# Rank-Order Stability of Relationship Satisfaction:
## A Meta-Analysis of Longitudinal Studies

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Abstract

Satisfaction with a romantic relationship often changes over time, and individuals differ in how satisfied they are in their relationship. However, no systematic review is available regarding the stability of individual differences in relationship satisfaction. Therefore, this meta-analysis synthesizes the available longitudinal data on rank-order stability of relationship satisfaction, as a function of age and relationship duration. Analyses were based on 148 samples including 153,396 participants reporting on their relationship over time. Mean age associated with the effect sizes ranged from 19 to 71 years, and mean relationship duration from 3 months to 46 years. On average, individual differences in relationship satisfaction were highly stable over time ($r = .76$, corrected for attenuation due to measurement error and based on an average time lag of 2.30 years). Rank-order stability varied systematically as a function of age, increasing from young to late adulthood with a slight decline during middle adulthood. Rank-order stability also varied as a function of relationship duration, increasing over the course of the relationship with a slight decline around 20 years of relationship duration. Moderator analyses suggested that relationship transitions shortly before Time 1 and sample type explained variance in rank-order stability. However, except for these two moderators, the pattern of findings was robust across all characteristics tested. In sum, this meta-analysis indicates that relationship satisfaction is a relatively stable construct, with lower stabilities in young adulthood and in the first years after beginning a relationship. This knowledge may stimulate future research on developmental processes within romantic relationships.

*Keywords:* relationship satisfaction; rank-order stability; longitudinal studies; meta-analysis

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For most people, romantic relationships are among the closest and most important relationships they experience in adulthood (Mund & Neyer, 2014), and satisfaction with the romantic relationship is a predictor of health, longevity, and subjective well-being (Proulx et al., 2007; Robles et al., 2014; Sbarra et al., 2011). As people go through life, their relationship satisfaction does not remain constant but typically changes over time. However, although mean-level change of relationship satisfaction has been meta-analyzed in previous research (Bühler et al., 2021), rank-order stability of relationship satisfaction has not yet been examined systematically. This is a critical limitation of the current state of knowledge because information on both indices of stability and change is needed to gain a comprehensive understanding of the development of relationship satisfaction across adulthood. Moreover, knowledge about rank-order stability of relationship satisfaction may contribute to the understanding of the nature of relationship satisfaction, by providing information about the degree to which relationship satisfaction should be conceptualized as a trait-like construct. Researchers have also debated about the most relevant time metric (i.e., age vs. relationship duration) when studying the development of relationship satisfaction (Anderson et al., 2010). Thus, it is essential to examine rank-order stability of relationship satisfaction both as a function of age and as a function of relationship duration.

The goal of the present meta-analysis was to synthesize the available longitudinal data on rank-order stability of relationship satisfaction within a given relationship to gain a robust and precise picture of the stability of individual differences in relationship satisfaction. Specifically, we sought to answer three questions: (a) What is the average rank-order stability of relationship satisfaction? (b) Does rank-order stability of relationship satisfaction vary across adulthood, as a function of age and as a function of relationship duration? (c) Does the degree of stability differ across sample and methodological characteristics?

**Rank-Order Stability of Relationship Satisfaction**

Two central indices of stability must be considered when examining development across adulthood: mean-level change and rank-order stability (Roberts & DelVecchio, 2000; Roberts & Nickel, 2021; Roberts et al., 2006). When applied to the concept of relationship satisfaction, indices of mean-level change reflect the average increase or decrease in relationship satisfaction in a sample of individuals over time. If mean-level change is mapped on a specific time metric (such as age or relationship duration), it is also referred to as index of normative change. In contrast, rank-order stability of relationship satisfaction reflects the stability of individual differences over time (i.e., high stability indicates that individuals in a sample tend to keep the same rank on the construct over time). Thus, if rank-order stability is high, then the relative position of individuals in the sample at a first assessment is a good predictor of the relative position at a later assessment. Hence, the indices of mean-level change and rank-order stability capture different aspects of developmental patterns in psychological constructs (Caspi & Roberts, 1999; Robins, Fraley, et al., 2001). For example, imagine three persons Heather, Tom, and Mary, of whom Heather has the highest and Mary the lowest level of relationship satisfaction. If rank-order stability is high, then Heather will still have the highest and Mary still the lowest level of relationship satisfaction at the next assessment—irrespective of the mean level of their relationship satisfaction, which might have changed for Heather, Tom, and Mary in a similar manner.

A recent meta-analysis examined the available data on mean-level change in relationship satisfaction across adulthood, focusing on the role of age and relationship duration (Bühler et al., 2021). The findings indicated that trajectories differed systematically between the time metrics. Specifically, whereas the findings showed a U-shaped trend for age, the pattern was more complex for relationship duration showing a decline in the first 10 years of a relationship, followed by an increase over the next 10 years and again a decline after 20 years of relationship duration. However, as noted above, findings on mean-level change do

not provide any information about stability and change in the relative placements of individuals (Block, 2014). For example, consider again a sample of individuals like Heather, Tom, and Mary. All three of them may decrease in their relationship satisfaction over time (i.e., the sample mean will decrease over time, indicating a lack of mean-level stability). However, if Heather, Tom and Mary decrease by the same amount, their rank ordering will remain exactly the same (indicating presence of rank-order stability). Moreover, even if the individuals decrease by slightly different amounts (i.e., indicating individual differences in change), it is possible that the rank order remains the same (indicating rank-order stability). The example illustrates that change in mean levels is theoretically independent from change in rank order.

More precisely, rank-order stability of relationship satisfaction concerns the question to which degree relationship satisfaction should be conceptualized as a trait-like construct (Fraley & Roberts, 2005). For example, intelligence is an individual-difference construct that shows particularly high rank-order stability (Neisser et al., 1996). Also, the Big Five personality traits and, to a somewhat lesser degree, self-esteem and life satisfaction are highly stable constructs that are, consequently, considered personality traits (Lucas & Donnellan, 2007; Roberts & DelVecchio, 2000; Trzesniewski et al., 2003). A construct like mood, in contrast, often changes quickly in response to the social environment (e.g., behavior of other people) and in response to intrapersonal processes (e.g., expectancies), and is therefore considered a state, not a trait. Based on a large meta-analytic dataset, Anusic and Schimmack (2016) estimated the rank-order stability of several psychological constructs (i.e., personality traits, self-esteem, life satisfaction, and affect), showing that rank-order stability decreases as the time lag increases. At the same time, their findings on the longterm rank-order stability (i.e., rank-order stability across long time intervals and corrected for measurement error) showed that the stability coefficients asymptotically approached values of .83 for personality traits, .56 for self-esteem, .52 for life satisfaction, and .42 for affect. Similar asymptotic

values have been reported in other studies on the longterm rank-order stability of these constructs (Fraley & Roberts, 2005; Fujita & Diener, 2005; Kuster & Orth, 2013; Lucas & Donnellan, 2007; Wagner et al., 2016). These findings imply that the rank-order stability of psychological constructs is lower for longer time lags, but that rank-order stability does not approach zero but nonzero values between 0 and 1, even across very long time lags (such as several decades). The differing sizes of the asymptotic values (ranging from .42 to .83) also suggest that psychological constructs differ in the degree to which they are trait-like.

There are two ways of how relationship satisfaction can be conceptualized (e.g., Fincham et al., 2018). On the one hand, relationship satisfaction is considered a construct similar to life satisfaction. Empirical data suggest that relationship satisfaction is correlated with life satisfaction at about medium size (.29 to .47; Be et al., 2013; Bühler et al., 2019). Consequently, the rank-order stability of relationship satisfaction might be similar to that of life satisfaction (Fujita & Diener, 2005; Lucas & Donnellan, 2007; Lykken & Tellegen, 1996; Schimmack & Oishi, 2005). On the other hand, relationship satisfaction strongly correlates with behavioral patterns in the relationship, such as communication styles. In fact, items of both the Marital Adjustment Test (MAT; Locke & Wallace, 1959) and the Dyadic Adjustment Scale (DAS; Spanier, 1976) correlate more strongly with communication factors than with satisfaction factors (Funk & Rogge, 2007). Given that communication patterns are less stable and often change over time (Johnson et al., 2021), rank-order stability of relationship satisfaction might also be lower and closer to rank-order stability of state-like constructs.

Moreover, when assessing the rank-order stability of a psychological construct, such as relationship satisfaction, it is essential to account for the time lag between assessments. As noted above, theory and empirical findings clearly suggest that rank-order stability is often large when the time lag is short (e.g., one year), but rank-order stability decreases as the time lag increases (e.g., Ardelt, 2000; Fraley & Roberts, 2005; Kuster & Orth, 2013; Terracciano et al., 2006). Specifically, as the time lag increases, rank-order stability typically levels off at

medium values, and this nonzero asymptote suggests that there is an enduring component of individual differences in a given construct even across very long periods. Therefore, it is crucial to account for the time lag between assessments when meta-analyzing rank-order stability of relationship satisfaction.

**Mechanisms Underlying the Rank-Order Stability of Relationship Satisfaction**

Three types of mechanisms are relevant for explaining the rank-order stability of a psychological construct: stochastic-contextual processes, person-environment transactions, and developmental constancy factors (Fraley & Roberts, 2005). Below, we briefly review these mechanisms and discuss how each of them applies to the rank-order stability of relationship satisfaction. It should be noted that these mechanisms are not mutually exclusive but jointly contribute to the rank-order stability of psychological constructs (Fraley & Roberts, 2005).

First, all developmental processes are influenced by stochastic-contextual processes, that is, by relatively random contextual factors, such as moving to a new place or meeting a potential mate (Lewis, 1997, 1999, 2000a, 2000b). In fact, the statistical modeling by Fraley and Roberts (2005) suggested that stochastic-contextual processes are needed to explain individual differences in a psychological construct. More precisely, when the influence of stochastic-contextual processes is ignored, individual differences in a construct would be perfectly stable over time. Hence, stability and change in a psychological construct depend on the stability of the context, and the degree of change and stability depends on how stable the environmental conditions are.

Second, rank-order stability of psychological constructs also depends on person-environment transactions, which means that individuals actively shape their environmental conditions and that, simultaneously, these environmental conditions affect the individual (Caspi & Bem, 1990; Caspi et al., 1989; Neyer & Asendorpf, 2001; Neyer et al., 2014). These dynamic transactions between individuals and their environment (e.g., relationships) foster

consistency in individual differences. There are at least two transactive processes that are

relevant for explaining the rank-order stability of relationship satisfaction (Caspi & Bem,

1990). First, the way how individuals perceive their romantic relationship is influenced by

idiosyncratic social-cognitive biases (a transaction called reactive process). For example,

individuals who are satisfied with their relationship tend to perceive their partner and their

relationship through rose-colored glasses, which increases the likelihood of more positive

relationship experiences in the future. In contrast, individuals who are unhappy with their

relationship, show a negative bias in the perception of their relationship, which may cause

disappointment and relationship conflicts. In both cases, the person makes relationship

experiences that are congruent with their prior relationship satisfaction, which contributes to

the stability of individual differences in relationship satisfaction (e.g., Ickes et al., 1997;

Swann & Read, 1981). Second, individuals actively select themselves into environments,

including romantic relationships (a transaction called proactive process). For example,

individuals who believe that they are lovable and that others are trustworthy, tend to select

more supporting and trustworthy partners, which leads to more positive relationship

experiences (Erol & Orth, 2016; Sandra L. Murray et al., 2000). In contrast, individuals who

have more negative views of the self and others, will select untrustworthy partners, which will

cause more negative relationship experiences. In both cases, individuals tend to make

relationship experiences that are consistent with their pre-existing beliefs, which again

contributes to the stability of individual differences in relationship satisfaction. More

generally, the theoretical and statistical model by Fraley and Roberts (2005) suggested that

person-environment transactions amplify the degree of rank-order stability of psychological

constructs.

Third, rank-order stability is also influenced by developmental constancy factors (e.g.,

genetic predispositions and early formative experiences), which emphasize the role of latent

resiliency and vulnerability factors (Bowlby, 1973; McGue et al., 1993; Roberts & Caspi,

2003; Roberts & Wood, 2006). More precisely, developmental constancies may predispose people to perceive themselves and their environments (e.g., their relationship and their relationship partners) in a specific manner and to behave in ways that influence the quality of their romantic relationships. For example, individuals who are high in neuroticism tend to negatively interpret ambiguous relationship situations (Finn et al., 2013), which contributes to lower relationship satisfaction. Such vulnerability and latent resiliency factors are a constant influence on people's perceptions and behavior in the relationship domain (McNulty, 2016), which contributes to the stability of individual differences in relationship satisfaction. The analyses by Fraley and Roberts (2005) suggested that developmental constancy factors are needed to explain the typical pattern of rank-order stability of psychological constructs. In fact, when constancy factors were omitted from their model, rank-order stability quickly approached zero as the interval between assessments became longer.

Applied to romantic relationships, this reasoning suggests that the rank-order stability of relationship satisfaction depends on the stability of all factors that influence the quality of relationships, that is, (a) individual characteristics of the two partners, (b) characteristics of the relationship, and (c) contextual factors outside of the relationship. For example, the relationship science literature suggests that individual characteristics of the partners such as emotional stability, conscientiousness, agreeableness, self-esteem, and attachment security (i.e., low levels of both attachment-related anxiety and attachment-related avoidance) significantly influence the quality of their relationship and, consequently, the partners' satisfaction with their relationship (e.g., Erol & Orth, 2016; Li & Chan, 2012; McNulty, 2016; Weidmann, Ledermann, et al., 2017). If individual differences in these factors are quite stable over time (as suggested by empirical research; e.g., Fraley & Roberts, 2005; Kuster & Orth, 2013; Roberts & DelVecchio, 2000; Scharfe & Bartholomew, 1994), this suggests that individual differences in relationship satisfaction will likewise be relatively stable. Similarly, research suggests that individual characteristics, including emotional stability,

conscientiousness, agreeableness, self-esteem, and attachment security, contribute to characteristics of the relationship (i.e., the pattern of relationship behavior that has evolved in a specific relationship), such as patterns of communication, coping styles, responsiveness, and conflict resolution (e.g., Campbell et al., 2005; S. L. Murray et al., 2000; Vater & Schröder-Abé, 2015). Relationship patterns, in turn, influence people's relationship satisfaction (e.g., Debrot et al., 2012; Gottman & Levenson, 1999; Vater & Schröder-Abé, 2015). Hence, because individual differences in personality characteristics are relatively stable, patterns of relationship behavior might also be relatively stable over time, which would further contribute to rank-order stability of relationship satisfaction. In contrast, theory suggests that contextual factors outside of the relationship may destabilize the relationship (Bodenmann, 1995; Hill, 1958; Randall & Bodenmann, 2009). For instance, the vulnerability-stress-adaptation model (Karney & Bradbury, 1995; for a recent extension, see McNulty et al., 2021) emphasizes that stressful life events (e.g., birth of a child) may impair adaptive processes within the relationship (e.g., coping styles), which may compromise the relationship satisfaction of couple members. Thus, samples that experienced potentially stressful changes in the relationship context (e.g., samples of couples who had their first baby) might show lower rank-order stability of relationship satisfaction than samples who did not experience significant changes in the relationship context.

**Does Rank-Order Stability of Relationship Satisfaction Vary Across Adulthood?**

In addition to estimating the average rank-order stability of relationship satisfaction, it is essential to understand how stability varies across adulthood. As noted above, in this meta-analysis we examined rank-order stability of relationship satisfaction within a given relationship as a function of age and relationship duration. Clearly, both time metrics are strongly correlated: People of higher age, compared to people of younger age, are often in relationships of longer duration, simply because they are older. Nevertheless, people separate from their partner and begin a new romantic relationship across the entire period of adulthood

(Carr & Utz, 2020; Mehta et al., 2020). Moreover, while some of the mechanisms underlying the rank-order stability of relationship satisfaction refer to age, others refer to relationship duration. Therefore, it is important to separate the two time metrics, both conceptually and empirically.

