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What happens in initial interactions forecasts relationship development: Showcasing the role of social behavior

Tatum A. Jolink¹

Sara B. Algoe¹

¹The University of North Carolina at Chapel Hill

Tatum A. Jolink is a doctoral student in the Social Psychology Program in the Department of Psychology and Neuroscience at the University of North Carolina at Chapel Hill.

Sara B. Algoe is a professor in the Social Psychology Program in the Department of Psychology and Neuroscience at the University of North Carolina at Chapel Hill.

Corresponding author information:

Tatum A. Jolink
Department of Psychology and Neuroscience
The University of North Carolina at Chapel Hill
235 E. Cameron Ave.
Chapel Hill, NC 27515, USA
tatum.jolink@unc.edu

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Abstract

We do not know what happens in initial interactions to spark platonic or romantic relationships. This requires data on relationships from their inception, tracked over time. Building on theory about relationship promotion, we identified three exemplar behaviors to test novel hypotheses about relationship development. When starting college, a greenhouse for relationship initiation, first-year undergraduates ($N=143$) reported initial interactions with potential friends and romantic partners, then 129 of them reported back about those 591 people over the semester. As predicted, reports of each behavior – affectionate touch, shared laughter, and partner’s gratitude expression – were associated with immediate interest in affiliating with the new person, beyond their perceived warmth, competence and attractiveness; theoretically-derived social-perceptual mechanisms explained these links. Critically, though not all potential connections blossomed into relationships, these behavioral precursors to relationship promotion predicted relationship development via post-interaction interest in affiliating. Findings are contextualized within attraction literature with implications for relationship development.

Keywords: relationship initiation, affectionate touch, shared laughter, expressed gratitude, affiliation, friendship, close relationships

What happens in initial interactions forecasts relationship development: Showcasing the role of social behavior

What sparks a new relationship? Given the central role of high-quality relationships in productivity, well-being, physical health, and even longevity, just as important as the question of *how to not lose* an existing relationship, researchers must begin to rigorously tackle the question of how people get into good relationships in the first place (Algoe, 2019). A reasonable body of evidence exists regarding initial social interactions, yet three important gaps exist. The first is that the vast majority focuses on people in romantic relationships (i.e., “initial attraction” research, Finkel & Eastwick, 2008; Finkel et al., 2007). Though romantic relationships play a central role in happiness, 47% of the population is not in one at any given time, and – for all people at all times – friends are central to happiness and health (Bagwell et al., 2005; Demir et al., 2007; Pew Research Center; Uno et al., 2002). Second, whether focusing on romantic or platonic potential relationships (Aron et al., 1997), researchers rarely have data on whether an initial interaction develops into an actual relationship. Third, despite widespread popular interest in what makes people “click”, very little evidence directly examines *what happens* in initial encounters to keep people coming back for more. That is, we know about initial attitudes (e.g., ideal partner preferences; Eastwick et al., 2014), general perceptions of the other (e.g., warmth, competence, attractiveness; Helmreich et al., 1970; Li et al., 2002; Walster et al., 2006), or subjective outcomes (e.g., perceived similarity; Montoya et al., 2008; Tidwell et al., 2013), but much less about the *behaviors* that make (or break) the encounter. To address these gaps, we use theory on social behavior and a novel method to capture and track real relationships just as they developing naturally. Specifically, we focus on three behaviors theorized to be *relationship-promoting*, regardless of relationship type – affectionate touch, shared laughter, and expressed

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gratitude – predicting that their self-reported presence in initial encounters will forecast the development of the relationship.

Over the past 35 years of research on people in established relationships, substantial efforts have focused on understanding social behavior that might explain how relationships protect mental and physical health (e.g., providing social support during stress, Cohen & Syme, 1985), and how to keep them from breaking (e.g., fighting respectfully, Gottman & Levenson, 1992). Recently, theory and evidence have consolidated around another important category of behavior, as well: those which momentarily bring people together in the service of bonding (Algoe & Jolink, 2021). That is, they are relationship-*promoting*. By “promotion”, we mean an activity that supports growth or improvement. There are many social behaviors that may incidentally have relationship benefits, like providing responsive social support, or that fix bad situations, like resolving conflict, but the *direct* purpose of those social behaviors is typically to provide comfort to someone or overcome a conflict, respectively. We have recently reviewed a different set of behaviors where the direct (not merely indirect) result of the behavior is to *actively enhance connection* (Algoe & Jolink, 2021).

