of actor, partner, and similarity effects. *Journal of Personality and Social Psychology*, 99(4), 690–702. doi:10.1037/a0020385
- Furler, K., Gomez, V., & Grob, A. (2013). Personality similarity and life satisfaction in couples. *Journal of Research in Personality*, 47(4), 369–375. doi:10.1016/j.jrp.2013.03.002
- Gerstorf, D., Windsor, T. D., Hoppmann, C. A., & Butterworth, P. (2013). Longitudinal change in spousal similarities in mental health: Between-couple and within-couple perspectives. *Psychology and Aging*, 28(2), 540–554. doi:10.1037/a0032902
- Glicksohn, J., & Golan, H. (2001). Personality, cognitive style and assortative mating. *Personality and Individual Differences*, 30(7), 1199–1209. doi:10.1016/S0191-8869(00)00103-3
- Gonzaga, G. C., Campos, B., & Bradbury, T. (2007). Similarity, convergence, and relationship satisfaction in dating and married couples. *Journal of Personality and Social Psychology*, 93(1), 34–48. doi:10.1037/0022-3514.93.1.34
- Gonzaga, G. C., Carter, S., & Galen Buckwalter, J. (2010). Assortative mating, convergence, and satisfaction in married couples. *Personal Relationships*, 17(4), 634–644. doi:10.1111/j.1475-6811.2010.01309.x
- Graham, E. K., Weston, S. J., Gerstorf, D., Yoneda, T., Booth, T., Beam, C. R., Petkus, A. J., Drewelies, J., Hall, A. N., Bastarache, E. D., Estabrook, R., Katz, M. J., Turiano, N. A., Lindenberg, U., Smith, J., Wagner, G. G., Pedersen, N. L., Allemand, M., Spiro III, A., Deeg, D. J. H., Johansson, B., Piccinin, A. M., Lipton, R. B., Schaie, K. W., Willis, S., Reynolds, C. A., Deary, I. J., Hofer, S. M., & Mroczek, D. K. (2020). Trajectories of big five personality traits: A coordinated analysis of 16 longitudinal samples. *European Journal of Personality*. doi:10.1002/per.2259
- Hall, C. B., Lipton, R. B., Sliwinski, M., & Stewart, W. F. (2000). A change point model for estimating the onset of cognitive decline in preclinical Alzheimer's disease. *Statistics in Medicine*, 19(11–12), 1555–1566. doi:10.1002/(sici)1097-0258(20000615/30)19:11/12<1555::aid-sim445>3.0.co;2-3
- Hippisley-Cox, J., Groom, L., Kendrick, D., Coupland, C., Webber, E., & Savelyich, B. (2002). Cross sectional survey of socioeconomic variations in severity and mechanism of childhood injuries in Trent 1992–7. *BMJ*, 324(7346), 1132–1139. doi:10.1136/bmj.324.7346.1132
- Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine*, 7(7), e1000316. doi:10.1371/journal.pmed.1000316
- Hoppmann, C. A., & Gerstorf, D. (2016). Social interrelations in aging: The sample case of married couples. In K. W. Schaie & S. L. Willis (Eds.), *Handbook of the psychology of aging* (8th ed., pp. 263–277). Elsevier. doi:10.1016/B978-0-12-411469-2.00014-5
- Hoppmann, C. A., Gerstorf, D., Willis, S. L., & Schaie, K. W. (2011). Spousal interrelations in happiness in the Seattle Longitudinal Study: Considerable similarities in levels and change over time. *Developmental Psychology*, 47(1), 1–8. doi:10.1037/a0020788
- Horn, A. B., & Röcke, C. (2020). Aging dyads and health: New perspectives on interpersonal processes in aging. *Geropsych*, 33(3), 117–123. doi:10.1024/1662-9647/a000242
- Humbad, M. N., Donnellan, M. B., Iacono, W. G., McGue, M., & Burt, S. A. (2010). Is spousal similarity for personality a matter of convergence or selection? *Personality and Individual Differences*, 49(7), 827–830. doi:10.1016/j.paid.2010.07.010
- Jackson, J. J., Hill, P. L., Payne, B. R., Roberts, B. W., & Stine-Morrow, E. A. (2012). Can an old dog learn (and want to experience) new tricks? Cognitive training increases openness to experience in older adults. *Psychology and Aging*, 27(2), 286–292. doi:10.1037/a0025918
