

The Effects of Perceived and Actual Similarity on Romantic Relationship Formation and Quality

by

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Dedication

To all the relationships that have supported, inspired, and formed me.

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Abstract

Lay beliefs have long heralded the importance of similarity between romantic partners for relationship success. However, extant research has shown that only perceived similarity—not actual similarity—is associated with higher-quality and more stable romantic relationships. We know little about why this is and what processes explain the link between perceived similarity and positive relationship outcomes. To begin to answer these questions, we first need to know whether perceived similarity actually *leads* to positive relationship outcomes, as well as how perceived similarity and relationship outcomes co-develop over the course of a relationship. Doing so requires experimental and longitudinal studies that track the development of perceived and actual similarity and relationship outcomes over time—something few studies have done to this point. This dissertation includes two studies that address these questions: one, a study tracking the co-development of perceived similarity and romantic interest in a sample of dating app users, and two, an in-lab study experimentally manipulating perceived similarity in established couples. The first study demonstrates that (1) dating app users believe in the importance of similarity for romantic relationships, (2) similarity is cited as a motivation for interest in potential partners, and (3) perceived similarity is more strongly associated with relationship interest than actual similarity throughout the relationship initiation phase. The second study finds that perceptions of similarity are malleable even among established couples and that couples react negatively to feedback indicating dissimilarity.

In this study neither actual nor perceived similarity were robustly associated with relationship quality; however, there was some evidence that individuals' beliefs about similarity and the ways they discuss dissimilarity with their partner may moderate these associations. Overall, these studies provide insight into the ways similarity operates at different stages of relationships and underscores the importance of perceived similarity in romantic relationships.

Introduction

High-quality relationships are one of the strongest predictors of health and well-being (Diener & Seligman, 2002; Holt-Lunstad et al., 2010), with romantic relationships holding particular influence in adulthood (Dush & Amato, 2005). Researchers and lay people alike have long been interested in understanding factors that contribute to high-quality romantic relationships; however, despite vast resources devoted to trying to understand these factors, much remains unknown about what predicts long-lasting and satisfying relationships. One long-debated question is the extent to which similarity between romantic partners is predictive of relationship success. A common lay belief is that similarity between romantic partners is important for relationship compatibility. For instance, adages such as “birds of a feather flock together” are common throughout popular culture and romantic media. This belief may even affect the potential partners we meet, with dating apps purportedly using similarity in their algorithms to match users to potential partners (Finkel & Karney, 2012; Houran et al., 2004; Williams, 2024). But is similarity a good heuristic for romantic compatibility? Are more similar partners actually more likely to be happier and stay together? The answers to these questions remain unclear. These studies explore the associations between, and causal effects of, perceived and actual similarity on romantic relationship outcomes.

1.1 Homogamy

Romantic partners tend to be more similar than would be predicted by chance—a phenomenon that researchers have studied for over a century (Galton, 1869; Jones, 1929; Pearson & Lee, 1903; Schiller, 1932). Spouses show particularly strong demographic similarity; with moderate levels of similarity in attitudes, intelligence, well-being, and lifestyle; and weaker levels of similarity for personality traits (see Epstein & Guttman, 1984; Luo, 2017; Vandenberg, 1972, for reviews). Several mechanisms have been posed to explain this trend, known as assortative mating or homogamy (Epstein & Guttman, 1984). For one, people may have limited opportunities to meet dissimilar others, tending to pair with similar others due to proximity (Belot & Francesconi, 2013; Kalmijn, 1998). Homogamy may also be the result of mating market operations, where potential partners end up self-sorting based on universally-desired traits, causing individuals of similar desirability to pair up (Luo, 2017; Schwartz, 2013). However, similarity is also seen in traits with little consensus about their desirability (e.g., religiosity may be appealing to some and unappealing to others; e.g., Botwin et al., 1997; Watson et al., 2014) and in traits that are evenly distributed across populations (e.g., well-being and personality).

In addition to these forces, partners may become more similar over the course of their relationship, known as convergence, though this hypothesis has received little support from studies comparing levels of similarity for couples of differing relationship lengths (Humbad et al., 2010; McCrae et al., 2008; Watson et al., 2004) or from longitudinal studies tracking couples over time (Anderson et al., 2003; Gonzaga et al., 2010). Similarly, the winnowing hypothesis, which suggests that less similar couples should break up over time, leading to increased similarity between married compared to dating couples, has also received mixed support

(Blackwell & Lichter, 2004). Others still have suggested that similarity is a result of an initial, active choice, or a desire to be with similar others (Buston & Emlen, 2003; Kalmijn, 1998; Luo, 2017; Schwartz, 2013; Watson et al., 2014)—a hypothesis that has received theoretical and empirical support (Little et al., 2003; Thiessen & Gregg, 1980).

Indeed, researchers began exploring the effects of similarity on initial attraction in the 1960s, with early research by Byrne and Nelson (1965) finding that attitude similarity led to greater attraction between unacquainted dyads. This early work formed the basis of the “similarity hypothesis,” which posits that people are attracted to similar others (Byrne, 1971). Subsequent research has supported the similarity-attraction effect across a variety of domains, with robust evidence that perceptions of similarity are associated with attraction to potential romantic partners (Hoyle, 1993; Montoya et al., 2008; Tidwell et al., 2013). This attraction to similar others may cause people to seek out and date similar partners—a tendency which may contribute to the robust homogamy seen in established couples.

These findings do not, however, tell us whether similar couples are more compatible. Just because similar individuals are more likely to pair up does not mean that relationships between more similar individuals will be more successful and long-lasting. Proponents of the complementarity hypothesis—a competing explanation for the role of similarity in relationships that arose around the same time as the similarity hypothesis—have even suggested that while similarity may facilitate initial attraction, being dissimilar in complementary ways (e.g., differing personality needs like dominance and submission) may be key for long-term relationship success (De Raad & Doddema-Winsemius, 1992; Winch, 1958). Overall, there has been little consensus in the field about whether similar couples actually experience more positive or stable relationships. While many studies have found significant positive associations between similarity

and relationship quality (Hackathorn & Brantley, 2014; G. Wilson & Cousins, 2003), these effects are often small and have not always replicated across studies (Karney & Bradbury, 1995; Malouff et al., 2010; Weidmann et al., 2017).

1.2 Inconsistencies in Previous Research

These inconsistent effects are potentially explained by the diverse ways in which similarity has been operationalized and studied, making it difficult to compare conflicting findings between studies. To illustrate this heterogeneity, imagine the simple, central question of whether two people in a relationship are similar to one another. How might you answer this question? There are many different traits or domains of similarity you can take into account when considering two people: similarity in personality, religion, racial identity, attractiveness, goals, etc. Which do you focus on when determining similarity? Researchers have looked at similarity in all of these domains and beyond, with much of the existing research focusing on only one type of similarity at a time. Findings across these different domains of similarity have rarely been integrated due to the broad array of topics as well as disciplinary differences among those studying these topics (e.g., psychology, demography, sociology). Moreover, the few systematic reviews that have attempted to summarize similarity effects have further narrowed their focus to specific domains of similarity (e.g., race: Brooks, 2022; personality, beliefs, and values: Montoya et al., 2008); these analyses have provided valuable insight into the ways in which certain types of similarity may matter for relationships but have still failed to provide an overarching review of the field as a whole.

A similar complication exists for actual and perceived similarity: Do researchers calculate similarity based on overlap in individuals' self-reported or observed characteristics or do they calculate it based on individuals' own perceptions of being similar to their partner? The

operationalization of similarity varies from study to study, with research examining both “perceived similarity” (i.e., asking participants how similar they perceive themselves and their partner to be) and “actual similarity” (i.e., asking each partner to report on themselves and seeing how similar these reports are). Researchers have looked at perceived and actual similarity in a vast array of domains, but much of the existing research has measured either perceived *or* actual similarity in a single study. To evaluate the similarity hypothesis as an overarching determinant of relationship success more broadly, we need to summarize findings for perceived and actual similarity across multiple domains of similarity.

Further complicating matters, prior research has been conducted with different statistical techniques and operationalizations of similarity. Traditionally, similarity was measured by categorizing couples as matched or unmatched (e.g., comparing interracial versus same-race couples) or using statistical methods like difference scores to calculate the variation between partners’ scores. However, researchers have begun to critique these traditional methods because they confound (a) the effects of similarity with the main effects or actor and partner scores and (b) the effects of unique similarity between couple members and general similarity due to people answering the same way (e.g., Brauer & Proyer, 2019; Wood & Furr, 2016). For example, a couple scoring high in agreeableness is both highly similar and highly agreeable, and analyses that do not differentiate between these two potential sources of influence will fail to determine whether associations with relationship outcomes are truly due to similarity or merely high agreeableness. Additionally, if most people are highly agreeable, then being like most other people—not only one’s partner—may also be an important factor to consider. To address these issues, researchers have advocated for the use of more nuanced statistical methods, such as response surface analysis (RSA) or distinctive profile correlations that control for stereotype

effects (e.g., similarity due to being like the average respondent rather than similarity due to being uniquely similar to one's partner) which control for potentially confounding factors (Barranti et al., 2017; Edwards, 2002; Edwards & Parry, 1993; Hendrick & Hendrick, 2021; Humberg et al., 2019; Schönbrodt et al., 2018). The variety of statistical techniques that have been used in the extant literature—and the variable quality of these techniques—has made it difficult to compare results across studies. Therefore, research on similarity has remained fractured, with few summaries across disparate domains.

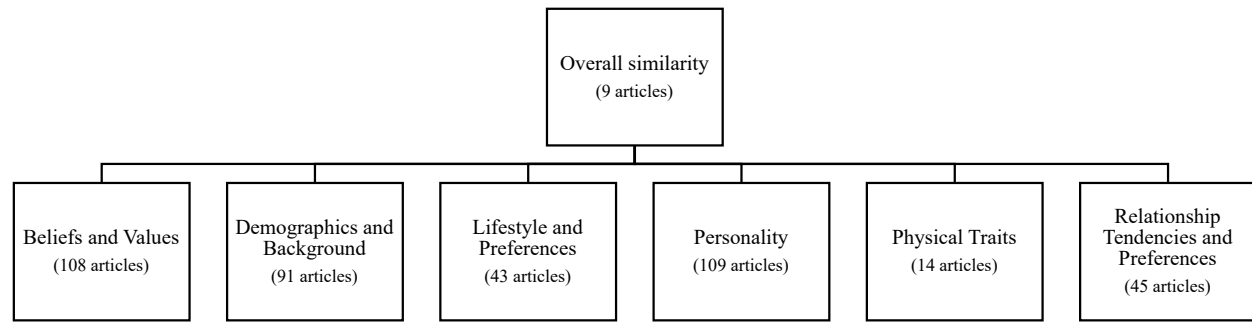
Multiple sources of variation in research on similarity and relationship outcomes make it difficult to compare findings across studies. If one study finds no association of similarity and relationship outcomes and another finds a positive association, but the two studies differ in the type and domain of similarity examined as well as the statistical methods used, it becomes impossible to determine what caused the difference in findings between the two studies. To address this gap and attempt to clarify the open question of whether similarity is associated with positive relationship outcomes, I conducted a scoping review on articles published through November 8th, 2024 that examined similarity between partners in romantic relationships and the association between similarity and global romantic relationship outcomes (From et al., 2025). After searching PsycINFO, Web of Science, Family and Society Studies Worldwide, and SocINDEX, we identified an initial 9,665 articles. Articles were eligible if they (1) were written in English, (2) involved human subjects (i.e., we excluded articles focusing on non-human animals and non-living materials), (3) involved individuals in established romantic relationships, (4) included a trait-like measure of similarity between romantic partners (i.e., we excluded articles that only included similarity in perception, power, roles, or short-term, context-dependent measures such as synchrony), (5) included a global measure of relationship outcomes

(i.e., quality or stability) and reported associations between the measure of similarity and the relationship outcome, (6) were peer-reviewed empirical journal articles, and (7) involved a quantitative study design. After removing duplicates and ineligible articles, we identified 339 relevant articles. Among these articles, as described in more detail next, we found considerable diversity across the domains of similarity, methods, and types of similarity studied.

1.2.1 Diversity in Domains of Similarity

Across the articles, similarity was measured across a wide range of domains. Although there are many different ways to organize these domains, in order to efficiently summarize these diverse topics, we created a six-domain system based on Sprecher's (2013) model of domains of similarity, which included: beliefs and values, demographics and background, lifestyle and preferences, personality, physical traits, and romantic preferences and tendencies (see **Figure 1**). Here on out, I refer to these as values similarity, demographic similarity, lifestyle similarity, personality similarity, physical similarity, and romantic similarity. Personality was the most frequently measured domain of similarity and appeared in 32.2% of all studies; values appeared in 31.9%, demographics in 26.8%, romantic in 13.3%, lifestyle/preferences in 12.7%, and physical in only 4.1%. A vast majority (83.4%) examined only one domain of similarity, with only 4.4% of studies measuring three or more domains of similarity and only one study looking at all six domains of similarity simultaneously (G. Wilson & Cousins, 2003). Another 2.7% of studies examined overall similarity between couples (e.g., "My partner and I are very similar to each other") rather than asking about similarity separately across domains.

Figure 1. Domains of similarity.



Note. As some articles include multiple domains of similarity, numbers add up to greater than 339.

We found that the majority (54.6%) of results across domains were mixed, meaning the results were not clearly negative, positive, or neutral (see **Table 1**). There were also very few (0.7%) negative effects. These results show variation between domains, such that overall similarity may be more important for relationship outcomes compared to similarity in specific domains. However, most of the research on similarity has been segmented, with each study examining only one domain of similarity, and few studies have examined overall similarity across these domains.

Table 1. Results by domain of similarity.

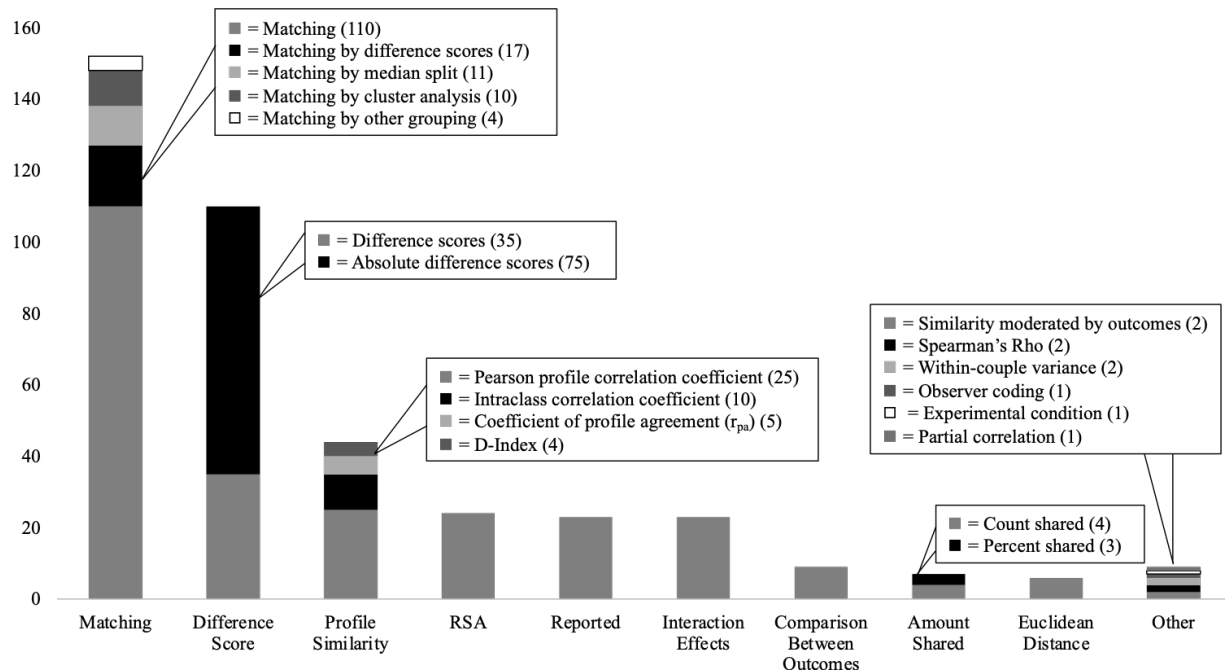
	Actual Similarity					Perceived Similarity					Total
	Pos.	Neg.	Mix.	Null	Total	Pos.	Neg.	Mix.	Null	Total	
Overall	15	1	50	21	87	19	0	5	4	28	115
Demographics	23	1	48	18	90	0	0	1	0	1	91
Lifestyle	8	0	18	10	36	4	0	4	1	9	45
Personality	11	1	64	23	99	7	0	10	5	22	121
Physical	1	0	8	3	12	0	0	0	1	1	13
Romantic	1	0	29	7	37	6	0	6	3	15	52
Values	2	0	0	1	3	5	0	1	1	7	10

Note. Pos. = positive results, neg. = negative results, mix. = mixed results. As some articles include multiple domains of similarity, numbers may add up to greater than 339.

1.2.2 Diversity in Methods

The systematic review also revealed wide variability in the statistical methods used to define and calculate similarity (see **Figure 2**). By far the most common statistical method was matching (used in 44.8% of studies), in which relationship outcomes were compared between groups of “matched” or “unmatched” couples. Couples were classified as “matched” either by having the same responses to categorical variables or by being in the same subgroup after transforming a continuous variable into a categorical one (e.g., via difference scores, clustering or factor analysis, or median split). The second most common statistical method was difference scoring (used in 32.4% of studies), in which one partner’s score was subtracted from the other’s (the absolute value of this difference was also taken in some cases, resulting in an absolute difference score). Less common statistical methods included profile correlations (13.0%), RSA (7.1%) and actor-partner interaction effects (6.8%; see Appendix A for definitions and examples of all statistical methods).

Figure 2. Statistical methods from scoping review.



Note. As some articles include multiple statistical methods, numbers may add up to greater than 339.

We found slight evidence for moderation by statistical methods: there were more positive effects found for self-reported similarity (72.7%) compared to other methods, and fewer positive effects for RSA compared to other methods (8.0%). Analyses that controlled for main and stereotype effects reported fewer positive results compared to analyses that did not use these methods, as expected from work showing that not accounting for these effects artificially inflates effects of similarity (Wood & Furr, 2016). This work therefore underscores the importance of incorporating new statistical methods, such as RSA and distinctive profile correlations, that allow for more nuanced and accurate calculations of similarity.

1.2.3 Perceived Versus Actual Similarity

We found evidence that associations differ drastically between perceived and actual similarity: The most common result for perceived similarity was a positive association with relationship quality, with 41 out of 83 articles (49.40%) finding positive results. Conversely,

most results for actual similarity were mixed (59.62%) with only 61 out of 364 articles (16.76%) finding a positive association for actual similarity. These results suggest that perceived similarity, but not actual similarity, may be important for relationship outcomes.

In summary, this scoping review yielded a number of insights about the state of the field, including sizable variation in the way that similarity has been studied. Most studies focused on one or more of six broad domains, with the largest number of studies examining similarity in personality or values. Few examined overall similarity or included multiple domains of similarity. There was also a wide range of methods used to analyze similarity, with most studies historically using statistically simpler methods such as matching or difference scores to operationalize similarity and methods like RSA only becoming popular in more recent years. Additionally, most studies examined only actual similarity, with few studies examining both perceived and actual similarity concurrently.

When looking broadly at whether similarity was associated with relationship outcomes, we found mainly inconclusive results. Most of the initial results suggested mixed rather than positive or null associations between similarity and relationship results. However, we found much stronger evidence for positive effects of perceived similarity compared to actual similarity. This is consistent with previous work (Luo, 2017; Montoya et al., 2008) and my own empirical work (From et al., 2023; From & Gordon, under review; Gordon et al., 2024) examining similarity across domains.

1.3 Explanations for the Link Between Perceived Similarity and Relationship Outcomes

To understand why perceived similarity might predict relationship satisfaction more strongly than actual similarity, we must consider theoretical reasons originally posited for why similarity and relationship outcomes might be linked. The earliest explanations for the similarity-

attraction effect pulled from cognitive dissonance research and argued that people who are similar to us validate our perspective and opinions, leading to positive emotions that bolster feelings about the relationship. In contrast, people who are dissimilar to us challenge our ideas and worldview in a way that causes negative emotions such as anxiety and confusion (Byrne, 1971). While this explanation was initially posited to explain the effect of actual similarity on relationship outcomes, it also provides theorizing for why perceived similarity may be more important than actual similarity. That is, when individuals perceive someone as similar to themselves, *even* if that similarity is not “real”, they may still feel positive effects from believing someone validates their way of viewing the world. Actual similarity, on the other hand, if not perceived by individuals, may be much less likely to influence our feelings about the relationship. Indeed, we may even overperceive similarities, especially with those we like, because we assume people are similar to us (i.e., false consensus bias; Ross et al., 1977) or because we begin to view ourselves as overlapping with those we are close to (Aron et al., 1991). Therefore, even if we are actually dissimilar, bolstering our perception of similarity may still provide the positive benefits of similarity.

These potential explanations also bring up a different question: What is the causal direction between similarity and relationship outcomes? Namely, does perceived similarity cause higher satisfaction, does higher satisfaction cause perceived similarity, or some combination of the two? Byrne’s (1971) explanation of the similarity effect suggests that the positive emotions generated by similarity directly cause positive relationship appraisals. While there are strong theoretical reasons to expect that perceived similarity may shape relationship outcomes, the reverse effect is also possible, such that satisfying romantic relationships increase perceived similarity. Individuals in happy romantic relationships may be motivated to see their partner as

more similar to themselves than they actually are (Morry, 2005). In particular, if people believe that similarity is an important component of compatibility, as many do (Baxter & West, 2003; From & Gordon, under review), then individuals in happy relationships may be motivated to search for areas of similarity as evidence of their relationship success.

Although researchers have suggested pathways both from similarity to relationship outcomes and vice versa, extant research has focused on the longitudinal effects of similarity on later relationship outcomes (finding mixed results: e.g., Arránz Becker, 2013; Gonzaga et al., 2007; Shiota & Levenson, 2007; Weidmann et al., 2017) without examining the potential effect of relationship outcomes on later similarity. Moreover, it is ultimately impossible to establish the causal direction of this effect without experimental studies. However, previous studies looking at the causal effects of perceived similarity have almost exclusively studied interactions between strangers (e.g., Byrne & Nelson, 1965; Yeong Tan & Singh, 1995). In these studies, participants who were given bogus information about a potential partner being highly similar to them were more attracted to and interested in that partner than participants who were told their potential partner was dissimilar or were not given information about their level of similarity. It is much more difficult to manipulate perceived similarity in established couples who have pre-conceptions about their level of similarity with their partner. To my knowledge, only one study has experimentally manipulated perceptions of similarity in individuals in established relationships: Auger and colleagues (2016) had participants respond to vignettes suggesting their partner prioritized similar or dissimilar values when making a hypothetical pregnancy-related decision. There was an expected main effect of condition, such that participants in the dissimilar condition experienced decreases in their positive assessment of their partner and relationship satisfaction. However, participants who saw their relationship as an important expression of their

identity and values actually responded to the dissimilar condition by *increasing* their positive assessment of their partner and relationship. The authors label this response as compensatory relationship enhancement, a type of threat mitigation response in which individuals bolster their positive view of their relationship in the face of threatening information. This study provides important insight into the nuanced ways that perceived similarity is experienced in relationships; however, it was limited to a very specific type of perceived similarity and does not therefore answer broader questions about perceptions of similarity in other domains. Therefore, experimental studies manipulating perceived similarity more broadly are necessary to determine whether perceived similarity has a causal effect on relationship outcomes.

1.4 Similarity and Relationship Initiation

If perceived similarity leads to positive relationship processes and outcomes, we should also see longitudinal effects as couples enter into and progress through relationships, such that perceived similarity *precedes* positive relationship outcomes. Although we know that perceived similarity is associated with initial attraction (e.g., Tidwell et al., 2013) and that people desire to be with similar others (Figueredo et al., 2006), there is little research tracking similarity and relationship outcomes over time—particularly during important initial stages of relationship development. Moreover, research on initial attraction and research on established romantic relationships have historically been largely siloed, failing to capture dynamics in the transitional period between the two (e.g., people going on dates together before agreeing that they are in a relationship) as well as important encounters that occur entirely outside of established relationships (e.g., hook-ups or friends with benefits; Eastwick et al., 2018; Finkel et al., 2017; Graziano & Bruce, 2008). Research looking at the longitudinal effects of similarity has generally consisted of retrospective accounts (e.g., Sprecher, 2013) or has looked at associations between

similarity and relationship outcomes at different points in time without examining the direction of these effects (e.g., Gonzaga et al., 2010; Lewis & Yoneda, 2021). Research demonstrating the co-development of similarity and positive relationship processes over time would additionally shed light into the mechanisms underlying the association between the two, particularly in these transitional phases of casual interactions or relationship initiation.

One inherent difficulty relationship researchers have faced in trying to uncover variables—such as similarity—that may determine later romantic compatibility is the necessity of tracking large groups of people as they enter and then maintain relationships over time. For much of history, this has been an incredibly difficult, if not impossible, endeavor. However, the creation of dating apps and their increasing popularity has made this more feasible than ever. Moreover, data from dating apps is highly ecologically valid, as meeting online has become the most popular way for people to meet potential partners (Rosenfeld et al., 2019). It is important to examine similarity in the dating app context, as dating app algorithms may suggest potential matches based on similarity despite the lack of robust evidence that actual similarity leads to more satisfying relationships (Finkel & Karney, 2012; Houran et al., 2004; Williams, 2024). It is also important to understand how app structure versus individual preferences shapes homogamy between matches, as nascent research on dating apps suggests that people tend to contact users who are similar to them (Levy et al., 2019) but does not identify how much of this is driven by app algorithms versus user preferences.

1.5 Moderators of the Effect of Similarity

If perceived similarity does lead to better relationship outcomes, it is important to know whether this effect is found for all individuals and contexts. For example, many individuals believe that similarity is important for relationships, but would we see the same association

between similarity and relationship outcomes for individuals who do not hold this belief as strongly, or even who hold complementarity beliefs (i.e., believing that being more dissimilar to one's partner should lead to more positive relationship outcomes)?

Indeed, cross-sectional evidence shows that beliefs about the importance of similarity in attitudes and personality, but not interests, moderate the importance of perceived similarity in that domain for relationship satisfaction (Lutz-Zois et al., 2006). However, this has not been studied with actual similarity or in other domains, though prior work shows people's beliefs about the importance of similarity may vary by domain of similarity (Lutz-Zois et al., 2006; Sprecher, 1998). Additionally, although theory suggests that people believe similarity is good for relationships, only one published study I know of has actually measured people's global beliefs about the importance of similarity for relationship functioning. When single individuals were asked the question, "What do you find more important in a partner: that he/she complements you, or that he/she resembles you?", people were more likely to choose a *complementary* partner (Dijkstra & Barelds, 2008). This work highlights the importance of empirically testing theoretical assumptions about similarity. To better understand people's beliefs about similarity and the role they play in relationships, I expanded on this single-item, forced-choice measure of relationship beliefs by developing a ten-item scale of general similarity and complementarity beliefs, as well as tapping into domain-specific similarity beliefs (From & Gordon, under review). In contrast to Dijkstra and Barelds' (2008) work, we found that, although participants endorsed both complementarity and similarity beliefs, which were negatively correlated, they were more likely to endorse similarity beliefs than complementarity beliefs (From & Gordon, under review). In line with our theorizing, we found some evidence that the association between perceived similarity and relationship outcomes was stronger for those who believe that similarity

is positive for relationships and weaker for those who believe dissimilarity is positive for relationships, with more robust effects of similarity beliefs than complementarity beliefs. Building on this work, I propose to further examine beliefs about similarity as a moderator of the effect of perceived similarity on relationship outcomes.