### Rank-Order Stability of Relationship Satisfaction as a Function of Age

The developmental literature allows to derive hypotheses about how rank-order stability of relationship satisfaction varies as a function of age. For instance, developmental task theory posits that each life stage entails new developmental demands and societal expectations (Erikson, 1968; Havighurst, 1972; see also Hutteman et al., 2014). Specifically, a key developmental task in young adulthood (i.e., age 18 to 40 years) is to establish long-lasting social relationships, including a committed romantic relationship (Ebner et al., 2006; Heckhausen et al., 1989). At the same time, young adulthood is also characterized by exploring different life paths and options, which sometimes implies leaving and entering romantic relationships more readily (Arnett, 2000; Halpern-Meekin et al., 2013; Shulman & Connolly, 2013).

In contrast, middle adulthood (i.e., age 40 to 65 years) involves the developmental tasks of generativity and consolidation, expressed in caring for the next generation and maintaining satisfactory social relationships, including marriage or a marriage-like relationship (Erikson, 1968; McAdams, 2015). Moreover, in middle adulthood, individuals usually develop an executive personality, which is, among other aspects defined by an increase in mastery, competence, and control (Neugarten, 1968). This, in turn, increases the capacity to handle multiple pressures and to cope successfully with difficult personal and interpersonal experiences (Roberts & DelVecchio, 2000). Yet, middle adulthood is also a time of potential crisis (Freund & Ritter, 2009; Levinson et al., 1976), resulting from the many responsibilities in family, work, and community contexts, which may lead to stress, conflict, and instability (Freund & Nikitin, 2012).

Finally, late adulthood (i.e., age 65 years and older) is often characterized by a greater salience of loss-related issues (such as loss of beloved ones) and the perception of limited remaining time (Carstensen et al., 1999; Charles & Carstensen, 2010). Therefore, key developmental tasks in late adulthood involve the avoidance of, and adjustment to, losses and the selective investment of time and energy into life domains (Ebner et al., 2006; Freund, 2008; Heckhausen et al., 1989; Ogilvie et al., 2001). As a result, older adults tend to focus more strongly on present-oriented, rather than future-oriented, goals and invest more time and energy in positive relationships with close others than in social interaction with acquaintances (Carstensen et al., 1999; Frederick et al., 2017; Fung et al., 1999).

Taken together, the typical life situations and developmental tasks in young, middle, and late adulthood suggest that individuals invest increasingly in establishing and maintaining a romantic relationship as they go through life. This, in turn, should lead to more stability in people's relationship conditions. Given that romantic relationships differ substantially with regard to their relationship quality (i.e., some will be fulfilling and satisfying for the partners, whereas others will involve some level of conflict and be less satisfying), the developmental trend towards consolidating and maintaining romantic relationships suggests that individual differences in relationship satisfaction become more stable with age.

### *Rank-Order Stability of Relationship Satisfaction as a Function of Relationship Duration*

Perspectives from relationship science allow to derive hypotheses on how rank-order stability of relationship satisfaction varies as a function of relationship duration. Specifically, the gradual disillusionment model (Huston et al., 2001; Huston & Houts, 1998) suggests that baseline levels of relationship satisfaction decrease over the course of the relationship (Diekmann & Mitter, 1984; Kurdek, 1998, 1999). The strongest decline often occurs over the first 10 years of a relationship and, consequently, risk of separation peaks at around 10 years after beginning a relationship (i.e., roughly corresponding to 7 years of marriage duration, given that couples ususally have been together a few years before marrying; Kulu, 2014). This

implies that relationships of longer duration (10 years and more) predominantly represent the "surviving" and more satisfied couples who have created a more stable relationship context over time. As reviewed above, Fraley and Roberts' (2005) model suggests that stable environments contribute to higher rank-order stability of individual-difference constructs. Therefore, we expected an increase in rank-order stability of relationship satisfaction over the course of the relationship.

**Moderators of Rank-Order Stability of Relationship Satisfaction**

As noted above, individual factors and characteristics of the romantic relationship might explain why rank-order stability of relationship satisfaction differs as a function of age and relationship duration. Therefore, in this meta-analysis we also tested whether sample and methodological characteristics are moderators of rank-order stability. For some of the moderators, the literature allows to derive hypotheses about the significance and direction of effects (i.e., living arrangement, marital status, presence of children, occurrence of relationship transitions, and type of measure). For other moderators, however, no hypotheses could be derived (e.g., ethnicity or gender). Nevertheless, to gain information about the robustness and generalizability of the findings, we tested the full set of moderators.

*Living Arrangements, Marital Status, and Presence of Children*

People's living arrangement, their marital status, and presence of children are sample characteristics that may contribute to the explanation of rank-order stability of relationship satisfaction. Specifically, couples who live in the same household, are married, and/or have children might live in more stable relationship environments compared to couples who live in separate households, are unmarried, and/or do not have children. Moreover, couples who live in the same household, are married, and/or have children might encounter greater legal, financial, and social barriers to separation, which may prevent relationship break-up even if they are unsatisfied in their relationship (Rusbult, 1980, 1983). Together, these factors may contribute to more stable individual differences in relationship satisfaction.

***Occurrence of Relationship Transitions***

A sample characteristic that may contribute to lower rank-order stability of relationship satisfaction is the occurrence of relationship transitions. Relationship transitions generate new demands for individuals and couples, such as changes in family and work roles, including new arrangements for household and work duties (Sanchez & Thomson, 1997). Also, new parents often undergo stages of elevated stress and conflict (Doss et al., 2009). These demands likely challenge the stable and consistent environment of the relationship (Belsky & Rovine, 1990; Cast, 2004). Thus, the occurrence of relationship transitions may destabilize the system of transactions between the person and the environment (Fraley & Roberts, 2005).

***Type of Measure***

A methodological characteristic that may moderate the findings is the type of measure. In general, measures of relationship satisfaction can be grouped into ad-hoc measures and established measures. Established measures can be further classified into global satisfaction measures, such as the Relationship Assessment Scale (RAS; Hendrick, 1988), and adjustment measures, such as the DAS (Spanier, 1976). Global satisfaction measures rely on an intrapersonal approach, reflecting people's subjective evaluations of the relationship in general. Adjustment measures, on the other hand, rely on an interpersonal or relationship approach, reflecting typical patterns of interactions in the relationship, such as communication and conflict styles (Fincham et al., 2018). Global satisfaction measures likely reflect the more trait-like aspect of relationship satisfaction, while adjustment measures reflect the more state-like aspect. Consequently, the use of global satisfaction measures should lead to greater estimates of rank-order stability.

***Sample Type, Ethnicity, Gender, and Baseline Mean of Relationship Satisfaction***

We also tested for the moderating effects of sample type (i.e., nationally representative vs. nonrepresentative), ethnicity, gender, and baseline mean of relationship satisfaction.

Although we did not have directional hypotheses about the findings for these variables, testing these variables provides important information about the robustness and generalizability of the findings (see also Bühler et al., 2021; Orth et al., 2018). Specifically, representative samples typically allow for more valid conclusions compared to nonrepresentative samples, such as community samples and samples of college students (Orth et al., 2018). Ethnicity and gender are key demographic characteristics that are of interest to many researchers, so it is important to test whether meta-analytic findings differ between ethnic groups and between women and men. For example, research suggests that dynamic processes in romantic relationships vary by ethnicity (e.g., Orengo-Aguayo, 2015; see also Karney & Bradbury, 2020). Finally, testing whether the meta-analytic findings hold across the general level of relationship satisfaction in a sample (as indicated by the baseline mean) is important, because some research suggests that baseline means in relationship satisfaction may influence the dynamic processes in the relationship (e.g., Lavner et al., 2012). Thus, testing these sample characteristics as moderators provides important information about the generalizability of the findings.

**The Present Research**

The goal of this research was to synthesize the available longitudinal data on rank-order stability of relationship satisfaction in adulthood. In the analyses, we will examine how rank-order stability varies as a function of age and relationship duration. As noted above, when estimating rank-order stability, it is essential to consider the time lag between assessments. Therefore, we will conduct two sets of effect size analyses: without versus with controlling for time lag (for similar procedures, see Roberts & DelVecchio, 2000; Trzesniewski et al., 2003). The analyses that control for time lag will yield estimates of rank-order stability as if all samples had the same time lag between assessments (by centering time lag at the mean across effect sizes, i.e., 2.30 years). Finally, moderator analyses will provide information about the robustness of the findings, by testing whether rank-order stability

differs across sample and methodological characteristics. It is important to note that some potentially relevant moderators could not be examined in this meta-analysis, such as personality variables, socioeconomic status, and sexual orientation (Chen & van Ours, 2018; Conger et al., 2010; Karney & Bradbury, 1995). The reason is that (a) information on the characteristics was not reported in most primary studies (i.e., personality variables), (b) the information that was available was not comparable across most primary studies (i.e., socioeconomic status), or (c) the very low number of samples that provided information on the characteristic would not have allowed for reliable conclusions (i.e., sexual orientation).

The present meta-analysis advances research on romantic relationships in several ways. Although rank-order stability is a sample (or population) characteristic, knowledge about how rank-order stability of relationship satisfaction changes as a function of age and relationship duration, and about which individual and environmental factors moderate rank-order stability, contributes to understanding the development of relationship satisfaction and, more generally, relationships. For example, if the stability of individual differences is particularly low in a specific developmental period (e.g., young adulthood), then this suggests that the individual trajectories are more variable, and likely more malleable, compared to developmental periods in which individual differences are very stable. Similarly, if the stability of individual differences is relatively low in a specific relationship situation (e.g., in the period after relationship transitions such as the transition to parenthood), then this suggests that relationship interventions might be more impactful in this situation compared to other situations in which rank-order stability is high. Moreover, this meta-analysis will allow to evaluate whether rank-order stability of relationship satisfaction is of about similar size as the rank-order stability of personality characteristics (such as the Big Five) or whether individual differences in relationship satisfaction are less stable over time. If individual differences in relationship satisfaction are as stable as individual differences in personality

characteristics, then this would suggest that relationship satisfaction within a given relationship should be considered a trait-like construct.

## Method

This meta-analysis used anonymized data and was therefore exempt from receiving approval by the Ethics Committee of the authors' institution (Faculty of Human Sciences, University of Bern), in accordance with national law.

### Transparency and Openness

We follow the Journal Article Reporting Standards (Appelbaum et al., 2018; Kazak, 2018) and describe how we obtained the samples included in the present meta-analysis. Data, analysis script, and research materials (e.g., coding manual, information on study variables) are available on the Open Science Framework (OSF, https://osf.io/n2z6b/). The design and analyses of the present research were not pre-registered. Data were analyzed using R (R Development Core Team, 2020), and the meta-analytic computations were conducted with the metafor package (Viechtbauer, 2010).

The meta-analytic data set is based partially on data from another meta-analysis of longitudinal studies on relationship satisfaction. Specifically, we used data on sample and methodological characteristics that were also used in a meta-analysis on means and mean-level change in relationship satisfaction (Bühler et al., 2021). For the present research, the meta-analytic data set has been extended by including further studies that met the inclusion criteria of the present meta-analysis and by coding the information required for meta-analyzing rank-order stability of relationship satisfaction. With regard to effect size data and analyses, there is no overlap between the present research and Bühler et al. (2021). For reasons of completeness and clarity, we provide all relevant methodological information below, even if information on some of the search and coding procedures is also reported in Bühler et al. (2021).

### Search and Selection Procedure

The flow diagram shown in Figure 1 summarizes the four steps of the search and selection procedure in the present meta-analysis: identification, screening, eligibility, and inclusion of studies.

### Identification of Studies

We searched for English-language journal articles, books, book chapters, and dissertations in the database PsycINFO to find relevant studies. The search was conducted on September 9, 2019, and the following search terms were used: *relationship satisfaction, marital satisfaction, relationship quality, marital quality, dyadic adjustment, marital adjustment,* and *marital relations.* The search was restricted to empirical-quantitative and longitudinal studies with non-clinical samples, by using the limitation options *empirical study*, *quantitative study*, *longitudinal study*, and *non-disordered population* in PsycINFO. The search yielded 1,207 potentially relevant studies, and two additional potentially relevant studies were identified through other sources. Thus, the final data set consisted of 1,209 potentially relevant studies, including 53 dissertations.[1]

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[1] Among the potentially relevant studies, the oldest study had been published in 1966. However, none of the studies published before 2002 were included in the meta-analysis, for the following reasons. First, most of the studies did not meet the inclusion criteria (e.g., because the studies were not longitudinal). Second, some studies would have met the inclusion criteria, but the information on effect sizes provided in the study was insufficient and although we contacted the authors of the studies, we did not receive the required information (e.g., because the authors were no longer in academia). Third, some of the studies would have met the inclusion criteria but a more recent study (i.e., published 2002 or later) using the same data was included because the more recent study reported more complete information on sample characteristics and effect sizes.

**Figure 1**

*Flow Diagram of the Search and Selection Procedure*
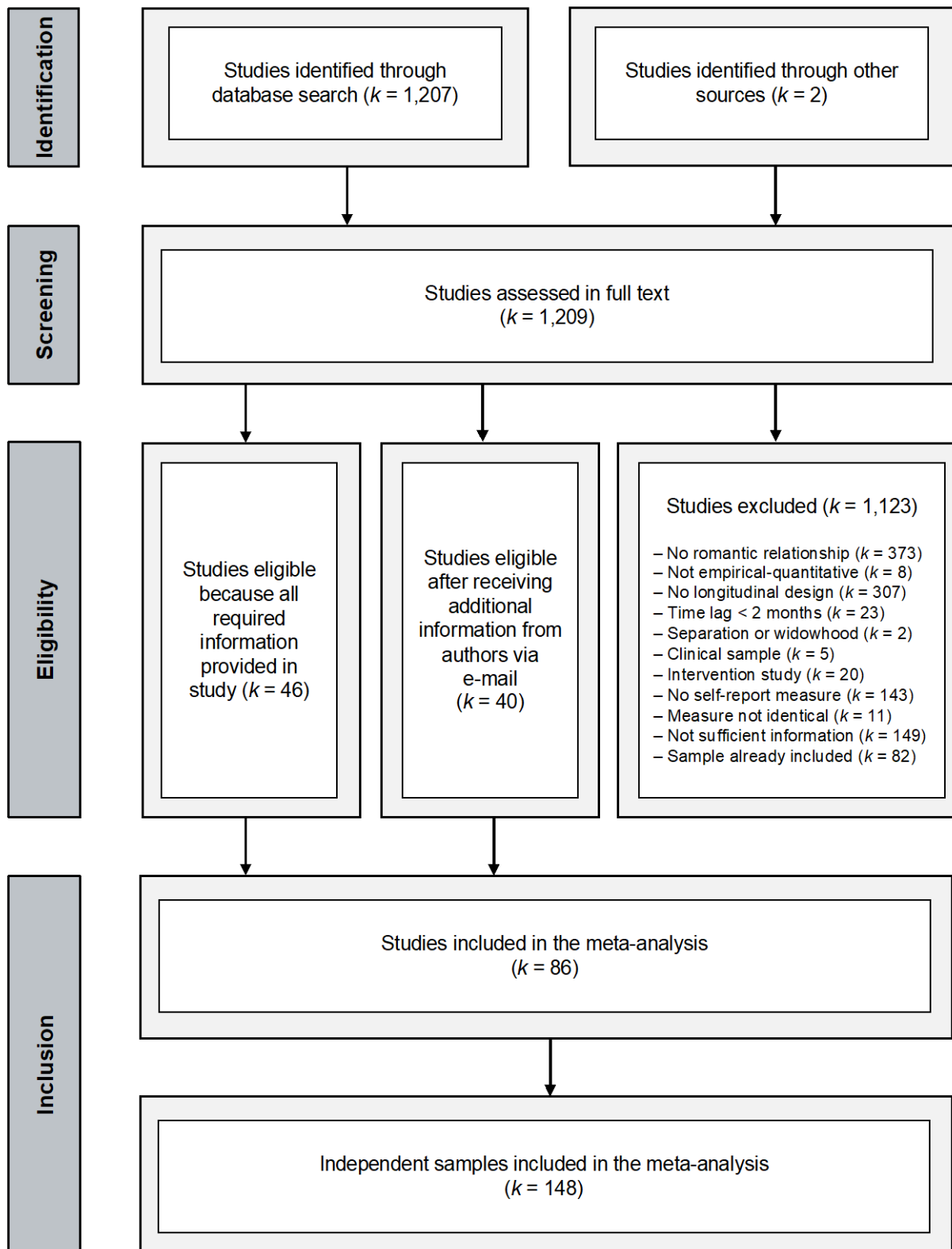


*Note.* The diagram has been adapted from Moher et al. (2009).