Specifically, relative to other positive emotions, an expression of gratitude serves a primary function of identifying and drawing in good potential partners (Algoe, 2012; Algoe et al., 2016; Chang et al., 2021). Most laughter occurs in social contexts, and a key feature of *shared* laughter is that it is theorized to connect people by revealing that they see the world the same way, in that moment (Kurtz & Algoe, 2017). And affectionate touch literally connects people, in a positive way (Jakubiak et al., 2019). There may be other types of behaviors that fall in this category of directly enhancing connection, but these three are strongly grounded in theory – they are great exemplars. Finally, although most research on these behaviors has been in

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established romantic relationships (except Kurtz & Algoe, 2017; Williams & Bartlett, 2015), theory suggests they should also promote connections in the context of *new relationships*.

Furthermore, evidence from established relationships has outlined pathways through which these behaviors momentarily enhance connection. Specifically, although expressing gratitude for another's kind actions has demonstrated interpersonal boosts (e.g., Lambert et al., 2010), for the current work we focused on perceiving an expression of gratitude from the other, as it may draw the person in to the relationship by increasing the perception that the grateful expresser is responsive— that is, understanding, validating, and caring – to the self (Algoe et al., 2013; Algoe et al., 2016; Algoe et al., 2020). Second, sharing laughter (not simply laughing alone) is associated with greater perceptions of similarity (Flamson & Barrett, 2008; Kurtz & Algoe, 2015; 2017), and perceived similarity is associated with a host of beneficial relationship consequences (Montoya et al. 2008; Waugh & Fredrickson, 2006). Finally, although both providing and receiving affectionate touch have been theorized to enhance connection through increased perceptions of intimacy (Debrot et al., 2013; Jolink et al., 2021), here we focused on the participant's *provision* of affectionate touch to better reflect their own agency and side-step possible ambiguous intentions of receiving touch in these stranger-based interactions. Theory states that these behaviors can enhance short moments of connection (Algoe & Jolink, 2021), yet work on these moments (Hypothesis 1) and the mechanistic pathways (Hypothesis 2) through which they may operate has been conducted almost exclusively in the context of ongoing romantic relationships, not new relationships.

Moreover, if the definition of promotion means to advance, it begs the question of whether at zero-acquaintance, relationship-promoting behaviors forecast an improvement to that relationship, or literally, its development or growth (Hypothesis 3). From prior evidence

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documenting that perceptions immediately following an interaction with a partner forecast outcomes into the future (Algoe et al., 2013; Fletcher et al., 2000; Gable et al., 2006), momentary connection-promoting behaviors during initial interactions should create an immediate spark (i.e., interest in affiliating) that then keeps people coming back for more – perhaps making one more likely to reach out to see that new person again – and push the relationship forward (Hypothesis 4). Critically, very few studies prospectively follow the development of either new romantic relationships or new friendships (Asendorpf et al., 2011; Hays, 1984; 1985; Sprecher & Duck, 1994). The present study fills this gap by prospectively following both relationship types simultaneously. Finally, despite the fact that most evidence on these behaviors is from romantic relationships, we theorize that these relationship-promoting behaviors are domain-general (Algoe & Jolink, 2021), and therefore examine them in both potential friends and romantic interests at zero-acquaintance.

How will we test this? We capitalize on a natural setting where a wide variety of meaningful relationships start at zero-acquaintance, simultaneously, and develop (or fizzle) naturally: the first days and months of young adults' arrival on a college campus (Aspelmeier & Kerns, 2003; Tanner, 2006; Yelle et al., 2009). Specifically, inspired by early event sampling paradigms (Reis & Wheeler, 1991), we asked participants to live their lives and notify us when they met and had a meaningful interaction with someone whom they perceived to be a potential friend or potential romantic partner. Note that, unlike a speed-dating paradigm, where romantically interested people briefly interact with many potential partners and report on every person they meet regardless of interest (Eastwick & Finkel, 2008), the threshold here is initial *interest*, theoretically setting the stage for a higher base-rate of relationship development (Eastwick et al., 2021). Yet there will be variability in what happens in these initial encounters,

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so we can use the reported presence of these theoretically-derived relationship-promoting behaviors to predict relationship outcomes after one semester.