1.6 The Current Research

Despite decades of research on similarity in romantic relationships, heterogeneity in prior research designs and limited experimental or longitudinal research have made it difficult to establish the causal effect of perceived similarity on romantic relationships and understand the nuances of the association between similarity and relationship outcomes. Therefore, this dissertation includes two studies that explore similarity's association with relationship outcomes, both in the early stages of dating and relationship formation and in established long-term relationships. The first is a longitudinal study tracking similarity and romantic interest in potential partners among users of a dating app. The second is an experimental manipulation of perceived similarity in established romantic couples. In both studies, I measured perceived similarity and actual similarity with robust statistical techniques and across multiple domains.

Chapter 2 Study 1

2.1 Methods

The first study is an analysis of data from Revel, a dating app designed by the WHIRLab and University of Michigan Tech Services that was launched for beta testing in December 2024. Revel is a research study that has been approved by the University of Michigan IRB (HUM #00228069). Currently enrolled undergraduate and graduate students at University of Michigan are eligible to use this app; once participants are no longer enrolled at University of Michigan, their access to the matching portion of the app will be terminated. Otherwise, users will be enrolled in the app until they elect to unenroll or if the research team decides to discontinue the app.

2.1.1 Participants

Participants were 482 currently enrolled graduate and undergraduate students at University of Michigan (including Ann Arbor, Dearborn, and Flint campuses) who were at least eighteen-years old and who elected to participate in beta testing. Data includes surveys completed between December 10th, 2024 and April 5th, 2025. This included data from 288 undergraduate students and 179 graduate students (including 84 students completing PhDs and 78 students competing master's degrees). Users had a mean age of 22.69 ($SD = 4.92$), and 42.9% of students identified as white, 17.0% as East Asian, 9.5% as South Asian, 7.9% as Hispanic/Latinx/Chicanx, 7.5% Black/African/Caribbean, 5.4% as Southeast Asian, 3.3%

Middle Eastern/North African, and 0.4% as Native American/American Indian. This included 8.5% participants who identified as multiracial or selected multiple racial categories.¹ Most (67.0%) of participants were born in the United States, and of these, half were born in Michigan. There were 51.1% men, 43.9% women, and 3.8% non-binary individuals, and 70.9% of participants identified as heterosexual. Most participants reported being single and not seeing anyone (91.5%) and having interest in a long-term relationship (69.7%), although there were also high numbers of participants who were interested in a short-term relationship (43.6%), casual dating (42.9%), or who were figuring out their relationship goals (41.1%).²

2.1.2 Procedures

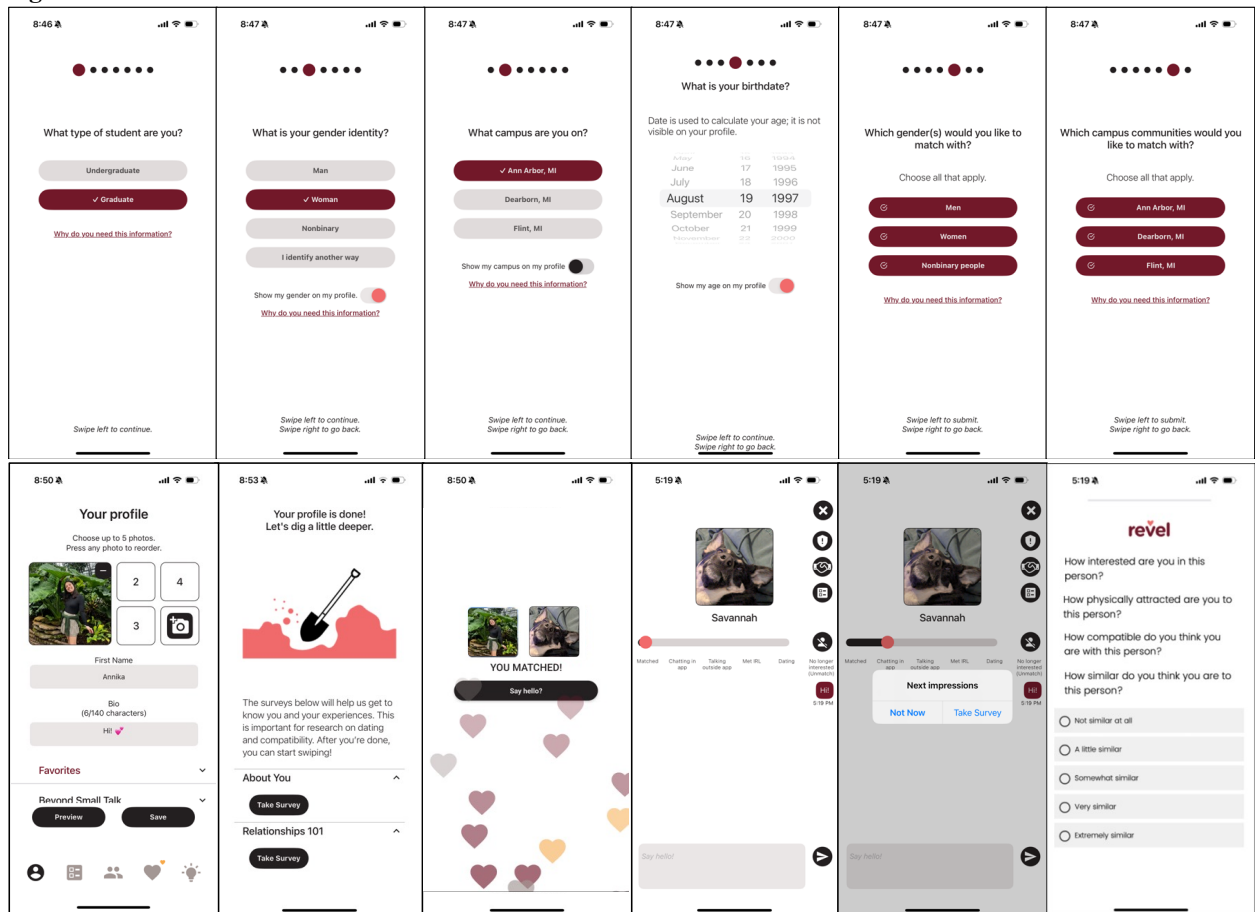
When participants initially downloaded the app, they logged in with their University of Michigan login information to ensure eligibility. After completing an in-app informed consent (see Appendix B), participants answered questions about their gender, UM campus, and student status and which genders and campuses they were interested in matching with to determine which profiles they would be shown; see **Figure 3a** through **f**). Participants were only shown profiles from students who matched their student status and gender and campus preferences, and whose gender and campus preferences they matched. Next, they created a profile that would be viewed by other app users, which included required components such as self-reported gender identity, campus location, one to five photos, and an up-to-140-character bio, as well as optional answers to pre-generated questions (see **Figure 3g**). In addition to the specifications of gender, UM campus, and student status (i.e., undergraduate or graduate) of potential matches, participants were also given the option to filter potential partners by their answers to these pre-

¹ Other participants listed their race as “Another identity” or left the question blank.

² Numbers add to more than 100% as participants could select multiple relationship goals.

generated questions (e.g., electing to only see profiles who are between the ages of 20 and 22 or who indicate being a psychology major). Lastly, participants filled out two short surveys about their demographics, relationship beliefs, relevant individual differences, and ideal partner preferences (see **Figure 3h** and Appendix C). These surveys were used to calculate actual similarity and included a shortened measure of beliefs about the importance of similarity for romantic relationships (see Measures).

Figure 3. Screens from Revel.



Note. Screens are listed in chronological order of when a user would see them.

Once participants created their profile, they were able to use the app to view other profiles that matched their preferences. They could indicate their decision about a potential

profile by swiping right (to indicate interest), left (to indicate a lack of interest), up (to indicate uncertainty and to request to be shown this profile again later), or down (to block the user) on the profiles of potential matches. When two participants both swiped right on each other's profile, this was considered a match and indicated that both participants were interested in each other (see **Figure 3i**). Once two participants were matched, they were notified of the match and could send messages to each other through the chat feature of the app (see **Figure 3j**).

The app also has a status bar that tracks the interactions of two individuals once they have matched. Statuses include matched, chatting in app, talking outside the app, meeting in real life (IRL), and dating. The status was set at matched to begin, and participants could self-report that they were chatting in the app, talking outside the app, meeting in real life, or dating. Participants could have multiple different matches at one time, and their status was tracked separately for each match. Members of a match could separately update their status, and their status was not known by the other person.

Participants were also asked questions throughout their use of the app. When two participants were matched, they were prompted to answer initial questions, including their romantic interest and perception of similarity to the person they matched with (see Measures). Every time a participants' status was updated, they were asked these same questions (see **Figure 3k** and **l**). Additionally, there were optional surveys available for users to access in the app at any time. These include 200+ questions on demographics, psychological and social well-being, personality, beliefs and values, goals, lifestyle, romantic styles and preferences, synchrony, dating history and motivations, as well as a full version of the similarity beliefs scale (see Appendix D). Finally, there was a survey available at any time for participants to answer about each of their specific matches.

2.1.3 Measures

2.1.3.1 Actual Similarity

The full list of measures used to calculate actual similarity, across demographics, personality, values, etc., are summarized in Appendix C. Similarity was operationalized as an intraclass correlation coefficient across the self-reported measures for each participant in a match (Rogers et al., 2018), by using the “multicon” package (Sherman, 2015) in R Statistical Software (R Core Team, 2020).³

2.1.3.2 Similarity Beliefs

Participants were asked the following questions in the initial survey: “The more similar you and your partner are, the easier your relationship will be” and “People who are seemingly opposites often have the best chemistry”⁴ both rated on a scale from 1 (strongly disagree) to 5 (strongly agree). A longer ten-item version of these similarity beliefs was also available in the optional surveys, along with ratings of how important they believe it is to be similar to a romantic partner in five specific domains: demographics/background, personality, values/beliefs/goals, lifestyle/preferences, and romantic preferences/tendencies (from 1 = not at all important to 5 = extremely important; see Appendix D).

³I was not able to decompose actual similarity into normative and distinctive counterparts due to the small sample size; however, future analyses should distinguish between these components of similarity.

⁴Two initial pilot studies asking participants ($N = 201$ and $N = 190$) to complete the whole similarity beliefs measure determined that these items had the highest correlation with the full subscale ($r = .81$ and $.82$, respectively) and the lowest alpha reliability if dropped from the scale ($\alpha = .82$ and $.70$, respectively) and were thus included as the single items to best represent the constructs of similarity and complementarity beliefs in the shorter background survey.

2.1.3.3 Reasons for swiping

Every five swipes right and every five swipes left participants were prompted to complete an optional survey that included an open-ended question about their swiping decision, either “Why did you swipe right on this person?” or “Why did you swipe left on this person?”

2.1.3.4 Similarity

Participants were asked the question “How similar do you think you are to this person?” on a scale from 1 (not at all) to 5 (extremely) once they matched and when their status was updated (i.e., to chatting, talking outside the app, meeting in real life, or dating).

2.1.3.5 Outcomes

Participants were asked the following questions on a scale from 1 (not at all) to 5 (extremely): “How interested are you in this person?”, “How physically attracted are you to this person?”, and “How compatible do you think you are with this person?” once they matched and when their status was updated.

2.2 Results

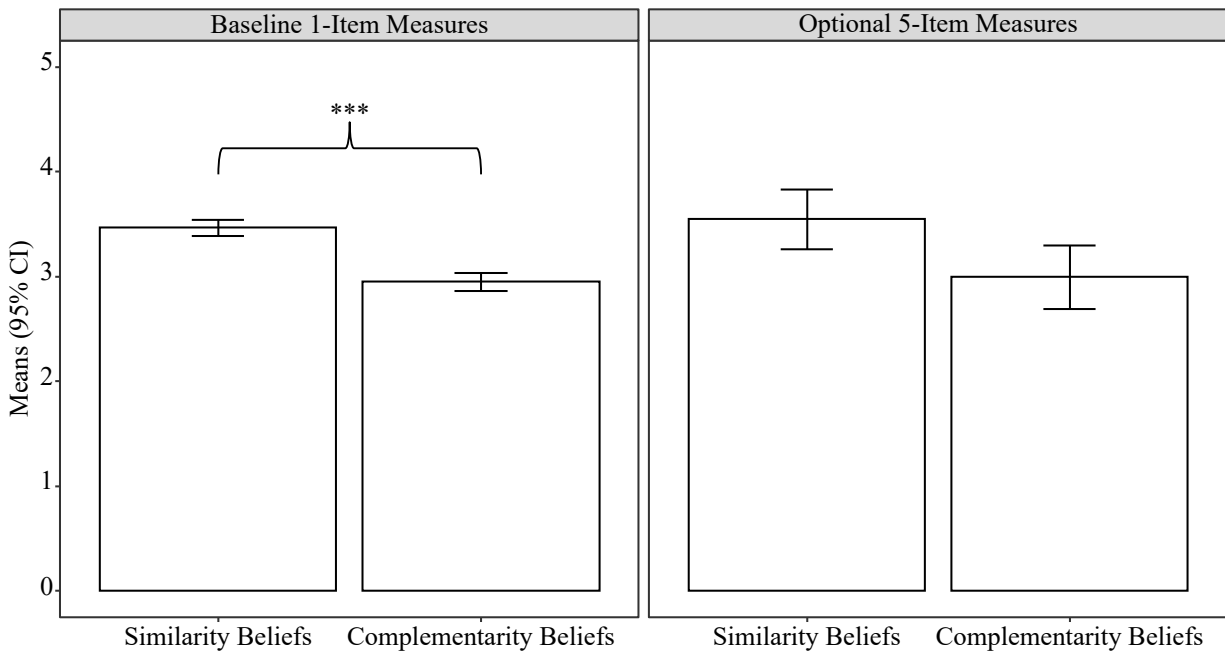
2.2.1 Similarity and Complementarity Beliefs

As shown in **Figure 4**, at background, participants held significantly stronger similarity beliefs ($M = 3.46$, $SD = 0.86$) than complementarity beliefs ($M = 2.95$, $SD = 0.89$), $t(439) = 8.17$, $p < .001$. These beliefs were significantly, though not strongly, negatively correlated, $r = -.11$, $p = .016$. When examining scores for the full scale in the optional surveys ($n = 27$),⁵ there is similar endorsement of similarity beliefs ($M = 3.54$, $SD = 0.70$) and complementarity beliefs (M

⁵ Due to the small sample sizes for the optional surveys, I do not report significance for surveys that less than 50 users completed.

= 2.99, $SD = 0.74$), and these were negatively correlated, $r = -.34$. For the subset of participants who completed the full scale, their scores on the two-item background survey and the full ten-item optional survey were correlated .86 for complementarity beliefs and .35 for similarity beliefs.

Figure 4. Similarity and complementarity beliefs in Study 1.



Note. *** = $p < .001$.

2.2.2 Qualitative Swiping Decisions.

Out of 94 responses sharing reasons for swiping right, 18.9% mentioned similarity. This did not include responses in which similarity could potentially be inferred but was not explicitly referenced (e.g., “he’s Jewish”⁶ would not be counted although it may suggest similarity in the participants’ religions). Out of 270 responses sharing reasons for swiping left, 13.7% mentioned

⁶ To protect user anonymity, actual user responses are not reported. Instead, text representative of users’ responses are used as illustrative examples.

similarity. Again, this did not include responses in which similarity could potentially be inferred but was not explicitly referenced (e.g., “too young” would not be counted although it may suggest dissimilarity in age).

Responses mentioned similarity across the six areas identified in our scoping review. 41.8% of responses mentioned demographics, including 33.3% of swipe right responses and 45.9% of swipe left responses. This included similarity in age (e.g., “much younger than me”) and race/ethnicity (e.g., “not the same race as me”). 30.9% of responses mentioned lifestyle, including 55.6% of swipe right responses and 18.9% of swipe left responses. This included interests (e.g., “we had a lot of the same interests”), areas of study (e.g., “in the same major”), and lifestyle (e.g., “neither of us drink”). 20.0% of responses mentioned beliefs and values, including 16.7% of swipe right responses and 21.6% of swipe left responses. This included religious beliefs (e.g., “we belong to different religions”), political beliefs (e.g., “have the same political beliefs”), and general values (e.g., “value the same things”). 5.5% of responses mentioned (dis)similarity of physical traits. These were all swipe left responses and exclusively talked about height (e.g., “shorter than me”). 3.6% of responses mentioned romantic similarity. These were all swipe left responses and exclusively talked about romantic goals (e.g., “we want different things in a relationship”). 3.6% of responses mentioned similarity in personality, including 5.6% of swipe right decisions and 2.7% of swipe left decisions (e.g., “similar personality-wise”). Additionally, 5.5% of responses mentioned overall similarity, including 5.6% of swipe right decisions and 5.4% of swipe left decisions (e.g., “seemed like the same kind of person as me”).

2.2.3 Similarity and Romantic Outcomes

Perceived similarity ranged from 1 to 5 for matches across time points, with an average of 2.76 to 3.63 (see **Table 2**). Correlations between perceived similarity and romantic interest ranged from .21 to .65 across time points, with an average correlation of .43 and the highest correlation when talking outside the app (see **Table 3**). Correlations between perceived similarity and attraction ranged from .20 to .55 across time points, with an average correlation of .34 and the highest correlation when talking outside the app. Correlations between perceived similarity and perceived compatibility ranged from .48 to .89 across time points, with an average correlation of .67 and the highest correlation when meeting in real life. These effect sizes suggest robust associations between perceived similarity and romantic outcomes across relationship initiation phases, particularly for perceived compatibility.

Table 2. Perceived similarity, actual similarity, and romantic outcomes for matches at different status updates.

	Matching <i>n</i> = 44		Chatting in App <i>n</i> = 31		Talking Outside <i>n</i> = 21		Met in Real Life <i>n</i> = 12	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Perceived Similarity	2.78	0.69	2.96	0.89	2.76	0.66	3.63	1.19
Actual Similarity	0.05	0.14	0.05	0.12	0.05	0.12	0.06	0.07
Interest	3.02	0.72	2.92	1.00	3.00	0.87	3.63	1.06
Attraction	3.07	0.85	2.84	0.90	3.18	0.81	3.13	0.99
Perceived Compatibility	2.85	0.80	2.92	0.81	2.94	0.83	3.75	0.71

The overall profile correlations for actual similarity ranged from -.24 to .41 for matches across time points, with an average similarity of .05 to .06 (see **Table 2**).⁷ Correlations between actual similarity and romantic interest ranged from -.18 to .65 across time points, with an average correlation of .11 and the highest correlation when meeting in real life (see **Table 3**).

Correlations between actual similarity and attraction ranged from -.42 to .22 across time points,

⁷ Profile correlations of 1.00 indicate identical responses between users, correlations of -1.00 indicate exact opposite responses between users, and correlations of 0.00 indicate no association between users.

with an average correlation of $-.06$ and the highest correlation when meeting in real life.

Correlations between actual similarity and perceived compatibility ranged from $.02$ to $.39$ across time points, with an average correlation of $.22$ and the highest correlation when chatting in the app. The relative lack of consistent effects contrast with the strong positive associations for perceived similarity and suggest that actual similarity may not be important for early romantic interest.

Table 3. Correlations between actual and perceived similarity and romantic outcomes at different status updates.

	Matching <i>n</i> = 44		Chatting in App <i>n</i> = 31		Talking Outside <i>n</i> = 21		Met in Real Life <i>n</i> = 12	
	Act.	Perc.	Act.	Perc.	Act.	Perc.	Act.	Perc.
Interest	-.17	.36	.13	.51	-.18	.65	.65	.21
Attraction	-.01	.20	-.02	.30	-.42	.55	.22	.29
Perceived Compatibility	.02	.48	.39	.75	.25	.54	.23	.89

Note. Act. = actual similarity, Perc. = perceived similarity.

2.3 Discussion

These preliminary results suggest that undergraduate and graduate dating app users hold stronger similarity beliefs than complementarity beliefs and cite similarity as reasons for their swiping decisions. This data also demonstrates that perceived similarity and romantic outcomes are associated at different stages in the relationship initiation process. These results align with prior work on beliefs about similarity (From & Gordon, under review), demonstrating variability in both similarity and complementarity beliefs, non-orthogonality between the two types of beliefs, and higher endorsement of similarity beliefs as compared to complementarity beliefs. These results also add to the existing literature showing that perceived similarity and interest are associated in both initial attraction (e.g., Tidwell et al., 2013) and established relationships (e.g., Montoya et al., 2008)—and that the associations between actual similarity and interest are much

smaller—by demonstrating that perceived similarity and romantic interest are also associated in the intermediate stages of initial communication and dating. Finally, these data provide preliminary evidence that people consider perceptions of similarity when making dating decisions.

Moreover, this study utilizes a novel data collection technique that provides ecologically valid self-reported and behavioral data. By tracking participants' real-time partner selection decisions and capturing qualitative and quantitative data about these decisions, Revel provides unique insights into studying human behavior not provided by traditional methods of data collection in psychology (which often lack ecological validity) or other dating apps (which limit research access to user data and do not typically include assessments of users' internal experiences and perceptions). Though there are numerous strengths of this data, there are also unique limitations of this data collection technique to consider. The nature of the study—both in the comprehensive list of constructs studied and relatively high potential respondent fatigue (due to participants not being paid for completing surveys and not expecting dating apps to have long questionnaires)—meant that we had to limit the number of questions asked, particularly for mandatory surveys. Therefore, constructs like similarity beliefs were measured with one-item questions in the background survey rather than the more comprehensive ten-item questionnaire. Notably, the correlation between the single-item measure of similarity beliefs and the full ten-item measure of similarity beliefs was fairly low ($r = .35$), suggesting that this item may not be adequately capturing participants' beliefs in the full sample. Additionally, I expect that not all participants accurately updated their status tracker or completed the corresponding surveys, leading to missing data.

These results are also not generalizable beyond the characteristics of this sample, namely young, highly educated undergraduate and graduate students using dating apps. I argue that this population is still key to study, as recent statistics suggest that 30% of U.S. adults have used dating apps, with the highest rates (53%) for those aged 18 to 29 (Pew Research Center, 2023). Moreover, college poses a unique context for romantic relationship formation, with frequent opportunities to meet potential partners, and examining students' dating behavior can provide insights into shifts in the dating landscape as a whole (Ogolsky et al., 2025). Nevertheless, future research is needed to better understand dating dynamics in other populations.

The relatively small sample of beta testers also limited the analyses I could run. Once the app officially launches and garners a wider user base, future analyses could examine lagged effects between perceived similarity and relationship outcomes, moderation by beliefs, and actual similarity. Lagged effects could be estimated through multi-level, random intercept cross-lagged SEM models in MPlus (Muthén & Muthén, 1998) examining perceived similarity and relationship outcomes at different status updates. This would allow me to calculate the association between actual and perceived similarity and romantic outcomes (which could include the outcomes of attraction, interest, and perceived compatibility loaded onto a latent factor), in a multi-level structure that accounts for the nested structure of the data (i.e., within couples, with participants potentially being part of multiple dyads). This model would also allow me to test if perceived similarity is driving this association or vice versa by comparing the parameters for when perceived similarity predicts later romantic interest to the parameters for when romantic interest predicts later perceived similarity by testing equality constraints; if the effects are greater for perceived similarity predicting later romantic interest, this would indicate that perceived similarity is driving the longitudinal association between similarity and interest. Moreover,

future work should capture actual and perceived similarity between non-matches (i.e., potential partners who were not interested in one another) to explore the association between similarity and liking across different levels of interest and disinterest.

In additional versions of these analyses, I could include interaction effects and covariates such as beliefs about similarity and actual similarity. For example, analyses testing interaction effects for similarity beliefs, complementarity beliefs, and beliefs about specific domains of similarity would allow me to determine whether individuals who have stronger beliefs that similarity is positive and weaker beliefs that dissimilarity is positive show stronger associations between perceived similarity and concurrent and later romantic interest. In addition, controlling for actual similarity would allow me to parse apart the effects of perceived versus actual similarity on outcomes, an important distinction for understanding the associations between similarity and relationship outcomes.

These preliminary results provide insight into the role of perceived similarity during dating app interactions, informing our understanding of the processes that underly initial attraction and relationship initiation. This work can inform interventions both specific to dating apps (e.g., initiating conversations about how app design can best facilitate perceptions of similarity among users) and about predictors of relationship formation and compatibility more broadly (e.g., considering what markers signal similarity and how these interpretations may undergird decisions to form friendships).

Chapter 3 Study 2

3.1 Overview

Given the importance of understanding compatibility in long-term romantic relationships and the lack of comprehensive research on similarity as a causal determinant of compatibility, it is paramount to study the effects of similarity on romantic outcomes in established relationships. To understand the causal effects of perceived similarity on relationships, I experimentally manipulated perceived similarity in an in-lab study with romantic couples. Participants were randomly assigned to receive fictitious feedback about the similarity between their and their partner's responses across a variety of surveys. An experimental design such as this allows us to determine causal relationships by establishing temporal precedence of perceived similarity and examining the subsequent effects on relationships.

My specific aims in this study are to understand how inducing higher or lower perceived similarity affects participants' feelings, evaluations of the relationship, behavior, and physiological reactions. I hypothesized (a) that couples in the low perceived similarity condition would report more negative feelings about the feedback and (b) more negative feelings about the relationship than those in the high similarity condition and that (c) beliefs about similarity would moderate the effect of condition, such that these associations would be stronger for participants who believed that similarity is more important and stronger for participants who believed complementarity is less important. Additionally, I hypothesized that (d) actual similarity would not significantly predict these outcomes. In an exploratory realm, I was also interested in

investigating the ways that partners act when faced with evidence of (dis)similarity and whether there are particular conversation behaviors that buffer the effect of perceived dissimilarity.

Additionally, considering evidence that shows evidence of dissimilarity is experienced as a threat (Auger et al., 2016), I also wanted to capture physiological outcomes that may indicate stress: namely, elevated blood pressure and heart rate.

3.2 Pilot Study

To finalize study protocol and as a preliminary test of validity, I ran an online pilot study from November 2023 to January 2024. This pilot study was different from the full study in a few key ways: 1) the entirety of the study took place online in a single session, 2) individuals, not couples, participated, 3) participants could answer questions about either their romantic partner or, if they were not in a romantic relationship, a close friend. These modifications were put in place to increase the feasibility of the pilot test given time and financial constraints.

3.2.1 Methods

3.2.1.1 Participants

From November 2023 to January 2024, I recruited 106 undergraduate students from the University of Michigan psychological introductory student pool. To be eligible, students had to be at least 18 years old and had to have indicated at the beginning of the term a willingness to participate in studies that involved deception. I excluded seven participants for marking that they paid “very little attention” during the study, and one additional participant who expressed suspicion of the study deception.⁸ This left us with 98 individuals. Participants were credited 0.5 credit hours for their participation.