### Screening and Eligibility of Studies

To decide on the eligibility of the studies, all studies were assessed in full text by the first author or a second rater based on the inclusion criteria described below.[2] To decide whether a study met the criteria for being included in the meta-analytic data set, the raters followed standardized procedures. Studies were included if the following twelve criteria were fulfilled: First, participants reported on a romantic relationship (i.e., measures of satisfaction with non-romantic relationships, such as parent-child relationships, were not of interest). Second, the study was empirical-quantitative. Third, the study used a longitudinal design (i.e., two or more assessments of the same sample). Fourth, the time lag between assessments was 2 months or more. More precisely, for the meta-analysis we used data from assessments that were separated by at least 2 months; these assessments were coded as Time 1, Time 2, Time 3, etc. Fifth, the sample did not, as a whole, experience separation or widowhood. Sixth, the sample was not clinical. Seventh, the study was not an intervention study. Eighth, relationship satisfaction was assessed by self-report. Ninth, the measure of relationship satisfaction was identical across assessments. Tenth, sufficient information was given to compute the effect size. Eleventh, information on effect size data was consistent throughout the study. Twelfth, the sample was not already included in the meta-analytic data set (specifically, when a sample was used in more than one study, we selected the study that provided information on the largest sample size or, if identical, the most comprehensive information on sample and effect size data).

To obtain estimates on interrater agreement on eligibility, a random sample of 60 studies were rated by both raters, suggesting high interrater agreement on inclusion versus exclusion of articles in the meta-analytic data set (i.e., 59 of 60 articles, resulting in κ = .92). The diverging assessment was discussed until consensus was reached.

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[2] At the time of coding (i.e., October 2019 to February 2020), the qualifications of the raters were as follows: The first author had a Ph.D. in Psychology and the second rater had a Master's degree in Psychology.

### Inclusion of Studies

Of the potentially relevant studies, 46 studies could be included immediately because they provided sufficient information on the effect size (i.e., correlation coefficient between at least two assessments) and information on mean age and/or mean relationship duration. In the case of studies that met the criteria except for providing information on the effect size, mean age, or mean relationship duration, we contacted the authors of the study with a request for the missing information (if sufficient contact information was available in the study or could be found elsewhere, e.g., on the website of the authors' university). This procedure led to the inclusion of 40 additional studies. In sum, the search procedures resulted in a total of 86 eligible studies, including 146 independent samples.

## Coding Procedure

The 146 samples were coded by the first author or the second rater. The following data were coded: year of publication, publication type, sample size, sample type, country, ethnicity, sexual orientation, proportion of female participants, proportion of participants living together with their partner in the same household, proportion of married participants, proportion of participants with children, occurrence of a relationship transition (i.e., marriage or birth of a child) between Time 1 and any of the following assessments (referred to as *transition*), occurrence of a relationship transition (i.e., marriage or birth of a child) shortly before Time 1 (referred to as *post transition*), type of relationship transition, time lag between assessments, dyadic nature of sample, measure of relationship satisfaction, reliability coefficient of relationship satisfaction averaged across assessments, range of scale (i.e., the scale's minimum possible score and the scale's maximum possible score), mean of relationship satisfaction at Time 1, mean age of participants at Time 1, mean relationship duration at Time 1, year of Time 1 assessment, and correlation coefficient indicating the rank-order stability of relationship satisfaction between assessments.

In the case of dyadic female-male samples, we coded the data for female and male participants separately to increase the power of moderator analyses testing for gender differences in the findings. In all other cases of subsamples (e.g., young adults and middle-aged adults), we coded the full sample.[3] If information on year of Time 1 assessment was not reported, we estimated these data as follows: Year of Time 1 assessment = publication year – 3 years – time lag between the first and last measurement occasion of the study (based on the assumption that studies are, on average, published 3 years after data collection has been completed; for a similar procedure, see Orth et al., 2018). Moreover, for the effect size analyses we needed participants' mean age and mean relationship duration at the initial assessment of each effect size interval (e.g., mean age and mean relationship duration at Time 4 for the effect size interval from Time 4 to Time 5). We used the information on mean age and mean relationship duration at Time 1 and the information on time lags between assessments to compute these values.

To obtain interrater agreement in this step of coding, a random sample of 40 studies was rated by both coders, suggesting high interrater agreement, with $\kappa = 1.00$ for categorical variables (except for one variable, see below) and $r \geq .99$ for continuous variables. For sample type, interrater agreement was $\kappa = .90$, resulting from one diverging assessment (one coding was "community sample," whereas the other was "college/university students"). All diverging assessments were discussed until consensus was reached.

As described in Bühler et al. (2021), we used the following strategies to obtain data on mean relationship duration if these data were missing in the study. First, we contacted the authors of the study with a request for the information. This resulted in data on relationship duration for 18 additional samples. Second, many studies provided information on proxies for relationship duration, that is, duration of living together (15 samples) and/or marriage

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[3] The only exception was one study, in which we coded Israeli and German couples separately because the time lag between assessments differed for the subsamples.

duration (42 samples). On the basis of published data on how relationship duration, duration

of living together, and marriage duration are related, we used these proxies to obtain estimates

of relationship duration. More precisely, nationally representative data from Germany

(Schröder & Schmiedeberg, 2015; see also Heuveline & Timberlake, 2004) provide estimates

about the average time between beginning a relationship, moving in together, and marrying:

On average, people are in a relationship for 1.25 years before they move in together, and they

are in a relationship for 3.8 years before they marry. We used these estimates for creating an

overall relationship-duration variable. That is, if information on relationship duration was

missing, but information on duration of living together was available, we estimated

relationship duration by adding 1.25 years to the value of duration of living together, and if

information on marriage duration was available, we estimated relationship duration by adding

3.8 years to the value of marriage duration.[4] After using these procedures, information on

relationship duration was available for 106 samples.

**Effect Size Measure**

As effect size measure, we used the correlation between two assessments of

relationship satisfaction and included all available correlation coefficients that were reported

for the sample. However, if measures are not perfectly reliable, then the observed correlation

underestimates the true correlation. Because we were interested in estimates of the true rank-

order stability of relationship satisfaction, we corrected the correlations for attenuation

resulting from unreliability of the measures (Hunter & Schmidt, 1990, 2004, 2014). To obtain

the most accurate estimate of reliability of a given measure, we used the following strategies.

If available, we used the reliability coefficient of the measure as reported in the study ($k =$

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[4] As described, this procedure was based on estimates about the average time between beginning a relationship, moving in together, and marrying. Therefore, we conducted sensitivity analyses by using 2 and 6 years (instead of 1.25 and 3.8 years) as estimates of the average difference between relationship duration and duration of living together, and relationship duration and marriage duration, respectively. The mean of the relationship-duration variable used in the sensitivity analyses was 13.59 years ($SD = 9.71$, range = 0.26–48.40). The results of the sensitivity analyses are reported in Table S1 and showed that the pattern of findings was very similar to the findings from the main analyses.

134). If no reliability coefficient was provided in the study, we used one of the following two

methods: (a) When an established scale was employed ($k = 4$), we used the average reliability

coefficient of this measure as reported in other studies in the meta-analytic data set using the

same measure. (b) When a single item ad-hoc measure was employed ($k = 10$), we used .75 as

reliability estimate because the literature suggests that single item measures of constructs that

are highly schematized—i.e., constructs that can readily be reported by lay people, such as

relationship satisfaction—often have a reliability in the range of .70 to .80 (Lucas &

Donnellan, 2007; Robins, Hendin, et al., 2001; Woods & Hampson, 2005; for a similar

procedure, see Orth, 2018).

The disattenuated correlation coefficient is given by

$$r'_i = \frac{r_i}{rel_i},$$

where $r'_i$ is the disattenuated correlation coefficient in study $i$, $r_i$ is the observed

correlation coefficient in study $i$, and $rel_i$ is the averaged reliability coefficient of the measure

in study $i$ (Lipsey & Wilson, 2001). For the meta-analytic computations, the disattenuated

correlation coefficients were transformed to Fisher's $Z_r$ values (Fisher, 1921; Hedges &

Olkin, 1985). After the meta-analytic computations, the effect size estimates were converted

back to the correlation metric.

**Meta-Analytic Procedure**

As noted above, for many samples the data set included more than one correlation

coefficient of relationship satisfaction, which yielded a multilevel data structure (i.e., effect

sizes nested in samples). To account for the multilevel structure in the meta-analytic

computations, we used the "rma.mv" function in the metafor package (Viechtbauer, 2010).

Following Lipsey and Wilson (2001), we used multilevel random-effects models to estimate

weighted mean effect sizes and multilevel mixed-effects models to test for moderators.

When meta-analyzing correlation coefficients in the metric of Fisher's $Z_r$ values, the within-study variance is given by

$$v_i = \frac{1}{n_i - 3},$$

where $n_i$ is the sample size of study $i$. However, when meta-analyzing correlation coefficients that have been corrected for attenuation, the within-study variance is given by

$$v'_i = \frac{v_i}{rel_i^2},$$

where $v'_i$ is the disattenuated within-study variance for study $i$, $v_i$ is the attenuated within-study variance for study $i$ (as given above), and $rel_i$ is the averaged reliability coefficient of the measure in study $i$ (Lipsey & Wilson, 2001).

## Results

### Description of Studies

The meta-analytic data set included 148 samples, drawn from 86 studies and providing 402 effect sizes. In sum, the samples included 153,396 participants, and sample sizes ranged from 32 to 84,711 ($M = 1,050$, $SD = 7,001$, $Mdn = 179$). An overview of the samples is given in Table 1, and all effect sizes are reported at OSF (https://osf.io/n2z6b/).

**Table 1**

*Descriptive Information for the Samples Included in the Meta-Analysis*

| Study | Sample size | Mean age T1 | Mean relationship duration T1 | Female (in %) | Sample type | Country | Ethnicity | Measure | Reliability |
|---|---|---|---|---|---|---|---|---|---|
| Andres (2014) | 153 | 34.00 | 12.00 | 100 | Community | NLD | White | ENRICH | .80 |
| Be et al. (2013), female | 1,385 | 63.20 | n.a. | 100 | National | GBR | n.a. | Ad-hoc | .80 |
| Be et al. (2013), male | 1,385 | 65.70 | n.a. | 0 | National | GBR | n.a. | Ad-hoc | .71 |
| Bikos et al. (2007) | 32 | 38.63 | n.a. | 100 | Community | TUR | White | KMSS | .93 |
| Bloch et al. (2014), female | 156 | 52.57 | 34.51 | 100 | Community | USA | White | MAT/MRI | .85 |
| Bloch et al. (2014), male | 156 | 52.57 | 34.51 | 0 | Community | USA | White | MAT/MRI | .80 |
| Blumenstock and Papp (2017), female | 373 | 24.30 | 4.30 | 100 | Community | USA | Other | Ad-hoc | .88 |
| Blumenstock and Papp (2017), male | 373 | 26.50 | 4.30 | 0 | Community | USA | Other | Ad-hoc | .85 |
| Bodi et al. (2010) | 389 | 35.04 | 10.87 | 100 | Community | n.a. | White | RAS | .88 |
| Bouchard (2014), female | 151 | 28.00 | 6.25 | 100 | Community | CAN | White | DAS | .91 |
| Bouchard (2014), male | 151 | 31.00 | 6.25 | 0 | Community | CAN | White | DAS | .89 |
| Bouchard et al. (2006), female | 119 | 28.18 | 7.25 | 100 | Community | CAN | n.a. | DAS | .78 |
| Bouchard et al. (2006), male | 119 | 30.40 | 7.25 | 0 | Community | CAN | n.a. | DAS | .73 |
| Bower et al. (2013), female | 97 | n.a. | 7.81 | 100 | Community | USA | White | DAS | .87 |
| Bower et al. (2013), male | 99 | n.a. | 7.81 | 0 | Community | USA | White | DAS | .88 |
| Brown et al. (2019) | 88 | 54.98 | n.a. | 63 | Community | USA | White | CSI | .84 |
| Busby and Gardner (2008), female | 275 | 26.29 | 4.25 | 100 | Community | USA | White | REQ | .88 |
| Busby and Gardner (2008), male | 275 | 28.32 | 4.25 | 0 | Community | USA | White | REQ | .88 |
| Buyukcan-Tetik et al. (2017), female | 195 | 29.97 | 6.51 | 100 | Community | NLD | White | DAS | .87 |
| Buyukcan-Tetik et al. (2017), male | 195 | 32.91 | 6.51 | 0 | Community | NLD | White | DAS | .87 |
| Byers (2005) | 87 | 37.70 | 12.20 | 62 | Community | n.a. | White | GMRS | .96 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Choi (2016) | 2,078 | 31.35 | 7.45 | 100 | Community | KOR | Asian | KMSS-R | .78 |
| Christopher et al. (2015), female | 96 | 29.34 | 3.52 | 100 | Community | USA | White | MOQ | .92 |
| Christopher et al. (2015), male | 96 | 31.23 | 3.52 | 0 | Community | USA | White | MOQ | .92 |
| Crocker et al. (2017), Study 1 | 132 | 19.45 | 1.53 | 76 | Community | USA | White | QMI | .96 |
| DeMaris (2010) | 704 | 35.63 | 16.86 | 62 | National | USA | White | Ad-hoc | .87 |
| Doohan et al. (2010), female | 102 | 38.76 | 13.00 | 100 | Community | USA | Other | MAT | .73 |
| Doohan et al. (2010), male | 102 | 41.20 | 13.00 | 0 | Community | USA | Other | MAT | .74 |
| Erol and Orth (2014), Study 2, female | 6,115 | 40.30 | 15.90 | 100 | National | USA | White | Ad-hoc | .75 |
| Erol and Orth (2014), Study 2, male | 6,115 | 43.00 | 15.90 | 0 | National | USA | White | Ad-hoc | .75 |
| Fallis et al. (2016), female | 113 | 35.73 | 10.47 | 100 | Community | CAN | White | QMI | .95 |
| Fallis et al. (2016), male | 113 | 37.96 | 10.47 | 0 | Community | CAN | White | QMI | .95 |
| Fincham and Beach (2007), female | 84 | 41.10 | n.a. | 100 | Community | USA | White | MAT | .90 |
| Fincham and Beach (2007), male | 84 | 43.30 | n.a. | 0 | Community | USA | White | MAT | .90 |
| Gao and Cummings (2019), female | 237 | 37.82 | 16.80 | 100 | Community | USA | White | MAT | .75 |
| Gao and Cummings (2019), male | 237 | 40.15 | 16.80 | 0 | Community | USA | White | MAT | .75 |
| Girme et al. (2014), Study 2, female | 66 | 22.25 | 2.83 | 100 | Community | NZL | n.a. | PRQC | .81 |
| Girme et al. (2014), Study 2, male | 66 | 22.25 | 2.83 | 0 | Community | NZL | n.a. | PRQC | .78 |
| Gray and Ozer (2019), female | 325 | 29.60 | n.a. | 100 | Community | USA | Other | CSI | .91 |
| Gray and Ozer (2019), male | 325 | 31.40 | n.a. | 0 | Community | USA | Other | CSI | .91 |
| Greving Mehall et al. (2009), female | 157 | 30.59 | 9.37 | 100 | Community | USA | White | MAT | .78 |
| Greving Mehall et al. (2009), male | 157 | 32.58 | 9.37 | 0 | Community | USA | White | MAT | .72 |
| Gustavson et al. (2016), female | 238 | 46.00 | n.a. | 100 | Community | NOR | White | RAS | .90 |
| Gustavson et al. (2016), male | 194 | 48.00 | n.a. | 0 | Community | NOR | White | RAS | .90 |
| Hagemeyer et al. (2013), female | 547 | 39.40 | 11.40 | 100 | Community | DEU | White | Ad-hoc | .75 |
| Hagemeyer et al. (2013), male | 547 | 41.60 | 11.40 | 0 | Community | DEU | White | Ad-hoc | .75 |
| Hakanen et al. (2011) | 1,632 | 44.90 | n.a. | 72 | Community | FIN | White | RSI | .96 |
| Hammond and Overall (2014), female | 88 | 21.08 | 2.58 | 100 | Community | NZL | n.a. | PRQC | .88 |