The Current Research

This study advances the literature on relationship initiation by testing whether and how theoretically-derived relationship-promoting behaviors might be key to the development of new relationships, whether romantic or platonic. Using a novel paradigm, we measured an individual's reported affectionate touch provision, shared laughter, and partner gratitude expression within new potential relationships as they naturally began – that is, immediately following a first meeting with someone new in the real world – as well as how those first meetings left off, such as if the participant wanted to get to know the new person better. Then, participants reported on the relationship as it developed, at three days, one week, and an average of two months after the first meeting. Hypotheses 1, 2, and 3 (one-week outcomes) were pre-registered <https://aspredicted.org/blind.php?x=p3ry6v>.¹ We note here that we did not observe actual behavior during initial interactions, but instead had participants self-report the behaviors that occurred during the interaction immediately after it happened. We have strong reason to believe those reports are grounded in the reality of what happened in the interaction, given how quickly they were reported after the event (Kahneman et al., 2004; Reis & Gable, 2000; Robinson & Clore, 2002) and because prior literature documents positive correlations between observed and self-reports of these behaviors in the literature (e.g., Jolink et al. 2021; Kurtz & Algoe, 2016). Therefore, we believe self-reports are a reasonable proxy for behavior as relevant to our hypotheses. Specifically, we hypothesized the following:

¹ After it was determined that response rates for long-term follow-up were sufficient to draw meaningful conclusions about the important question of relationship development (i.e., reports obtained on 483 of 591 potential relationships), we tested additional hypotheses.

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Hypothesis 1: Providing affectionate touch, sharing laughter, and perceiving an expression of gratitude from the partner, reported immediately following an initial interaction, will each be positively associated with concurrent interest in affiliating with the potential social partner, controlling for the partner's perceived warmth, competence, or attractiveness.

Hypothesis 2: Each self-reported focal behavior will be associated with greater interest in affiliating via its theoretically-derived social perceptual mechanism: greater intimacy from affectionate touch, perceived similarity from shared laughter, and perceived expresser responsiveness from their expressed gratitude.

Hypothesis 3: The three focal behaviors from the initial interaction will each be positively associated with relationship development at one week and the end of the semester.

Hypothesis 4: Each focal behavior will be indirectly associated with relationship development through the mechanism of post-interaction interest in affiliating with the partner.

Method

Participants

Participants were recruited among the undergraduate students at a university in the southeastern United States. Eligible participants had to be at least 18 years old, spending their first year on their university's campus, single, and open and willing to make new friends and interested in going on dates. This campus required first-years live on-campus in dormitories, meaning there was ample opportunity to meet new people in a wide variety of social settings and to see the people again over time, effectively creating a greenhouse in which new relationships

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could blossom and grow. Although 150 participants completed the baseline survey, seven did not attend the initial in-lab session, thus eliminating them from the remainder of the study. Table 1 describes characteristics of the 143 sample participants.

Table 1

Sample Characteristics (N = 143)

	<i>M (SD)</i>	<i>% (n)</i>
Biological Sex		
Male		21.7% (31)
Female		77.6% (111)
Gender		
Man		21.7% (31)
Woman		75.5% (108)
Feel free to provide the answer that best describes you		2.1% (3)
Age	18.2 (0.60)	
Race/ethnicity ¹		
White/Caucasian		62.9% (90)
Black/African-American		21.0% (30)
East Asian		14.0% (20)
Latino		9.8% (14)
Hispanic		9.1% (13)
South Asian		4.9% (7)
American Indian or Alaskan Native		0.7% (1)
Pacific Islander or Native Hawaiian		0.7% (1)
Additional self-identified backgrounds		2.8% (4)
Sexual orientation		
Heterosexual		75.5% (108)
Bisexual		14.0% (7)
Gay or lesbian		4.9% (20)
Pansexual		2.8% (4)
Asexual		1.4% (2)
None of the above, self-reported		0.7% (1)
Social Class		
Poor		3.5% (5)
Working class		12.6% (18)
Middle class		40.6% (58)
Upper middle class		39.9% (57)
Upper class		2.8% (4)

¹ Groups are not mutually exclusive.

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Assuming no interdependence due to the nested structure of the data, a conservative approach, an *a priori* power analyses suggested a target sample size of $N=145$ had ample power (80%) to detect a small-to-medium effect ($f^2=.055$) at the person-level. Given the much larger number of observations at the report-level, our sample size is above recommendations of sampling at least 50 observations at Level 2 and at least 3 ($M = 4.58$) observations at Level 1 to avoid biased standard error estimates (Maas & Hox, 2005).