⁸ This participant answered, “confirmation bias” to the question, “What did you think this study was about?”

3.2.1.2 Procedure

Participants initially consented and provided their beliefs about similarity. Then, they completed a broad series of questionnaires measuring individual differences in demographics, personality, values, lifestyle, and romantic preferences (listed in Appendix E). They then reported whether they were in a romantic relationship. If they were, they completed the same individual difference questionnaires about their perception of their romantic partner. If they were not in a romantic relationship, they were asked to answer the questions about a close friend.

At the end of the survey, they were directed to a page which asked them to wait while we analyzed their response, displayed a loading bar, and automatically progressed participants through the survey after ten seconds. Participants were then randomly shown one of three graphs stating that compared to the average couple or pair of friends they were more similar than 79%⁹ of couples or friends (i.e., similarity condition), less similar than 79% (i.e., dissimilarity condition wording option A), or more similar than 21% (i.e., dissimilarity condition wording option B). As an additional measure of the salience of dis/similarity, they were then asked to list up to 10 ways they and their partner or friend were similar, followed by 10 ways they and their partner were dissimilar. I then asked about their reaction to the similarity feedback, including their current perception of similarity to their partner or friend. They were also asked to provide open-ended responses about what they thought the study was about, as well as if they had any feedback, questions, or comments about the study. Lastly, they were asked how much they paid attention during the completion of the study and then were debriefed.

⁹ I chose this percent value based on procedures from a prior study manipulating participants' perceptions of task performance (Idson et al., 2000).

3.2.1.3 Measures

Perceived similarity was asked before and after receiving feedback, with the single item: “Overall, how similar do you think you and your partner/friend are?” (pre-manipulation) and “Given the information you just received, how similar do you think you and your partner/friend are?” (post-manipulation) on a scale from 0 (not at all) to 100 (completely the same). After receiving the feedback, participants were asked “How positively do you feel about these results?” and “How negatively do you feel about these results?” on a scale from 1 (not at all) to 7 (very). Actual similarity was operationalized by calculating a distinct profile correlation (e.g., controlling for stereotype effects) based on the items in Appendix E.

3.2.2 Results

There was a significant difference in change in perceived similarity between conditions, $t(66.16) = -2.34, p = .02, d = -0.48$.¹⁰ Participants who were told they were more dissimilar than most couples/friend pairs perceived themselves as more dissimilar after the feedback ($M = -13.00, SD = 41.40$), while participants who were told they were more similar than most couples/friend pairs perceived themselves as more similar after the feedback ($M = 6.17, SD = 34.94$). Additionally, participants who were told they were more dissimilar than most couples/friend pairs reported feeling significantly more negative about the feedback, $t(77.08) = 4.00, p < .001, d = 0.78, M_{\text{dissimilar}} = 2.09, M_{\text{similar}} = 1.37$, and significantly less positive about the feedback, $t(64.67) = -4.49, p < .001, d = -0.95, M_{\text{dissimilar}} = 2.59, M_{\text{similar}} = 3.53$, than those told they were more similar than most couples/friend pairs. As a qualitative assessment of the efficacy of the experiment, I noted that many responses to the question about what participants

¹⁰ Effect sizes were calculated using the “effectsize” package in R (Ben-Shachar et al., 2020).

thought the study was about equated similarity with compatibility, with one participant even responding that they “realiz[ed] me and my partner have many similarities and i should make it longer term.”

The number of similarities generated did not significantly differ by condition, $F(2, 87) = 0.62, p = .54$, nor did the number of dissimilarities generated, $F(2, 85) = 0.74, p = .48$; therefore, I cut these tasks for the full study. Additionally, there were no significant differences between the “more similar than 21%” and “less similar than 79%” conditions for change in perceived similarity or feelings about the feedback. However, participants in the “less similar than 79%” condition reported feeling non-significantly less similar to their partner/friend after feedback ($M_{79\%} = -15.62, M_{21\%} = -10.89$), $t(48.08) = -0.44, p = .66, d = -0.11$, more negative about the feedback ($M_{79\%} = 2.31, M_{21\%} = 1.92$), $t(59.90) = 1.58, p = .12, d = 0.39$, and less positive about the feedback ($M_{79\%} = 2.34, M_{21\%} = 2.80$), $t(56.84) = -1.76, p = .08, d = -0.45$. Therefore, for the full study I chose to use this wording for the dissimilar condition.

3.3 Methods

3.3.1 Power Analysis

To estimate an effect size for the association between perceived similarity and relationship satisfaction, I pulled from a prior study examining associations between perceived similarity and relationship outcomes ($N = 833$; From & Gordon, under review). The association between overall perceived similarity, measured with the item (“Overall, how similar do you think you and your romantic partner are?”) and satisfaction had an association of $r = .26$. I used G*Power (Erdfelder et al., 1996) to conduct a power analysis for moderated regression and determined that I need a minimum sample size of 54 couples per condition (i.e., 108 couples or $N = 216$) to achieve 80% power.

3.3.2 Participants

138 couples ($N = 276$) participated in this study, including 66 couples in the similarity condition and 72 couples in the dissimilarity condition. Participants were eligible if they were in a romantic relationship, were at least 18 years old, spoke fluent English, and were able to complete a half-hour online survey at home and an hour-and-a-half in-person lab session at the University of Michigan. Couples who self-reported as being in a committed relationship of at least one month were eligible, regardless of cohabiting status, monogamy status, or sexual orientation. Each participant was compensated \$20 for their participation in the study. I recruited participants via a variety of local sources (e.g., the University of Michigan Health Research inventory, the University of Michigan Introductory Psychology Subject Pool, Reddit).

Participants ranged in age from 18 to 86 ($M = 37.22$, $SD = 17.74$) and had been in relationships ranging from 1 month to over 56 years long ($M = 12.24$ years, $SD = 14.85$). Half (50.72%) of participants were married, with 4.35% engaged, 43.12% in a committed relationship, and 1.81% casually dating. A vast majority (97.45%) of participants reported being in an exclusive (as opposed to consensually non-monogamous) relationship, and a majority of couples were cohabiting with their partner (66.67%). Our sample was also majority white, with 81.16% of participants self-identifying as white/European American, 9.84% identifying as Asian, 6.52% identifying as Hispanic/Latinx, 2.54% identifying as Middle Eastern, 2.17% identifying as Black/African American, 1.09% identifying as American Indian/Alaska Native, and 0.36% identifying as Native Hawaiian or other Pacific Islander. 48.55% of participants identified as women, 46.74% identified as men, and 3.99% identified as non-binary, genderqueer/gender non-conforming, or another gender. 83.33% of couples included a woman and a man, and 7.97% of couples were between two participants of the same gender. A majority (61.59%) of participants

had graduated college, and many described their socioeconomic background as being comfortable with extra (45.65%) as opposed to having enough with no extra (30.43%), having to cut back (17.39%), or being unable to make ends meet (6.52%).

3.3.3 Procedures

First, at home, participants completed a broad series of questionnaires measuring individual differences in demographics, personality, values, lifestyle, and romantic preferences on their phone or laptop. This survey also included measures about participants' perceived similarity with their partner, beliefs about the importance of similarity to romantic relationship functioning, and state feelings about the relationship at background.

Then, participants scheduled an hour-and-a-half appointment to come into the lab together for an in-person session. Throughout the session, participants were videotaped with audio. Participants were seated in the same room, where they were hooked up to physiological equipment to measure their autonomic reactivity. Upon arrival, participants consented to participate in the study (see Appendix F) and then completed baseline physiological measures and provided baseline state feelings about their relationship on a tablet. Next, we informed participants that by comparing their scores across all the items they answered at home, we were able to calculate a "similarity score" that informed them of how similar they were to each other compared to other couples (see Appendix G for exact script wording). Couples were then randomly assigned to one of two conditions: The *similarity* group received feedback that they were more similar than most (79% of) couples, while the *dissimilarity* group received feedback that they were below average in similarity (less similar than 79% of couples). We instructed participants to read through these results and discuss the results with their partner for the next five minutes, including whether the results surprised them and their thoughts on how this may

influence their relationship functioning. After the conversation, participants filled out a short survey again assessing their state feelings about their relationship, reactions to the feedback, and a manipulation check of their perceived similarity with their partner.

Participants complete two additional five-minute tasks (which are outside of the scope of the current analyses): a problem-solving task in which they were instructed to discuss an area of conflict in their relationship and a gratitude task in which they were instructed to express reasons they were thankful for their partner. These conditions were counterbalanced such that half of couples participated in the gratitude task followed by the conflict task, and half of couples participated in the conflict task followed by the gratitude task. All couples received and discussed their similarity results first, before either of these two additional conversations. At the end of the study, we asked participants: “What do you think the researchers were studying?” as an open-ended question. Then we debriefed participants about the nature of the study and paid them for their participation (see Appendix H).

We noted any time a participant expressed suspicion that the results could be fabricated or guessed the experimental manipulation, either in conversations with their partner or in the final debriefing question. One couple in the similarity condition guessed the manipulation, and eight couples in the dissimilarity condition guessed the manipulation. Participants who guessed the manipulation did not differ from those who did not guess the manipulation in demographics, actual similarity, or perceived similarity. Participants who guessed the manipulation did describe the results as less accurate ($M = 2.28$, $SD = 1.41$) than those who did not guess the manipulation ($M = 3.79$, $SD = 1.11$), $t(135.98) = -4.30$, $p < .001$. They also reported feeling less positive about the results ($M = 2.39$, $SD = 1.20$) than those who did not guess the manipulation ($M = 3.82$, $SD = 1.09$), $t(135.96) = -4.36$, $p < .001$, and more negative about the results ($M = 2.00$, $SD = 1.24$) than

those who did not guess the manipulation ($M = 1.40$, $SD = 0.83$), $t(135.88) = 2.34$, $p = .021$.

These differences may be due to the majority of these participants having been in the dissimilarity condition, as these trends mimic what is seen in the broader sample of participants in that condition.

3.3.4 Measures

3.3.4.1 Similarity Beliefs

Before coming into the lab, participants responded to the following items on a scale from 1 (strongly disagree) to 5 (strongly agree): “People are happiest when they date someone who is like them in most ways,” “The more similar you and your partner are, the easier your relationship will be,” “The more you and your partner have in common, the more likely you are to stay together,” “Couples with a lot in common tend to be the happiest,” and “Most happy couples have a lot in common.” To measure participants beliefs about the importance of complementarity, participants responded to the following items on a scale from 1 (strongly disagree) to 5 (strongly agree): ““Opposites attract” describes most successful relationships,” “The most fulfilling relationships are ones where each person brings different perspectives to the table,” “It is better to have a partner who balances you out than one who is too similar to you,” “The ideal romantic partner is someone who has opposite qualities from you,” and “People who are seemingly opposites often have the best chemistry.” This scale has been used in my prior research (From & Gordon, under review), which has shown support for a two-factor solution.¹¹ The similarity subscale had an alpha of .87, and the complementarity subscale had an alpha of .79.

¹¹ From and Gordon (under review) found that a principal components analysis in Study 1 supported a two-component solution, which was further supported by factor analyses in Study 2 (CFI = .99, TLI = .98, RMSEA = 0.035) and Study 3 (CFI = .97, TLI = .96, RMSEA = 0.051).

Domain-specific similarity beliefs were measured by asking, “There are a variety of ways in which people can be similar to one another. For you personally, how important it is to you to be similar to your romantic partner in each of the following categories?”:

“Demographics/background (Includes things like ethnicity, sexuality, gender, age, socioeconomic background, your upbringing, and level of education),” “Personality (Describes an individual's patterns of thinking, behaving, and experiencing and expressing emotions),” “Values/beliefs/goals (Includes your religious beliefs, political beliefs, opinions about gender roles and childrearing, and what is generally most important to you),” “Lifestyle/preferences (Includes your hobbies, preferences, as well as aspects of your lifestyle such as diet, exercise, and sleep habits),” and “Romantic preferences/tendencies (Preferences, tendencies, and expectations in romantic relationships includes how you communicate with each other, resolve conflict, and show affection)” on a scale from 1 (not similar at all) to 5 (extremely similar).

3.3.4.2 Actual Similarity Measures

Before coming into the lab, participants reported on their own traits for the calculation of actual similarity. Actual similarity measures were based off items used in prior studies (From & Gordon, under review) to capture aspects of demographics, personality, values, lifestyle, and romantic preferences. See Appendix I for a full list of measures.

3.3.4.3 Perceived Similarity

As part of the background survey and post-manipulation, participants were asked: “Overall, how similar do you think you and your romantic partner are?” on a scale from 0 (not at all) to 100 (completely). After the manipulation, I modified this to: “Given the information you just received, overall, how similar do you think you and your romantic partner are?”

Additionally, before coming into the lab and post-manipulation, I included the question: “There are a variety of ways in which people can be similar to one another. For you personally, how similar do you think you are to your romantic partner in each of the following categories?”: “Demographics/background (Includes things like ethnicity, sexuality, gender, age, socioeconomic background, your upbringing, and level of education),” “Personality (Describes an individual's patterns of thinking, behaving, and experiencing and expressing emotions),” “Values/beliefs/goals (Includes your religious beliefs, political beliefs, opinions about gender roles and childrearing, and what is generally most important to you),” “Lifestyle/preferences (Includes your hobbies, preferences, as well as aspects of your lifestyle such as diet, exercise, and sleep habits),” and “Romantic preferences/tendencies (Preferences, tendencies, and expectations in romantic relationships includes how you communicate with each other, resolve conflict, and show affection)” on a scale from 1 (not similar at all) to 5 (extremely similar).

3.3.4.4 Reactions to the Feedback

After receiving the feedback, participants were asked the following questions on a scale from 1 (not at all) to 5 (extremely): “How accurate do you think these results are?”, “How surprised were you by these results?”, “How positively do you feel about these results?”, and “How negatively do you feel about these results?”.

3.3.4.5 Feelings About the Relationship

In the lab post-manipulation, participants were asked the following questions on a scale from 0 (not at all) to 100 (extremely): “Right now, how positively do you feel about your partner/relationship?” (also asked at pre-manipulation at baseline), “Right now, how negatively do you feel about your partner/relationship?” (also asked at pre-manipulation at baseline), “Right now, how positively do you think your partner feels about you/your relationship?”, “Right now,

how negatively do you think your partner feels about you/your relationship?”. Participants were also asked the following questions on a scale from 1 (strongly disagree) to 5 (strongly agree): “I feel close and connected with my partner” (also asked at pre-manipulation at baseline), “I feel confident in my relationship with my partner,” “I feel my partner and I are compatible with one another,” and “My partner understands the way I feel about things.” Participants also indicated feelings of closeness to their partner by completing the one-item Inclusion of Other in the Self Scale (IOS; Aron et al., 1992) on a scale from 0 to 100.

3.3.4.6 Observed Conversation Behaviors

In an exploratory vein, to better understand how couples react to evidence of dissimilarity in their relationship, I also examined couples’ behaviors when receiving and discussing the similarity feedback. The entire session was videotaped, and at the end of the study session participants were asked what, if anything, they consented for the videos to be used for. There were 121 videos for which both partners consented to have the research team use their videos for research. Three research assistants—who were blind to the research question and condition assignment—coded these videos for the following conversation behaviors (rated on a scale from 1 to 5): similarity beliefs (i.e., to what extent the participants expressed the belief that similarity is important/good for relationships), complementarity beliefs (i.e., expressing the belief that complementarity or dissimilarity is important/good for relationships), expectations (i.e., whether the results were more or less similar than they had expected from 1 “more similar” to 5 “less similar” or if they did not discuss their expectations, which was coded as NA), general positivity, closeness (i.e., how close and connected the couple seemed to each other, with one code per couple), conflict (i.e., how much disagreement or conflict the couple had, with one code per couple), synchrony (i.e., how in-sync the couple seemed cognitively, emotionally, and

behaviorally, with one code per couple), and talking (i.e., whether the couple was on-topic and discussed similarity for the entire five minutes allotted, with one code per couple; see Appendix J for exact wording). The three raters were trained until a two-way fixed effects intraclass correlation coefficient of at least .75 was reached on each of the codes; then, rotating sets of two coders were assigned to each video. Final two-way random effects intraclass correlation coefficients of .78, .79, .88, .73, .73, .74, .72, and .78 were reached, respectively.

3.3.4.7 Acquisition and Processing of Physiological Measures

I measured blood pressure using one of two monitors: the Omron 3 series Upper Arm Blood Pressure Monitor BP7100 and the Omron Bronze Upper Arm Blood Pressure Monitor BP5100. There were incomplete blood pressure records for seven participants due to issues with the equipment. I flagged any instances of systolic blood pressure below 80 or above 190, diastolic blood pressure below 50 or above 150, or heart rate below 30 or above 200 (see, e.g., Gordon & Mendes, 2021 for a similar approach). There was one instance of a participant with a diastolic blood pressure of 47. However, manual inspection suggested this was not an error since it was near the participants' other values (which ranged from 51 to 59), thus I retained the value. I operationalized change in blood pressure by subtracting the pre-conversation baseline blood pressure measurements from the post-conversation blood pressure measurements.

I employed electrocardiography (ECG) to obtain measurements of interbeat intervals (IBIs) and heart rate variability (HRV). I recorded ECG responses using the Zephyr BioHarness BTLE ECHO Module (Gen 3) (Zephyr Technology Corporation, 2012), a lightweight sensor designed to be worn against the chest through a flexible synthetic strap. The BioHarness records ECG at 250Hz and provides summary statistics at 1 Hz. After the study, physiological data were analyzed in 60-second intervals using Mindware's HRV Analysis software (Mindware

Technologies, 2022). MindWare used a peak-identification algorithm to create an IBI (i.e., the time between heartbeats) series, also known as an R-R interval. MindWare then detected artifacts in the data, and trained research assistants manually inspected the data to detect abnormal R-R intervals (e.g., severe fluctuations, inadvertent cardiac fluctuations, ectopic beats due to participants' physical movement or breathing). Abnormal R-R intervals were then manually corrected by deleting extra beats and inserting midbeats. A maximum of two midbeats were inserted for every 60-second interval. MindWare then computed RSA values using the natural logarithm of the variance heart rate period within the frequency bandpass related to respiration (0.12–0.40 Hz for adults; Fracasso et al., 1994).

Forty-seven participants were missing ECG data. Twenty-seven of these were due to issues with equipment collecting or saving ECG (fifteen and twelve files, respectively) and eighteen had data that was too messy to score (e.g., due to data collection or irregular heartbeats). One participant's data was excluded due to having a pacemaker, and one participant did not consent to ECG data collection. When trained research assistants scored data in MindWare, an additional seventy-eight bins of sixty-second data collection each were excluded. Twenty-three bins were excluded for being messy, nine were excluded for missing data, and six were excluded because they would require the insertion of more than two midbeats. Then, I manually reviewed data for outliers. I excluded one participant's entire data due to abnormally low RSA values (i.e., ranging from 0.00 to 1.18, $M = 0.68$, $SD = 0.31$). Two bins of IBI data were removed due to changes of more than 25% for following and preceding values. Twenty bins of RSA data were also excluded. I flagged bins in which there were changes of more than 50% for following and preceding values and which were more than two standard deviations from the mean. I excluded five bins of RSA data for which both of these conditions were met, as well as fifteen that met at

least one of these criteria and were then identified as having abnormal heart patterns when consulting original data in MindWare. This left 4,006 bins (80.3% of 4,986 possible bins) for 228 people (82.6% of 278 participants), or 17.57 bins per person. Specifically, I focus on the five bins from the similarity conversation.

Reactivity scores were created to correct for individual differences and allow for interpretations of effects as change from baseline. Baseline for each participant was defined as the baseline bin (of the three sixty-second bins from the three-minute baseline) with the lowest (i.e., most relaxed) IBI value. One of the RSA outliers removed corresponded to that participant's lowest IBI value, so instead I used the bin with the second-smallest IBI value to determine which RSA value to use as the baseline measurement. Additionally, for two participants who did not have any baseline data, I used the bin from the remaining data that had the lowest IBI. I repeated subsequent analyses including and excluding these three participants and noted any differences in results.

3.4 Analysis Plan

Analyses for this study were pre-registered at <https://osf.io/x7utp/>. First, I compared change in perceived similarity (calculated as a difference score subtracting the background perceived similarity from the post-manipulation perceived similarity) by condition to see if the higher perceived similarity condition succeeded in manipulating participants' perceptions. If this was not the case, I pre-registered that I would conduct the subsequent analyses with change in perceived similarity rather than condition.

To test the hypothesis that (a) participants in the low perceived similarity condition would report more negative feelings about the feedback and (b) more negative feelings about the relationship, I conducted multilevel linear regressions using the "lme4" package (Bates et al.,

2015) in R Statistical Software (R Core Team, 2020) for mixed effect models, accounting for the nested structure of individual data within dyads. For the variables measured at baseline and post-manipulation (i.e., positive and negative feelings about one's relationship, feeling close and connected to one's partner), I subtracted the baseline value from the post-manipulation value to capture change in feelings as a difference score. For all other variables, I predicted feelings about the results and about the relationship by condition. Additionally, I tested the hypothesis that (c) similarity beliefs and complementarity beliefs would moderate these associations by examining self-reported beliefs at background by conducting moderated multilevel linear regressions (conducting separate regressions for similarity beliefs, complementarity beliefs, and domain-specific similarity beliefs).

To test whether (d) actual similarity predicted these outcomes, I estimated actual similarity by calculating an intraclass correlation coefficient via the double-entry method, which is suitable for exchangeable dyads (i.e., samples including same-sex and mixed-sex; see Rogers et al., 2018), by using the “multicon” package (Sherman, 2015). I decomposed similarity between partners into normative and distinctive similarity (Furr, 2008). Normative similarity takes into account mean levels of a trait and captures similarity due to the degree to which an individual's profile corresponds to the average profile; distinctive similarity is the similarity between two profiles that is not due to similarity to the average profile. Both types of similarity provide useful pieces of information (i.e., it may be important that a couple is similarly high in agreeableness even though most people are high in agreeableness, but it might be particularly important if the couple is similar in a way that deviates from the average); I looked at the associations between actual similarity adjusted for normative similarity and unadjusted actual similarity and relationship outcomes. Initially, I checked to see if there were between-condition

differences in distinctive and normative actual similarity; if this was the case, I pre-registered that I would include these as covariates.

As exploratory analyses, I also examined whether experimental condition was related to any observed conversation behaviors or changes in physiology (i.e., systolic blood pressure, diastolic blood pressure, IBI, HRV). I modeled this two ways: first, using the “nlme” package (Pinheiro et al., 2023) to model a multilevel model with an autoregressive correlation structure to nest time within participants and participants within couples, and two, averaging the values across the five minutes of data and predicting this average in multilevel linear regressions using the “lme4” package (Bates et al., 2015).

I also examined whether the association between experimental condition and feelings about the results and feelings about the relationship were buffered by any of the observed conversation behaviors, actual similarity, or relationship length. Additionally, I re-ran these analyses excluding participants who guessed the manipulation and indicate whenever the significance of these results differed from the full sample.

3.5 Results

3.5.1 Descriptive Statistics at Background

In the background survey, participants rated themselves as more similar than not, especially in the domains of values and lifestyle (see **Table 4**). Overall perceived similarity ranged from 8 to 100, with 95% of the data falling between 64.80 and 69.00 (see **Figure 5**). Overall perceived similarity was significantly associated with perceived similarity in all domains both at background (b s ranged from 3.34 with lifestyle similarity to 8.41 with personality similarity, average $b = 4.97$) and after the manipulation (b s ranged from 3.12 with demographic similarity to 6.66 with personality similarity, average $b = 4.78$). Overall perceived similarity at

background was also positively associated with overall similarity beliefs ($b = 0.02, p < .001$) and negatively associated with overall complementarity beliefs ($b = -0.01, p = .003$). At background, participants differed in how similar they perceived themselves to be to their partner across domains, with participants perceiving themselves as significantly more similar in values/beliefs than any other domain of similarity, $F(4, 1375) = 42.91, p < .001$. This was also true of domain-specific perceived similarity after the manipulation, $F(4, 1370) = 64.83, p < .001$. None of the measures at background or pre-manipulation differed significantly between conditions.

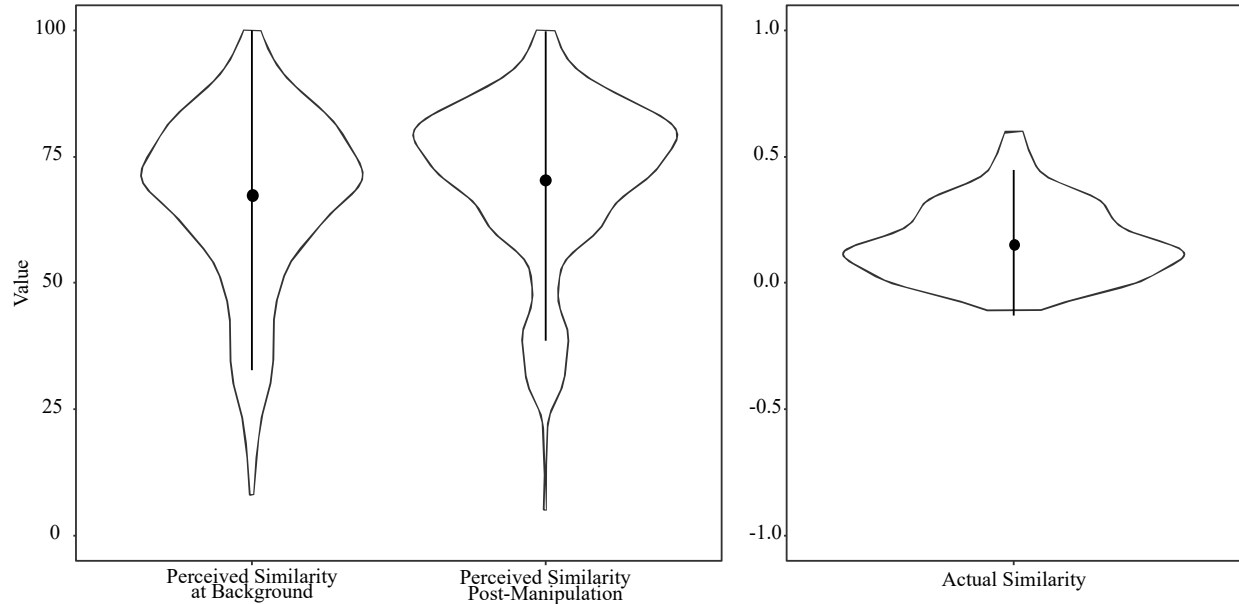
Table 4. Descriptive statistics for variables in Study 2.