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|---|---|---|---|---|---|---|---|---|---|
| Hammond and Overall (2014), male | 88 | 22.73 | 2.58 | 0 | Community | NZL | n.a. | PRQC | .88 |
| Hernandez-Kane and Mahoney (2018) | 67 | 29.85 | 5.05 | 67 | Community | USA | White | KMSS | .97 |
| Hsiao (2017) | 614 | 42.83 | n.a. | 82 | Community | TWN | Asian | Ad-hoc | .75 |
| Impett et al. (2012), Partner 1 | 80 | 23.89 | n.a. | n.a. | Community | CAN | Other | RSI | .90 |
| Impett et al. (2012), Partner 2 | 76 | 23.79 | n.a. | n.a. | Community | CAN | Other | RSI | .90 |
| Ivanova (2016) | 4,116 | 46.90 | 23.83 | 60 | National | NLD | White | Ad-hoc | .95 |
| Jayamaha and Overall (2015), Study 1 | 156 | 22.21 | 2.30 | 65 | Student | NZL | n.a. | PRQC | .84 |
| Jayamaha and Overall (2015), Study 2, female | 174 | 22.43 | 3.00 | 100 | Community | NZL | n.a. | PRQC | .85 |
| Jayamaha and Overall (2015), Study 2, male | 174 | 23.82 | 3.00 | 0 | Community | NZL | n.a. | PRQC | .85 |
| Jenkins et al. (2020), female | 168 | 40.75 | 15.41 | 100 | Community | USA | Black | CRDQ | .91 |
| Jenkins et al. (2020), male | 168 | 43.57 | 15.41 | 0 | Community | USA | Black | CRDQ | .91 |
| Jensen and Rauer (2015a), female | 64 | 70.00 | 46.20 | 100 | Community | USA | White | MSQO | .82 |
| Jensen and Rauer (2015a), male | 64 | 71.00 | 46.20 | 0 | Community | USA | White | MSQO | .92 |
| Jensen and Rauer (2015b) | 67 | 20.80 | 3.03 | 100 | Student | USA | White | IRQ | .94 |
| Johnson and Anderson (2013), female | 610 | 28.45 | 2.58 | 100 | Community | USA | White | Ad-hoc | .90 |
| Johnson and Anderson (2013), male | 610 | 30.52 | 2.58 | 0 | Community | USA | White | Ad-hoc | .90 |
| Kanat-Maymon et al. (2016), Israeli, female | 102 | 41.53 | n.a. | 100 | Community | ISR | White | ENRICH | .79 |
| Kanat-Maymon et al. (2016), Israeli, male | 103 | 43.11 | n.a. | 0 | Community | ISR | White | ENRICH | .79 |
| Kanat-Maymon et al. (2016), German, female | 209 | 39.16 | n.a. | 100 | Community | DEU | White | ENRICH | .79 |
| Kanat-Maymon et al. (2016), German, male | 210 | 41.14 | n.a. | 0 | Community | DEU | White | ENRICH | .79 |
| Kerkhof et al. (2011), female | 199 | 29.20 | 5.77 | 100 | Community | NLD | White | DAS | .84 |
| Kerkhof et al. (2011), male | 199 | 32.07 | 5.77 | 0 | Community | NLD | White | DAS | .86 |
| Kluwer and Johnson (2007), female | 262 | 28.80 | 6.46 | 100 | Community | NLD | White | RSI | .89 |
| Kluwer and Johnson (2007), male | 262 | 31.20 | 6.46 | 0 | Community | NLD | White | RSI | .89 |
| Kouros (2011), female | 296 | 37.84 | 14.38 | 100 | Community | USA | White | MAT | .78 |
| Kouros (2011), male | 296 | 40.22 | 14.38 | 0 | Community | USA | White | MAT | .78 |
| Lavner and Bradbury (2010), female | 232 | 25.50 | 4.13 | 100 | Community | USA | Other | MAT | .78 |

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|---|---|---|---|---|---|---|---|---|
| Lavner and Bradbury (2010), male | 232 | 27.00 | 4.13 | 0 | Community | USA | Other | MAT | .78 |
| LeBaron et al. (2014) | 67 | 46.00 | 27.70 | 100 | Community | USA | White | Ad-hoc | .87 |
| Li et al. (2018), female | 268 | 28.08 | 4.93 | 100 | Community | CHN | Asian | QMI | .96 |
| Li et al. (2018), male | 268 | 29.59 | 4.93 | 0 | Community | CHN | Asian | QMI | .94 |
| Lickenbrock and Braungart-Rieker (2015), female | 135 | 29.30 | n.a. | 100 | Community | USA | White | MAT | .85 |
| Lickenbrock and Braungart-Rieker (2015), male | 135 | 30.79 | n.a. | 0 | Community | USA | White | MAT | .85 |
| Lin et al. (2017), female | 141 | 39.84 | n.a. | 100 | Community | TWN | Asian | KMSS | .96 |
| Lin et al. (2017), male | 141 | 42.06 | n.a. | 0 | Community | TWN | Asian | KMSS | .96 |
| Logan and Cobb (2013) | 268 | 23.60 | 2.74 | 82 | Student | CAN | Other | RAS | .87 |
| Meltzer et al. (2014), Study 3, female | 72 | 23.54 | n.a. | 100 | Community | USA | White | QMI | .89 |
| Meltzer et al. (2014), Study 3, male | 72 | 24.92 | n.a. | 0 | Community | USA | White | QMI | .89 |
| Meltzer et al. (2013), female | 169 | 23.40 | n.a. | 100 | Community | USA | n.a. | QMI | .92 |
| Meltzer et al. (2013), male | 169 | 25.60 | n.a. | 0 | Community | USA | n.a. | QMI | .92 |
| Menéndez et al. (2011), female | 108 | 27.12 | n.a. | 100 | Community | ESP | n.a. | Ad-hoc | .81 |
| Menéndez et al. (2011), male | 79 | 28.73 | n.a. | 0 | Community | ESP | n.a. | Ad-hoc | .81 |
| Miller et al. (2003), female | 168 | 21.00 | n.a. | 100 | Community | USA | White | MOQ | .91 |
| Miller et al. (2003), male | 168 | 24.00 | n.a. | 0 | Community | USA | White | MOQ | .91 |
| Moen (2012), female | 306 | 22.59 | n.a. | 100 | Community | USA | White | KMSS | .86 |
| Moen (2012), male | 306 | 24.50 | n.a. | 0 | Community | USA | White | KMSS | .87 |
| Mund et al. (2015), Study 1 | 186 | 26.82 | 6.31 | 66 | Community | DEU | White | RAS | .88 |
| Mund et al. (2015), Study 2, female | 2,124 | 31.35 | 9.38 | 100 | National | DEU | White | RAS | .75 |
| Mund et al. (2015), Study 2, male | 2,124 | 34.16 | 9.38 | 0 | National | DEU | White | RAS | .75 |
| Naud et al. (2013), female | 299 | 28.00 | n.a. | 100 | Community | CAN | n.a. | DAS | .86 |
| Naud et al. (2013), male | 299 | 30.00 | n.a. | 0 | Community | CAN | n.a. | DAS | .81 |
| Nguyen et al. (2017), female | 414 | 26.30 | 4.20 | 100 | Community | USA | Hispanic | Ad-hoc | .70 |
| Nguyen et al. (2017), male | 414 | 27.90 | 4.20 | 0 | Community | USA | Hispanic | Ad-hoc | .70 |
| Niessen et al. (2018) | 133 | 42.75 | n.a. | 31 | Community | DEU | White | QMI | .97 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Ogolsky et al. (2016), female | 193 | 23.26 | 2.19 | 100 | Community | USA | Other | MOQ | .75 |
| Ogolsky et al. (2016), male | 183 | 24.80 | 2.19 | 0 | Community | USA | Other | MOQ | .75 |
| Orth et al. (2015) | 2,509 | 47.60 | n.a. | 40 | Community | DEU | White | SRS | .93 |
| Orth et al. (2012) | 1,448 | 49.83 | n.a. | 57 | Community | USA | White | RSS | .88 |
| Padilla et al. (2018), female | 246 | 39.38 | 19.12 | 100 | Community | USA | Hispanic | CRDQ | .94 |
| Padilla et al. (2018), male | 246 | 41.94 | 19.12 | 0 | Community | USA | Hispanic | CRDQ | .94 |
| Paleari et al. (2005), female | 124 | 43.80 | 22.60 | 100 | Community | ITA | White | QMI | .96 |
| Paleari et al. (2005), male | 119 | 46.20 | 22.60 | 0 | Community | ITA | White | QMI | .95 |
| Parfitt et al. (2014), female | 75 | 33.04 | 6.08 | 100 | Community | GBR | White | DAS | .92 |
| Parfitt et al. (2014), male | 66 | 34.08 | 6.33 | 0 | Community | GBR | White | DAS | .92 |
| Parise et al. (2017), female | 139 | 29.20 | 5.50 | 100 | Community | ITA | White | QMI | .89 |
| Parise et al. (2017), male | 139 | 31.00 | 5.50 | 0 | Community | ITA | White | QMI | .90 |
| Peltz et al. (2018), female | 249 | 35.00 | 10.50 | 100 | Community | USA | White | CSI | .94 |
| Peltz et al. (2018), male | 249 | 36.00 | 10.50 | 0 | Community | USA | White | CSI | .94 |
| Reizer et al. (2014), Study 3, female | 44 | 29.17 | 8.16 | 100 | Community | ISR | n.a. | MAT | .84 |
| Reizer et al. (2014), Study 3, male | 44 | 30.34 | 8.16 | 0 | Community | ISR | n.a. | MAT | .86 |
| Roberson et al. (2015) | 779 | 19.12 | n.a. | 81 | Community | USA | White | CSI | .90 |
| Robins et al. (2002) | 214 | 21.00 | 2.08 | 63 | National | NZL | White | Ad-hoc | .92 |
| Ruffieux et al. (2014), female | 162 | 40.40 | 14.60 | 100 | Community | CHE | White | PFB | .92 |
| Ruffieux et al. (2014), male | 162 | 42.60 | 14.60 | 0 | Community | CHE | White | PFB | .94 |
| Sadikaj et al. (2015), female | 93 | 27.89 | 4.22 | 100 | Community | CAN | White | DAS | .93 |
| Sadikaj et al. (2015), male | 93 | 30.28 | 4.22 | 0 | Community | CAN | White | DAS | .88 |
| Schober (2012), female | 5,624 | 33.55 | 7.94 | 100 | Community | GBR | White | Ad-hoc | .80 |
| Schober (2012), male | 5,624 | 35.98 | 7.94 | 0 | Community | GBR | White | Ad-hoc | .80 |
| Sotskova et al. (2015), female | 98 | 29.98 | n.a. | 100 | Community | CAN | White | DAS | .91 |
| Sotskova et al. (2015), male | 98 | 32.03 | n.a. | 0 | Community | CAN | White | DAS | .94 |
| South et al. (2020), target | 730 | 60.00 | 30.8 | 39 | Community | USA | White | DAS | .82 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| South et al. (2020), spouse | 551 | 60.00 | 30.8 | 61 | Community | USA | White | DAS | .84 |
| Sullivan et al. (2017) | 86 | 22.50 | n.a. | 64 | Community | USA | Other | RAS | .85 |
| Sun et al. (2017), female | 164 | 40.53 | 16.52 | 100 | Community | USA | Black | CRDQ | .90 |
| Sun et al. (2017), male | 164 | 43.11 | 16.52 | 0 | Community | USA | Black | CRDQ | .90 |
| Szepsenwol et al. (2015), female | 62 | 24.53 | 0.26 | 100 | Community | ISR | n.a. | RAS | .82 |
| Szepsenwol et al. (2015), male | 62 | 25.87 | 0.26 | 0 | Community | ISR | n.a. | RAS | .82 |
| Tombeau Cost et al. (2018) | 222 | 31.77 | 7.32 | 100 | Community | CAN | n.a. | QMI | .81 |
| Tremblay and Pierce (2011) | 160 | 30.00 | 4.00 | 0 | Community | CAN | White | DAS | .77 |
| van den Troost et al. (2005), Study 3, female | 386 | 45.00 | 25.80 | 100 | National | NLD | White | Ad-hoc | .80 |
| van den Troost et al. (2005), Study 3, male | 386 | 47.50 | 25.80 | 0 | National | NLD | White | Ad-hoc | .80 |
| van Scheppingen et al. (2018) | 84,711 | 29.59 | n.a. | 100 | National | NOR | White | Ad-hoc | .88 |
| Volling et al. (2015), female | 241 | 31.60 | 9.57 | 100 | Community | USA | White | IRQ | .76 |
| Volling et al. (2015), male | 241 | 33.20 | 9.57 | 0 | Community | USA | White | IRQ | .75 |
| Weidmann, Schönbrodt, et al. (2017), female | 237 | 48.40 | 23.50 | 100 | Community | CHE | White | RAS | .91 |
| Weidmann, Schönbrodt, et al. (2017), male | 237 | 50.70 | 23.50 | 0 | Community | CHE | White | RAS | .91 |
| Whiteman et al. (2007), female | 188 | 36.74 | 17.36 | 100 | Community | USA | White | CRDQ | .87 |
| Whiteman et al. (2007), male | 188 | 38.92 | 17.36 | 0 | Community | USA | White | CRDQ | .87 |
| Whitton et al. (2014) | 748 | 25.71 | 3.14 | 65 | Community | USA | White | DAS | .85 |
| Zee and Weiss (2019) | 678 | 46.41 | 20.70 | 50 | National | USA | n.a. | Ad-hoc | .75 |

*Note.* Mean age and mean relationship duration are given in years. The column "Female" shows the percentage of female participants. T1 = Time 1. Reliability indicates the reliability estimate of the relationship-satisfaction measure. "n.a." indicates that data were not available. National = nationally representative. Country follows the ISO–3166–1 alpha–3 codes: CAN = Canada; CHE = Switzerland; CHN = China; DEU = Germany; ESP = Spain; FIN = Finland; GBR = United Kingdom of Great Britain and Northern Ireland; ITA = Italy; ISR = Israel; KOR = South Korea; NLD = Netherlands; NOR = Norway; NZL = New Zealand; USA = United States of America; TUR = Turkey; TWN = Taiwan. Measures were as follows (including adaptations, subscales, and translations thereof): CRDQ = Couple Relationship Domains Questionnaire (Huston et al., 1986); CSI = Couples Satisfaction Index (Funk & Rogge, 2007);  DAS = Dyadic Adjustment Scale (Spanier, 1976); ENRICH = ENRICH Marital Satisfaction (Fowers & Olson, 1993); GMRS = Global Measure of Relationship Satisfaction (Lawrance & Byers, 1998); IRQ = Intimate Relations Questionnaire (Braiker & Kelley, 1979); KMSS = Kansas Marital Satisfaction Scale (Schumm et al., 1986); KMSS-R = Kansas Marital Satisfaction Scale Revised (Chung, 2004); MAT = Marital Adjustment Test (Locke & Wallace, 1959); MOQ = Marital Opinion Questionnaire (Huston & Vangelisti 1991); MSQO = Marital Satisfaction Questionnaire for Older Persons (Haynes et al., 1992); MRI = Marital Relationship Inventory (Burgess et al., 1971); PFB = Partnership Questionnaire (Partnerschaftsfragebogen; Hahlweg, 1996); PRQC = Perceived Relationship Quality Components Inventory (Fletcher et al., 2000); QMI = Quality of Marriage Index (Norton, 1983); RAS = Relationship Assessment Scale (Hendrick, 1988); REQ = Relationship Evaluation Questionnaire (Busby et al., 2001); RSI = Relationship Satisfaction subscale from the Investment Model Scale (Rusbult et al., 1998); RSS = Relationship Satisfaction Scale (Gilford & Bengtson, 1979); SRS = Self-Report Relationship Satisfaction (Schmitt et al., 1997); ad-hoc = measure constructed for the study (without a name).