Procedure

Participants enrolled in this semester-long study within the first five weeks on campus of the first semester of their first year at their university. First, they completed a baseline online survey and initial in-lab session. Over the remainder of the semester, participants fulfilled the event-sampling portion of the study, in which they completed a 10-minute online questionnaire immediately after social time spent in-person with a new potential friend or romantic interest. Participants were instructed to complete up to nine of these Initial Social Interaction Reports during the study, specifically, up to six for new potential friends and three for new potential romantic interests, if they had them. After completing an Initial Social Interaction Report, participants were automatically sent Follow-Up Reports three days and again one week after the initial meeting, answering questions about that particular person. Finally, to understand relationship progression, participants completed an End-of-Semester Follow-Up in which they reported on *each* potential partner for whom they had completed an Initial Social Interaction Report. On average, the number of days between initial interaction report and completion of the end-of-semester follow-up was 57.63 (*median* = 57, *range* = 5 -126), or approximately two months (see SOM for more details).

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Initial Social Interaction Report

Participants were instructed to complete an Initial Social Interaction Report immediately after any new meaningful interaction with new potential friends and potential romantic interests. A meaningful interaction was defined as “a short face-to-face conversation or a longer social event, but it’s one that makes you think there may be potential for friendship or a romantic relationship with that person.” The interaction needed to be with a unique person who was *new* to the participant, and participants answered a question to affirm that at the beginning of the report. Participants were specifically instructed not to report on anyone they had a history with and to report on first-time in-person interactions only. We requested participants complete the report as soon as possible after the interaction occurred, ideally within 1-2 hours of the event, but at most within 24 hours. The median length of the initial interaction was 90 minutes.

A small subset of participants ($n=14$; 9.79% of the sample) who attended the in-lab session completed zero Initial Social Interaction Reports. The total number of Initial Reports was 591 (M for participants who completed at least one = 4.58).² Participants categorized the interaction partner as either “a new acquaintance” or “someone I’m interested in romantically” and indicated the interaction partner’s gender (see Supplementary Online Material for cross-tabulation of participant’s and partner’s gender x relationship type). Participants described the interaction and answered questions about their experience during it and their perceptions of the interaction partner. To be cautious, we also asked if they knew the person at all prior to the interaction (e.g., from around campus or social media).

See Table 2 for details on the Initial Social Interaction Reports and Follow-Ups.

² A post hoc power analysis indicated that the sample of 129 (with over four repeated measures on average) would have 83% power to detect a small ($f = .10$) effect.

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Table 2

Frequencies of Initial Social Interaction Reports and Follow-Up Reports

	<i>N</i>	New friend	New romantic interest	Per Participant		
				<i>Average</i>	<i>SD</i>	<i>Range</i>
Initial Social Interaction Reports	591 reports from 129 participants	387	204	4.58	3.34	1-14
3-day Follow-Up	421 reports from 99 participants	272	149	4.33	3.18	1-13
1-week Follow-Up	389 reports from 94 participants	251	123	4.14	2.95	1-10
End-of-Semester Follow-Up	483 reports from 84 participants	320	163	5.76	3.34	1-14

Note. This Table focuses on the people who provided any Initial Social Interaction Reports (and therefore, Follow-Ups) given our interest in relationship development; note, however, that another 14 people provided no initial reports, so for readers interested in potential base rates of meeting new people, the average number of Initial Social Interaction Reports is 4.13 across the entire 143-person sample.

Measures

All study measures can be found in Table 3. The predictors were three reported relationship-promoting behaviors – participant’s affectionate touch provision, shared laughter, social partner’s gratitude expression. Outcomes included one concurrent outcome, post-interaction interest in affiliating, and four future outcomes about relationship development. Finally, Table 3 also includes the three theoretically-derived social perceptual mechanisms linking each behavior to concurrent interest in affiliating (Hypothesis 2), variables addressing the three social perceptual alternative explanations, and two relevant control variables.