- Jackson, S. E., Steptoe, A., & Wardle, J. (2015). The influence of partner's behavior on health behavior change: The English Longitudinal Study of Ageing. *JAMA Internal Medicine*, 175(3), 385–392. doi:10.1001/jamainternmed.2014.7554
- Kiecolt-Glaser, J. K., Derry, H. M., & Fagundes, C. P. (2015). Inflammation: Depression fans the flames and feasts on the heat. *The American Journal of Psychiatry*, 172(11), 1075–1091. doi:10.1176/appi.ajp.2015.15020152
- Kiecolt-Glaser, J. K., & Wilson, S. J. (2017). Lovesick: How couples' relationships influence health. *Annual Review of Clinical Psychology*, 13, 421–443. doi:10.1146/annurev-clinpsy-032816-045111

- Lachman, M. E., & Weaver, S. L. (1997). *Midlife Development Inventory (MIDI) personality scales: Scale construction and scoring*. Unpublished Technical Report, Brandeis University. Retrieved from <http://www.brandeis.edu/projects/lifespan/scales.html>
- Laurenceau, J. P., & Bolger, N. (2012). Analyzing diary and intensive longitudinal data from dyads. In M. Mehl & T. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 407–422). Guilford.
- LeBlanc, A. J., & Frost, D. M. (2019). Couple-level minority stress and mental health among people in same-sex relationships: Extending minority stress theory. *Society and Mental Health*. doi:10.1177/2156869319884724
- Leong, A., Rahme, E., & Dasgupta, K. (2014). Spousal diabetes as a diabetes risk factor: A systematic review and meta-analysis. *BMC Medicine*, 12(1), 12. doi:10.1186/1741-7015-12-12
- Li, K. K., Cardinal, B. J., & Acock, A. C. (2013). Concordance of physical activity trajectories among middle-aged and older married couples: Impact of diseases and functional difficulties. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 68(5), 794–806. doi:10.1093/geronb/bbt068
- Liu, S., Rovine, M. J., Klein, L. C., & Almeida, D. M. (2013). Synchrony of diurnal cortisol pattern in couples. *Journal of Family Psychology*, 27(4), 579–588. doi:10.1037/a0033735
- Luo, S., & Klohnen, E. C. (2005). Assortative mating and marital quality in newlyweds: A couple-centered approach. *Journal of Personality and Social Psychology*, 88(2), 304–326. doi:10.1037/0022-3514.88.2.304
- Lykins, A. D., Janssen, E., Newhouse, S., Heiman, J. R., & Rafaeli, E. (2012). The effects of similarity in sexual excitation, inhibition, and mood on sexual arousal problems and sexual satisfaction in newlywed couples. *The Journal of Sexual Medicine*, 9(5), 1360–1366. doi:10.1111/j.1743-6109.2012.02698.x
- Mare, R. D. (1991). Five decades of educational assortative mating. *American Sociological Review*, 56(1), 15–32. doi:10.2307/2095670
- McCrae, R. R., Martin, T. A., Hrebicková, M., Urbánek, T., Boomsma, D. I., Willemsen, G., & Costa, P. T., Jr. (2008). Personality trait similarity between spouses in four cultures. *Journal of Personality*, 76(5), 1137–1164. doi:10.1111/j.1467-6494.2008.00517.x
- Mroczek, D. K., & Spiro, A., 3rd. (2003). Modeling intraindividual change in personality traits: Findings from the normative aging study. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 58(3), 153–165. doi:10.1093/geronb/58.3.p153
- Mund, M., & Neyer, F. J. (2014). Treating personality-relationship transactions with respect: Narrow facets, advanced models, and extended time frames. *Journal of Personality and Social Psychology*, 107(2), 352–368. doi:10.1037/a0036719
- Muthén, L. K., & Muthén, B. O. (2019). *Mplus Version 8 user's guide*. Muthén & Muthén.