### Sample Characteristics

The publication year of the studies ranged from 2002 to 2019 (*Mdn* = 2014). Nine percent were nationally representative samples, 89% were community samples, and 2% were college samples. Almost all of the samples came from Western countries (96%), including the United States (47%), Canada (12%), the Netherlands (7%), Germany (6%), New Zealand (5%), Israel (4%), the United Kingdom (4%), Italy (3%), Switzerland (3%), Norway (2%), Spain (1%), Finland (1%), and Turkey (1%). Only 4% were from Asian countries (i.e., China, South Korea, and Taiwan). Data from African and South American countries were not available. Of the samples, 78% were predominantly White (with "predominantly" defined as at least 70% of the sample), 5% predominantly Asian, 3% predominantly Black, 3% predominantly Hispanic/Latin America, and 11% belonged to another ethnicity or were ethnically diverse. The mean proportion of female participants was 54% (range = 0% to 100%, *SD* = 47%, *Mdn* = 66%).

Participants' mean age at Time 1 was 34.78 years (*SD* = 10.36), ranging from 19.20 years to 71.00 years, and their mean relationship duration at Time 1 was 11.06 years (*SD* = 9.28), ranging from 3 months to 46.20 years. Participants' mean year of birth was 1969 (*SD* = 13.37), ranging from 1936 to 1995. Mean year of Time 1 assessment was 2004 (*SD* = 7.76), ranging from 1980 to 2014. The mean proportion of participants who lived in the same household as their partner was 82% (range = 11% to 100%, *SD* = 28%, *Mdn* = 100%), the mean proportion of participants who were married was 79% (range = 0% to 100%, *SD* = 33%, *Mdn* = 100%), and the mean proportion of participants who had children was 62% (range = 0% to 100%, *SD* = 44%, *Mdn* = 96%). As regards the occurrence of relationship transitions, 16% of the samples married or had a baby between Time 1 and any of the following assessments, and another 16% of the samples married or had a baby shortly before Time 1 (i.e., on average, 6.72 months before Time 1).

### Methodological Characteristics

The mean time lag between assessments was 2.30 years ($SD = 3.09$), ranging from 2 months (which was the minimal lag required to be included in this meta-analysis) to 19.83 years. In 83% of the samples, relationship satisfaction was assessed with an established measure and in 17% with an ad-hoc measure. Of the studies with established measures, 46% used a global satisfaction measure and 54% an adjustment measure. A detailed list of all measures and their categorization into global satisfaction measures and adjustment measures is reported in Table S2.

**Preliminary Analyses**

***Testing for Influential Outliers***

We used the "influence" command in the metafor package (Viechtbauer, 2010) to test for influential outliers. In metafor, this command is not available for the "rma.mv" function, so we used the "rma" function, which does not account for the multilevel data structure. The results indicated that no sample qualified as potential outlier. Consequently, we used the full data set in the remainder of the analyses.

***Testing for Publication Bias***

We did not expect publication bias to be a problem in this meta-analysis given that most of the studies included did not focus on rank-order stability of relationship satisfaction per se (i.e., most studies focused on other research questions but the statistics that were central for this meta-analysis were reported in the studies).

For assessing publication bias, we used three methods. First, we examined the funnel plot, which shows the relation between effect size and standard error and serves as a graphical device to detect publication bias (Light & Pillemer, 1984; Rothstein et al., 2005; Sterne & Egger, 2001; Sutton, 2009). The funnel plot had an asymmetric shape (Figure 2). Second, we used Egger's regression test, which statistically tests for asymmetry of the funnel plot (Egger et al., 1997). In metafor, this test is not available for the "rma.mv" function, so we used the "rma" function. The test was not significant, $z = 0.755$, $p = .450$. Third, we compared effect

sizes that were published in the studies ($k = 163$) with effect sizes that were not published in the studies (but obtained from the authors upon request; $k = 239$), using a multilevel mixed-effects meta-regression model. The results indicated that effect sizes did not significantly differ from each other, $Q_{Model} = 0.011$, $df = 1$, $p = .916$. Overall, the findings from all three methods suggest that there was no evidence for systematic publication bias. In particular, comparing published versus unpublished effect sizes—which might be the most direct test of publication bias—indicated no significant differences.

**Figure 2**

*Funnel Plot Displaying the Relation Between the Effect Size (Fisher's Z-Transformed Disattenuated Correlation Coefficient) and the Standard Error of the Effect Size*
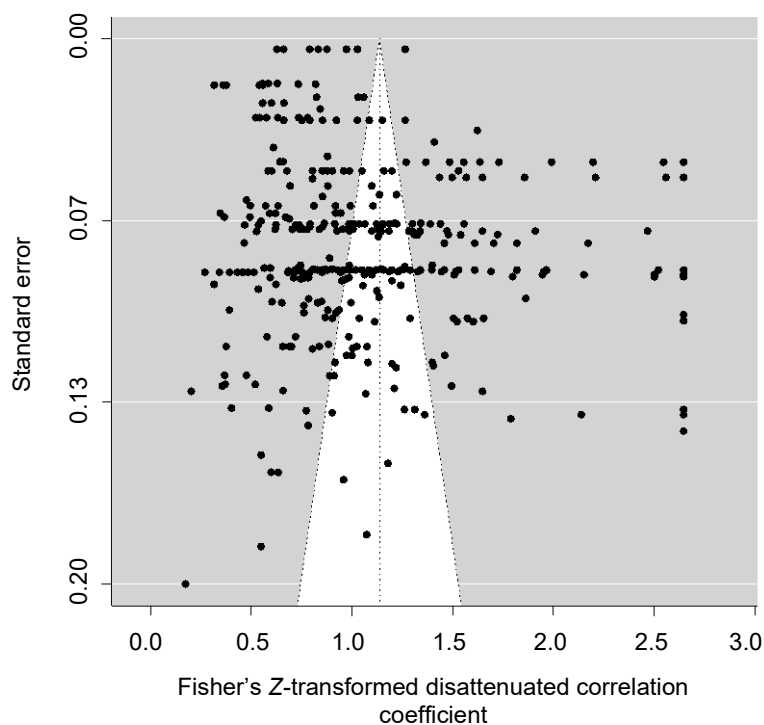
**Figure 3**

*Scatterplots Displaying the Relation Between (A) Age and Effect Size, (B), Relationship Duration and Effect Size, and (C) Time Lag and Effect Size*
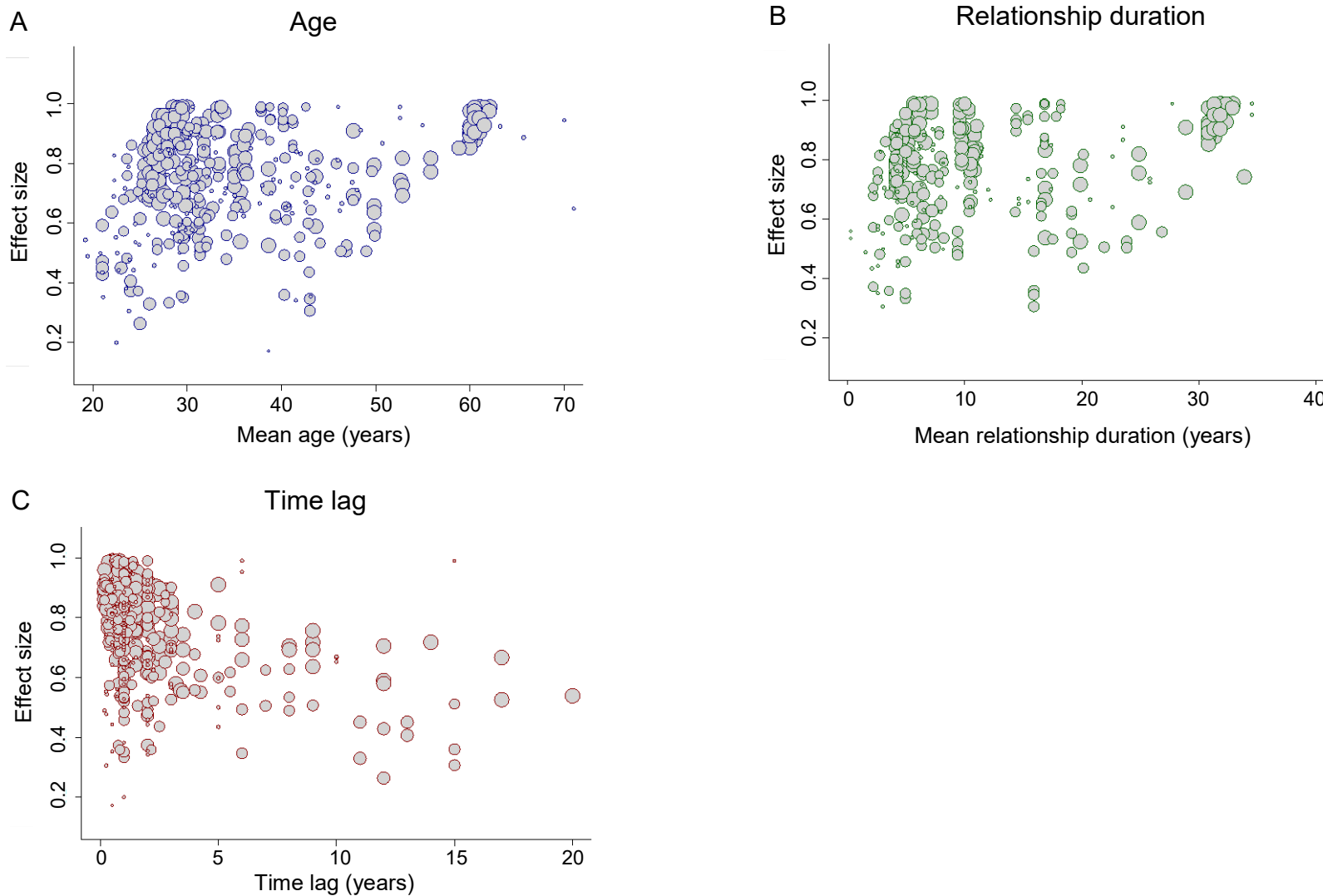


*Note.* For effect size, the figure shows disattenuated correlation coefficients, indicating the rank-order stability of relationship satisfaction between two assessments. The size of the points reflects the weights of each sample.

**Effect Size Analyses**

Across samples, the weighted mean effect size was $r = .766$ with 95% CI [.732, .797]. When controlling for the effect of time lag, the weighted mean effect size was $r = .763$ with 95% CI [.728, .794]. Below, we report the effect size analyses for rank-order stability as a function of age and relationship duration.

*Rank-Order Stability as a Function of Age*

**Visual Overview.** The scatterplot shown in Figure 3A provides an overview of the relation between mean age and effect size. As the figure indicates, variability of effect sizes was larger in young and middle adulthood compared to late adulthood. In addition, the scatterplot shows that the effect sizes became larger with age.

Moreover, we used the locally estimated scatterplot smoothing (LOESS) curve (Cleveland, 1978, 1981; Cleveland & Devlin, 1988) to gain further information about the developmental pattern of rank-order stability as a function of age. Figure 4A shows the LOESS curve with mean age as predictor and the disattenuated correlation coefficient as outcome. The figure supports the increasing trend of rank-order stability as a function of age, with a slight decline in rank-order stability between age 40 and 50 years.

**Figure 4**

*LOESS Curves Showing the Rank-Order Stability of Relationship Satisfaction as a Function of (A) Age, (B) Relationship Duration, and (C) Time Lag*
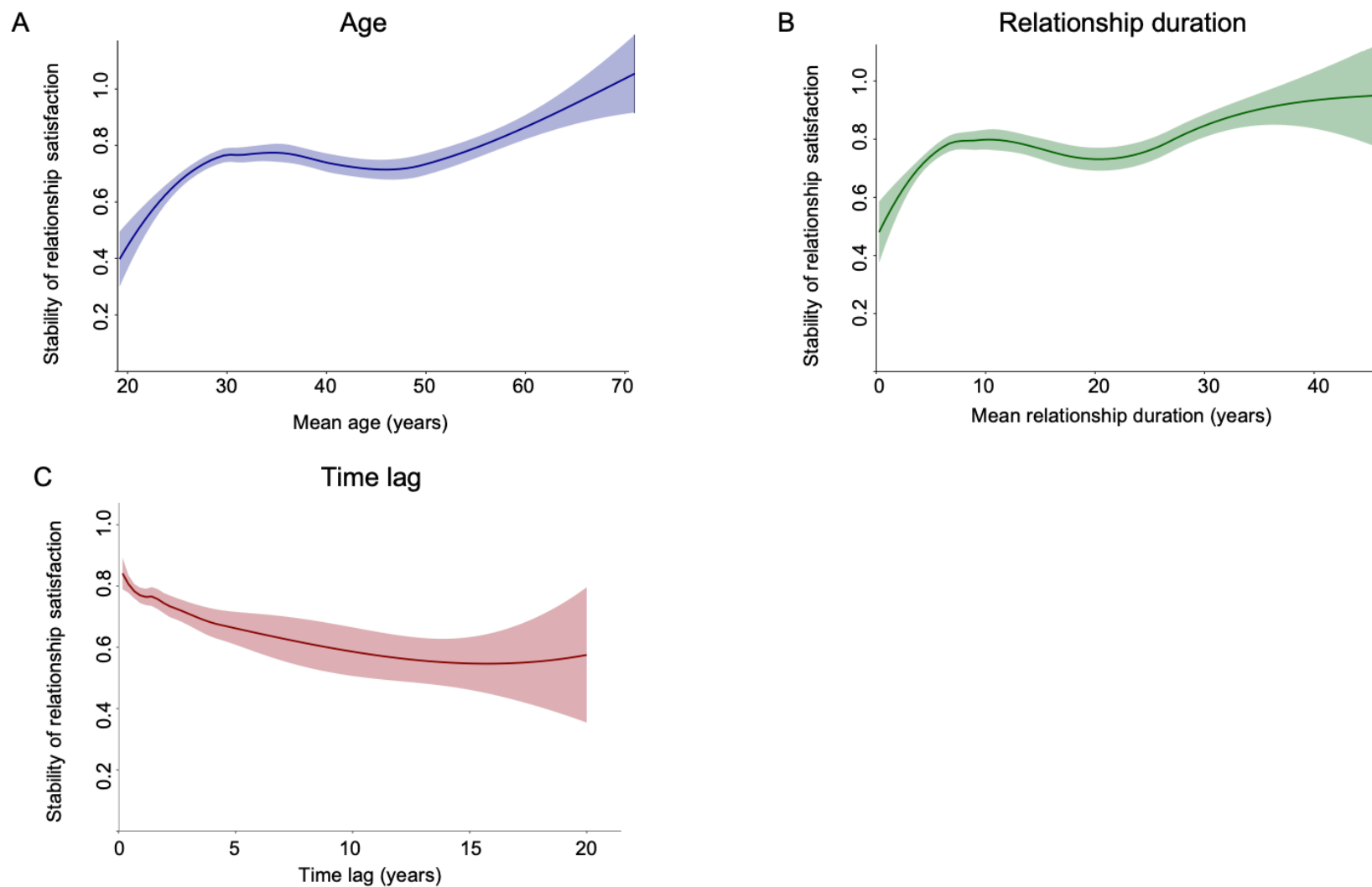


*Note.* The figure shows disattenuated correlation coefficients, indicating the rank-order stability of relationship satisfaction between two assessments, estimated with locally estimated scatterplot smoothing (LOESS) curves.