Background	Similar Condition		Dissimilar Condition		Across Conditions	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Perceived similarity						
Overall	67.51	16.53	66.35	18.26	66.90	17.44
Demographic	3.23	1.25	3.40	1.23	3.32	1.24
Lifestyle	3.84	0.82	3.83	0.88	3.83	0.85
Personality	3.31	0.88	3.08	0.90	3.19	0.90
Romantic	3.77	1.01	3.59	0.91	3.67	0.96
Values	4.06	0.79	4.20	0.82	4.14	0.81
Beliefs about similarity						
Overall similarity	3.51	0.76	3.50	0.78	3.50	0.77
Overall complementarity	3.13	0.72	2.99	0.65	3.06	0.68
Demographics	2.34	1.24	2.26	1.12	2.30	1.17
Lifestyle	3.80	0.75	3.95	0.76	3.88	0.76
Personality	3.18	1.05	3.17	1.07	3.18	1.06
Romantic	3.89	0.85	3.82	0.84	3.85	0.84
Values	4.35	0.70	4.33	0.71	4.38	0.70
Actual similarity	0.16	0.14	0.16	0.15	0.16	0.15
Pre-Manipulation	Similar Condition		Dissimilar Condition		Across Conditions	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Feelings about relationship						
Positive	91.05	12.86	90.48	11.26	90.75	12.02
Negative	7.78	14.54	9.38	15.43	8.63	15.02
Close/connected	4.52	1.02	4.54	0.92	4.53	0.93
Physiology						
Systolic blood pressure	119.24	14.33	120.81	14.17	120.07	14.24
Diastolic blood pressure	78.34	10.20	79.13	8.83	78.76	9.49
IBI	780.29	140.07	808.45	140.37	794.50	140.62
RSA	5.69	1.47	5.63	1.70	5.66	1.59
During Manipulation	Similar Condition		Dissimilar Condition		Across Conditions	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Conversation behaviors						
Similarity beliefs	1.81	0.99	1.58	0.80	1.69	0.90
Complementarity beliefs	1.48	0.81	1.70	1.03	1.59	0.94

Expectations	2.83	0.70	3.68	0.70	3.29	0.82
Positivity	3.45	0.53	3.31	0.63	3.37	0.59
Close/connected	3.84	0.72	3.71	0.74	3.77	0.73
Conflict	2.13	0.86	1.94	0.69	2.03	0.78
Synchrony	3.85	0.56	3.46	0.79	3.65	0.72
Talking	4.11	0.91	4.26	0.78	4.19	0.85
Physiology						
IBI	731.51	117.39	763.22	125.78	747.37	122.43
RSA	5.78	1.36	5.74	1.43	5.76	1.39
	Similar Condition		Dissimilar Condition		Across Conditions	
Post-Manipulation	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Perceived similarity						
Overall	78.17	9.86	64.21	18.07	70.76	16.34
Demographic	3.38	1.30	3.34	1.24	3.36	1.27
Lifestyle	4.02	0.83	3.85	0.84	3.93	0.84
Personality	3.44	0.88	2.95	1.01	3.18	0.98
Romantic	3.99	0.86	3.58	0.94	3.77	0.92
Values	4.39	0.75	4.36	0.81	4.37	0.78
Reactions to feedback						
Positive	4.40	0.69	3.14	1.15	3.73	1.15
Negative	1.05	0.25	1.78	1.07	1.44	0.87
Surprised	2.33	1.30	3.03	1.35	2.70	1.37
Accurate	4.36	0.72	3.10	1.21	3.69	1.19
Feelings about relationship						
Positive	91.54	11.06	90.51	10.81	91.00	10.92
Negative	6.75	15.32	8.55	14.60	7.71	14.93
Perceived positive	88.67	13.38	86.95	12.37	87.76	12.86
Perceived negative	9.00	15.38	10.63	12.96	9.86	14.16
Close/connected	4.71	0.71	4.58	0.74	4.64	0.73
Confident	4.69	0.72	4.72	0.66	4.71	0.69
Compatible	4.74	0.68	4.60	0.75	4.67	0.72
Understanding	4.36	0.81	4.21	0.85	4.28	0.83
IOS	79.38	15.58	71.49	20.59	75.22	18.78
Physiology						
Systolic blood pressure	121.37	14.78	121.79	13.84	121.60	14.26
Diastolic blood pressure	80.86	10.22	81.42	8.48	81.16	9.32

Participants' overall actual similarity ranged from $r = -.11$ to $.60$, with 95% of the data falling between $r = .14$ and $.18$ —meaning there were no extremely similar nor extremely dissimilar couples (see **Figure 5**). Overall perceived similarity at background was not associated with actual similarity ($b = .00, p = .441$).

Figure 5. Perceived and actual similarity in Study 2.



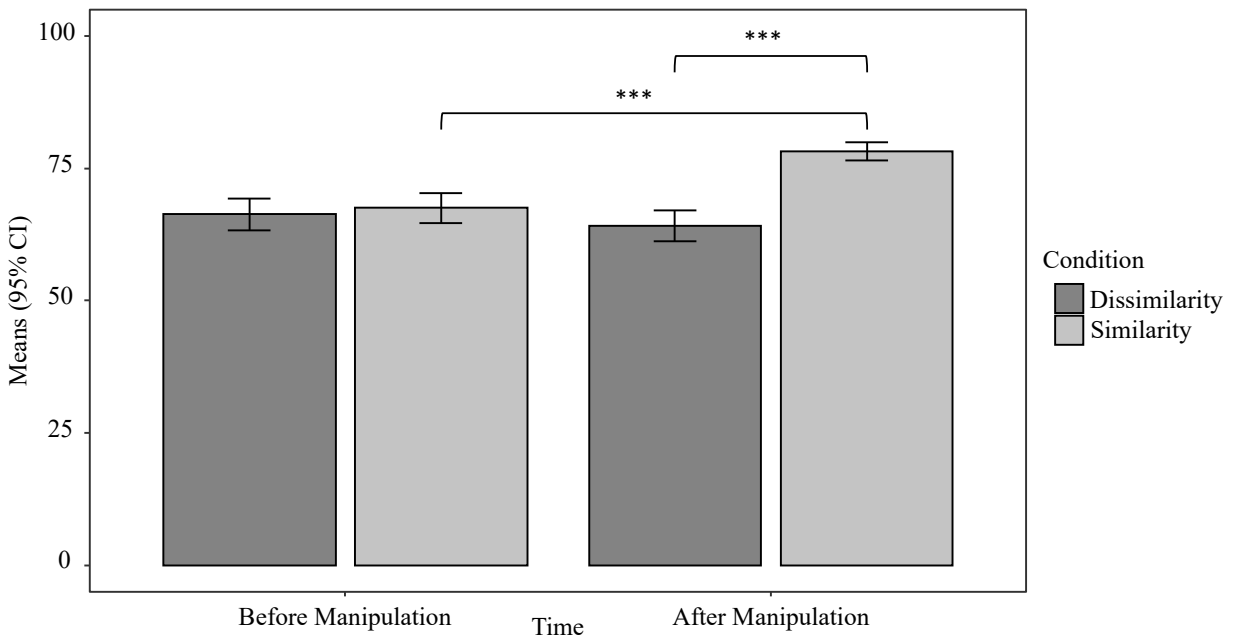
3.5.2 Perceived Similarity

Participants in the similarity condition ($M = 78.20$, $SD = 0.09$)¹² reported significantly higher overall perceived similarity after receiving the manipulation compared to participants in the dissimilarity condition ($M = 64.21$, $SD = 0.09$), $b = 13.99$, $SE = 2.08$, $p < .001$, $d = 0.86$. This was not due to a difference in initial perceived similarity, as these values did not differ between the similar and dissimilar condition, $b = 1.28$, $SE = 2.39$, $p = .594$, $d = 0.07$, providing evidence for the efficacy of the manipulation. Notably, this difference seems to be driven by an *increase* in perceived similarity in the similar condition rather than a *decrease* in perceived similarity in the dissimilar condition, with perceived similarity increasing an average of 10.40 points from pre- to post-manipulation for the perceived similarity group (see **Figure 6**). These results held when looking at the subset of participants who did not guess the manipulation.

¹² Values represent estimated means which have been adjusted for dyadic nonindependence.

I also examined perceptions of similarity in specific domains at background and post-manipulation. Participants in the similarity condition reported significantly greater increases in perceived similarity in demographics, $b = 0.20$, $SE = 0.10$, $p = .044$, $d = 0.24$, personality, $b = 0.27$, $SE = 0.11$, $p = .010$, $d = 0.32$, and romantic preferences, $b = 0.23$, $SE = 0.11$, $p = .037$, $d = 0.26$, compared to the dissimilar condition. There were no significant differences in perceived similarity in lifestyle or values at baseline nor post-manipulation. The difference in change in perceived romantic similarity became non-significant when looking at the subset of participants who did not guess the manipulation, but all other results held.

Figure 6. Perceived overall similarity by time and condition.



Note. *** = $p < .001$. Error bars denote 95% confidence intervals.

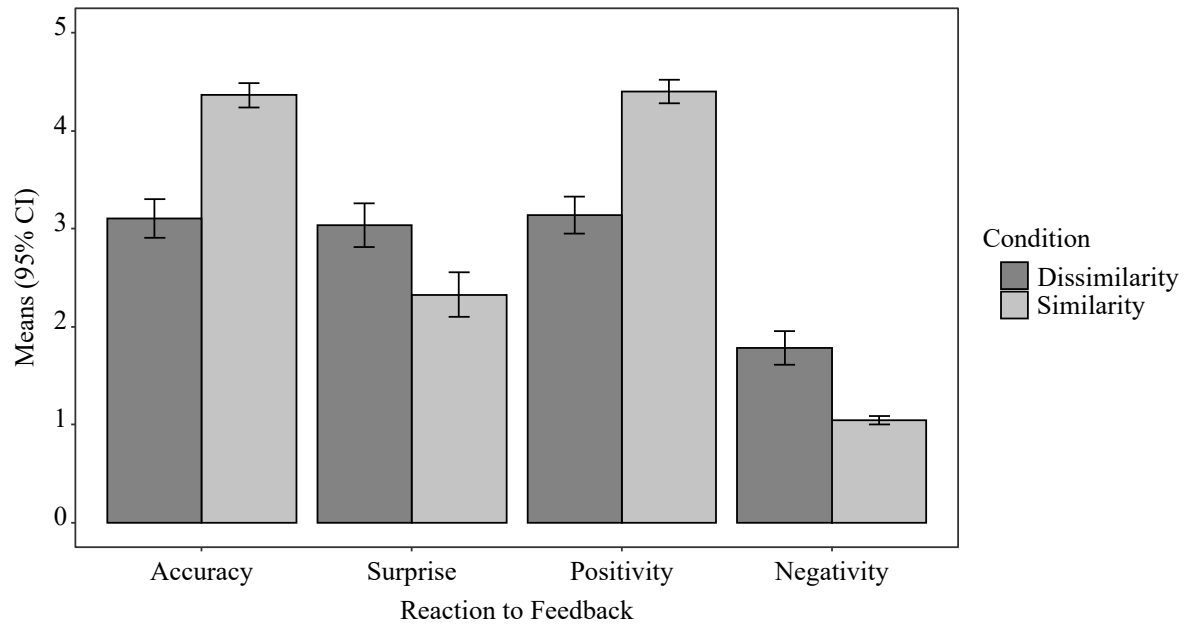
I was able to replicate prior findings by testing the associations between perceived similarity and romantic relationship outcomes, finding that perceptions of similarity at background were related to more positive feelings towards one's partner, $b = 0.10$, $SE = 0.04$, p

= .009, and feeling closer and more connected in the lab at baseline, $b = 0.01$, $SE = 0.00$, $p = .036$. Perceived similarity was not significantly associated with negative feelings towards one's partner at baseline, $b = -0.08$, $SE = 0.05$, $p = .061$. Perceptions of similarity post-manipulation were associated with more positive feelings towards one's partner, $b = 0.17$, $SE = 0.04$, $p < .001$, less negative feelings towards one's partner, $b = -0.14$, $SE = 0.06$, $p = .012$, higher perceived partner positive feelings about the relationship, $b = 0.17$, $SE = 0.05$, $p < .001$, lower perceived partner negative feelings about the relationship, $b = -0.17$, $SE = 0.05$, $p = .001$, feeling closer and more connected, $b = 0.01$, $SE = 0.00$, $p < .001$, feeling more compatible, $b = 0.01$, $SE = 0.00$, $p = .018$, feeling more understood by one's partner, $b = 0.01$, $SE = 0.00$, $p < .001$, and greater IOS post-manipulation, $b = 0.43$, $SE = 0.07$, $p < .001$. Perceived similarity was not significantly associated with feeling confident in one's relationship post-manipulation, $b = 0.00$, $SE = 0.00$, $p = .069$. Further replicating prior findings on actual and perceived similarity, actual similarity at background was not associated with positive feelings towards one's partner, $b = 7.84$, $SE = 5.61$, $p = .165$, negative feelings towards one's partner, $b = 2.47$, $SE = 6.32$, $p = .661$, or feelings of closeness and connection at baseline, $b = 0.07$, $SE = 0.37$, $p = .807$.

3.5.3 Reactions to the Feedback

Participants in the similarity condition felt the results were more accurate ($M_{similar} = 4.36$, $M_{dissimilar} = 3.08$), $b = 1.28$, $SE = 0.15$, $p < .001$, $d = 1.07$, and they felt less surprised ($M_{similar} = 2.33$, $M_{dissimilar} = 3.05$), $b = -0.73$, $SE = 0.20$, $p < .001$, $d = -0.53$, more positive ($M_{similar} = 4.40$, $M_{dissimilar} = 3.12$), $b = 1.29$, $SE = 0.14$, $p < .001$, $d = 1.11$, and less negative about the results than participants in the similarity condition ($M_{similar} = 1.05$, $M_{dissimilar} = 1.80$), $b = -0.75$, $SE = 0.11$, $p < .001$, $d = 0.85$ (see **Figure 7**).

Figure 7. Reactions to feedback by condition.



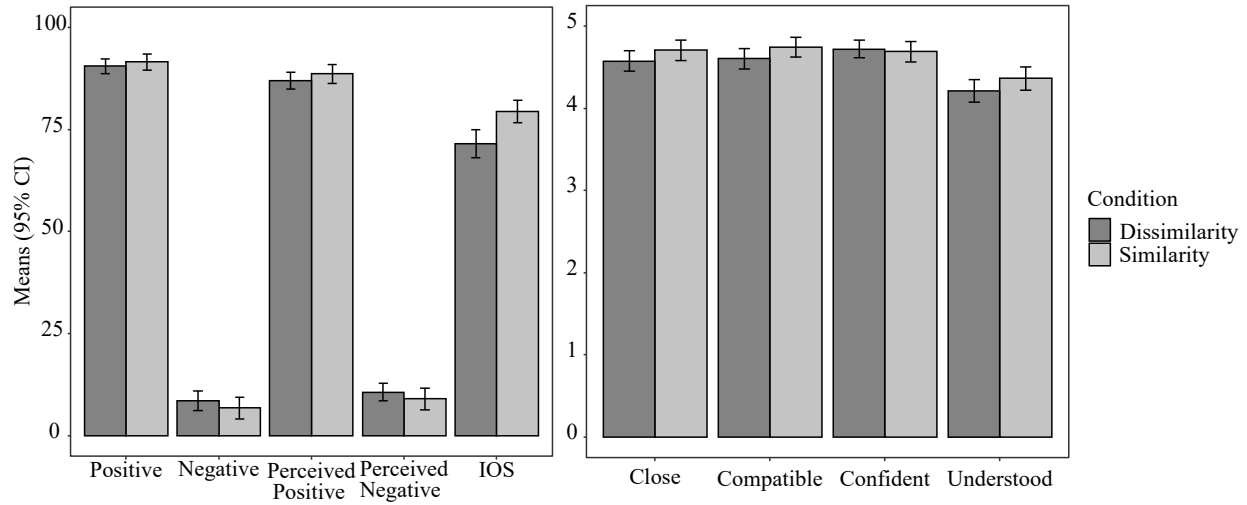
Note. Differences between conditions are all significant at $p < .001$.

3.5.4 Feelings about the Relationship

Participants did not differ as a function of condition in terms of their change in positive feelings about the relationship ($M_{similar} = 0.50$, $M_{dissimilar} = 0.03$), $b = 0.46$, $SE = 0.95$, $p = .627$, $d = 0.06$, change in negative feelings about the relationship ($M_{similar} = -1.02$, $M_{dissimilar} = -0.82$), $b = -0.20$, $SE = 1.77$, $p = .909$, $d = -0.01$, perceived partner positive feelings about the relationship ($M_{similar} = -1.02$, $M_{dissimilar} = -0.82$), $b = 1.80$, $SE = 1.85$, $p = .332$, $d = 0.14$, perceived partner negative feelings about the relationship ($M_{similar} = 8.97$, $M_{dissimilar} = 10.71$), $b = -1.74$, $SE = 2.05$, $p = .396$, $d = -0.12$, change in feeling close and connected ($M_{similar} = 0.19$, $M_{dissimilar} = 0.03$), $b = 0.15$, $SE = 0.12$, $p = .211$, $d = 0.16$, feeling compatible ($M_{similar} = 4.74$, $M_{dissimilar} = 4.60$), $b = 0.14$, $SE = 0.10$, $p = .147$, $d = 0.20$, feeling confident in the relationship ($M_{similar} = 4.69$, $M_{dissimilar} = 4.72$), $b = 0.03$, $SE = 0.09$, $p = .759$, $d = 0.04$, or feeling their partner understands them ($M_{similar} = 4.37$, $M_{dissimilar} = 4.21$), $b = 0.15$, $SE = 0.11$, $p = .170$, $d = 0.18$ (see **Figure 8**). They did report significantly higher IOS scores ($M_{similar} = 79.41$, $M_{dissimilar} = 71.52$), $b = 7.89$, $SE = 2.52$, $p = .002$,

$d = .42$. Additionally, for the subset who did not guess the manipulation, participants in the similarity condition felt they were more compatible with their partner ($M_{\text{similar}} = 4.77$, $M_{\text{dissimilar}} = 4.57$), $b = 0.20$, $SE = 0.10$, $p = .042$, $d = 0.28$.¹³

Figure 8. Feelings about the relationship by condition.



Note. Error bars represent 95% confidence intervals.

3.5.5 Physiological Outcomes

Participants in the similarity condition did not differ in their changes in systolic or diastolic blood pressure from before to after the similarity conversation ($M_{\text{similar}} = -1.87$, $M_{\text{dissimilar}} = -0.93$), $b = -0.95$, $SE = 0.94$, $p = .315$, $d = 0.13$, and ($M_{\text{similar}} = -2.48$, $M_{\text{dissimilar}} = -2.21$), $b = -0.27$, $SE = 0.64$, $p = .677$, $d = 0.05$, respectively. There was no significant difference in IBI either when using a multilevel model with an autoregressive correlation structure to nest time within

¹³ Results were also non-significant when simultaneously loading these measures onto a latent factor of relationship quality in a structural equation model using the “lavaan” package (Rosseel, 2012).

participants and participants within couples¹⁴ ($M_{similar} = -27.87$, $M_{dissimilar} = -22.74$), $b = -5.13$, $SE = 8.17$, $p = .531$, nor when averaging values across the five minutes of data and predicting this average ($M_{similar} = -30.38$, $M_{dissimilar} = -26.10$), $b = -4.28$, $SE = 8.67$, $p = .623$, $d = -0.07$. There was also no significant difference in RSA either when using a multilevel model to nest data within time ($M_{similar} = 0.26$, $M_{dissimilar} = 0.15$), $b = 0.11$, $SE = 0.13$, $p = .388$, nor when averaging values across the five minutes of data and predicting this average ($M_{similar} = 0.24$, $M_{dissimilar} = 0.20$), $b = 0.05$, $SE = 0.13$, $p = .731$, $d = 0.05$. These results held for the subset who did not guess the manipulation, as well as when excluding participants with missing baseline data.

3.5.6 Observed Conversation Behaviors

Neither observed video-coded expressions of similarity beliefs nor complementarity beliefs differed between the two conditions, ($M_{similar} = 1.81$, $M_{dissimilar} = 1.58$), $b = 0.23$, $SE = 0.15$, $p = .123$, $d = 0.26$, and ($M_{similar} = 1.48$, $M_{dissimilar} = 1.70$), $b = -0.22$, $SE = 0.16$, $p = .171$, $d = 0.23$, respectively. Participants in the similarity condition, on average, were coded as expressing the results as being more similar than their expectations, while participants in the dissimilarity condition expressed the results as being less similar ($M_{similar} = 2.84$, $M_{dissimilar} = 3.66$), $b = -0.82$, $SE = 0.12$, $p < .001$, $d = -1.01$. Coded positivity did not differ between the two conditions ($M_{similar} = 3.45$, $M_{dissimilar} = 3.31$), $b = 0.14$, $SE = 0.09$, $p = .137$, $d = 0.24$. Neither did codes for couple-level variables of closeness ($M_{similar} = 3.84$, $M_{dissimilar} = 3.71$), $b = 0.13$, $SE = 0.13$, $p = .321$, $d = 0.18$, conflict ($M_{similar} = 2.13$, $M_{dissimilar} = 1.94$), $b = 0.20$, $SE = 0.14$, $p = .176$, $d = 0.25$, nor time spent talking ($M_{similar} = 4.11$, $M_{dissimilar} = 4.26$), $b = -0.14$, $SE = 0.16$, $p = .360$, $d = -0.17$.

¹⁴ This model doesn't account for the cross-classified structure, such that participants are simultaneously nested within time and within couples. However, correlations between partners across time points are much smaller than correlations between time points (average r 's = .15 and .87, respectively, for IBI and average r 's = .05 and .67, respectively, for RSA), suggesting that accounting for the nested structure within time and couples should account for the majority of variance.

Couples in the similarity condition were, however, rated as being significantly more in-sync than couples in the dissimilarity condition ($M_{\text{similar}} = 3.85$, $M_{\text{dissimilar}} = 3.46$), $b = 0.39$, $SE = 0.13$, $p = .003$, $d = 0.54$.¹⁵

3.5.7 Moderators

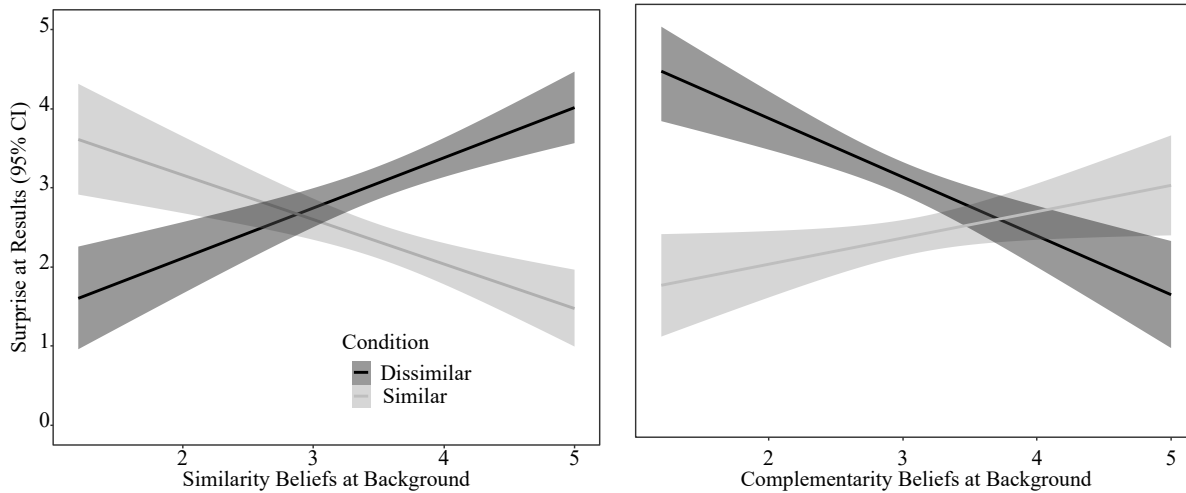
Next, I examined whether the effects of condition on reactions to the feedback differed by beliefs about similarity (i.e., overall similarity beliefs, overall complementarity beliefs, and domain-specific similarity beliefs), observed conversation behaviors, actual similarity at background, and relationship length. Due to the large number of analyses, I only report interaction effects that had $p < .001$ and report the additional results in Appendix K.

3.5.7.1 Overall Similarity Beliefs

Overall beliefs about the importance of similarity significantly moderated the association between condition and how surprised participants felt, interaction $b = 0.95$, $SE = 0.19$, $p < .001$ (see **Figure 9**). Simple slopes analyses revealed that for participants in the similarity condition, holding higher similarity beliefs was associated with perceiving the results as less surprising, $b = -0.42$, $SE = 0.14$, $p < .001$. For participants in the dissimilarity condition, beliefs about similarity were associated with more surprise, $b = 0.53$, $SE = 0.13$, $p < .001$.

¹⁵ When testing change in general overall perceived similarity as the predictor rather than condition, only negative feelings about the results were significantly associated with change in perceived similarity, $b = -0.11$, $SE = 0.06$, $p = .047$. When testing change in domain-specific perceived similarity, results were largely non-significant. Change in perceived demographic similarity was associated with significantly more negative perceived partner feelings about the relationship, $b = -0.12$, $SE = 0.05$, $p = .034$. Change in perceived lifestyle similarity was associated with significantly less surprise, $b = -0.11$, $SE = 0.05$, $p = .024$, expressing the results as being more similar than their expectations, $b = 0.14$, $SE = 0.05$, $p = .011$, and higher video-coded synchrony, $b = 0.19$, $SE = 0.09$, $p = .038$. Change in perceived romantic similarity was associated with a significant increase in negative feelings about one's partner, $b = 0.12$, $SE = 0.05$, $p = .024$. Lastly, change in perceived values similarity was associated with significantly less surprise, $b = -0.13$, $SE = 0.06$, $p = .041$, and more negative perceived partner feelings about the relationship, $b = -0.14$, $SE = 0.06$, $p = .014$. Other associations were non-significant.

Figure 9. Overall similarity and complementarity beliefs moderating the associations between condition and surprise at results.



3.5.7.2 Overall Complementarity Beliefs

Overall beliefs about the importance of complementarity significantly moderated the association between condition and how surprised participants felt, interaction $b = -0.82$, $SE = 0.22$, $p < .001$ (see **Figure 9**). Simple slopes analyses revealed that for participants in the similarity condition, holding higher complementarity beliefs was not associated with surprise at the results, $b = 0.27$, $SE = 0.16$, $p = .088$. For participants in the dissimilarity condition, complementarity beliefs were associated with less surprise, $b = -0.55$, $SE = 0.15$, $p < .001$.

3.5.7.3 Observed Expectations

Observed expressions comparing the feedback to participants' expectations significantly moderated participants' reactions to the feedback. Expectations moderated perceived accuracy of the feedback, $b = 1.23$, $SE = 0.18$, $p < .001$, such that for participants in the dissimilarity condition, the more similar participants expected the results to be, the less accurate they perceived the results, $b = -0.97$, $SE = 0.13$, $p < .001$. Expectations were not associated with accuracy in the similarity condition, $b = 0.26$, $SE = 0.13$, $p = .049$. Expectations also moderated

surprise at the feedback, $b = -2.29$, $SE = 0.22$, $p < .001$, such that for participants in the dissimilarity condition, the more similar participants expected the results to be, the more surprising they perceived the results, $b = 1.38$, $SE = 0.15$, $p < .001$ and for participants in the similarity condition, the more similar participants expected the results to be, the less surprising they perceived the results, $b = -0.90$, $SE = 0.15$, $p < .001$. However, as expressed expectations and condition were associated, and values for expressed expectations did not cover the full 1 to 5 range in each condition (e.g., no participants in the dissimilarity condition expressed that the results were much more similar than they expected), these results should be interpreted with caution.