- Neyer, F. J., & Asendorpf, J. B. (2001). Personality-relationship transaction in young adulthood. *Journal of Personality and Social Psychology*, 81, 1190–1204. doi:10.1037/0022-3514.81.6.1190
- Rammstedt, B., Spinath, F. M., Richter, D., & Schupp, J. (2013). Partnership longevity and personality congruence in couples. *Personality and Individual Differences*, 54(7), 832–835. doi:10.1016/j.paid.2012.12.007
- Raudenbush, S. W., Brennan, R. T., & Barnett, R. C. (1995). A multivariate hierarchical model for studying psychological change within married couples. *Journal of Family Psychology*, 9(2), 161–174. doi:10.1037/0893-3200.9.2.161
- Roberts, B. W., & Mroczek, D. (2008). Personality trait change in adulthood. *Current directions in Psychological Science*, 17(1), 31–35. doi:10.1111/j.1467-8721.2008.00543.x
- Roberts, B. W., Walton, K. E., & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychological Bulletin*, 132(1), 1–25. doi:10.1037/0033-2909.132.1.1
- Ryan, L. H., Wan, W. H., & Smith, J. (2014). Spousal social support and strain: Impacts on health in older couples. *Journal of Behavioral Medicine*, 37(6), 1108–1117. doi:10.1007/s10865-014-9561-x
- Schimmack, U., & Lucas, R. E. (2010). Environmental influences on well-being: A dyadic latent panel analysis of spousal similarity. *Social Indicators Research*, 98(1), 1–21. doi:10.1007/s11205-009-9516-8
- Schwaba, T., & Bleidorn, W. (2019). Personality trait development across the transition to retirement. *Journal of Personality and Social Psychology*, 116(4), 651–665. doi:10.1037/pspp0000179
- Small, B. J., Hertzog, C., Hultsch, D. F., & Dixon, R. A.; Victoria Longitudinal Study. (2003). Stability and change in adult personality over 6 years: Findings from the Victoria Longitudinal Study. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 58(3), 166–176. doi:10.1093/geronb/58.3.p166
- Sonnega, A., Faul, J. D., Ofstedal, M. B., Langa, K. M., Phillips, J. W., & Weir, D. R. (2014). Cohort profile: The Health and Retirement Study (HRS). *International Journal of Epidemiology*, 43(2), 576–585. doi:10.1093/ije/dyu067
- Stephan, Y., Sutin, A. R., Bayard, S., Krizan, Z., & Terracciano, A. (2018). Personality and sleep quality: Evidence from four prospective studies. *Health Psychology*, 37(3), 271–281. doi:10.1037/hea0000577
- Terracciano, A., Stephan, Y., Luchetti, M., Albanese, E., & Sutin, A. R. (2017). Personality traits and risk of cognitive impairment and dementia. *Journal of Psychiatric Research*, 89, 22–27. doi:10.1016/j.jpsychires.2017.01.011
- Voorpostel, M., van der Lippe, T., & Gershuny, J. (2010). Spending time together—Changes over four decades in leisure time spent with a spouse. *Journal of Leisure Research*, 42(2), 243–265. doi:10.1080/00222216.2010.11950204
- Walen, H. R., & Lachman, M. E. (2000). Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *Journal of Social and Personal Relationships*, 17(1), 5–30. doi:10.1177/0265407500171001
- Wallace, R. B., & Herzog, A. R. (1995). Overview of the health measures in the health and retirement study. *Journal of Human Resources*, 30, S84–S107. doi:10.2307/146279
- Yoneda, T., Rush, J., Graham, E. K., Berg, A. I., Comijs, H., Katz, M., Lipton, R. B., Johansson, B., Mroczek, D. K., & Piccinin, A. M. (2020). Increases in neuroticism may be an early indicator of

- dementia: A coordinated analysis. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 75(2), 251–262. doi:[10.1093/geronb/gby034](https://doi.org/10.1093/geronb/gby034)
- Youyou, W., Stillwell, D., Schwartz, H. A., & Kosinski, M. (2017). Birds of a feather do flock together: Behavior-based personality-assessment method reveals personality similarity among couples and friends. *Psychological Science*, 28(3), 276–284. doi:[10.1177/0956797616678187](https://doi.org/10.1177/0956797616678187)
- Zimprich, D., Allemand, M., & Lachman, M. E. (2012). Factorial structure and age-related psychometrics of the MIDUS personality adjective items across the life span. *Psychological Assessment*, 24(1), 173–186. doi:[10.1037/a0025265](https://doi.org/10.1037/a0025265)