**Weighted Mean Effect Sizes in Age Groups.** For the meta-analytic computations, we constructed four age groups. For age 19 (19.20 years was the minimum age in the meta-analytic data set) to 50 years, we constructed age groups with 10-year intervals (except for the first group, which included 2 samples between 19 and 20 years): 19−30 years, 30−40 years, and 40−50 years. For age above 50 years, the number of samples was substantially lower. Therefore, we constructed one age group from 50−71 years (71 years was the maximum age in the meta-analytic data set).

Table S3 reports descriptive information on time lag in the four age groups of the effect size analyses (see values in the upper half of the table). As the table indicates, the mean time lag ranged from 1.88 to 4.24 years across age groups, with the largest mean time lag in the age group 40–50 years.

We used the weighted mean effect size as best estimate of rank-order stability of relationship satisfaction in each age group. Table 2 reports the meta-analytic estimates, both without control of time lag and with control of time lag. In the analyses that controlled for time lag, time lag was centered at the mean of the meta-analytic data set (i.e., 2.30 years). Thus, with control of time lag, differences between age groups in time lag are statistically controlled and, moreover, the meta-analytic estimates of rank-order stability refer to a time lag of 2.30 years. The findings from both analyses indicated that effect sizes were larger with higher age, except for the age group 40–50 years, which showed a slightly lower effect size compared to the age group 30–40 years. Overall, however, the findings suggest that rank-order stability of relationship satisfaction increased as a function of age, and this increase was particularly pronounced in young adulthood.

**Table 2**

*Estimates of Rank-Order Stability of Relationship Satisfaction as a Function of Age and Relationship Duration*

| Group | k | N | Weighted mean effect size | 95% CI | Q | Variances $\sigma_1^2$ | $\sigma_2^2$ |
|---|---|---|---|---|---|---|---|
| | | | Not controlled for time lag | | | | |
| Age | | | | | | | |
| 19–30 years | 157 | 96,232 | .672 | [.613, .724] | 23737.5 | .065 | .128 |
| 30–40 years | 128 | 25,901 | .804 | [.751, .846] | 8827.2 | .185 | .081 |
| 40–50 years | 66 | 28,251 | .768 | [.696, .825] | 5139.7 | .186 | .064 |
| 50–71 years | 45 | 4,816 | .921 | [.865, .954] | 6290.4 | .134 | .177 |
| Relationship duration | | | | | | | |
| 0–5 years | 79 | 7,623 | .665 | [ .597, .723] | 1472.7 | .070 | .048 |
| 5–10 years | 99 | 21,400 | .802 | [ .733, .854] | 7326.9 | .151 | .163 |
| 10–20 years | 79 | 18,507 | .811 | [ .736, .866] | 6884.1 | .249 | .073 |
| 20–46 years | 55 | 8,071 | .856 | [ .757, .917] | 16828.9 | .296 | .176 |
| | | | Controlled for time lag | | | | |
| Age | | | | | | | |
| 20–30 years | 157 | 96,232 | .656 | [ .596, .708] | 9659.4 | .061 | .115 |
| 30–40 years | 128 | 25,901 | .795 | [ .741, .838] | 7937.4 | .176 | .075 |
| 40–50 years | 66 | 28,251 | .786 | [ .715, .841] | 3333.4 | .195 | .054 |
| 50–71 years | 45 | 4,816 | .926 | [ .863, .961] | 3005.2 | .226 | .138 |
| Relationship duration | | | | | | | |
| 0–5 years | 79 | 7,623 | .556 | [ .457, .641] | 1375.9 | .087 | .030 |
| 5–10 years | 99 | 21,400 | .765 | [ .686, .827] | 6620.3 | .140 | .144 |
| 10–20 years | 79 | 18,507 | .824 | [ .761, .871] | 4286.3 | .195 | .066 |
| 20–46 years | 55 | 8,071 | .884 | [ .785, .939] | 8470.8 | .370 | .156 |

*Note.* Computations without control of time lag were made with multilevel random-effects models and computations with control of time lag were made with multilevel mixed-effects meta-regression models. In the analyses with time lag as covariate, time lag was grand-mean centered at 2.30 years. $k$ = number of effect sizes; $N$ = number of participants in each group. Weighted mean effect size = disattenuated correlation coefficient, indicating the rank-order stability of relationship satisfaction between two assessments. CI = confidence interval; $Q$ = test statistic of the test for (residual) heterogeneity; $\sigma_1^2$ = variance proportion attributable to the level of the grouping variable (i.e., between samples); $\sigma_2^2$ = variance proportion attributable to the level nested within the grouping variable (i.e., within samples). Values in bold are significant at $p < .05$.

### *Rank-Order Stability as a Function of Relationship Duration*

**Visual Overview.** The scatterplot shown in Figure 3B provides an overview of the relation between mean relationship duration and effect size. The variability of effect sizes was larger in relationships with a duration of less than 20 years compared to relationships with a duration of more than 20 years. The scatterplot also indicates that the effect sizes were larger with longer relationship duration.

Again, we generated a LOESS curve to gain further information about the developmental pattern of rank-order stability of relationship satisfaction as a function of relationship duration. Figure 4B shows the LOESS curve with mean relationship duration as predictor and the disattenuated correlation coefficient as outcome. The figure indicates an increasing trend of rank-order stability as a function of relationship duration, with a marginal decline after 20 years of relationship duration.

**Weighted Mean Effect Sizes in Relationship-Duration Groups.** For the meta-analytic computations, we constructed four relationship-duration groups. For 0 to 10 years of relationship duration, we constructed two groups with an interval of 5 years: 0−5 years and 5−10 years. For a relationship duration of more than 10 years, the number of samples was lower. Therefore, we constructed one group from 10 to 20 years and one group from 20 to 46 years (46 years was the maximum relationship duration in the meta-analytic data set).

Table S3 reports descriptive information on time lag in the four relationship-duration groups (see values in the lower half of the table). As the table indicates, the mean time lag ranged from 1.36 to 3.30 years across relationship-duration groups, with the largest mean in the group from 10 to 20 years.

Table 2 reports the meta-analytic estimates (both without control of time lag and with control of time lag). Again, in the analyses that controlled for time lag, time lag was centered at the mean of the meta-analytic data set (i.e., 2.30 years). In both sets of analyses, weighted mean effect sizes were larger with longer relationship duration, suggesting that rank-order

stability of relationship satisfaction increases as a function of relationship duration. This increase was particularly pronounced within the first ten years of the relationship.

### Analyses With Time Lag

The scatterplot shown in Figure 3C provides an overview of the relation between time lag and effect size. Furthermore, Figure S1 shows the frequency distribution of time lag across samples. Although time lag ranged from 2 months to almost 20 years, most samples had a time lag of less than 5 years. The correlation between time lag and effect size was $-.36$ ($p < .001$), suggesting that rank-order stability was significantly lower over longer periods. To further examine rank-order stability of relationship satisfaction depending on time lag, we generated a LOESS curve. Figure 4C shows the LOESS curve with time lag as predictor and the disattenuated correlation coefficient as outcome. The figure indicates a decreasing trend of rank-order stability depending on time lag, suggesting that the curve levels off at an estimate of about .55.

### Meta-Regressions Testing Age and Relationship Duration Simultaneously

Analyses based on age and relationship-duration groups are a useful method for describing the patterns of effects, but they might obscure the effects of continuous age and relationship duration. Moreover, age and relationship duration were highly correlated with each other (i.e., $r = .97$; see Table S4). Therefore, we tested multilevel mixed-effects meta-regression models using both time metrics as continuous predictors, to disentangle the effects of the two time metrics.

Specifically, we computed six models that differed systematically with regard to the predictors included. Model 1 tested the linear effect of age. Model 2 tested the linear effect of relationship duration. Model 3 tested the linear effects of age and relationship duration simultaneously. Model 4 tested the linear and quadratic effects of age. Model 5 tested the linear and quadratic effects of relationship duration. Finally, Model 6 tested the linear and

quadratic effects of age and relationship duration simultaneously. The findings from the meta-regression models are reported in Table 3, with control of time lag.

The findings showed that both linear and quadratic age (Models 1 and 4) and linear and quadratic relationship duration (Models 2 and 5) significantly predicted the effect sizes, consistent with the conclusions from the analyses with age and relationship-duration groups reported above. When linear age and linear relationship duration were tested simultaneously (Model 3), age was no longer significant, but relationship duration remained significant. Moreover, when quadratic age and quadratic relationship duration were included as additional predictors (Model 6), linear relationship duration remained a significant predictor of the effect sizes.

Overall, the meta-regression models allowed testing, with a different approach, rank-order stability as a function of age and relationship duration. The findings indicate that age and relationship duration significantly predicted rank-order stability of relationship satisfaction, suggesting greater stability with higher age and with longer relationship duration. Moreover, the results from the meta-regression models helped to disentangle the effect of age and relationship duration, suggesting that relationship duration was the more dominant (and significant) time metric for explaining rank-order stability of relationship satisfaction.

**Table 3**

*Meta-Regression Predicting Effect Size from Age and Relationship Duration, Controlling for Time Lag*

| Predictor | Model | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Linear age | **.257** [.168, .347] | — | −.140 [−.463, .183] | **.342** [.227, .457] | — | −.208 [−.544, .128] |
| Linear relationship duration | — | **.296** [.203, .390] | **.440** [.096, .785] | — | **.490** [.337, .643] | **.710** [.301, 1.119] |
| Quadratic age | — | — | — | **−.070** [−.130, −.010] | — | −.011 [−.142, .119] |
| Quadratic relationship duration | — | — | — | — | **−.114** [−.186, −.043] | −.109 [−.265, .046] |

*Note.* $k$ = 306. Computations were made with multilevel mixed-effects meta-regression models. Effect size = Fisher's $Z$-transformed disattenuated correlation coefficient, indicating the rank-order stability of relationship satisfaction between two assessments. The table shows unstandardized regression coefficients, with 95% confidence intervals in brackets. To avoid numerically small estimates, age and relationship duration were rescaled by the factor $10^{-1}$. Moreover, in the present analyses age was centered at 35 years, and relationship duration was centered at 10 years. Dash indicates that this predictor is not included in the model. The analyses controlled for time lag, which was grand-mean centered at 2.30 years. Values in bold are significant at $p < .05$.

**Moderator Analyses**

Finally, we tested for moderators of the effect sizes, using multilevel mixed-effects meta-regression models. The zero-order correlations between the moderators, age, relationship duration, time lag, and effect size are provided in Table S4.

For the categorical moderator variables, we tested specific contrasts. As regards the occurrence of transitions, we contrasted samples that married or had a baby between Time 1 and any of the following occasions (16%) with samples that had no transition between Time 1 and any of the following occasions (84%). We also contrasted samples that married or had a baby shortly before Time 1 (16%) with samples that had no transition shortly before Time 1 (84%). As regards the measure of relationship satisfaction, we contrasted samples that were assessed with an ad-hoc measure (17%) versus established scale (83%). Among those samples that were assessed with an established scale, we contrasted global satisfaction scales (46%) with adjustment scales (54%). For sample type, we contrasted nationally representative samples (9%) with community and college samples (91%). For ethnicity, we contrasted samples that were predominantly White/European (78%) with samples that had another ethnicity (22%).

For the continuous variable baseline mean of relationship satisfaction, we had to take into account that the primary studies used different measures to assess relationship satisfaction, so that the observed Time 1 means were not directly comparable. Therefore, we converted the Time 1 means into POMP scores to make them comparable across studies (Cohen et al., 1999; see also Cerasoli, 2014). To compute POMP scores, we used the following formula given by Cohen et al. (1999)

$$\text{POMP} = \frac{\text{observed} - \text{minimum}}{\text{maximum} - \text{minimum}} \times 100,$$

where *observed* is the observed Time 1 mean of relationship satisfaction, *minimum* is the scale's minimum possible score, and maximum is the scale's maximum possible score. Thus, the POMP score reflects the Time 1 mean as percentage of the scale's maximum possible score, ranging from 0 to 100.

In the moderator analyses, we controlled for time lag and between-sample differences in mean age and mean relationship duration. Controlling for time lag, mean age, and mean relationship duration was essential given that effect sizes varied as a function of these variables, as reported above (see also Table S4). Given the substantial number of tests in the moderator analyses (i.e., 11 tests), we used the Bonferroni method and adjusted the significance level to $p < .0045$ (i.e., dividing .05 by the number of tests).

The results of the moderator analyses are shown in Table 4 and indicated that the occurrence of relationship transitions before Time 1 and sample type had significant moderator effects. Specifically, samples who experienced (vs. did not experience) a relationship transition shortly before Time 1 had a lower rank-order stability of relationship satisfaction. Moreover, nationally representative samples had a lower rank-order stability of relationship satisfaction than community or college samples. When we tested these two moderators simultaneously, the coefficients were very similar to the coefficients from the first step of the analyses and significant on the Bonferroni adjusted significance level.[5]

None of the other study characteristics were significant, which strengthens confidence in the robustness of the findings. That is, rank-order stability of relationship satisfaction did not significantly differ by household shared with partner, marital status, presence of children, the occurrence of relationship transitions between assessments, type of measure, ethnicity, gender, and baseline mean of relationship satisfaction.

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[5] When testing the two moderators simultaneously, the coefficients were $B = -.280$, $SE = .090$, $p = .002$ (occurrence of relationship transitions shortly before Time 1) and $B = -.490$, $SE = .154$, $p = .002$ (sample type).

**Table 4**

*Meta-Regression Models for Study Characteristics Predicting the Effect Size, Controlling for Mean Age, Mean Relationship Duration, and Time Lag*

| Moderator | k | B | SE | p |
|---|---|---|---|---|
| Household shared with partner | 141 | .285 | .244 | .243 |
| Married | 275 | .298 | .169 | .078 |
| Presence of children | 207 | .196 | .162 | .228 |
| Transition | 306 | .087 | .115 | .451 |
| Post transition | 306 | **−.276** | .091 | .002 |
| Measure (established) | 306 | .065 | .125 | .606 |
| Measure (global) | 249 | −.209 | .105 | .047 |
| Sample type | 306 | **−.476** | .153 | .002 |
| Ethnicity | 291 | .095 | .120 | .427 |
| Female | 306 | −.030 | .107 | .779 |
| Baseline mean | 265 | −.021 | .009 | .027 |

*Note.* Computations were made with multilevel mixed-effects meta-regression models. The effect size used was the Fisher's $Z$-transformed disattenuated correlation coefficient, indicating the rank-order stability of relationship satisfaction between two assessments. Mean age, mean relationship duration, and time lag were included as control variable in all models. Mean age, mean relationship duration, time lag, and mean year of birth were grand-mean centered prior to the analyses. Household shared with partner, married, presence of children, and female were proportions. The following variables were dichotomous: transition (1 = relationship transition between Time 1 and subsequent assessment, 0 = no relationship transition between Time 1 and subsequent assessment ), post transition (1 = relationship transition shortly before Time 1 , 0 = no relationship transition shortly before Time 1), the two contrasts for measure of relationship satisfaction (1 = established scale, 0 = ad-hoc measure; 1 = global satisfaction, 0 = adjustment measure), sample type (1 = nationally representative sample, 0 = community or student sample), ethnicity (1 = predominantly White, 0 = other). $k$ = number of effect sizes.