3.5.7.4 Other Moderators

Neither domain-specific similarity beliefs, observed similarity beliefs, observed complementarity beliefs, observed positivity, observed closeness, observed synchrony, observed time spent talking, actual similarity at background, nor relationship length moderated the association between condition and any relevant outcome.

3.6 Discussion

These experimental results provide partial evidence for the causal effect of perceived similarity on relationship outcomes in established romantic couples. This study provides robust evidence that couples feel more negatively about feedback indicating dissimilarity compared to feedback indicating similarity. Additionally, participants felt greater overlap in their sense of self with their partner when receiving high similarity feedback; this study also provides tentative evidence that perceived similarity may affect relationship quality depending on beliefs about similarity and acceptance of the feedback.

This study supported hypothesis (a), that couples in the dissimilarity condition would report more negative feelings about the feedback and partial evidence for hypothesis (b), that couples in the dissimilarity condition more negative feelings about the relationship than those in the high similarity condition. While there is robust evidence that participants in the higher perceived similarity condition perceived the results as more accurate, less surprising, more positive, and less negative than those in the lower perceived similarity condition, there were no differences between conditions in change in positive or negative feelings towards one's partner, perceived partner positive or negative feelings, feelings of closeness and connection, confidence in one's relationship, nor feeling understood by one's partner. However, participants felt greater overlap in their sense of self with their partner in the similarity condition, as well as greater perceptions of compatibility with their partner in the subset that did not guess the manipulation.

These results did not support hypothesis (c), that beliefs about similarity would moderate the effect of condition, such that these associations would be stronger for participants who believed that similarity is more important and stronger for participants who believed complementarity is less important. However, participants in the dissimilarity condition did find the feedback more surprising when they held higher similarity beliefs and lower complementarity beliefs.

These results supported hypothesis (d), that actual similarity would not significantly predict these outcomes. Our exploratory analyses revealed no physiological effects of perceived similarity nor evidence of moderation by actual similarity or relationship length. There was also no robust evidence of conversational behaviors moderating these effects, though participants in the dissimilarity condition who expressed that the results indicated they were less similar than

they would have expected also perceived the feedback as being less accurate and more surprising.

Though there were not robust differences in feelings about the relationship, our manipulation of similarity was one-off, and—while effective in changing participants’ perceptions of similarity—may not adequately capture the repeated interactions couples have over months and years that form their perceptions of similarity and subsequently their feelings about their partner. The lack of significant effects could also be due to insufficient power. Though we based the initial power analyses off of the association between perceived similarity and relationship satisfaction in cross-sectional work, the effect of experimentally manipulated similarity on relationship quality is likely smaller. This may be especially true for analyses with physiological and video-coded outcomes due to missingness in the data, as well as moderations due to increased power necessary to detect interaction effects. Therefore, the main effect of condition on feelings about one’s relationship, though nonsignificant in this study, may capture consistent effects that are too small to detect with the current sample size. There is some evidence of this, as the effects of condition on feelings about one’s relationship, while non-significant, were all in the hypothesized direction, ranging from 0.01 to 0.20 (average $d = 0.11$). This aligns with previous cross-sectional literature (e.g., Montoya et al., 2008), which suggests that perceived similarity is associated with more positive feelings about the relationship. Therefore, the effects shown in this study may demonstrate small but meaningful effects that influence relationships over longer periods of time. Tracking couples over longer periods of time would allow me to see whether there are lasting effects of perceived similarity, as well as the ways that these perceptions are reinforced over time.

Though there is evidence that expressions of how the results compared to participants' expectations may partially explain the effect of similarity beliefs and condition on positive feelings towards one's partner, I could not directly compare participants' expected level of similarity to the feedback. In the background survey, I asked participants how similar they felt they and their partner were on a scale from 0 to 100, but the feedback provided participants with a percentile indicating how similar they were *compared* to other couples. I did this intentionally to increase the believability of the manipulation, such that participants could not check whether the feedback was correct (e.g., if we told participants they were 29% similar, they could retrospectively review the survey questions, compare their answers, and realize that they actually had more than 29% answers in common). Since I do not have self-reported expected percentiles, I approximated how much/less similar participants expected the feedback to be based on video-coded expressions. 91.9% of participants whose videos were coded verbally expressed how the results compared to their expectations, with 14.8% expressing that the results were more similar than they had expected, 44.3% expressing that the results met their expectations, and 40.9% expressing the results were less similar than they had expected. However, these codes did not provide granular differences in expectations (e.g., whether a participant expected to be more similar than an additional 10% of couples or an additional 60% of couples). Additionally, high correlations with condition made it difficult to determine whether these expectations moderated the effect of condition.

Moreover, this sample was largely long-term committed couples who were highly satisfied (couples coming into the lab reported feeling an average of 90.75 out of 100 positivity toward their partner), and therefore feelings about their partner may be fairly stable and high. Couples were also highly homogenous in their levels of actual similarity, with 95% of couples'

scores between $r = .14$ and $.18$. Focusing on more distressed populations may be a particularly fruitful avenue for future research, as these couples may provide greater variability in levels of actual similarity, as well as providing a target for interventions aimed at increasing relationship outcomes. In particular, couples counseling could apply findings from this research to help couples increase perceived similarity or to employ effective beliefs about similarity when facing evidence of dissimilarity.

This sample was also fairly homogenous in other ways, being made up of mainly white, highly educated individuals in primarily monogamous, same-race, different-gender couples. The current research may not be generalizable beyond these populations, and more research on diverse relationships is necessary to understand the dynamics of these couples. For example, similarity may operate very differently in interracial or same-gender couples for whom similarity (or dissimilarity) may be more readily assumed by onlookers and for whom similarity in certain identities may be more or less important to their feelings of connection.

Overall, this study provides evidence that perceptions of similarity—which can be manipulated even in long-term, committed couples—have important implications for relationships, with evidence of dissimilarity prompting negative reactions in recipients. Moreover, this work suggests that beliefs about similarity and complementarity inform these reactions, suggesting the importance of both individuals' perceptions of similarity in their relationships and their beliefs about the importance of similarity.

Chapter 4 Discussion

Decades of research on similarity between romantic partners has provided robust evidence demonstrating the link between perceived similarity and romantic relationship quality. However, little is known about the dynamics of how perceived and actual similarity develop and affect relationships over time. In this dissertation, I explore the role of similarity in romantic relationships in two studies spanning diverse methods and relationship phases. These studies underscore the importance of perceived similarity, but not actual similarity, for romantic interest during relationship initiation and its potential to influence feelings in committed couples.

The first study was a preliminary analysis of data from dating app users, collected from a novel dating app designed by the author and other researchers to track the processes of relationship initiation. Users espoused higher similarity beliefs than complementarity beliefs and cited similarity across different domains as reasons for their interest or lack of interest in potential partners. Additionally, perceptions of similarity appear to be highly related to romantic interest at different points in the relationship initiation process from initially matching to meeting in-person, while the correlations between actual similarity and romantic interest were weaker at all time points. These results echo prior findings that people show interest in more similar profiles both in experimentally-generated dating app profiles (e.g., De La Mare & Lee, 2023) and pre-existing dating apps (e.g., Levy et al., 2019) but extend these findings by demonstrating that these patterns are also present in real dating apps that do not use algorithms (and specifically do not use similarity) as a basis for matching potential profiles. Moreover, this study provides initial

insight into the ways that *perceived* similarity and romantic interest may co-develop in the period between initial matching and dating.

The second study was an experimental manipulation of perceived similarity among established romantic couples. This study—the first to my knowledge to experimentally manipulate overall perceptions of similarity in established relationships—showed robust evidence that couples reacted more positively to feedback indicating they were more similar than a majority of other couples rather than feedback indicating they were less similar than a majority of other couples. Again, perceived similarity, not actual similarity, was associated with more positive feelings towards one's relationship. Additionally, participants in the dissimilarity condition reacted more negatively to the feedback. Though there was not consistent evidence indicating a direct effect of the manipulation on feelings about the relationship, surprisingly, participants in the similarity condition with stronger similarity beliefs actually *decreased* in positive feelings towards their partner. Follow-up analyses suggested this may be partially explained by participants with high similarity beliefs expecting to be more similar than even 79% of other couples; however, future research should explore these effects with more granular measures.

These studies provide evidence of the importance of perceived similarity—and underscore the lack of an effect for actual similarity—in determining how people feel at different points in their romantic encounters. They also demonstrate that people have variable beliefs about similarity, with endorsement of both similarity and, to a lesser extent, complementarity being important for relationships. Study 2 specifically suggests that these beliefs may be flexible (such that people's expressed beliefs after receiving feedback did not neatly correspond to their self-reported beliefs prior to receiving this feedback) and may influence the way that people

receive evidence of dissimilarity or similarity. These studies suggest that bolstering perceptions of similarity may have important effects on both relationship initiation and quality, with wide-ranging implications for dating apps and couples' counselors who may want to bolster perceptions of similarity among clients.

These studies took a multimethod approach to studying perceived and actual similarity in romantic relationships, including utilizing a novel data collection method; gathering physiological, self-report, and observational data; and studying participants across the relationship lifespan. Nonetheless, these studies had limitations as well. Both of these samples were highly educated, and Black/African American and Hispanic/Latinx individuals specifically were underrepresented in both studies. Moreover, a majority of participants were heterosexual and in or looking for exclusive relationships, giving us limited insights into how similarity might operate for sexual minorities. In addition, these studies both have samples with fairly high actual similarity. In Study 1, all potential partners were current University of Michigan students, constraining matches to a high baseline level of similarity in terms of location and educational achievement, as well as relatively little variability in age and other demographics. In both studies, operationalizations of actual similarity were also high, with no extremely dissimilar couples present in either sample. This may accurately reflect trends of homogamy, which are high in established relationships (Epstein & Guttman, 1984; Luo, 2017; Vandenberg, 1972), but future work across different cultural and socioeconomic contexts could reveal different trends.

Future research should explore the interpersonal and intrapersonal processes that shape people's perceptions of similarity with others—both in early relationship formation and in established couples. Study 1 demonstrated that perceptions of similarity are linked at different

moments in the relationship initiation process; however, it did not investigate the specific qualities of dating app profiles, messaging, or in-person interactions on dates that may sway these perceptions. Study 2 attempted to simulate the inevitable moments in relationships when partners are faced with surprising evidence of dissimilarity. In all romantic relationships, partners have some degree of difference, and this work demonstrates that confronting and dealing with these differences may produce negative feelings. Successful couples may develop unique ways to work around or reframe these dissimilarities, and future work should explore mechanisms beyond those explored in the current analyses. Additionally, while it was not feasible to give specific feedback on areas or facets of similarity in Study 2, this may be how similarity feedback is encountered in real life. In other words, I told participants their overall similarity but did not suggest domains or specific items in which they differed. In the real world, couples may be far more likely to receive information about a specific area of dissimilarity (for example, discovering that your partner is much messier than you when you move in with them or realizing that your partner has a different view on a particular political topic) than an overall impression of similarity across domains. Future work could try to dig into the day-to-day ways in which couples encounter surprising information about similarity with their partner through daily diary or retrospective accounts. Moreover, longitudinal work is needed to identify whether perceived similarity merely affects momentary feelings or has lasting effects on one's relationship quality over time. As Study 2 was cross-sectional and Study 1 focused on a relatively limited timeline (i.e., from first matching to going on a first date), future work taking a more long-term view could elucidate the way that similarity operates in the development and maintenance of relationships over time.

Additionally, though Study 2 attempted to consider individual differences such as beliefs about similarity and relationship length, there may be other individual differences in the type of perceived or actual similarity that matters for people. Work around compatibility tends to take a nomothetic approach—focusing on identifying variables that predict relationship success for all—but it may be that the effect of similarity is idiographic, such that the types of similarity that matter for each person or couple differ in ways that are not systematically captured in the current literature. For example, political alignment may be important for one person’s relationship quality, while for another person similarity in communication style may be more salient. Future work could provide more nuanced explorations of the types of similarity that matter for individuals’ relationship outcomes, especially through methods like machine learning techniques.

The results of the current research, as well as additional work exploring these questions, has important potential consequences. Most notably, this work can inform dating app algorithms that often utilize similarity as a benchmark for compatibility. As these algorithms are currently set up, many users who are well-suited for long-term romantic success may not be paired due to ideas about the importance of actual similarity. Rather, this research suggests that dating apps may be more successful by facilitating perceptions of similarity. For example, apps could automatically highlight areas of commonality in a potential partner’s profile. Additionally, this work suggests that interventions to increase perceived similarity may help facilitate positive feelings and closeness in established relationships. Future work could explore other potential interventions (such as keeping a daily journal of examples of similarity with one’s partner) that may bolster these perceptions even more strongly in existing couples. This type of work would also bypass problems with deception in this study; although I tried to account for any participants

who expressed suspicion about the manipulation, participants who did not verbally express this suspicion may still have had misgivings about the manipulation and may not have fully internalized the results as they would outside the lab.

Overall, these studies provide important insight into the decades-long study of similarity in romantic relationships, answering questions about the development of perceived similarity and romantic interest and the causal effects of perceived similarity in established relationships. These studies underscore prior findings highlighting the influence of perceived rather than actual similarity on romantic relationship outcomes in both initial attraction and established relationships and expand on this work by identifying similar trends in early relationship initiation as well as exploring the causal role of perceived similarity in established relationships. This work has the potential to provide important insight into the determinants of romantic attraction and compatibility and to influence real-world applications such as dating apps and matchmaking algorithms.

Appendices

Appendix A: Definitions of Statistical Methods Used to Measure Similarity

Statistical Method	Definition	Example	Variations
Matching	Comparing between a group of matched couples (who are similar or the same on an attribute) and a group of unmatched couples.	Do divorce rates differ between interracial and same-race couples? (Feng et al., 2012)	When the characteristic being compared is continuous instead of categorical, the continuous variable can be dichotomized through methods such as difference scores (e.g., couples whose scores differ by 3 or less are considered matched and couples whose scores differ by more than 3 are considered unmatched), cluster analysis (e.g., categorizing individuals into groups using factor/class analysis), or median split (e.g., individuals with scores above the median are considered high and scores below the median are considered low).
Difference Score	Subtracting one partner's score from the other partner's score on a continuous variable.	Is lower relationship satisfaction associated with greater differences in personality? (Nemeczek & Olson, 1999)	The absolute value of a difference score can also be taken to provide the absolute difference score.

Profile Similarity	Measures that capture the extent to which two profiles (i.e., partners) match across a range of characteristics.	Is profile similarity across various character strengths associated with relationship quality? (Brauer et al., 2022)	Forms of profile similarity include a couple-centered Pearson product-moment correlation (e.g., Guest et al., 2021), double-entry intraclass correlation (a Pearson correlation on double-entry data which captures similarity in both profile and shape; Griffin & Gonzalez, 1995), coefficient of profile agreement (r_{pa} ; calculation based on the sum of squares of the distance between profile elements and the extremeness of their means; (McCrae, 1993), and the D-Index (the sum of the squared deviations of corresponding scores; Cronbach & Gleser, 1953).
Self-Reported	Participants self-report their (perceived) similarity to their partner.	Are self-reported perceptions of similarity in spirituality associated with marital satisfaction? (Hatch et al., 1986)	
Actor-partner interaction effects	Modeling the interaction of the actor variable and partner variable in an actor-partner interaction model, with a significant interaction indicating highest outcomes when both partners are high or both partners are low indicating a similarity effect.	Do actor-partner interactions for sociosexuality predict commitment? (Markey & Markey, 2013)	
Dyadic Response Surface	A technique for modeling the combination of two partners scores that	Is similarity in partners' work-family centrality associated with marital	

Analysis (DRSA)	predict the optimal outcome variable and which looks at similarity, among other qualities (such as extremity of values) to determine this (Schönbrodt et al., 2018)	satisfaction? (Xie et al., 2017)	
Amount shared	In a list of items, counting the number shared between the partners.	Do partners sharing a higher number of roles predict relationship satisfaction? (Cheon & Yrani, 2018)	Amount shared can be a raw count (e.g., three items shared) or a percentage (e.g., three items shared out of 20 total items indicating 15% shared).
Comparison Between Outcome Groups	Calculating a measure of similarity (usually a correlation coefficient) separately for different groups based on relationship outcomes.	Does the correlation between partners' self-reported psychological needs differ between couples with high marital adjustment and couples with low marital adjustment? (Meyer & Pepper, 1977)	
Euclidean Distance Scores	Square root of the sum of squared differences for two variables.	Do differences in partners' self-reported humor appreciation predict marital dissatisfaction? (Priest & Thein, 2003)	
Similarity Moderated by Outcome	Relationship quality moderating the similarity association between two variables (e.g., between an actor's self-report and their perception of their partner)	Does relationship satisfaction moderate the assumed similarity bias in individuals' judgments of their partner's sense of humor? (Purol & Chopik, n.d.)	
Spearman's Rho	A correlation indicating similarity in rank order between two variables	Is similarity in meta-attitudinal prioritization of controversial topics associated with relationship closeness? (Duyssen & Teske, 1993)	

Within-Couple Variance	Using mixed-level models to estimate relationship outcomes as predictors of within-couple variance	Is within-couple cardiometabolic variance associated with relationship closeness? (Wilson et al., 2020)
Observer Coding	External coders rate how similar the two partners seem	Is similarity in goals expressed by couples in a lab session, as coded by observers, associated with participants' self-reported closeness and satisfaction? (Riediger & Rauers, 2010)
Experimental Condition	Experimentally manipulating (perceived) similarity and comparing relationship outcomes across conditions	Do couples who are told they have similar values report higher relationship satisfaction than the control condition? (Auger et al., 2016)
Partial Correlation	Regressing the actor self-report onto the actor report of partner partialing out the partner self-report	Does perceiving one's partner as more similar to the self than they actually are predict marital satisfaction? (Luo & Snider, 2009)

Appendix B: Study 1 Consent Form

University Of Michigan Consent to Be Part of a Research Study

1. Key Information About the Researchers and This Study

Study title: WHIRLab Dating App

Principal Investigators: Amie M. Gordon, PhD, & Elizabeth E. Bruch, PhD, University of Michigan

Co-Investigators: Annika From, Savannah Adams, Emily Diamond, Tatum Jolink, University of Michigan

Study Sponsor: Michigan Institute for Data Science

You are invited to take part in a research study. This form contains information that will help you decide whether to join the study.

1.1 Key information

Things you should know: The purpose of the study is to track individuals as they make dating decisions and form relationships to better understand relationship formation processes, such as compatibility. If you choose to participate, you will create a dating profile and select potential dating partners from a pool of participants. You will be given the opportunity to send messages in the app to people you select who select you as well (i.e., “matches”). You will also be asked to complete surveys about yourself and your dating experiences before you begin viewing profiles and on a regular basis throughout your use of the app. You will be able to view Insights about your dating behavior. Risks or discomforts from this research: Completing surveys includes the possibility of being asked sensitive questions about your personal and dating life and history.

You may opt out of answering any questions that make you uncomfortable and still participate in this research study. Your participation in this study will not be confidential. If you participate in the study, your profile information will be shown to other participants who are potential matches. You can identify students via username who should be blocked from seeing your profile. If you use in-app messaging with matches in the app, you may be sharing and receiving sensitive and personal information. Meeting with someone you met through the app includes the possibility of an uncomfortable social interaction, and even sexual harassment, as is inherent in any in-person dating experience. Personal insights might reveal information that makes you feel uncomfortable, such as if you discover that the people you actually indicate interest in are different from the type of person you say you are interested in dating. You can choose not to view these insights. The direct benefits of your participation are the potential to meet new romantic relationship partners and to learn more about your dating behavior and the dating behavior of other UM students. Taking part in this research project is voluntary. You do not have to participate and you can stop at any time. Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

2. Purpose Of This Study

The purpose of this study is to better understand how people make, form, and maintain relationships. For example, data collected from this study will help us understand how different individual differences, such as personality or demographic characteristics, shape people's dating decisions and the formation of long-term relationships. As another example, this study will also allow us to understand how factors such as people's expectations about social interactions influence their dating experiences. We will also be able to learn more about what makes two people compatible and likely to form a long-term relationship after meeting online.

3. Who Can Participate in the Study

3.1 Who can take part in this study?

Anyone who is registered as a current undergraduate or graduate student at the University of Michigan and is at least 18 years of age.

4. Information About Study Participation

4.1 What will happen to me in this study?

If you choose to join this study, you will: 1) Log into the app using the Shibboleth secure login. 2) Verify your student status, U-M Campus affiliation and age. 3) Create a profile that includes photos and information about yourself. These photos and information will be saved and used as data. 4) Provide your gender and desired match information (e.g., gender and U-M campus affiliation of people whose profiles you would like to see). 5) Be given the option to identify any students who should not be able to view your profile. 6) Complete a series of questions about yourself and your relationship experiences. You must complete these surveys before you are able to use the app. 7) Be provided with the option to use additional filters on your potential pool of matches (e.g., age, program of study). The categories you use to filter may change over the course of the study, and there may be times when you are not able to use these additional filters. 8) Be provided with the profiles of potential matches and have the option to select yes, no, or I don't know (show me later) on each profile. There may be limits placed on how many profiles can be viewed in a day or how many profiles you can select "yes" for. These limits may change over the course of the study. You can also choose to block a profile so that that person will not see your profile. 9) When you select "yes" to a profile, that participant will later be shown your profile (if it has not already been shown to them). If you both select yes, then you will be notified that you have a match. There may be limits placed on number of matches you can have at a time. These limits may change over the course of the study. 10) Once you have a match with someone, you will be able to see their profile and can message them via in-app messaging. You are not required to use the in-app messaging to participate in the study. 11) Your participation will end when you stop being a U-M student, withdraw from the study, or the study ends.

Additional information about study participation: All aspects of this study will take place completely online through the app. When using the app, you may receive notifications inviting you to participate in additional online or in-person studies. You may opt in or out of any of these invitations. While participating in this study you are NOT required to solely date partners found through this app. You may continue to date outside of this dating app. However, you must participate in this study in order to use the dating app. You are not required to communicate, message, or date with any matched individuals. You may stop communication with them through the app at any time. You may also choose to communicate with them outside the app at any time,

recognizing the risks inherent in online and in-person social interactions. As a reminder, we will not be monitoring or reporting any inappropriate behavior that occurs between participants as part of this study. If you have an uncomfortable experience with someone you meet through this study, whether it occurs inside or outside of this app, you should report it using the resources available through the University of Michigan (a link will be provided for you in the app). In the initial version of the app, matching will be based on student status, own and preferred partner gender and U-M campus. However, using information participants provide about themselves and their dating experiences, we may develop and test other matching algorithms that use additional matching criteria. You may not be informed when the matching algorithm changes and different participants may be assigned to different matching algorithms in order to test their efficacy. Profiles may be prioritized for viewing based on app behavior in order to ensure that people are viewing profiles of other participants who are also active on the app. For example, people who have been actively swiping in the past week may have their profiles prioritized over people who have not had any swiping behavior in the past week. We may change how we prioritize profiles based on the data we gather from the dating app.

4.2 How much of my time will be needed to take part in this study?

Initial onboarding surveys may take up to 30 minutes; other surveys sent to you through the app may take anywhere from 1-20 minutes per survey. Additional time spent in the study is up to you and will depend on your app usage (i.e., how often you use the app to look at potential partners, message with matches, etc.). This study is ongoing and may last only a few months or many years depending on study funding.

5. Information About Study Risks and Benefits

5.1 What risks will I face by taking part in the study? What will the researchers do to protect me against these risks?

As noted in Section 1, the risks or discomforts from this research are: You will be asked questions about your dating life and history including questions about sexual behavior and drug/alcohol use. You may opt out of answering any questions that make you uncomfortable and still participate in this research study. Your participation in this study will not be confidential. If you participate in the study, your survey responses will not be shared with other participants, but your profile information will be shown to other participants who are potential matches. This means that potential matches who view your profile will have access to all of your profile information and can show it to others. You can identify students via username who should be blocked from seeing your profile. This means that your username may be identified by other participants and retained as part of the study, even if you are not participating. If you use in-app messaging with matches in the app, you may be sharing and receiving sensitive and personal information. This means that any matches that you message with can show those message threads to others. It also means there is the possibility of receiving inappropriate messages that may make you uncomfortable, including being harassed via messaging. However, these risks are no greater than the risks of interacting with strangers on other dating apps or in person. You may choose to remove someone from your list of matches if you no longer want to receive messages from them in the app. Meeting with someone you met through the app includes the possibility of an uncomfortable social interaction, and even sexual harassment, as is inherent in any in-person dating experience. Importantly, given that data are not monitored in real time, the study team will not be able to report inappropriate behavior you might experience as a result of participating in this study. All of your app usage data (including profile information, swipes, in-app messages)

and survey responses will be collected by the researchers and stored in secure university-approved data storage. Given that your data may include identifiable (e.g., your picture, name) and sensitive information (e.g., drug and sexual history), all data will be treated as sensitive identifiable data. Please see the section on Protecting and Sharing for information on how we will protect your data. Personal insights might reveal information that makes you feel uncomfortable, such as if you discover that the people you actually indicate interest in are different from the type of person you say you are interested in dating. You can choose not to view these insights. See Section 8 of this document for more information on how the study team will protect your confidentiality and privacy.

5.2 How could I benefit if I take part in this study? How could others benefit?

You might benefit from being in the study by meeting new people and potentially meeting a romantic partner. You might benefit from the personal insights about your dating behavior. In addition, others may benefit from the knowledge gained from this study.

6. Ending The Study

6.1 If I want to stop participating in the study, what should I do?

If you want to leave the study, you may close your account and delete the app. If you decide to leave the study, there will be no penalty to you. When you withdraw from the study, you will be asked why you are leaving the study, and these reasons may be kept as part of the study record. As this is an ongoing study, you can choose to join it again at any time by re-downloading the app and re-consenting. Should the research team receive reports about a participant's inappropriate behavior on the app or with someone they met through the app, the research team may block that participant's access to the app. The researchers will keep the information collected about you for the research. That is, any data that has already been collected will be retained by the researchers, but there will be no future data collected once you delete your account. If the app needs to shut down (e.g., no more funding) you will receive a warning in the app notifying you that the app will be shutting down, with lead time before it shuts down. When you are no longer a student at U-M, you will retain access to an "archived" version of your app data (chats, information about current matches) but will no longer be able to access the pool of potential matches.

7. Financial Information

7.1 Will I be paid or given anything for taking part in this study?

You will not receive monetary compensation for participating in the study. However, to recognize the time you may take to complete surveys and otherwise engage in this study, we may hold drawings and enter you into the drawing if you qualify. For example, we may hold drawings based on people's completion of in-app surveys. We may also hold drawings for participants who are matched and would use the prize together (e.g., gift certificate to a local restaurant) as part of a "first date." When we are going to conduct a drawing, we will post information about the date of the drawing, qualifications for entry, the prize, and how many prizes will be awarded, on the study website (www.reveldating.com) and send a notification through the app.