## Discussion

The goal of this meta-analysis was to gain a robust and precise picture of rank-order stability of relationship satisfaction across adulthood, as a function of age and relationship duration. The meta-analytic data set was based on 148 independent samples, including 402 effect sizes from 153,396 participants. The mean age associated with the effect sizes ranged from 19 to 71 years, and the mean relationship duration ranged from 3 months to 46 years. The findings indicated that individual differences in relationship satisfaction within a given relationship are relatively stable over time (average $r = .76$, corrected for attenuation due to measurement error and based on an average time lag of 2.30 years). The findings also suggested that rank-order stability of relationship satisfaction varied systematically as a function of age and as a function of relationship duration. Specifically, rank-order stability of relationship satisfaction increased from young to late adulthood, with a slight decrease in middle adulthood. Moreover, rank-order stability of relationship satisfaction increased over the course of the relationship, with a slight decline around 20 years of relationship duration. In the analyses that examined age and relationship duration simultaneously, the findings suggested that relationship duration was the more dominant time metric for explaining rank-order stability of relationship satisfaction. Finally, the moderator analyses suggested that the occurrence of relationship transitions shortly before Time 1 and sample type explained variance in rank-order stability of relationship satisfaction. Except for these two moderators, the pattern of findings was robust across study characteristics such as marital status, ethnicity, and gender.

### Rank-Order Stability of Relationship Satisfaction Across Adulthood

As noted in the Introduction, examining rank-order stability of relationship satisfaction concerns the question to which degree relationship satisfaction should be conceptualized as a trait-like construct (Fraley & Roberts, 2005). When comparing the present meta-analytic estimate of rank-order stability of relationship satisfaction within a given relationship ($r =$

.76) with findings on other psychological constructs, it is important to note that this estimate is disattenuated (i.e., corrected for unreliability of the measures used in individual studies) and, therefore, comparison estimates should also be corrected for unreliability. Moreover, comparison estimates should be based on a similar time lag (i.e., in the present research the average time lag was 2.30 years). The data from Anusic and Schimmack (2016) suggest that estimates of rank-order stability (corrected for measurement error and based on an average time lag of 2.30) are about .88 for personality traits, .80 for self-esteem, .75 for life satisfaction, and .88 for affect.

Thus, the present findings suggest that individual differences in relationship satisfaction are less stable than individual differences in personality traits, self-esteem, and affect, but as stable as individual differences in life satisfaction. Hence, similar to life satisfaction, relationship satisfaction can be considered, to some degree, as a trait-like construct. The relatively high rank-order stability of relationship satisfaction is particularly interesting given that relationship satisfaction—in contrast to life satisfaction—is not a pure characteristic of the individual, but is conceptually linked to the specific relationship environment, including characteristics of the romantic partner and of the relationship with the partner. It is likely that both individual predispositions (such as individual differences in emotional stability, self-esteem, and secure attachment; e.g., McNulty, 2016) and relationship characteristics (such as constructive communication patterns; e.g., Karney & Bradbury, 2020) contribute to the relatively high rank-order stability of relationship satisfaction. Clearly, future research using statistical models such as the STARTS model (Kenny & Zautra, 2001) is needed to more directly estimate stable and unstable variance components in relationship satisfaction (for an example of using the STARTS model, see Lucas & Donnellan, 2007). Studies using the STARTS model could also contribute to examining the asymptote of rank-order stability over long periods (Anusic & Schimmack, 2016; Fraley & Roberts, 2005; Kuster & Orth, 2013; Schuerger et al., 1989).

In this research, we found that the pattern of how rank-order stability of relationship satisfaction changed as a function of time lag was similar to that of other psychological constructs. More precisely, we observed that the rank-order stability of relationship satisfaction was significantly lower over longer periods (see Figure 4C). This decline could be expected based on research on other psychological constructs, which generally show a decrease in rank-order stability as the time lag increases (e.g. Fraley & Roberts, 2005). At the same time, we found that the LOESS curve did not approach zero over long periods (e.g., 15–20 years), but leveled off at an estimate of about .55. This finding suggests that there is an enduring component of individual differences in relationship satisfaction, again consistent with general findings on the stability of individual differences in other psychological constructs (e.g. Fraley & Roberts, 2005). To return to the example from the Introduction: The findings imply that Heather, Tom, and Mary will likely maintain their relative standing on relationship satisfaction at later occasions: Heather, who reports high relationship satisfaction (compared to Tom and Mary) at the first assessment, is likely to report high relationship satisfaction (compared to Tom and Mary) one year, five years, and even 15 years later. As discussed in the Introduction, it is possible that the long-term stability of relationship satisfaction can be explained by the long-term stability of the factors that influence couple members' relationship satisfaction. More specifically, the enduring component of individual differences in relationship satisfaction could be explained by characteristics of the individuals (e.g., personality characteristics such as the person's attachment orientation), the relationship (e.g., coping style of the couple), and the context (e.g., employment situation of the partners). Thus, although rank-order stability of relationship satisfaction levels off at a large value when assessed across long intervals, consistent with the notion of a relatively strong trait component of the construct, rank-order stability is likely due to influences from the person *and* influences from the relationship and context. As noted above, the present meta-analysis is based on data from assessments within a given relationship. Therefore, future research should test whether

the longterm estimate of rank-order stability holds when relationship satisfaction is assessed across different relationships of the same person.

At the same time, the present findings also showed that the degree of rank-order stability was still substantially below unity, indicating that there is room for change (Roberts & Nickel, 2021). To determine in which developmental periods change is more or less likely to occur, we examined rank-order stability of relationship satisfaction as a function of age and as a function of relationship duration.

### Rank-Order Stability of Relationship Satisfaction as a Function of Age

The findings from both the LOESS curves and the group analyses indicated that, overall, rank-order stability of relationship satisfaction increased as a function of age, with a slight decline in middle adulthood. Specifically, the meta-analytic estimates from the group analyses were .66 for 19–30 years and .93 for 50–71 years. The estimates were not substantially altered when time lag between assessments was controlled for. The finding of greater rank-order stability with higher age is in line with the theoretical perspectives reviewed in the Introduction, according to which developmental tasks (Erikson, 1968; Havighurst, 1972) and selective investment (Carstensen et al., 1999; Charles & Carstensen, 2010) contribute to increasing rank-order stability of relationship satisfaction across adulthood.

The lower rank-order stability in young adulthood is consistent with research indicating that young adults, and in particular emerging adults, explore different life-path options, including romantic relationships (Arnett, 2000; Shulman & Connolly, 2013). Such exploration may contribute to less stable relationship conditions (e.g., young adults often are unmarried and do not live in a shared household; see also Table S4), which, in turn, could contribute to lower rank-order stability of relationship satisfaction in this life stage. However, in the present meta-analysis, being married and sharing a household did not moderate the effect sizes (see Table 4). Thus, even if young adult couples are more often unmarried and

live more often in separate households, this likely does not explain the lower rank-order

stability in this developmental period.

Although the slight decline of rank-order stability in middle adulthood deviates from

the general upward trend across adulthood, this tentative drop may be related to specific

developmental challenges in midlife, which could affect romantic relationships in different

ways. For example, many middle adults (but not all) spend more time with work than with

leisure activities, and take on more generative, caring, and sometimes stressful social roles

(e.g., Hudson et al., 2019). These greater challenges might deplete their resources to invest in

the romantic relationship (Buck & Neff, 2012; Finkel & Campbell, 2001; Finkel et al., 2012;

Finkel et al., 2014), leading to a temporary decline in the rank-order stability of relationship

satisfaction in this developmental period. Nevertheless, we emphasize that the observed

decline in rank-order stability in middle adulthood was relatively small.

Finally, the relatively large stability of relationship satisfaction in late adulthood is

consistent with research suggesting that older adults invest more time and energy in positive

social relationships with close others, such as with their relationship partner (Carstensen et al.,

1999; Fredrickson & Carstensen, 1990; Fung et al., 1999). More investments, in turn, may

lead to more stable relationship conditions, contributing to greater rank-order stability of

relationship satisfaction in this life stage (Fraley & Roberts, 2005).

### Rank-Order Stability of Relationship Satisfaction as a Function of Relationship Duration

The findings from both the LOESS curves and the group analyses indicated that rank-

order stability of relationship satisfaction generally increased as a function of relationship

duration, with a slight decline around 20 years of relationship duration. Specifically, the meta-

analytic estimates from the group analyses were .56 in the first 5 years of relationships and

.88 after a relationship duration of 20 years and longer. Again, the estimates were not

substantially altered when time lag was controlled for. Interestingly, the confidence intervals

were larger for couple members with long relationship duration (i.e., 35 years and more),

which may be due either to the lower number of samples who have been together for long periods or to greater heterogeneity of rank-order stability in samples with long relationship duration. Nevertheless, the overall trend suggested that rank-order stability generally increases over the course of relationships. This finding is in line with the theoretical perspectives reviewed in the Introduction, which suggested that in relationships that "survive" the first years, relationship conditions tend to be more stable, which consequently leads to increasing rank-order stability of relationship satisfaction as a function of relationship duration (Diekmann & Mitter, 1984; Kulu, 2014; Kurdek, 1998, 1999).

There are at least two mechanisms that could explain this phenomenon. First, the degree of rank-order stability depends on the stability of the context (see Fraley & Roberts, 2005). If a population as a whole (e.g., couples who have been together for 10 years or longer) is embedded in relatively consistent environments, this contributes to greater rank-order stability (Moss & Susman, 1980; Roberts & DelVecchio, 2000). By definition, in relationships of long duration, romantic partners have spent a considerable amount of time together and their relationship environment is likely characterized by accumulated consistency and stability. Of course, this does not mean that individuals in relationships of long duration do not experience any changes in their relationship environment, for example due to diseases or transitioning into retirement (e.g., Specht et al., 2011). Yet, it seems that these experiences do not generate substantial changes in the rank ordering of relationship satisfaction over time. Moreover, couples who have spent a considerable amount of time together often have invested many resources in their relationship, such as financial or emotional resources. According to the investment model of relationships (Rusbult et al., 1998), these investments (together with a relatively high level of relationship satisfaction and low quality of alternatives) maintain relationship commitment and may contribute to greater stability of the relationship. In addition, couples who are more satisfied in the relationship anticipate that they will remain in the relationship and hence invest in more adaptive

relationship processes (e.g., constructive coping styles), strengthening their high level of satisfaction. Similarly, less satisfied couples may not believe in continuing the relationship and will invest much less in relationship-promoting behavior, which maintains their relatively low level of satisfaction. Thus, these relationship processes may explain why individual differences in relationship satisfaction are relatively stable over time.

Second, identity processes could also account for greater rank-order stability of relationship satisfaction, combining psychological and environmental mechanisms (Roberts & DelVecchio, 2000). Only recently, the concept of narrative identity has been applied to the romantic relationship domain, illustrating that romantic relationships—similar to whole lives (McAdams, 1995, 2013)—can be represented by means of narrative identity (Bühler & Dunlop, 2019). Specifically, the story that individuals form about their relationship reflects their relationship identity. As argued in the context of individual lives, people with a strong identity make decisions and choose life paths that are consistent with their personality and their identity (see selective person-environment transactions; Caspi, 1998). Having a strong sense of identity is also linked to continued investment in the chosen life path, which predicts an increase in ego-resilience, that is, a better ability for adjusting to changes in the environment and recovery from difficult situations (Pals, 1999). Moreover, a strong sense of identity also exerts a filter function as to which information is perceived and processed by the person. Finally, once a person's identity has become known to others, they create reputations about the person (Hogan & Roberts, 2000) and respond in a way that strengthens the person's personality and identity (see evocative person-environment transactions; Caspi, 1998). Together, these identity processes may contribute to greater stability of individual differences in psychological constructs (Roberts & DelVecchio, 2000).

Applied to the context of romantic relationships, this means that individuals with a strong relationship identity might make decisions and choose relationship paths that are in line with their relationship identity (e.g., seeing a couple therapist when relationship problems

arise). Having a strong relationship identity may also be linked to continuous investment in the relationship, which contributes to a resilient and stable relationship. Moreover, people with a strong relationship identity may selectively perceive and process information in a way that strengthens their relationship identity (e.g., focusing on positive, rather than negative, attributes of the relationship or the relationship partner). Finally, the reputation of the relationship (e.g., "Max and Alex have been happily married ever since") may feedback into the relationship so that others react to the couple in a way that is consistent with their established relationship identity. Clearly, the same relationship-identity mechanisms apply to less satisfied couples. For instance, individuals who are less satisfied with their relationship may make decisions that are in line with their relationship identity (e.g., "We do not fit together anyway") and may not consider, or even decline, to see a couple therapist when problems arise.

At the same time, meta-analytic findings on mean levels suggest that relationship satisfaction is, on average, relatively high over the course of the relationship, never falling below 77% of the maximum possible (Bühler et al., 2021). These findings also correspond with research based on latent class growth analysis and group-based modeling, indicating that the majority of couples (around 70–90%) remains fairly satisfied over time, while only a subgroup of couples (around 10–30%) experiences greater declines in relationship satisfaction and potentially a relationship breakup (e.g., Anderson et al., 2010; Birditt et al., 2012; Foran et al., 2013; Lavner & Bradbury, 2010; Lavner et al., 2012; Lorber et al., 2015). Thus, among intact couples, even the less satisfied couple members are often relatively satisfied, which may explain why they remain in the relationship over longer periods of time. In addition, as described in the investment model, the level of relationship satisfaction is only one of the factors that contributes to commitment and stability in the relationship. Hence, among the intact, less satisfied couples there may be other factors, such as the investments that couple members have already made, that motivate partners to stay together. Together, all of these

mechanisms may stabilize individual differences in relationship satisfaction and contribute to greater rank-order stability of relationship satisfaction over the course of the relationship.

### The Role of Age and Relationship Duration

As noted in the Introduction, age and relationship duration are generally highly correlated, which was also the case in the present meta-analysis ($r = .97$; see Table S4). This high correlation, however, is not a methodological artifact, but reflects the reality of most couples: The older people are, the longer they have typically been in their relationship, simply because they are older. Nevertheless, it is important to note that although the two time metrics are highly correlated, they are not interchangeable (similar to height and weight, which are strongly correlated but by no means the same construct; Fincham et al., 2018). Therefore, we tested multilevel mixed-effects meta-regression models using both time metrics as continuous predictors, with the goal of disentangling the effects of the two time metrics. The findings suggested that relationship duration, rather than age, was the more dominant time metric for explaining rank-order stability of relationship satisfaction within a given relationship. As reviewed in the Introduction, Fraley and Roberts' (2005) model suggests that stable environments contribute to higher rank-order stability of individual-difference constructs. The more dominant role of relationship duration for rank-order stability of relationship satisfaction might be explained by the more stable relationship environments that longterm couples usually experience. This, in turn, may result in more stable transactions between couple members and their relationship environments (Fraley & Roberts, 2005). With longer relationship duration, relationship partners also tend to become more congruent in personality traits such as agreeableness, conscientiousness, and openness (Rammstedt & Schupp, 2008), which may further stabilize the transactions between the partners and their environment over the course of their relationship.

At the same time, we emphasize that it was not possible to unequivocally isolate the unique effects of the time metrics because the time metrics are, as described above, inherently

linked to each other. Thus, in studies with romantic couples both age and relationship duration should be examined simultaneously to account for both of their effects. Otherwise, developmental processes in romantic relationships might mistakenly be attributed to one of the time metrics, simply because the other time metric was not examined in the research.

**Moderators of the Rank-Order Stability of Relationship Satisfaction**

The pattern of findings was relatively robust across the moderators tested, with two exceptions. First, in line with our hypotheses the occurrence of relationship transitions shortly before Time 1 predicted lower rank-order stability of relationship satisfaction. Relationship transitions, such as the birth of a child or marriage, might confront people with new demands and challenges and might destabilize relationship environments (Doss et al., 2009; Fraley & Roberts, 2005; Sanchez & Thomson, 1997). A destabilized relationship environment, in turn, may lead to lower rank-order stability of relationship satisfaction. Second, nationally representative samples had a lower rank-order stability of relationship satisfaction than community samples and samples of college students. As noted in the Introduction, we had no hypotheses about the moderating effect of sample type on the effect size. The present findings suggest that romantic relationships in community and college samples may be more stable than romantic relationships in nationally representative samples. However, more research is needed for drawing stronger conclusions about the moderating effects of relationship transitions and sample type on the rank-order stability of relationship satisfaction.

A general conclusion from the moderator analyses is that the findings were robust across most sample and methodological characteristics. In other words, rank-order stability of relationship satisfaction did not significantly differ in samples with different compositions with regard to shared household, marital status, presence of children, ethnicity, and gender. Moreover, the findings did not differ in samples that had versus had not undergone relationship transitions between Time 1 and any of the following measurement occasions, in samples with different measures and with different baseline means of relationship satisfaction.

**Limitations and Future Directions**

Although this meta-analysis included data from 153,396 participants from 16 countries, one limitation is that the majority of samples were from Western countries (e.g., United States, Canada, the Netherlands, Germany). Given that the meta-analytic data set included few studies from Asian countries and none from African and South American countries, the present data did not allow testing whether the results hold outside of North America and Europe. Moreover, nearly all samples consisted of participants from opposite-sex relationships, and only one sample included participants from same-sex relationships. Therefore, more primary studies are needed that examine couples from different cultural backgrounds (Henrich et al., 2010) and individuals involved in diverse types of relationships, including same-sex relationships (e.g., Chen & van Ours, 2018).

Furthermore, the meta-analytic data set might be selective to some degree because samples were only included if they provided data on at least two measurement occasions (thus, couples who separated after the first assessment did not provide the second assessment needed for computing rank-order stability). To reduce concerns related to this limitation, we used a relatively short time lag between assessments (i.e., 2 months). Nevertheless, these "surviving" relationships might still represent relationships that are above average in their commitment given that dissolving relationships often show higher levels of stress and dissimilarity, both at baseline and over time (Finn et al., 2020). Therefore, the present findings should be interpreted in light of these more stable relationship environments, and samples of to-be-dissolved couples might show lower degrees of rank-order stability of relationship satisfaction. Similarly, the present data allow conclusions about rank-order stability of relationship satisfaction within a given relationship but cannot speak to rank-order stability of relationship satisfaction across relationships. Research that follows individuals within and across relationships would generate knowledge about such different degrees of rank-order stability and, moreover, provide important knowledge on the trait-like nature of

relationship satisfaction across relationships (for cross-relationship research, see Johnson &
Neyer, 2019).

Another limitation is that the number of samples was relatively low for samples with a
mean age of above 50 years and with a relationship duration of above 20 years. Consequently,
the conclusions for rank-order stability of relationship satisfaction are less strong for these
developmental and relationship periods. In addition, there were no effect sizes available for
samples older than 71 years, which could be explained, at least partially, by health constraints
in this age group or by a higher likelihood that one of the partners was already deceased.
Future research is needed that specifically studies romantic relationships and relationship
trajectories in middle adulthood and especially late adulthood, including "gray divorces"
(Brown & Lin, 2012; Gloor et al., 2021). Finally, studying newlyweds in late adulthood
would contribute to lowering the correlation between age and relationship duration and would
provide further insights into the rank-order stability of relationship satisfaction as a function
of both age and relationship duration.

## Conclusion

The present meta-analysis examined the rank-order stability of relationship
satisfaction, synthesizing data from 148 samples with more than 150,000 participants.
Overall, the findings showed that individual differences in relationship satisfaction are
relatively stable within a given relationship. The moderator analyses strengthened confidence
in this finding, given that rank-order stability was robust across most sample and
methodological characteristics. Moreover, the findings indicated that rank-order stability of
relationship satisfaction changes systematically as a function of age and of relationship
duration. For both time metrics, there was an overall increase of rank-order stability over
time. As regards age, rank-order stability increased from young to late adulthood, with a
slight decrease in middle adulthood. As regards relationship duration, rank-order stability
generally increased over the course of the relationship, with a slight decline around 20 years

of relationship length. When both time metrics were examined simultaneously, relationship

duration tended to be the more dominant time metric for explaining rank-order stability of

relationship satisfaction. Taken together, the present findings may stimulate future research

on the developmental processes that underlie stability and change of relationship satisfaction

across adulthood.

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**Supplemental Material**

**Table S1**

*Estimates of Rank-Order Stability of Relationship Satisfaction as a Function of Relationship Duration (Sensitivity Analyses for Using 2 and 6 Years as Estimates of the Average Difference Between Relationship Duration and Duration of Living Together, and Relationship Duration and Marriage Duration, Respectively)*

| Relationship-duration group | $k$ | $N$ | Weighted mean effect size | 95% CI | $Q$ | Variances | |
|---|---|---|---|---|---|---|---|
| | | | | | | $\sigma_1^2$ | $\sigma_2^2$ |
| *Without time lag as covariate* | | | | | | | |
| 0–5 years | 37 | 5,049 | **.652** | [ .578, .715] | **414.9** | .042 | .052 |
| 5–10 years | 114 | 22,982 | **.736** | [ .663, .796] | **6094.5** | .073 | .167 |
| 10–20 years | 98 | 19,499 | **.812** | [ .742, .864] | **8914.5** | .243 | .092 |
| 20–46 years | 63 | 8,071 | **.885** | [ .809, .932] | **17297.8** | .335 | .164 |
| *With time lag as covariate* | | | | | | | |
| 0–5 years | 37 | 5,049 | **.583** | [ .456, .687] | **362.5** | .043 | .047 |
| 5–10 years | 114 | 22,982 | **.695** | [ .609, .764] | **5615.8** | .094 | .130 |
| 10–20 years | 98 | 19,499 | **.821** | [ .761, .867] | **5604.9** | .194 | .089 |
| 20–46 years | 63 | 8,071 | **.904** | [ .835, .945] | **9661.1** | .363 | .143 |

*Note.* Computations without control of time lag were made with multilevel random-effects models and computations with control of time lag were made with multilevel mixed-effects meta-regression models. In the analyses with time lag as covariate, time lag was grand-mean centered at 2.30 years. $k$ = number of effect sizes; $N$ = number of participants in each group. Weighted mean effect size = disattenuated correlation coefficient, indicating the rank-order stability of relationship satisfaction between two assessments. CI = confidence interval; $Q$ = test statistic of the test for (residual) heterogeneity; $\sigma_1^2$ = variance proportion attributable to the level of the grouping variable (i.e., between samples); $\sigma_2^2$ = variance proportion attributable to the level nested within the grouping variable (i.e., within samples). Values in bold are significant at $p < .05$.

**Table S2**

*Overview of Measures in the Meta-Analytic Data Set and Their Categorization Into Global Satisfaction Measures and Adjustment Measures*

Global satisfaction measure
    Couples Satisfaction Index (CSI; Funk & Rogge, 2007)
    Global Measure of Relationship Satisfaction (GMRS; Lawrance & Byers, 1998)
    Intimate Relations Questionnaire (RRQ Braiker & Kelley, 1979)
    Kansas Marital Satisfaction Scale (KMSS; Schumm et al., 1986)
    Kansas Marital Satisfaction Scale–Revised (KMSS-R; Chung, 2004)
    Marital Opinion Questionnaire (MOQ; Huston & Vangelisti 1991)
    Relationship Assessment Scale (RAS; Hendrick, 1988)
    Relationship satisfaction subscale from the Investment Model Scale (RSI; Rusbult, Martz, & Agnew, 1998)
    Self-Report Relationship Satisfaction (SRS; Schmitt et al., 1997)
    Quality of Marriage Index (QMI; Norton, 1983)
Adjustment measure
    Couple Relationship Domains Questionnaire (CRDQ; Huston, McHale, & Crouter, 1986)
    Dyadic Adjustment Scale (DAS; Spanier, 1976)
    ENRICH Marital Satisfaction (ENRICH; Fowers & Olson, 1993)
    Marital Relationship Inventory (MRI; Burgess, Locke, & Thomes, 1971)
    Marital Adjustment Test (MAT; Locke & Wallace, 1959)
    Marital Satisfaction Questionnaire for Older Persons (MSQO; Haynes et al., 1992)
    Partnership Questionnaire (PFB; Partnerschaftsfragebogen; Hahlweg, 1996)
    Perceived Relationship Quality Components Inventory (PQRC; Fletcher, Simpson, & Thomas, 2000), mean
    Relationship Evaluation Questionnaire (REQ; Busby et al., 2001)
    Relationship Satisfaction Scale (RSS; Gilford & Bengtson, 197)

**Table S3**

*Descriptive Information on Time Lag*

| Group | k | M | SD | Range |
|-------|---|---|----|-------|
| Age | | | | |
| 20–30 years | 157 | 1.88 | 2.56 | 0.17–15.00 |
| 30–40 years | 128 | 1.95 | 3.28 | 0.17–20.00 |
| 40–50 years | 66 | 4.24 | 3.92 | 0.50–15.00 |
| 50–71 years | 45 | 2.08 | 1.84 | 0.48–9.00 |
| | | | | |
| Relationship duration | | | | |
| 0–5 years | 79 | 1.36 | 0.97 | 0.17–5.00 |
| 5–10 years | 99 | 1.37 | 1.75 | 0.17–15.00 |
| 10–20 years | 79 | 3.30 | 4.65 | 0.17–20.00 |
| 20–46 years | 55 | 3.13 | 3.26 | 0.48–15.00 |

*Note.* Time lag is given in years. $k$ = number of effect sizes

**Table S4**

*Zero-Order Correlations Between Age, Relationship Duration, Sample Characteristics, Methodological Characteristics, and Effect Size Measure*

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | — | | | | | | | | | | | | | | | | |
| 2. Relationship duration | **.97** | — | | | | | | | | | | | | | | | |
| 3. Year of birth | **−.72** | **−.75** | — | | | | | | | | | | | | | | |
| 4. Sample type | **.12** | **.25** | **−.30** | — | | | | | | | | | | | | | |
| 5. Country | **.12** | **.22** | **−.28** | **−.15** | — | | | | | | | | | | | | |
| 6. Ethnicity | **.37** | **.42** | **−.21** | **.25** | **−.18** | — | | | | | | | | | | | |
| 7. Female | −.09 | .01 | .07 | .09 | −.05 | .02 | | | | | | | | | | | |
| 8. Shared household | **.47** | **.43** | **−.41** | **.17** | **.42** | **.31** | −.02 | — | | | | | | | | | |
| 9. Married | **.26** | **.30** | **−.38** | .01 | **.33** | .08 | .00 | **.86** | — | | | | | | | | |
| 10. Children | **.70** | **.64** | −.03 | .06 | .12 | **.36** | .03 | **.28** | .08 | — | | | | | | | |
| 11. Transition | **−.16** | **−.18** | **.26** | −.05 | **−.10** | **.21** | .00 | .06 | **−.11** | −.09 | — | | | | | | |
| 12. Post transition | **−.27** | **−.24** | .05 | **−.12** | **.11** | −.06 | −.02 | .08 | **.13** | **−.15** | **−.14** | — | | | | | |
| 13. Baseline mean | **−.42** | **−.29** | **.28** | **.25** | **−.20** | −.10 | .00 | **−.38** | −.05 | **−.51** | **.12** | **.20** | — | | | | |
| 14. Time lag | **.12** | **.25** | **−.48** | **.43** | .07 | **.17** | .03 | .14 | **.12** | .03 | **−.15** | .00 | .08 | — | | | |
| 15. Dyadic data | −.10 | −.07 | **.22** | **−.43** | **.21** | **−.19** | **−.16** | .09 | .03 | **−.15** | **.12** | .08 | .00 | **−.35** | — | | |
| 16. Measure (established) | −.05 | **−.12** | **.19** | **−.68** | .09 | −.04 | −.09 | −.13 | **−.12** | −.09 | .06 | .02 | **−.32** | **−.38** | **.38** | — | |
| 17. Measure (global) | **−.28** | **−.28** | **.39** | **.16** | **−.20** | **.22** | .03 | .04 | **−.21** | **.19** | **.26** | −.02 | **.47** | .01 | **−.14** | n.a. | — |
| 18. Effect size | **.32** | **.29** | **−.10** | **−.22** | **.28** | −.02 | −.06 | **.20** | **.22** | **.16** | .05 | **−.14** | **−.35** | **−.36** | **.18** | **.12** | **−.37** |

*Note.* Effect size = disattenuated correlation coefficient, indicating the rank-order stability of relationship satisfaction between Time 1 and Time 2. The following variables were dichotomous: sample type (1 = community or student sample, 0 = nationally representative sample), country, (1 = USA, 0 = other), ethnicity (1 = White, 0 = other), transition (1 = relationship transition between Time 1 and Time 2, 0 = no relationship transition between Time 1 and Time 2), post transition (1 = relationship transition shortly before Time 1, 0 = no relationship transition shortly before Time 1), dyadic data (1 = dyadic data, 0 = no dyadic data), the two contrasts for measure of relationship satisfaction (1 = established scale, 0 = ad-hoc measure; 1 = global satisfaction, 0 = adjustment measure). Baseline mean refers to mean of relationship satisfaction at Time 1 in the metric of POMP scores, and time lag refers to the interval between Time 1 and Time 2. n.a. indicates that this correlation could not be calculated because of the nested structure of the variables. Values in bold are significant at $p < .05$.

**Figure S1**

*Frequency Distribution of Time Lag Across Effect Sizes*
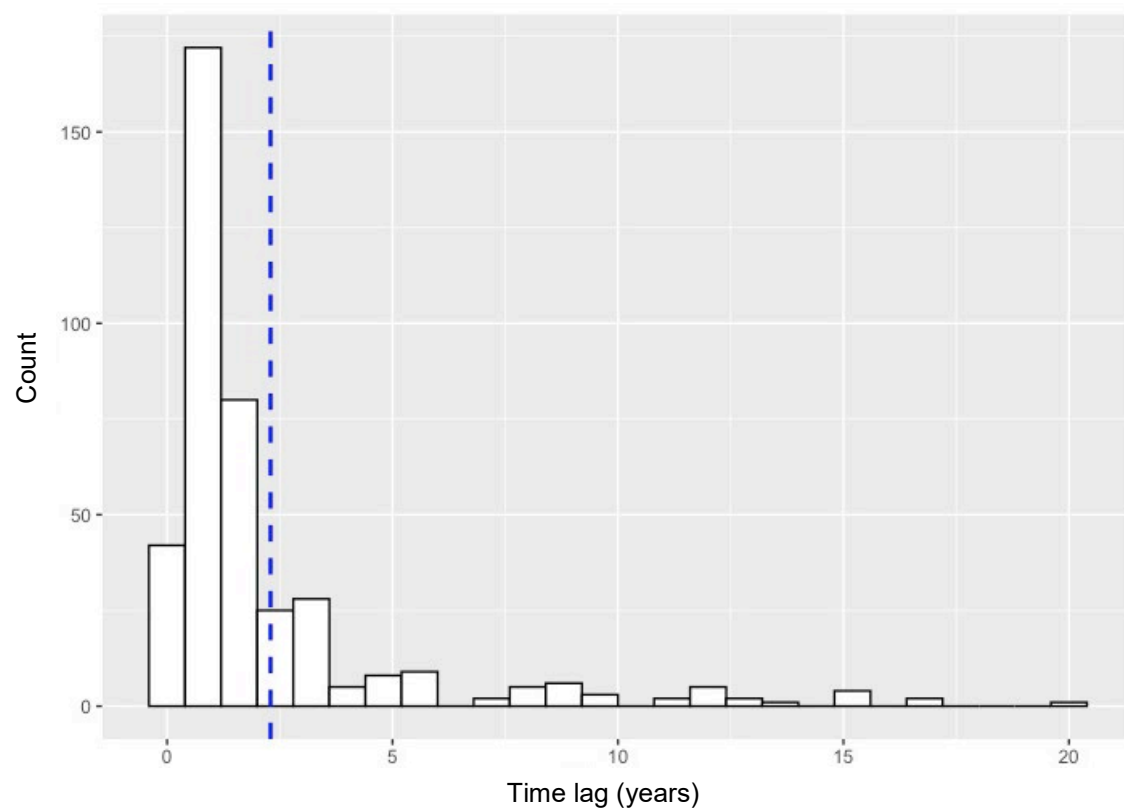


*Note.* Time lag refers to the time interval between two assessments. The vertical blue line represents the average time lag (2.30 years).