8. Protecting And Sharing Research Information

8.1 How will the researchers protect my information?

We will protect your information by securely storing it on U-M maintained servers and computers. We will replace your name and any other identifier with a unique ID. The key linking

the unique ID and your identifiers will be retained in a separate file. We will use usernames for student status verification and identifying students who need to be blocked from viewing a participant's profile. Usernames will not be linked to your data. Potentially identifiable data that could include your profile information and in-app messages will be stored separately from other data. At the completion of the study, usernames and the key linking identifiers to the unique IDs will be destroyed. In addition, in-app messages will be scrubbed to remove any identifiable data (e.g., name, email address, phone number, address) prior to being used for data analysis or shared with collaborators.

8.1.1 Special Protections

This research holds a Certificate of Confidentiality from the National Institutes of Health.

This means that we or use or that may identify you in any action or suit This state, or local civil, criminal, administrative, legislative or other legal proceedings. An example of a situation in which the Certificate would apply would be a court subpoena for research records.

There are some important things that you need to know: The Certificate does not stop reporting or information-sharing that you agree to in this consent document. For example, we may share information with appropriate authorities if we think you may harm yourself or others. We may also share your information with other researchers. However, we will not be monitoring the dating app data in real time. We may also release information about you to others when you say it is okay. For example, you may give us permission to release information to insurers, medical providers, or anyone else. The Certificate of Confidentiality does not stop you from personally releasing information about your involvement in this research if you wish. More information about Certificates of Confidentiality and the protections they provide is available at

<https://grants.nih.gov/policy/humansubjects/coc/what-is.htm>

8.2 Who will have access to my research records?

There are reasons why information about you may be used or seen by the researchers or others during or after this study. Examples include: University, government officials, study sponsors or funders, auditors, and/or the Institutional Review Board (IRB) may need the information to make sure that the study is done in a safe and proper manner. Researchers involved in the study will access your information for research purposes.

8.3 What will happen to the information collected in this study?

We will keep the information we collect about you during the research for study recordkeeping and for future research projects. All data will be retained indefinitely for future research, with the exception of usernames, which will be destroyed when the study is completed, along with the key linking usernames to the unique IDs used to code the data. Most of the information that may be used or shared will be coded, meaning that it may not be used to directly identify you.

However, some information will be collected and retained indefinitely that may be tied to your identity: 1. Information from your profile and in-app messages may be associated with your identity if you provide us with identifying information (e.g., profile picture of your face, an email address or phone number provided through in-app messaging). This data will be stored in separate data tables from other types of data and identifiable information in the in-app messages (names, email addresses, phone numbers, addresses) will be scrubbed from the data used in data analysis.

8.4 Will my information be used for future research or shared with others?

With the exception of your username, which will not be shared, all information collected about you may be used for future research. We will scrub the in-app messages of any identifying information before sharing that data. It may be shared with individuals who collaborate with the

research team and will be used solely for research purposes. We will not ask for you to provide additional consent to use your data for future research. The researchers may contact you through the app to invite you to participate in additional research studies. Your data will not be shared or used for non-research purposes. The results of this study could be published in research articles or presentations, including information from your profile or in-app messages, but will not include any information that would let others know who you are.

8.4.1 Special Requirements

Although there are no current plans to do so, we may choose to put the information we collect from you into a publicly-accessible data repository. The repository contains information about many people. Only coded information will be included in the repository. Identifying information from your profile or in-app messages will not be posted publicly.

9. Contact Information

Who can I contact about this study? Please contact the researchers listed below to:

- Obtain more information about the study
- Ask a question about the study procedures
- Report an illness, injury, or other problem (you may also need to tell your regular doctors)
- Leave the study before it is finished
- Express a concern about the study

Email: amiemg@umich.edu

Phone: 734-763-2092

If you have questions about your rights as a research participant, or wish to obtain information, ask questions or discuss any concerns about this study with someone other than the researcher(s), please contact the following:

University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board (IRB-HSBS)

2800 Plymouth Road Building 520, Room 2144

Ann Arbor, MI 48109-2800

Telephone: 734-936-0933 or toll free (866) 936-0933

Fax: 734-936-1852

E-mail: irbhsbs@umich.edu

You can also contact the University of Michigan Compliance Hotline at 1-866-990-0111.

10. Your Consent

Consent/Assent to Participate in the Research Study

By clicking 'I agree,' you are agreeing to be in this study. Make sure you understand what the study is about before you click the button. If you would like to keep a copy of this consent for your records, please click the 'download consent' button below to download a copy. If you have any questions about the study after you consent, you can contact the study team using the information in Section 9 provided above.

I understand what the study is about and my questions so far have been answered. I agree to take part in this study.

Appendix C: Study 1 Actual Similarity Measures

*Questions not used in the actual similarity calculations (due to incomplete completion, limited variation, or a high number of categorical variables) are italicized.

Education

1. *What is your current program level?*
 - a. *Bachelor's Degree*
 - b. *Bachelor's with 5th year Master's Degree*
 - c. *Master's Degree*
 - d. *Law Degree*
 - e. *Medical Degree*
 - f. *PhD*
 - g. *Other*
2. What is your current class standing?
 - a. Freshman (first year)
 - b. Sophomore (second year)
 - c. Junior (third year)
 - d. Senior (fourth year)
 - e. Master's (fifth year)
3. What is your current year in your graduate studies?
 - a. First year
 - b. Second year
 - c. Third year
 - d. Fourth year
 - e. Fifth year
 - f. Sixth year
 - g. *Not listed*
4. *What is the highest level of schooling you intend to complete?*
 - a. *Bachelor's Degree*
 - b. *Master's Degree*
 - c. *Law Degree*
 - d. *Medical Degree*
 - e. *PhD*
 - f. *Other degree*
5. *What is your intended major? OR What is your field of study?*
6. What is your GPA?
7. *Where do you live?*
 - a. *Dorm*
 - b. *Fraternity/sorority housing*

- c. *Co-op housing*
- d. *Other on-campus housing*
- e. *Apartment or house off-campus*
- f. *With parents*
- g. *Other*

Relationship Beliefs and Preferences

8. What type of relationship are you looking for?
 - a. Figuring out my relationship goals
 - b. Friendship
 - c. Queer platonic relationship
 - d. Hook-ups
 - e. Casual dating
 - f. Short-term relationship
 - g. Long-term relationship
 - h. *Other*
9. If I met the right person now, I'd like to be in a committed relationship.
 - a. Yes, very much so
 - b. Yes, I think so
 - c. No, I think not
 - d. No, very much not
 - e. *I already am in an exclusive relationship*
10. Do you want to get married (or have a long-term committed relationship) in the future?
 - a. Yes, I definitely want to someday
 - b. Maybe, I might like to someday
 - c. No, I do not want to
 - d. *I am currently married or in a long-term committed relationship*
 - e. *Don't know*
11. Do you have children?
 - a. *Yes*
 - b. *No*
12. Do you want to have children (or more children) in the future?
 - a. Yes
 - b. Maybe
 - c. No
13. *How old would you ideally like to be when you have children (or more children)?*
14. *How many children do you want?*
15. *How do you envision that your children will be cared for?*
 - a. *I will stop working and stay at home with them when they are young*
 - b. *My partner will stop working and stay at home with them when they are young*
 - c. *My partner and I will work part-time and share childcare*
 - d. *My partner and I will both have careers, and we'll use childcare during work hours*
 - e. *Don't know*
16. Are you open to a non-monogamous relationship?
 - a. Yes, I'm looking for something non-monogamous

- b. Maybe, I'm potentially interested in something non-monogamous
 - c. No, I'm only interested in something monogamous
 - d. *Other*
17. Please indicate the extent to which you agree with each statement (NA = I don't want to be in a romantic relationship, 1 = strongly disagree, 5 = strongly agree)
- a. I currently want to be in a romantic relationship because being in a relationship is personally important to me
 - b. I currently want to be in a romantic relationship because being in a relationship is fun.
 - c. I currently want to be in a romantic relationship because I feel lonely when I'm alone.
18. Please indicate the extent to which you agree with each statement (1 = strongly disagree, 5 = strongly agree)
- a. In general, I am satisfied with being single.
 - b. To last, a relationship must seem right from the start.
 - c. It takes a lot of time and effort to cultivate a good relationship.
 - d. It is important to me to click with a potential romantic partner when I meet them for the first time.
 - e. The more similar you and your partner are, the easier your relationship will be.
 - f. People who are seemingly opposites often have the best chemistry.
 - g. I worry that others won't care about me as much as I care about them.
 - h. I find it easy to depend on romantic partners.
 - i. In a new romantic relationship, I would try to share many fun and meaningful experiences.
 - j. In a new romantic relationship, I would try to avoid disagreements and conflicts.
 - k. I feel confident in my ability to do well when dating.
 - l. Dating requires a lot of effort.
 - m. I feel optimistic about dating.
19. When making decisions, people can be maximizers or satisficers. Maximizers strive to get the very best option they can. Satisficers are pleased to settle for a good enough option, not necessarily the very best outcome in all respects. Which one are you when it comes to dating? [0 = satisficer (settle), 100 = maximizer (strive)]

Relationship History

20. For this question, use whatever definition of hook up you and your friends generally use (you may or may not include sex in this definition). Since you started college (counting during summers or during a term abroad) how many people have you hooked up with?
21. Since you started college, how many people have you been on dates with (not counting dates you went on with someone you were already in a relationship with)?
22. Have you ever been in a committed relationship that is more than a hookup or friends with benefits?
- a. Yes
 - b. No
 - c. Not sure
23. How many committed relationships have you been in?

24. *What was the length of your longest relationship? OR How long did that relationship last?*
25. *What was the length of your shortest relationship?*
26. *When was the end of your most recent committed relationship?*
27. *How often do you make the first move in romantic/sexual situations? For example, asking someone on a date or initiating a hookup.*
 - a. *I haven't had a romantic or sexual experience*
 - b. *Never*
 - c. *Hardly ever*
 - d. *Sometimes*
 - e. *Almost always*
 - f. *Always*

Well-Being

28. Typically... (1 = not at all, 5 = extremely)
 - a. I feel that my life has a sense of direction or meaning to it.
 - b. I feel positive/good.
 - c. I feel negative/bad.
 - d. I am satisfied with my life.
 - e. I have high self-esteem.
 - f. I expect more good things to happen to me than bad.
 - g. I feel isolated from others.
 - h. I feel connected with others.
 - i. Being a moral person is an important part of my sense of self.
 - j. In reflecting on my life as a whole, including both good and bad experiences I have had, I love the way my life has been.
 - k. I feel down, depressed, or hopeless.
 - l. I have little interest or pleasure in doing things.
 - m. I feel nervous, anxious, or on edge.
 - n. I am not able to stop or control worrying.
 - o. I feel stressed, tense, overwhelmed.
 - p. I feel unable to control the important things in my life.
29. To me, being alone is... (0 = very bad to 100 = very good)
30. Do you see a therapist regularly?
 - a. Yes
 - b. No

Personality

31. I see myself as someone who is (1 = not like me at all, 5 = extremely like me) ...
 - a. Honest
 - b. Loyal
 - c. Exciting
 - d. Realistic
 - e. Creative
 - f. Ambitious, driven
 - g. Supportive

- h. Confident
- i. Level-headed
- j. Optimistic
- k. Patient
- l. Dominant
- m. Open to new experiences, complex
- n. Dependable, self-disciplined
- o. Disorganized
- p. Outgoing, sociable
- q. Cold and uncaring.
- r. Sympathetic, warm
- s. Relaxed, handles stress well
- t. Intelligent
- u. Funny, humorous
- v. Morally upstanding
- w. A good lover

Values

32. How well do each of the following statements describe you? (1 = not me to 3 = very me)
- a. Values family over career
 - b. Close to their parents/family
 - c. Academically successful
 - d. Likely to have a stable job after graduation
 - e. High earnings potential
 - f. Career minded
 - g. Has student loans
 - h. Thrifty (likes to save money)
 - i. Spendthrift (likes to spend money)
 - j. Is neurodiverse
 - k. Is Autistic
 - l. Has ADD/ADHD
 - m. Politically engaged (reads and discusses politics)
 - n. Is an activist

Lifestyle

33. How often do you... (1 = never to 5 = every day)
- a. Eat healthy
 - b. Follow a restrictive diet (e.g., vegan, keto, gluten-free)
 - c. Are a picky eater
 - d. Exercise regularly
 - e. Drink alcohol
 - f. Smoke cigarettes/vape
 - g. Smoke/use marijuana
 - h. Use other substances
34. Are you a UM collegiate athlete?
- a. Yes, I compete in a sport that has individual winners of events

- b. Yes, I compete in a sport that has only team winners of events
 - c. No
35. Select all clubs/groups/organizations you are involved in, either at UM or elsewhere:
- a. Athletics
 - b. Business-related/entrepreneurial
 - c. Club and intramural sports
 - d. *Cheerleading*
 - e. Dance
 - f. Debate/model UM/mock trial
 - g. Engineering or science-related
 - h. Greek life (e.g., sorority/fraternity)
 - i. Journalism
 - j. Marching band
 - k. Mental-health related
 - l. Music-related
 - m. Outdoors/nature-related
 - n. Political club
 - o. Religious association
 - p. Student culture/identity association
 - q. *Other*

Demographics

36. Which of the following best describes your gender?
- a. Woman
 - b. Man
 - c. Nonbinary
 - d. Not listed
37. What is your age?
38. Which of the following best describes your sexual orientation?
- a. Straight
 - b. *Gay*
 - c. *Lesbian*
 - d. *Bisexual*
 - e. *Asexual*
 - f. *Demisexual*
 - g. *Pansexual*
 - h. *Queer*
 - i. *Questioning*
 - j. *Not listed*
 - k. *Prefer not to say*
39. Which of these racial or ethnic groups best describes your racial background (check all that apply)?
- a. African American, Black, African, or Caribbean
 - b. East Asian or East Asian American
 - c. Southeast Asian or Southeast Asian American
 - d. South Asian or South Asian American

- e. Pacific Islander
 - f. European American, White, Anglo, or Caucasian
 - g. Hispanic American, Latinx, or Chicanx
 - h. Native American or American Indian
 - i. Middle Eastern or North African
 - j. Multiracial (i.e., having biological parents from multiple backgrounds)
 - k. Another identity
40. *What race, if any, do you identify with most closely? Please select one.*
- a. *African American, Black, African, or Caribbean*
 - b. *East Asian or East Asian American*
 - c. *Southeast Asian or Southeast Asian American*
 - d. *South Asian or South Asian American*
 - e. *Pacific Islander*
 - f. *European American, White, Anglo, or Caucasian*
 - g. *Hispanic American, Latinx, or Chicanx*
 - h. *Native American or American Indian*
 - i. *Middle Eastern or North African*
 - j. *Multiracial (i.e., having biological parents from multiple backgrounds)*
 - k. *Another identity*
41. What is your height (enter feet and inches)?
42. While growing up, were you or your family ever unable to afford basic necessities like food, clothing, or shelter?
- a. Yes, most or all the time
 - b. Yes, some of the time
 - c. Yes, at one time
 - d. No, never
 - e. *I don't know*
43. Do you have debt from credit cards, medical bills, or loans (personal, student, auto, etc.)?
- a. Yes
 - b. No
 - c. *Approximately how much (in dollars)?*
44. Think of this ladder as representing where people stand in society. At the top of the ladder are the people who are the best off—those who have the most money, the most education, and the most respected jobs. At the bottom are the people who are the worst off—who have the least money, least education, and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the people at the very bottom.
- a. Where would you place yourself on this ladder relative to others in the United States? (1 = A to 7 = G)
 - b. Where would you place yourself on this ladder relative to other students at the University of Michigan? (1 = A to 7 = G)
45. With which political party do you most identify?
- a. Republican
 - b. Democrat
 - c. Libertarian
 - d. Independent

- e. *Socialist*
 - f. *Proud Boys/Alt-Right*
 - g. *None*
 - h. *Other*
46. In general, do you consider yourself to be... (1 = very conservative, 6 = radical, NA = none of the above)
47. *Did you vote in the 2024 presidential election?*
- a. *Yes*
 - b. *No*
 - c. *I prefer not to share*
48. *Who did you vote for?*
- a. *Kamala Harris*
 - b. *Donald J. Trump*
 - c. *Cornel West*
 - d. *Jill Stein*
 - e. *Chase Oliver*
 - f. *Other/write-in*
 - g. *I prefer not to share*
49. What is your current religious affiliation?
- a. Muslim
 - b. Hindu
 - c. Jewish
 - d. Buddhist
 - e. Christian – Protestant
 - f. Christian – Catholic
 - g. Christian – Eastern Orthodox
 - h. Christian – Other
 - i. Latter Day Saints
 - j. Jehovah's Witness
 - k. Sikh
 - l. Agnostic or Atheist
 - m. None
 - n. Other (please specify)
50. *How often did you typically attend religious services in the past year? (1 = never to 5 = more than once a week)*
51. *Where were you born? If US, state or territory*
52. *Where were you living at the time you graduated from high school? If US, state, territory, and zip code*
53. What kind of area did you spend most of your growing up?
- a. Urban (i.e., in a densely populated area like a city or town)
 - b. Suburban (i.e., in a medium-populated, largely residential area)
 - c. Rural (i.e., in a less populated, spread out area outside of a large city or town)
 - d. *Other (please specify)*
54. *What is your fluency in reading English? (1 = fluent to 4 = not fluent at all)*
55. The next questions ask about the education your parents or guardians achieved. Please pick one parent to report on first; if you didn't have a parent, please report on a guardian

or other significant caregiver in your life. What is the highest level of education this parent (or guardian) received?

- a. Less than high school
- b. High school diploma
- c. Some college or community college
- d. Bachelor's degree
- e. Master's degree
- f. PhD, JD, MD, or other advanced degree
- g. *Other*

56. *Where was this parent/guardian born? If US, state or territory*

57. Do you have another parent, guardian, or caretaker who played a significant role in your life? If yes, what is the highest level of education your other parent (or guardian) received?

- a. Less than high school
- b. High school diploma
- c. Some college or community college
- d. Bachelor's degree
- e. Master's degree
- f. PhD, JD, MD, or other advanced degree
- g. *Other*

58. *Where was this parent/guardian born? If US, state or territory?*

Appendix D: Study 1 Optional Survey Measures

Similarity and Synchrony Survey

1. There are a variety of ways in which people can be similar to one another. For you personally, how important is it to you to be similar to your romantic partner in each of the following categories? Click on the category name for a more detailed description. (1 = not at all important to 5 = extremely important)
 - a. Demographics/Background
 - b. Personality
 - c. Values/Beliefs/Goals
 - d. Lifestyle/Preferences
 - e. Romantic Preferences/Tendencies
2. We are interested in what people generally think about similarity between partners in romantic relationships. Indicate to what extent you agree with each of the following statements about similarity in relationships generally (1 = strongly disagree to 5 = strongly agree)
 - a. People are happiest when they date someone who is like them in most ways.
 - b. The more similar you and your partner are, the easier your relationship will be.
 - c. The more you and your partner have in common, the more likely you are to stay together.
 - d. Couples with a lot in common tend to be the happiest.
 - e. Most happy couples have a lot in common.
 - f. "Opposites attract" describes most successful relationships.
 - g. The most fulfilling relationships are ones where each person brings different perspectives to the table.
 - h. It is better to have a partner who balances you out than one who is too similar to you.
 - i. The ideal romantic partner is someone who has opposite qualities from you.
 - j. People who are seemingly opposites often have the best chemistry.
 - k. Similarity is irrelevant the success of a romantic relationship.

Appendix E: Study 2 Pilot Study Measures

Instructions

1. Are you in a romantic relationship? Yes, no, other (please specify)
 - a. If yes, “For these next set of questions, think about your romantic partner and answer the questions about them.”
 - b. If no, “For these next set of questions, think about a close friend and answer the questions about them.”
2. Overall, how similar do you think you and your partner/friend are? (0 = not at all similar, 100 = completely the same; asked once at the beginning and once after the feedback)

Demographics/Background

3. Which groups best describe your/your partner’s/friend’s race or ethnicity? (Select all that apply.)
 - a. American Indian/Alaska Native
 - b. Asian (e.g., East Asian, South Asian, Southeast Asian)
 - c. Middle Eastern
 - d. Black/African American
 - e. Native Hawaiian or other Pacific Islander
 - f. White/European American
 - g. Hispanic/Latinx
 - h. Another race/ethnicity (please specify)
4. What is your/your partner’s/friend’s gender?
 - a. Woman
 - b. Man
 - c. Genderqueer/gender non-conforming
 - d. Prefer not to say
 - e. Another gender (please specify)
5. How would you describe the money situation in your/your partner’s/friend’s household growing up?
 - a. Comfortable with extra
 - b. Enough with no extra
 - c. Had to cut back
 - d. Could not make ends meet
6. What is the highest level of education you/your partner/friend have/has completed?
 - a. Elementary or junior high school
 - b. Some high school
 - c. Graduate high school
 - d. Some college
 - e. Graduated college

- f. Post-graduate or professional degree
 - g. Other (please specify)
7. Where did you/your partner/friend spend the majority of your/their childhood?
 - a. In the United States
 - b. Outside of the United States
 8. In what region of the United States did you/your partner/friend spend the majority of your/their childhood?
 - a. Northeast (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York and Pennsylvania)
 - b. Midwest (Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota)
 - c. South (Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma and Texas)
 - d. West (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, Alaska, California, Hawaii, Oregon and Washington)
 9. What kind of area did you/your partner/friend spend most of your/their time growing up?
 - a. Urban (i.e., in a densely populated area like a city or town)
 - b. Suburban (i.e., in a medium-populated, largely residential area)
 - c. Rural (i.e., in a less populated, spread out area outside of a large city or town)
 - d. Other (please specify)
 10. Which best describes your sexuality?
 - a. Straight/heterosexual
 - b. Gay
 - c. Lesbian
 - d. Bisexual
 - e. Queer
 - f. Pansexual
 - g. Asexual
 - h. Questioning/unsure
 - i. Another sexuality (please specify)
 11. How close are you/your partner/friend to your/their immediate family (i.e., siblings, parents, caregivers)? (1 = not at all close, 5 = extremely close)
 12. How close are you/your partner/friend to your/their extended family (e.g., cousins, grandparents)? (1 = not at all close, 5 = extremely close)
 13. In terms of birth order, are/is you/your partner/friend ...
 - a. An only child
 - b. The oldest child
 - c. A middle child
 - d. The youngest child
 - e. Other (please specify)
 14. Compared to others your/your partner's/friend's age, how would you rate your/their overall attractiveness (0 = lower than almost everyone else, 100 = higher than almost everyone else)?
 15. Your/your partner's/friend's parents are...
 - a. Married

- b. Divorced
- c. Separated
- d. Never married
- e. Other (please specify)

Personality

16. I see myself/my partner/friend as someone who... (1 = strongly disagree, 7 = strongly agree)
 - a. Worries a lot
 - b. Gets nervous easily
 - c. Remains calm in tense situations
 - d. Is talkative
 - e. Is outgoing, sociable
 - f. Is reserved
 - g. Is original, comes up with new ideas
 - h. Values artistic, aesthetic experiences
 - i. Has an active imagination
 - j. Is sometimes rude to others
 - k. Has a forgiving nature
 - l. Is considerate and kind to almost everyone
 - m. Does a thorough job
 - n. Tends to be lazy
 - o. Does things efficiently
17. Compared to others your/your partner's/friend's age, how would you rate your/their overall mental health (0 = lower than almost everyone else, 100 = higher than almost everyone else)?
18. Compared to others your/your partner's/friend's age, how would you rate your/their overall intelligence (0 = lower than almost everyone else, 100 = higher than almost everyone else)?
19. I/my partner/friend have/has high self-esteem. (0 = not very true of me, 100 = very true of me)
20. How do you/your partner/friend deal with negative emotions? (1 = strongly disagree, 5 = strongly agree)
 - a. I/They control my/their emotions by not expressing them.
 - b. I/They control my/their emotions by changing the way I/they think about the situation I'm in.
21. Indicate to what extent you/your partner/friend agree/s with each statement (1 = strongly disagree, 5 = strongly agree).
 - a. I can do just about anything I really set my mind to.
 - b. When I really want to do something, I usually find a way to succeed at it.
 - c. Whether or not I am able to get what I want is in my own hands.
 - d. What happens to me in the future mostly depends on me.
22. The following questions relate to how you/your partner/friend make/s decisions (1 = strongly disagree, 5 = strongly agree).
 - a. I/my partner/friend thoroughly evaluate/s decision alternatives before making a final choice.

- b. In decision making, I/my partner/friend take/s time to contemplate the pros/cons or risks/benefits of a situation.
 - c. When making decisions, I/my partner/friend rely/ies mainly on my gut feelings.
 - d. I/my partner/friend weigh/s feelings more than analysis in making decisions.
23. To what extent do you agree with the following statements? (1 = disagree a lot, 5 = agree a lot)
- a. I/my partner/friend hardly ever expect/s things to go my/their way.
 - b. I/my partner/friend rarely count on good things happening.
 - c. Overall, I/my partner/friend expect/s more good things to happen to me/them than bad.

Beliefs/Values/Goals

24. In general, do you consider yourself/your partner/friend to be...
- a. Extremely liberal
 - b. Liberal
 - c. Somewhat liberal
 - d. Moderate
 - e. Somewhat conservative
 - f. Conservative
 - g. Extremely conservative
25. Do you consider yourself/your partner/friend to be...
- a. Extremely religious
 - b. Very religious
 - c. Religious
 - d. Moderately religious
 - e. Slightly religious
 - f. Not at all religious
26. Do you consider yourself/your partner/friend to be...
- a. Extremely spiritual
 - b. Very spiritual
 - c. Spiritual
 - d. Moderately spiritual
 - e. Slightly spiritual
 - f. Not at all spiritual
27. Which best describes your/your partner's/friend's religious affiliation?
- a. Muslim
 - b. Hindu
 - c. Jewish
 - d. Buddhist
 - e. Christian – Protestant
 - f. Christian – Catholic
 - g. Christian – Eastern Orthodox
 - h. Christian – Other
 - i. Mormon/Latter Day Saints
 - j. Jehovah's Witness
 - k. Sikh

- l. Atheist
 - m. Agnostic
 - n. None of the above
 - o. Other (please specify)
28. To what extent do/es you/your partner/friend agree with the following statement:
Romantic relationships are most successful when people assume traditional gender roles. Traditional gender roles may include expectations of women staying at home and doing housekeeping and childcare, while men are expected to have a career outside the home and take care of tasks such as finance and repairs. (1 = strongly disagree, 5 = strongly agree)
29. Please indicate how important each of the following goals are to you/your partner/friend. (1 = not at all important, 5 = extremely important)
- a. Social goals: Includes having a full and satisfying social life and friendships
 - b. Career goals: Includes having an influential high-status career, achieving a high standard of living and wealth, and/or owning your own business
 - c. Relationship goals: Includes having a satisfying romantic relationship
 - d. Social justice goals: Includes working to promote the welfare of others, such as those in need and those in one's community
 - e. Family goals: Includes having harmonious relationships and spending time with one's parents and family
 - f. Religious goals: Includes participating in religious activities and/or devoting attention to one's spiritual life
 - g. Fun goals: Includes having new, fun, and exciting experiences
 - h. Political goals: Includes becoming a community leader or being influential in public affairs
 - i. Art goals: Includes producing artistic work or becoming accomplished in performing, musical, or written arts
 - j. Parenting goals: Includes having children and being a good parent
 - k. Physical goals: Includes maintaining and pushing oneself to achieve physical health and strength
30. Please rate the importance of the following values as a life guiding principle to you/your partner/friend. (0 = opposed to my principles, 1 = not important to me, 8 = of supreme importance to me)
- a. Power: Social power, authority, wealth
 - b. Achievement: Success, capability, ambition, influence on people and events
 - c. Hedonism: Gratification of desires, enjoyment in life, self-indulgence
 - d. Stimulation: Daring, a varied and challenging life, an exciting life
 - e. Self-direction: Creativity, freedom, curiosity, independence, choosing one's own goals
 - f. Universalism: Broad-mindedness, beauty of nature and arts, social justice, a world at peace, equality, wisdom, unity with nature, environmental protection
 - g. Benevolence: Helpfulness, honesty, forgiveness, loyalty, responsibility
 - h. Tradition: Respect for tradition, humbleness, accepting one's portion in life, devotion, modesty
 - i. Conformity: Obedience, honoring parents and elders, self-discipline, politeness

- j. Security: National security, family security, social order, cleanliness, reciprocation of favors

Lifestyle/Preferences

- 31. One hears about “morning types” and “evening types.” Which one of these types do/es you/your partner/friend consider yourself/themself to be? (1 = definitely more of a “morning type,” 5 = definitely more of an “evening type”)
- 32. Compared to others your/your partner’s/friend’s age, how would you rate your/your partner’s/friend’s overall physical health (0 = lower than almost everyone else, 100 = higher than almost everyone else)?
- 33. Which of the following descriptions fits you/you partner/friend better?
 - a. Tightwad (difficulty spending money)
 - b. Spendthrift (difficulty controlling spending)
 - c. About the same or neither
- 34. What, if any, are your/your partner’s/friend’s favorite hobbies? Please drag your/your partner’s/friend’s first, second, and third favorite hobbies to the boxes.
 - a. Reading
 - b. Arts/crafts
 - c. Watching TV/movies
 - d. Sports and outdoor recreational activities
 - e. Video games
 - f. Music
 - g. Cooking/baking
 - h. Traveling
 - i. Collecting
 - j. Gardening
 - k. Volunteering
 - l. Games/puzzles
 - m. Languages
 - n. Exercising
 - o. Performing arts
 - p. Shopping
 - q. Socializing
 - r. Other (please specify)
- 35. Which genres of music do/es you/your partner/friend enjoy?
 - a. Alternative
 - b. Blues
 - c. Classical
 - d. Country
 - e. Dance
 - f. Disco
 - g. Electronic
 - h. Folk
 - i. Funk
 - j. Gospel/Christian
 - k. Hip hop

- l. Jazz
 - m. Latin
 - n. Metal
 - o. New Age
 - p. Opera
 - q. Pop
 - r. R&B
 - s. Rap
 - t. Reggae
 - u. Rock
 - v. Soul
 - w. Techno
 - x. World
 - y. Other (please specify)
36. What genres of movies/TV shows do/es you/your partner/friend enjoy?
- a. Action
 - b. Animated/Children's
 - c. Comedy
 - d. Documentaries
 - e. Drama
 - f. Fantasy
 - g. Horror
 - h. Musicals
 - i. Mystery
 - j. Period pieces
 - k. Romance
 - l. Sci-Fi
 - m. Thriller
 - n. Western
 - o. Other (please specify)
37. To what extent do/would you/your partner/friend agree with the following statements? (1 = totally disagree, 7 = totally agree)
- a. I usually don't like to tell jokes or amuse people.
 - b. I usually don't laugh or joke around much with other people.
 - c. If I'm by myself and I'm feeling unhappy, I make an effort to think of something funny to cheer myself up.
 - d. If I am feeling depressed, I can usually cheer myself up with humor.
 - e. Even if something is really funny to me, I will not laugh or joke about it if someone will be offended.
 - f. I do not like it when people use humor as a way of criticizing or putting someone down.
 - g. I often go overboard in putting myself down when I am making jokes or trying to be funny.
 - h. I will often get carried away in putting myself down if it makes my family or friends laugh.

38. "Clean living" describes a lifestyle where you eat healthy, sleep and exercise regularly, and don't drink or smoke very much. To what extent does your/your partner's/friend's lifestyle fit this "clean living" description? (1 = does not describe me, 5 = describes me extremely well)
39. Which of the following sounds the closest to your/your partner's/friend's ideal Friday night?
- a. Relaxing at home by myself
 - b. Having a date night with my romantic partner
 - c. Staying in and hanging out with a few close friends
 - d. A night out with friends
 - e. Other (please specify)

Romantic Preferences/Tendencies

40. To what extent do/would you/your partner/friend agree with the following statements? (1 = strongly disagree, 7 = strongly agree)
- a. I find that my partner doesn't want to get as close as I would like.
 - b. My desire to be very close sometimes scares my partner away.
 - c. I try to avoid getting too close to my partner.
 - d. I usually discuss my problems and concerns with my partner.
 - e. I am nervous when my partner gets too close to me.
 - f. I worry that my romantic partner won't care about me as much as I care about them.
41. Indicate to what extent you/your partner/friend would agree with the following statements. (1 = strongly disagree, 7 = strongly agree)
- a. Potential relationship partners are either compatible or they are not.
 - b. Potential relationship partners are either destined to get along or they are not.
 - c. A successful relationship evolves through hard work and resolution of incompatibilities.
 - d. It takes a lot of time and effort to cultivate a good relationship.
42. How important do/es you/your partner/friend think sexual compatibility is for a long-term relationship? (1 = not at all important, 5 = extremely important)
43. Ideally, how frequently would you/your partner/friend want to have sex?
- a. Every day or more
 - b. 4 to 6 times per week
 - c. 2 to 3 times per week
 - d. Once a week
 - e. 2 to 3 times per month
 - f. Once a month or less
 - g. A few times per year
 - h. Never
44. Indicate your responses to the following questions. (1 = not at all, 5 = a great deal)
- a. How happy do/es you/your partner/friend feel when doing something that helps close others?
 - b. How high a priority for you/your partner/friend is meeting the needs of close others?

- c. How far would you/your partner/friend go out of your/their way to do something for a close other?
- 45. Indicate how frequently you/your partner/friend use/s the following strategies when dealing with conflict (1 = disagree, 5 = agree).
 - a. I exchange accurate information to solve the problem together.
 - b. I try to keep my disagreement to myself in order to avoid hard feelings.
 - c. I use my authority to make a decision in my favor.
 - d. I usually accommodate the wishes of the other person.
 - e. I usually propose a middle ground for breaking deadlocks.
- 46. What best describes you/your partner/friend "love language," or the way that you/your partner/friend feel most loved and appreciated?
 - a. Acts of service (your partner doing helpful things for you)
 - b. Receiving gifts (your partner giving you a gift that tells you they were thinking about you)
 - c. Quality time (your partner spending meaningful time with you)
 - d. Words of affirmation (your partner saying supportive things to you)
 - e. Physical touch (being close to and caressed by your partner)

Similarity Beliefs

- 47. We are interested in what people generally think about similarity between partners in romantic relationships. Indicate to what extent you agree with each of the following statements about similarity in relationships generally. (1 = strongly disagree, 5 = strongly agree)
 - a. People are happiest when they date someone who is like them in most ways.
 - b. The more similar you and your partner are, the easier your relationship will be.
 - c. The more you and your partner have in common, the more likely you are to stay together.
 - d. Couples with a lot in common tend to be the happiest.
 - e. Most happy couples have a lot in common.
 - f. "Opposites attract" describes most successful relationships.
 - g. The most fulfilling relationships are ones where each person brings different perspectives to the table.
 - h. It is better to have a partner who balances you out than one who is too similar to you.
 - i. The ideal romantic partner is someone who has opposite qualities from you.
 - j. People who are seemingly opposites often have the best chemistry.
- 48. There are a variety of ways in which people can be similar to one another. Indicate how similar you think you are to your partner generally in each category. (1 = not at all similar, 5 = completely similar)
 - a. Demographics/background
 - b. Personality
 - c. Values/beliefs/goals
 - d. Lifestyle/preferences
 - e. Romantic preferences/tendencies

Relationship Questions

49. How would you describe your relationship with your romantic partner/friend? Please move the slider to move the circles accordingly.
50. Please indicate the degree of happiness, all things considered, of your relationship/friendship. (1 = extremely unhappy, 7 = perfect)
51. I have a warm and comfortable relationship/friendship with my partner/friend. (1 = not at all true, 6 = completely true)
52. How rewarding is your relationship/friendship with your partner/friend? (1 = not at all, 6 = completely)
53. In general, how satisfied are you with your relationship/friendship? (1 = not at all, 6 = completely)
54. Please indicate the degree to which you agree with each of the following statements regarding your current relationship/friendship. (1 = completely disagree, 6 = complete agree)
 - a. My partner/friend and I have a lot of disagreements.
 - b. I feel like all my partner/friend and I do is fight.
 - c. My partner/friend and I are always in agreement on major issues.
 - d. There is a lot of conflict in my relationship/friendship.
 - e. I am often irritated by my partner/friend.
 - f. It is rare that my partner/friend and I get in a big argument.

Reactions to Feedback

55. Please write up to 10 ways you and your partner/friend are similar (open-ended)
56. Please write up to 10 ways you and your partner/friend are dissimilar (open-ended)
57. Given the information you just received, overall, how similar do you think you and your romantic partner are? (0 = not at all similar, 100 = completely the same; asked once at the beginning and once after the feedback)
58. Given the information you just received, how similar do you think you and your romantic partner are in each category. (1 = not at all similar, 5 = completely similar)
 - a. Demographics/background
 - b. Personality
 - c. Values/beliefs/goals
 - d. Lifestyle/preferences
 - e. Romantic preferences/tendencies
59. How positively do you feel about these results? (1 = not at all positive, 7 = very positive)
60. How negatively do you feel about these results? (1 = not at all negative, 7 = very negative)
61. How surprised were you by these results? (1 = not surprised at all, 7 = very surprised)
62. How accurate do you think these results are? (1 = not accurate at all, 7 = completely accurate)
63. Right now, I feel positively towards my partner/relationship. (1 = strongly disagree to 7 = strongly agree)
64. Right now, I feel negatively towards my partner/relationship. (1 = strongly disagree to 7 = strongly agree)
65. Right now, I feel close and connected with my partner. (1 = strongly disagree to 7 = strongly agree)

- 66. Right now, I feel confident in my relationship with my partner. (1 = strongly disagree to 7 = strongly agree)
- 67. Right now, I feel my partner and I are compatible. (1 = strongly disagree to 7 = strongly agree)
- 68. Right now, I feel my partner and I are on the same page; that is, we want the same things, communicate easily, and understand each other. (1 = strongly disagree to 7 = strongly agree)
- 69. What did you think this study was about? (open-ended)
- 70. Do you have any feedback, questions, or comments about this study? (open-ended)

Feedback Conditions

Similarity 1: Based on your responses, we have calculated how similar you and your partner/friend are. Compared to the average couple/friends, you are more similar than 79% of couples/friends.

Dissimilarity 1: Based on your responses, we have calculated how similar you and your partner/friend are. Compared to the average couple/friends, you are more similar than 21% of couples/friends.

Dissimilarity 2: Based on your responses, we have calculated how similar you and your partner/friend are. Compared to the average couple/friends, you are less similar than 79% of couples/friends.

Appendix F: Study 2 Consent Form

University Of Michigan Consent to Be Part of a Research Study

1. Key Information About the Researchers and This Study

Study title: Individual Differences in Romantic Relationships Study

Principal Investigator: Annika From, M.S., Department of Psychology, University of Michigan

Faculty Advisor: Robin Edelstein, Ph.D., Department of Psychology, University of Michigan

You are invited to take part in a research study. This form contains information that will help you decide whether to join the study. Taking part in this research project is voluntary. You do not have to participate and you can stop at any time. Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

2. Purpose Of This Study

The purpose of the study is to study people's close relationships and the ways people think about themselves and close others.

3. Who Can Participate in the Study

3.1 Who can take part in this study?

Eligible participants must be in a romantic relationship, be at least 18 years old, speak fluent English, and be able to complete a half-hour online survey at home and a 1.5-hour in-person lab session at the University of Michigan. Couples who self-report as being in a committed relationship of at least one month will be eligible, regardless of cohabiting status, monogamy status, or sexual orientation.

4. Information About Study Participation

4.1 What will happen to me in this study?

First, you will complete an online survey that will last about half an hour. You can take this on a mobile device or computer somewhere private, where others will not see your answers. This will include questions about your close relationships, personality, beliefs and values, and demographics. Then, you and your partner will be asked to come into the lab at East Hall, 530 Church St, Ann Arbor for a 1.5-hour session where you will receive feedback about your responses to the initial survey, fill out additional questionnaires, interact with each other, and provide physiological measures (e.g., electrodermal activity, blood volume pulse, acceleration, heart rate, and temperature).

4.2 How much of my time will be needed to take part in this study?

The initial online survey will last about half an hour, and the lab study should last between 1 and 1.5-hours. In total, this study will take 1.5 to 2 hours.

5. Information About Study Risks and Benefits

5.1 What risks will I face by taking part in the study? What will the researchers do to protect me against these risks?

It is possible that answering questions about oneself or one's romantic relationship may produce short-term stress or negative emotions. However, you do not have to answer any questions you do not want to answer. Because this study collects information about you, the primary risk of this research is a loss of confidentiality. See Section 8 of this document for more information on how the study team will protect your confidentiality and privacy.

5.2 How could I benefit if I take part in this study? How could others benefit?

You may not receive any personal benefits from being in this study. However, others may benefit from the knowledge gained from this study.

6. Ending The Study

6.1 If I want to stop participating in the study, what should I do?

You are free to leave the study at any time. If you leave the study before it is finished, there will be no penalty to you. If you decide to leave the study before it is finished, please tell one of the persons listed in Section 9. "Contact Information". If you choose to tell the researchers why you are leaving the study, your reasons may be kept as part of the study record. The researchers will keep the information collected about you for the research unless you ask us to delete it from our records. If the researchers have already used your information in a research analysis it will not be possible to remove your information.

7. Financial Information

7.1 Will I be paid or given anything for taking part in this study?

You will receive \$20 for your participation in the study, or 2 intro subject pool credit hours. At the end of the study, you will be paid through a check mailed through HSIP. If you withdraw early, you will receive payment when you withdraw from the study, commensurate with the amount of the study you completed. Participants recruited through the UM Intro Psych Pool will be given 2 credits for participation. Their romantic partner can also receive 2 credits for participation if they are also in the UM Intro Psych Pool, otherwise they will be paid \$20 through a check.

8. Protecting And Sharing Research Information

8.1 How will the researchers protect my information?

Data will be encrypted and stored on a secured laptop that will use University of Michigan's VPN. Any identifying information (i.e., consent forms, links to subject ID numbers) will be stored separately from participants' data.

8.2 Who will have access to my research records?

There are reasons why information about you may be used or seen by the researchers or others during or after this study. Examples include: University, government officials, study sponsors or funders, auditors, and/or the Institutional Review Board (IRB) may need the information to make sure that the study is done in a safe and proper manner.

8.3 What will happen to the information collected in this study?

We will keep the information we collect about you during the research for future research projects and for study recordkeeping. Your name and other information that can directly identify you will be stored securely and separately from the research information we collected from you.

The results of this study could be published in an article or presentation but will not include any information that would let others know who you are.

8.4 Will my information be used for future research or shared with others?

We may use or share your research information for future research studies. If we share your information with other researchers, it will be de-identified, which means that it will not contain your name or other information that can directly identify you. This research may be similar to this study or completely different. We will not ask for your additional informed consent for these studies.

9. Contact Information

Who can I contact about this study? Please contact the researchers listed below to:

- Obtain more information about the study
- Ask a question about the study procedures
- Report an illness, injury, or other problem (you may also need to tell your regular doctors)
- Leave the study before it is finished
- Express a concern about the study

Principal Investigator: Annika From Email: annikaf@umich.edu

Faculty Advisor: Robin Edelstein Email: redelste@umich.edu

If you have questions about your rights as a research participant, or wish to obtain information, ask questions or discuss any concerns about this study with someone other than the researcher(s), please contact the following:

University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board (IRB-HSBS)

2800 Plymouth Road Building 520, Room 2144

Ann Arbor, MI 48109-2800

Telephone: 734-936-0933 or toll free (866) 936-0933

Fax: 734-936-1852

E-mail: irbhsbs@umich.edu

You can also contact the University of Michigan Compliance Hotline at 1-866-990-0111.

10. Your Consent

Consent/Assent to Participate in the Research Study

If you consent to participate in this study, choose "Yes" below.

Appendix G: Study 2 Script

Introduction

Hello, and thank you for participating in this study. You will be wearing physiological equipment that tracks your blood pressure and heart rate. You'll be videotaped with audio throughout the session, and at the end of the session, you will have the opportunity to choose what, if anything, you are comfortable having us use the videos for. If you choose not to share your videos, we will delete them. We ask that participants silence and do not use their cell phones during this study. On the tablets next to you, there will be a consent form that describes what you will be doing today, your rights as a participant, as well as compensation and confidentiality. Please scroll and read through it and let me know if you have any questions. If you agree to participate, please select "I agree." If you do not want to continue, let me know and we will end the session. Once you are done, click the arrow at the bottom of the page and keep going until you come to a screen instructing you to stop and wait for further instructions. Please do not talk with your partner during this time.

Collecting Baseline Physiological Measures

We will be measuring your heart rate and blood pressure throughout this study. First, please use one of the baby wipes to moisten the gray/beige sensor pads on the inside of the BioHarness strap in front of you. This helps enhance the signal. To put on the BioHarness, fasten the strap around your upper rib cage under your shirt directly on your skin. The round sensor should be positioned directly beneath your left armpit. The strap should be adjusted tight enough that it will stay securely in place, and the elastic should stretch when you take a breath. The photo below the TV shows where the BioHarness should be positioned on your left side. You are not being recorded at this time, but I can see you. I will monitor the signal coming in, and we can move on when it's clear.

Now, take the blood pressure cuff in front of you and open the Velcro cuff. Put it around your left arm above the elbow. The hose connection should be aligned with the inside of your elbow, an inch or so above the crease. The photos below the TV also show the correct alignment for the BP cuff. It should be tight enough to stay secure the whole session but not painful. Please make sure it is comfortable now and avoid removing it or adjusting it during the session, as doing so will affect the accuracy of the readings.

At this time, we'll take a blood pressure measurement. It is very important for you to stay still and relaxed throughout the process, and do not talk at all. Sit with your feet flat on the floor and your left arm relaxed. Using your right hand, press the "start" button on the blood pressure monitor. You will feel the cuff tighten and then slowly loosen. Please keep still and silent until the cuff is completely loosened.

I will now play some music for three minutes. Please sit quietly with your feet flat on the floor and try to relax while I take a baseline measurement of your heart rate. Do not talk to each other during this time.

Now, we'll take a blood pressure measurement. Sit with your feet flat on the floor and your left arm relaxed. Using your right hand, press the "start" button on the blood pressure monitor. Please keep still and silent until the cuff is completely loosened. Let me know when it is done.

Similarity Feedback and Reaction Conversation

Now, we are going to provide you with some feedback on the questions you answered before you came into the lab. One of the things we are interested in studying is how people's similarity to their romantic partner affects their relationship. For this aim, we have used an algorithm to calculate how similar your responses were to each other's across all the items in the initial survey. If you go to the next page of your tablet screen, it should show you your similarity results in a moment. Note that in order to account for average levels of similarity across couples, we transformed your similarity score into a percentile, which compares your level of similarity as a couple to that of other couples. I will give you a minute to read over these results. Again, please do not go past the stop sign.

Now that you've had a moment to review your results, we wanted to get your feedback and initial reactions. Since we are interested in similarity and its effects on relationships, spend the next five minutes reflecting on this feedback as well as talking about the ways you feel you are similar or dissimilar and how you see this showing up in your relationship. In a moment, you will hear a small beep notifying you to start your conversation, and then I'll let you know when five minutes is up. Please wait to start talking until you hear the beep.

All right, your time is up. Before we move onto the next task, please take another blood pressure measurement. Sit with your feet flat on the floor and your monitor level with your heart. Stay silent and still. Press "START" on your monitor.

Now, please complete the next survey on your tablet and keep going until you come to a screen instructing you to stop and wait for further instructions. Please do not talk during this time.

Conflict Conversation

Now, we are going to have a problem-solving conversation where you discuss a source of conflict you previously identified in your relationship. If you go to the next page of your tablet now, it should show you the topics you identified as areas of conflict when you completed the initial survey. Together, can you decide, out of these six topics, is there one in particular you would like to talk about today? We encourage you to pick a recent issue that still feels unresolved so that you can talk about it and try to reach a resolution on this issue together. Let me know when you have selected a topic.

Please go to the next page and type in what topic you are going to discuss with your partner.

Alright, now you will have 5 minutes to discuss your chosen topic and reach a resolution. As before, in a moment, you will hear a small beep notifying you to start your conversation, and then I'll let you know when five minutes is up. Please wait to start talking until you hear the beep.

All right, your time is up. Before we move onto the next task, please take another blood pressure measurement. Sit with your feet flat on the floor and your monitor level with your heart. Stay silent and still. Press "START" on your monitor.

Now, please complete the next survey on your tablet and keep going until you come to a screen instructing you to stop and wait for further instructions. Please do not talk during this time.

Gratitude Conversation

For the next task, we would like you to discuss what you appreciate about one another for the next five minutes. Please take turns describing something about your partner that you feel grateful for. This could be something that happened today, this week, or just your general feelings of appreciation. As before, in a moment, you will hear a small beep notifying you to start your conversation, and then I'll let you know when five minutes is up. Please wait to start talking until you hear the beep.

All right, your time is up. Before we move onto the next task, please take another blood pressure measurement. Sit with your feet flat on the floor and your monitor level with your heart. Stay silent and still. Press "START" on your monitor.

Now, please complete the next survey on your tablet and keep going until you come to a screen instructing you to stop and wait for further instructions. Please do not talk during this time.

Debriefing

Thank you for taking part in this study. You can remove your chest strap and blood pressure monitor now. To finish up, I will ask you a couple of questions about your experience. Your response to these questions will not impact your compensation or credit. Then, I will provide you with some debriefing information to review.

One, what do you think this study was about?

Two, had you heard anything about this study before you participated?

Thank you for sharing your thoughts! If you go to the next page on your tablet, there will be questions asking you what, if anything, you are comfortable having us use the videos for. Then, there will also be information debriefing you on the purpose of the study. I'll give you a minute to review this, and then I'll return to answer any questions you have.

Appendix H: Study 2 Debriefing Form

Thank you for your recent involvement in our study carried out at the University of Michigan. The intention of this document is to debrief you the aim and nature of this study, letting you understand the value of your participation and to assure that any elements of deception used have been clarified.

The primary purpose of this study was to understand how perceived similarity impacts romantic relationships, and consequentially, to explore the potential effect on both behavioral and physiological outcomes. Understanding this phenomenon helps professionals in psychology to better appreciate the complexity of human relationships and develop strategies to improve relationship satisfaction and stability.

In this study, we resorted to a practice known as "deception." In this case, you were informed that we had calculated the level of similarity between you and your partner. What we actually did was give you random feedback about your level of similarity, rather than feedback based on the results of any of the tests administered. We aimed to investigate how this perception of similarity might influence relationship dynamics and satisfaction. Please note that any feedback you received regarding your similarity with your partner was generated randomly and does not accurately reflect the real level of similarity or dissimilarity in your relationship.

This study aims to build off prior research, which has found that actual similarity is largely unrelated to a couple's romantic relationship outcomes (Montoya et al., 2008), while individuals who perceive themselves as more similar to their partner do tend to experience more positive relationship outcomes (Montoya et al., 2008; Weidmann et al., 2017). By randomly assigning couples to receive feedback about their similarity, we hope to disentangle the effects of actual and perceived similarity and better understand the mechanisms by which perceived similarity and romantic relationship outcomes are related.

Should you have any further concerns or wish to withdraw your data so that it is not used in the study, feel free to contact the lead researcher Annika From at annikaf@umich.edu or the faculty advisor Robin Edelstein at redelste@umich.edu.

Thank you once again for your support and contribution to this research project. We genuinely appreciate your understanding about the necessity of using deception in this study and hope that our objective is clear now.

Montoya, R. M., Horton, R. S., & Kirchner, J. (2008). Is actual similarity necessary for attraction? A meta-analysis of actual and perceived similarity. *Journal of Social and Personal Relationships*, 25(6), 889–922. <https://doi.org/10.1177/0265407508096700>

Weidmann, R., Schönbrodt, F. D., Ledermann, T., & Grob, A. (2017). Concurrent and longitudinal dyadic polynomial regression analyses of Big Five traits and relationship satisfaction: Does similarity matter? *Journal of Research in Personality*, 70, 6–15. <https://doi.org/10.1016/j.jrp.2017.04.003>

Appendix I: Study 2 Actual Similarity Measures

Demographics/Background

1. Which groups best describe your race or ethnicity? (Select all that apply.)
 - a. American Indian/Alaska Native
 - b. Asian (e.g., East Asian, South Asian, Southeast Asian)
 - c. Middle Eastern
 - d. Black/African American
 - e. Native Hawaiian or other Pacific Islander
 - f. White/European American
 - g. Hispanic/Latinx
 - h. Another race/ethnicity (please specify)
2. What is your gender?
 - a. Woman
 - b. Man
 - c. Genderqueer/gender non-conforming
 - d. Prefer not to say
 - e. Another gender (please specify)
3. How would you describe the money situation in your household growing up?
 - a. Comfortable with extra
 - b. Enough with no extra
 - c. Had to cut back
 - d. Could not make ends meet
4. What is the highest level of education you have completed?
 - a. Elementary or junior high school
 - b. Some high school
 - c. Graduate high school
 - d. Some college
 - e. Graduated college
 - f. Post-graduate or professional degree
 - g. Other (please specify)
5. Where did you spend the majority of your childhood?
 - a. In the United States
 - i. Which state?
 - b. Outside of the United States
6. What kind of area did you spend most of your time growing up?
 - a. Urban (i.e., in a densely populated area like a city or town)
 - b. Suburban (i.e., in a medium-populated, largely residential area)
 - c. Rural (i.e., in a less populated, spread out area outside of a large city or town)
 - d. Other (please specify)

7. How close are you to your immediate family (i.e., siblings, parents, caregivers)? (1 = not at all close, 5 = extremely close)
8. How close are you to your extended family (e.g., cousins, grandparents)? (1 = not at all close, 5 = extremely close)
9. In terms of birth order, are you...
 - a. An only child
 - b. The oldest child
 - c. A middle child
 - d. The youngest child
 - e. Other (please specify)
10. Compared to others your age, how would you rate your overall attractiveness (0 = lower than almost everyone else, 100 = higher than almost everyone else)?

Personality

11. I see myself as someone who... (1 = strongly disagree, 7 = strongly agree)
 - a. Worries a lot
 - b. Gets nervous easily
 - c. Remains calm in tense situations
 - d. Is talkative
 - e. Is outgoing, sociable
 - f. Is reserved
 - g. Is original, comes up with new ideas
 - h. Values artistic, aesthetic experiences
 - i. Has an active imagination
 - j. Is sometimes rude to others
 - k. Has a forgiving nature
 - l. Is considerate and kind to almost everyone
 - m. Does a thorough job
 - n. Tends to be lazy
 - o. Does things efficiently
12. Compared to others your age, how would you rate your overall mental health (0 = lower than almost everyone else, 100 = higher than almost everyone else)?
13. Compared to others your age, how would you rate your overall intelligence (0 = lower than almost everyone else, 100 = higher than almost everyone else)?
14. I have high self-esteem. (0 = not very true of me, 100 = very true of me)
15. How do you deal with negative emotions? (1 = strongly disagree, 5 = strongly agree)
 - a. I control my emotions by not expressing them.
 - b. I control my emotions by changing the way I think about the situation I'm in.
16. Indicate to what extent you agree with each statement (1 = strongly disagree, 5 = strongly agree).
 - a. I can do just about anything I really set my mind to.
 - b. When I really want to do something, I usually find a way to succeed at it.
 - c. Whether or not I am able to get what I want is in my own hands.
 - d. What happens to me in the future mostly depends on me.
17. The following questions relate to how you make decisions (1 = strongly disagree, 5 = strongly agree).

- a. I thoroughly evaluate decision alternatives before making a final choice.
 - b. In decision making, I take time to contemplate the pros/cons or risks/benefits of a situation.
 - c. When making decisions, I rely mainly on my gut feelings.
 - d. I weigh feelings more than analysis in making decisions.
18. To what extent do you agree with the following statements? (1 = disagree a lot, 5 = agree a lot)
- a. I hardly ever expect things to go my way.
 - b. I rarely count on good things happening.
 - c. Overall, I expect more good things to happen to me than bad.

Beliefs/Values/Goals

19. In general, do you consider yourself to be... (1 = extremely liberal to 7 = extremely conservative)
20. Do you consider yourself to be... (1 = extremely religious to 6 = not at all religious)
21. Do you consider yourself to be... (1 = extremely spiritual to 6 = not at all spiritual)
22. Which best describes your religious affiliation?
- a. Muslim
 - b. Hindu
 - c. Jewish
 - d. Buddhist
 - e. Christian – Protestant
 - f. Christian – Catholic
 - g. Christian – Eastern Orthodox
 - h. Christian – Other
 - i. Mormon/Latter Day Saints
 - j. Jehovah's Witness
 - k. Sikh
 - l. Atheist
 - m. Agnostic
 - n. None of the above
 - o. Other (please specify)
23. To what extent do you agree with the following statement: Romantic relationships are most successful when people assume traditional gender roles. Traditional gender roles may include expectations of women staying at home and doing housekeeping and childcare, while men are expected to have a career outside the home and take care of tasks such as finance and repairs. (1 = strongly disagree, 5 = strongly agree)
24. Please indicate how important each of the following goals are to you. (1 = not at all important, 5 = extremely important)
- a. Social goals: Includes having a full and satisfying social life and friendships
 - b. Career goals: Includes having an influential high-status career, achieving a high standard of living and wealth, and/or owning your own business
 - c. Relationship goals: Includes having a satisfying romantic relationship
 - d. Social justice goals: Includes working to promote the welfare of others, such as those in need and those in one's community

- e. Family goals: Includes having harmonious relationships and spending time with one's parents and family
 - f. Religious goals: Includes participating in religious activities and/or devoting attention to one's spiritual life
 - g. Fun goals: Includes having new, fun, and exciting experiences
 - h. Political goals: Includes becoming a community leader or being influential in public affairs
 - i. Art goals: Includes producing artistic work or becoming accomplished in performing, musical, or written arts
 - j. Parenting goals: Includes having children and being a good parent
 - k. Physical goals: Includes maintaining and pushing oneself to achieve physical health and strength
25. Please rate the importance of the following values as a life guiding principle. (0 = opposed to my principles, 1 = not important to me, 8 = of supreme importance to me)
- a. Power: Social power, authority, wealth
 - b. Achievement: Success, capability, ambition, influence on people and events
 - c. Hedonism: Gratification of desires, enjoyment in life, self-indulgence
 - d. Stimulation: Daring, a varied and challenging life, an exciting life
 - e. Self-direction: Creativity, freedom, curiosity, independence, choosing one's own goals
 - f. Universalism: Broad-mindedness, beauty of nature and arts, social justice, a world at peace, equality, wisdom, unity with nature, environmental protection
 - g. Benevolence: Helpfulness, honesty, forgiveness, loyalty, responsibility
 - h. Tradition: Respect for tradition, humbleness, accepting one's portion in life, devotion, modesty
 - i. Conformity: Obedience, honoring parents and elders, self-discipline, politeness
 - j. Security: National security, family security, social order, cleanliness, reciprocation of favors

Lifestyle/Preferences

26. One hears about "morning types" and "evening types." Which one of these types do you consider yourself to be? (1 = definitely more of a "morning type," 5 = definitely more of an "evening type")
27. Compared to others your age, how would you rate your overall physical health (0 = lower than almost everyone else, 100 = higher than almost everyone else)?
28. Which of the following descriptions fits you better?
- a. Tightwad (difficulty spending money)
 - b. Spendthrift (difficulty controlling spending)
 - c. About the same or neither
29. What, if any, are your favorite hobbies? Please drag your first, second, and third favorite hobbies to the boxes.
- a. Reading
 - b. Arts/crafts
 - c. Watching TV/movies
 - d. Sports and outdoor recreational activities
 - e. Video games

- f. Music
 - g. Cooking/baking
 - h. Traveling
 - i. Collecting
 - j. Gardening
 - k. Volunteering
 - l. Games/puzzles
 - m. Languages
 - n. Exercising
 - o. Performing arts
 - p. Shopping
 - q. Socializing
 - r. Other (please specify)
30. Which genres of music do you enjoy?
- a. Alternative
 - b. Blues
 - c. Classical
 - d. Country
 - e. Dance
 - f. Disco
 - g. Electronic
 - h. Folk
 - i. Funk
 - j. Gospel/Christian
 - k. Hip hop
 - l. Jazz
 - m. Latin
 - n. Metal
 - o. New Age
 - p. Opera
 - q. Pop
 - r. R&B
 - s. Rap
 - t. Reggae
 - u. Rock
 - v. Soul
 - w. Techno
 - x. World
 - y. Other (please specify)
31. What genres of movies/TV shows do you enjoy?
- a. Action
 - b. Animated/Children's
 - c. Comedy
 - d. Documentaries
 - e. Drama
 - f. Fantasy

- g. Horror
 - h. Musicals
 - i. Mystery
 - j. Period pieces
 - k. Romance
 - l. Sci-Fi
 - m. Thriller
 - n. Western
 - o. Other (please specify)
32. To what extent do you agree with the following statements? (1 = totally disagree, 7 = totally agree)
- a. I usually don't like to tell jokes or amuse people.
 - b. I usually don't laugh or joke around much with other people.
 - c. If I'm by myself and I'm feeling unhappy, I make an effort to think of something funny to cheer myself up.
 - d. If I am feeling depressed, I can usually cheer myself up with humor.
 - e. Even if something is really funny to me, I will not laugh or joke about it if someone will be offended.
 - f. I do not like it when people use humor as a way of criticizing or putting someone down.
 - g. I often go overboard in putting myself down when I am making jokes or trying to be funny.
 - h. I will often get carried away in putting myself down if it makes my family or friends laugh.
33. "Clean living" describes a lifestyle where you eat healthy, sleep and exercise regularly, and don't drink or smoke very much. To what extent does your lifestyle fit this "clean living" description? (1 = does not describe me, 5 = describes me extremely well)
34. Which of the following sounds the closest to your ideal Friday night?
- a. Relaxing at home by myself
 - b. Having a date night with my romantic partner
 - c. Staying in and hanging out with a few close friends
 - d. A night out with friends
 - e. Other (please specify)

Romantic Preferences/Tendencies

35. To what extent do you agree with the following statements? (1 = strongly disagree, 7 = strongly agree)
- a. I find that my partner doesn't want to get as close as I would like.
 - b. My desire to be very close sometimes scares my partner away.
 - c. I try to avoid getting too close to my partner.
 - d. I usually discuss my problems and concerns with my partner.
 - e. I am nervous when my partner gets too close to me.
 - f. I worry that my romantic partner won't care about me as much as I care about them.
36. Indicate to what extent you agree with the following statements. (1 = strongly disagree, 7 = strongly agree)

- a. Potential relationship partners are either compatible or they are not.
 - b. Potential relationship partners are either destined to get along or they are not.
 - c. A successful relationship evolves through hard work and resolution of incompatibilities.
 - d. It takes a lot of time and effort to cultivate a good relationship.
37. How important do you think sexual compatibility is for a long-term relationship? (1 = not at all important, 5 = extremely important)
38. Ideally, how frequently would you want to have sex?
- a. Every day or more
 - b. 4 to 6 times per week
 - c. 2 to 3 times per week
 - d. Once a week
 - e. 2 to 3 times per month
 - f. Once a month or less
 - g. A few times per year
 - h. Never
39. Indicate your responses to the following questions. (1 = not at all, 5 = a great deal)
- a. How happy do you feel when doing something that helps your partner?
 - b. How high a priority for you is meeting the needs of your partner?
 - c. How far would you go out of your way to do something for your partner?
40. Indicate how frequently you use the following strategies when dealing with conflict with your partner (1 = disagree, 5 = agree).
- a. I exchange accurate information with my partner to solve the problem together.
 - b. I try to keep my disagreement with my partner to myself in order to avoid hard feelings.
 - c. I use my authority to make a decision in my favor.
 - d. I usually accommodate the wishes of my partner.
 - e. I usually propose a middle ground for breaking deadlocks.
41. What best describes your “love language,” or the way that you feel most loved and appreciated by your partner?
- a. Acts of service (your partner doing helpful things for you)
 - b. Receiving gifts (your partner giving you a gift that tells you they were thinking about you)
 - c. Quality time (your partner spending meaningful time with you)
 - d. Words of affirmation (your partner saying supportive things to you)
 - e. Physical touch (being close to and caressed by your partner)

Appendix J: Study 2 Video Coding Schema

Similarity Beliefs

How much do they express the belief that similarity is important for relationships?

- 1) Similarity is not important/good, don't talk about similarity being important
- 2) Similarity is a little/sometimes important/good
- 3) Similarity is somewhat important/good
- 4) Similarity is moderately/usually important/good
- 5) Similarity is extremely/always important/good, talk about similarity a lot

Complementarity Beliefs

How much do they express the belief that complementarity is important for relationships?

- 1) Complementarity is not important/good, don't talk about complementarity being important
- 2) Complementarity is a little/sometimes important/good
- 3) Complementarity is somewhat important/good
- 4) Complementarity is moderately/usually important/good
- 5) Complementarity is extremely/always important/good, talk about complementarity a lot

Expectations

Did they discuss how the results compared to their expectations?

NA = did not discuss

- 1) Results indicated they were much more similar than expected
- 2) Slightly more similar than expected
- 3) Accurate to what they expected
- 4) Slightly more different than they expected
- 5) Much more different than they expected

Positivity

How positive or negative do they seem generally?

- 1) Extremely negative
- 2) Moderately negative
- 3) Neutral
- 4) Moderately positive
- 5) Extremely positive (smiling, laughing, say positive things)

Close/Connected

How close and connected was this couple?

- 1) Not close at all
- 2)

- 3)
- 4)
- 5) Extremely close and connected

Conflict

How much disagreement/conflict did this couple have?

- 1) Actively agreed about everything
- 2) Didn't disagree about anything, but weren't actively expressing agreement
- 3) Disagreed about 1-2 things
- 4) Disagreed more frequently
- 5) Lots of disagreement/conflict

In-Sync

How in sync does this couple seem? This could be related to their thoughts, emotions, and/or behaviors (e.g., finishing each other's sentences or riffing off each other's ideas, laughing or sighing at the same time, and/or coordinating their body positions or movements).

- 1) Completely out of sync
- 2)
- 3)
- 4)
- 5) Completely in sync (same vibe, thought/body/emotion similarity)"

Time Spent Talking

How much did they talk about similarities and differences? Did they run out of things to discuss?

- 1) Long pauses, struggled to think of things to say, ran out of things to talk about very early, spent a lot of time off-topic, had to be prompted to talk longer
- 2)
- 3)
- 4)
- 5) Did not struggle to find things to talk about, talked the full time, till the very end, and stayed on topic

Appendix K: Study 2 Moderation Analyses

Overall beliefs about the importance of similarity significantly moderated the association between condition and how accurate participants felt the results were, interaction $b = 0.20, p = .010$, how surprised participants felt, interaction $b = -0.41, p < .001$, how positive they felt about the results, interaction $b = 0.24, p = .002$, and how negative they felt about the results, interaction $b = -0.17, p = .04$. Simple slopes analyses revealed that for participants in the similarity condition, holding higher similarity beliefs was associated with perceiving the results as more accurate, $b = 0.26, SE = 0.11, p = .01$ and less surprising, $b = -0.42, SE = 0.14, p < .001$. Positive and negative feelings about the results were not associated with similarity beliefs in the similarity condition, $b = 0.22, SE = 0.11, p = .05$ and $b = 0.01, SE = 0.09, p = .89$, respectively. For participants in the dissimilarity condition, beliefs about similarity were not associated with perceptions of accuracy, $b = -0.15, SE = 0.10, p = .14$, but were associated with more surprise, $b = 0.53, SE = 0.13, p < .001$, less positive feelings about the results, $b = -0.24, SE = 0.10, p = .01$, and more negative about the results, $b = 0.26, SE = 0.08, p < .001$.

Interestingly, similarity beliefs also moderated the association between condition and change in overall positive feelings about the relationship, interaction $b = -0.74, p < .001$. For participants in the similarity condition, stronger similarity beliefs were associated with significant *decreases* in positive feelings about the relationship, $b = -2.48, SE = 0.89, p = .01$. For participants in the dissimilarity condition, similarity beliefs were not associated with changes in feelings about the relationship, $b = 0.79, SE = 0.81, p = .33$. When looking at the subset of participants who did not guess the manipulation, all above interactions held.

Overall beliefs about the importance of complementarity significantly moderated the association between condition and how surprised participants felt, interaction $b = -0.87, p < .001$ and how positive they felt about the results, interaction $b = -0.61, p = .004$. Simple slopes analyses revealed that for participants in the similarity condition, holding higher similarity beliefs was not associated with surprise at the results, $b = 0.27, SE = 0.16, p = .09$ nor positivity about the results, $b = -0.11, SE = 0.12, p = .36$. For participants in the dissimilarity condition, complementarity beliefs were associated less surprise, $b = -0.55, SE = 0.15, p < .001$ and more positive feelings about the results, $b = 0.37, SE = 0.12, p < .001$. When looking at the subset of participants who did not guess the manipulation, these interactions held.

Next, we tested the moderating effect of domain-specific similarity beliefs on change in reactions to feedback, domain-specific perceived similarity, and feelings about the relationship. Believing that personality similarity was important moderated the effect of condition on perceived accuracy of the results, surprise at the results, and negative feelings about the results, such that those in the similarity condition who held high personality similarity beliefs perceived the results as more accurate, interaction $b = 0.17, p = .013$, and less surprising, interaction $b = -0.27, p = .001$, and felt more negative about the results, interaction $b = -0.18, p = .019$. Believing that demographic, lifestyle, and values similarity was important moderated the effect of condition on perceived compatibility, such that those in the similarity condition who held high

demographic, lifestyle, or values similarity beliefs reported an increase in their perceived compatibility, demographic similarity beliefs: interaction $b = 0.20, p = .041$; lifestyle similarity beliefs: interaction $b = 0.21, p = .030$; values similarity beliefs: interaction $b = 0.21, p = .023$.

Surprisingly, believing that lifestyle similarity was important moderated the effect of condition on change in lifestyle similarity, such that those in the similarity condition who held high lifestyle similarity beliefs reported a greater *decrease* in their lifestyle similarity, interaction $b = -0.23, p = .015$. Moreover, believing that personality similarity was important moderated the effect of condition on change in positive feelings about the relationship, such that those in the similarity condition who held high personality similarity beliefs reported a decrease in positive feelings, interaction $b = -0.19, p = .046$.

When looking at the subset of participants who did not guess the manipulation, the interaction effect for personality similarity beliefs and change in positive feelings became non-significant. All other effects held. None of the other interaction effects were significant either when looking at the entire sample or the subset of participants who did not guess the manipulation. Overall, this suggests little consistent evidence of domain-specific similarity beliefs moderating the association between condition and relevant outcomes.

Observed similarity beliefs significantly moderated the association between condition and how surprised participants felt, interaction $b = -0.33, p = .032$; however, this effect became non-significant when examining the subset of participants who did not guess the manipulation. Additionally, observed complementarity beliefs significantly moderated the association between condition and how negative participants felt about the results, interaction $b = 0.36, p = .005$, such that for participants in the dissimilarity condition, observed complementarity beliefs were associated with lower negativity, $b = -0.36, SE = 0.07, p < .001$. Observed complementarity beliefs were not associated with negativity in the similarity condition, $b = -0.03, SE = 0.10, p = .79$.

Observed expressions comparing the feedback to participants' expectations significantly moderated participants' reactions to the feedback. Expectations moderated perceived accuracy of the feedback, $b = 0.66, p < .001$, such that for participants in the dissimilarity condition, the more similar participants expected the results to be, the less accurate they perceived the results, $b = -0.97, SE = 0.13, p < .001$. Expectations were not associated with accuracy in the similarity condition, $b = 0.26, SE = 0.13, p = .05$. Expectations also moderated surprise at the feedback, $b = -0.65, p < .001$, such that for participants in the dissimilarity condition, the more similar participants expected the results to be, the more surprising they perceived the results, $b = 1.38, SE = 0.15, p < .001$ and for participants in the similarity condition, the more similar participants expected the results to be, the less surprising they perceived the results, $b = -0.90, SE = 0.15, p < .001$. Expectations also moderated positivity towards the feedback, $b = 0.32, p = .003$, such that for participants in the dissimilarity condition, the more similar participants expected the results to be, the less positive they felt about the results, $b = -0.54, SE = 0.14, p < .001$. Expectations were not associated with accuracy in the similarity condition, $b = 0.04, SE = 0.14, p = .76$. Expectations also moderated negativity towards the feedback, $b = -0.35, p = .003$, such that for participants in the dissimilarity condition, the more similar participants expected the results to be, the more negative they felt about the results, $b = 0.44, SE = 0.11, p < .001$. Expectations were not associated with accuracy in the similarity condition, $b = -0.04, SE = 0.11, p = .75$.

Surprisingly, expectations significantly moderated perceptions of compatibility, $b = -0.31, p = .02$, such that for participants in the dissimilarity condition, the more similar participants expected the results to be, the *more* compatible they felt they were, $b = -0.97, SE =$

0.13, $p < .001$. Expectations were not associated with feelings of compatibility in the similarity condition, $b = -0.07$, $SE = 0.11$, $p = .50$. Additionally, expectations also moderated change in positive feelings towards one's partner, $b = -0.27$, $p = .046$, such that for participants in the similarity condition, the more similar participants expected the results to be, the *less* positive they felt towards their partner, $b = -2.63$, $SE = 1.20$, $p = .03$. Expectations were not associated with accuracy in the dissimilarity condition, $b = 0.67$, $SE = 1.12$, $p = .55$. This interaction effect became non-significant when looking at the subset who did not guess the manipulation, though all other effects held.

Observed positivity significantly moderated the association between condition and how accurate participants felt the results were, $b = 0.18$, $p = .047$, though there was not a significant association between positivity and accuracy in either the dissimilarity, $b = -0.18$, $SE = 0.14$, $p = .21$, nor similarity conditions, $b = 0.29$, $SE = 0.19$, $p = .12$. Additionally, positivity moderated the association between condition and how positive participants perceived their partner as being, $\beta = .21$, $p = .048$, such that for participants in the similarity condition, the more positive participants were rated as, the more positive they perceived their partner as being, $b = 6.31$, $SE = 2.45$, $p = .01$. Observed positivity was not associated with perceived partner positivity in the dissimilarity condition, $b = 0.12$, $SE = 1.91$, $p = .95$. However, this interaction effect became non-significant in the subset who did not guess the manipulation. Observed positivity also moderated the association between condition and change in positive feelings towards one's partner, $b = -0.28$, $p = .006$, such that for participants in the similarity condition, the *less* positive they felt towards their partner, $b = -2.94$, $SE = 1.37$, $p = .03$. Observed positivity was not associated with change in positive feelings in the dissimilarity condition, $b = 1.96$, $SE = 1.10$, $p = .08$.

Observed closeness significantly moderated the association between condition and how surprised partners were on average, $b = -0.25$, $p = .036$, though there was not a significant association between closeness and surprise in either the dissimilarity, $b = 0.30$, $SE = 0.20$, $p = .13$, nor similarity conditions, $b = -0.32$, $SE = 0.22$, $p = .14$. Closeness also moderated the association between condition and average change in positive feelings towards one's partner, $b = -0.29$, $p = .022$, though there was not a significant association between closeness and surprise in either the dissimilarity, $b = 1.47$, $SE = 0.96$, $p = .13$, nor similarity conditions, $b = -1.80$, $SE = 1.04$, $p = .08$. Only in the subset who did not guess the manipulation, closeness moderated the association between condition and average perceived accuracy of the feedback, $b = 0.23$, $p = .031$, though there was not a significant association between closeness and accuracy in either the dissimilarity, $b = -0.24$, $SE = 0.14$, $p = .09$, nor similarity conditions, $b = 0.21$, $SE = 0.15$, $p = .16$.

Observed conflict significantly moderated the association between condition and average perceived accuracy of the results, $b = -0.35$, $p = .003$, such that for participants in the dissimilarity condition, the more participants disagreed, the more accurate they perceived the results as being, $b = 0.45$, $SE = 0.16$, $p = .01$. Conflict was not associated with perceived accuracy in the similarity condition, $b = -0.19$, $SE = 0.13$, $p = .16$. Conflict also significantly moderated the association between condition and average surprise towards the results, $b = 0.42$, $p = .002$, such that for participants in the dissimilarity condition, the more participants disagreed, the less surprising they perceived the results as being, $b = -0.45$, $SE = 0.21$, $p = .03$, and for participants in the similarity condition, the more participants disagreed, the more surprising they perceived the results as being, $b = 0.41$, $SE = 0.18$, $p = .02$. Conflict also significantly moderated the association between condition and how positive participants felt on average towards the results, $b = -0.33$, $p = .003$, such that for participants in the dissimilarity condition, the more

participants disagreed, the more positive they felt about the results, $b = 0.40$, $SE = 0.15$, $p = .01$. Observed conflict was not associated with positivity in the similarity condition, $b = -0.18$, $SE = 0.12$, $p = .14$. Closeness also moderated the association between condition and average IOS, $b = -0.28$, $p = .049$, though there was not a significant association between closeness and IOS in either the dissimilarity, $b = 4.61$, $SE = 2.84$, $p = .11$, nor similarity conditions, $b = -2.70$, $SE = 2.33$, $p = .25$.

Observed synchrony significantly moderated the association between condition and average surprise towards the results, $b = -0.27$, $p = .016$, such that for participants in the similarity condition, the more in sync participants were, the less surprising they perceived the results as being, $b = -0.57$, $SE = 0.28$, $p = .04$. Synchrony was not associated with surprise in the dissimilarity condition, $b = 0.25$, $SE = 0.19$, $p = .18$. Synchrony also moderated the association between condition and average positivity towards the results, $b = 0.27$, $p = .003$, such that for participants in the similarity condition, the more in sync participants were, the more positive they felt about the results, $b = 0.52$, $SE = 0.19$, $p = .01$. Synchrony was not associated with positivity in the dissimilarity condition, $b = -0.17$, $SE = 0.13$, $p = .18$. Synchrony also moderated the association between condition and perceived partner positivity, $b = 0.29$, $p = .010$, such that for participants in the similarity condition, the more in sync participants were, the more positive they perceived their partner as feeling, $b = 9.42$, $SE = 2.56$, $p < .001$. Synchrony was not associated with positivity in the dissimilarity condition, $b = 1.29$, $SE = 1.72$, $p = .45$.

Synchrony also moderated the association between condition and perceived partner negativity, $b = -0.27$, $p = .016$, such that for participants in the similarity condition, the more in sync participants were, the less negative they perceived their partner as feeling, $b = -10.33$, $SE = 2.87$, $p < .001$. Synchrony was not associated with positivity in the dissimilarity condition, $b = -1.86$, $SE = 1.93$, $p = .34$. Synchrony also moderated the association between condition and closeness, $b = 0.24$, $p = .035$, such that for participants in the similarity condition, the more in sync participants were, the closer they reported feeling, $b = 0.45$, $SE = 0.14$, $p < .001$. Synchrony was not associated with closeness in the dissimilarity condition, $b = 0.08$, $SE = 0.10$, $p = .39$. Synchrony also moderated the association between condition and confidence in one's relationship, $b = 0.24$, $p = .027$, such that for participants in the similarity condition, the more in sync participants were, the more confident they reported feeling, $b = 0.55$, $SE = 0.16$, $p < .001$. Synchrony was not associated with confidence in their relationship in the dissimilarity condition, $b = 0.13$, $SE = 0.10$, $p = .23$. Synchrony also moderated the association between condition and feeling understood by one's partner, $b = 0.24$, $p = .027$, such that for participants in the similarity condition, the more in sync participants were, the more understood they reported feeling, $b = 0.55$, $SE = 0.16$, $p < .001$. Synchrony was not associated with feeling understood in the dissimilarity condition, $b = 0.13$, $SE = 0.10$, $p = .23$. The interaction effects for perceived partner negativity, closeness, confidence, and feeling understood became non-significant when looking at the subset who did not guess the manipulation.

Synchrony also moderated the association between condition and IOS, $b = 0.27$, $p = .015$, such that for participants in the similarity condition, the more in sync participants were, the higher IOS they reported, $b = 8.04$, $SE = 3.56$, $p = .03$. Synchrony was not associated with IOS in the dissimilarity condition, $b = -2.52$, $SE = 2.40$, $p = .30$. Synchrony also moderated the association between condition and change in feeling close and connected to one's partner, $b = 0.32$, $p = .005$, such that for participants in the similarity condition, the more in sync participants were, the closer they felt, $b = 0.47$, $SE = 0.17$, $p = .01$. Synchrony was not associated with IOS in the dissimilarity condition, $b = -0.10$, $SE = 0.11$, $p = .35$.

Time spent talking during the conversation significantly moderated the association between condition and perceptions of compatibility, $b = -0.26$, $p = .046$, such that for participants in the similarity condition, the more time spent talking, the more compatible they felt they were, $b = 0.36$, $SE = 0.09$, $p < .001$. Time spent talking was not associated with feelings of compatibility in the dissimilarity condition, $b = 0.11$, $SE = 0.08$, $p = .20$. The interaction effect became non-significant when looking at the subset who did not guess the manipulation.

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