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Table 3

Measures, Cronbach’s Alphas, Items and Answer Choices for All Study Variables

Measure	Example Item(s)	Answer Choices	Citation
Relationship-Promoting Behaviors			
Participant’s Affectionate Touch Provision	“during the interaction, did you touch [<i>social interaction partner</i>] affectionately? (E.g., high five, pat on the back, a kiss)?”	No (0) Yes (1)	Written for study
Shared Laughter	“during the interaction, to what extent did you and [<i>social interaction partner</i>] share laughter?”	Not at all (1) Very true (7)	Kurtz & Algoe, 2017
Perception of Partner’s Expression of Gratitude	the extent to which their social interaction partner expressed “gratitude, appreciation and thankfulness”	Not at all (0) Very much (4)	Algoe et al., 2016; Algoe et al., 2020
Relationship Outcomes			
Post-Interaction Interest in Affiliating (averaged; $\alpha = .90$)	<ul style="list-style-type: none"> • “I hope to see [<i>social interaction partner</i>] again” • “I am likely to say yes if [<i>social interaction partner</i>] asks to see me again” • “I am likely to reach out to [<i>social interaction partner</i>] to see them again” • “I would like to get to know [<i>social interaction partner</i>] better” 	Neither agree nor disagree (1) Strongly agree (7)	Written for study
Reconnection Within One Week (options recoded to reflect whether participants saw the interaction partner (1) or not (0); see Answer Choices column)	“Since you filled out an initial social interaction [report] for [partner], have you: a) seen them, b) made plans to see them, c) communicated with them in some other way (i.e., not in person), d) none of the above”	Answer <i>a</i> (1) Answers <i>b, c,</i> and <i>d</i> (0)	Written for study

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Future Relationship Status	“Do you consider yourself to have a relationship with [<i>social interaction partner</i>], currently? You don't need to have seen the person again and your relationship can still be developing, casual, mainly online - whatever you think of as having a relationship”	No (0) Yes (1)	Written for study
Future Behavioral Affiliation (averaged; $\alpha = .90$)	<ul style="list-style-type: none"> • “How much have you voluntarily spent time chatting/hanging out with [<i>social interaction partner</i>] since first meeting them?” • “If you saw [<i>social interaction partner</i>] again, how happy would you be to see them?” • “How much would you like to connect with [<i>social interaction partner</i>] again?” 	None at all (0) A lot (4) Not happy at all (0) Very happy (4) Not at all (0) A lot (4)	Written for study
Future Relationship Quality (standardized and then averaged; $\alpha = .91$)	<ul style="list-style-type: none"> • “Right now, I feel close to [<i>social interaction partner</i>]” • “I like [<i>social interaction partner</i>]” 	Strongly disagree (1) Strongly agree (7)	Written for study
	<ul style="list-style-type: none"> • “On average, my relationship with [<i>social interaction partner</i>] is:” 	Terrible (1) Terrific (9)	Gable et al., 2003
<hr/> Social Perceptual Mechanisms Theorized to Link Initial Behavior to Affiliation <hr/>			
Perceived Intimacy	“when I was with [<i>social partner</i>], I felt a lot of closeness and intimacy”	Not at all true (1) Very true (7)	La Guardia et al., 2000
Perceived Similarity (averaged; $\alpha = .79$)	<ul style="list-style-type: none"> • “[<i>social interaction partner</i>] and I have similar personality traits” • “we share common interests” • “[<i>social interaction partner</i>] and I view the world in the same way” 	Extremely disagree (1) Extremely agree (7)	Kurtz & Algoe, 2017; written for study

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Perceived Partner Responsiveness (averaged; $\alpha = .86$)	During the interaction, how much did the social partner seem: <ul style="list-style-type: none"> • “focused on what I was thinking, feeling, and saying” • “interested in my welfare” • “I felt [<i>social partner</i>] was responsive to me” 	Little (1) Extremely (7)	Written for study
<hr/>			
Social Perceptual Alternative Explanations to Theorized Behavioral Predictors			
Warm	“now we’re going to ask you a few questions about what this person was like. Compared to the average person, [<i>social interaction partner</i>] seems to be...”	Less warm (1) More warm (7)	Written for study
Competent	Same prompt as above	Less competent (1) More competent (7)	Written for study
Attractive	Same prompt as above	Less attractive (1) More attractive (7)	Written for study
<hr/>			
Control Variables			
Prior Knowledge of Social Partner	“We want to know if you knew this person in any way before meeting them in person (i.e., followed on social media or heard about them through a friend). Please rate the extent to which you knew this person.”	Didn’t know at all (1) Knew of them/sort of knew them (3) Knew them well (5)	Written for study
Length of the Interaction	How much actual time did you spend with [<i>social interaction partner</i>]?	<i>Text entry</i> : hours and minutes	Written for study
<hr/>			

Results

Data Analysis Strategy

We conducted multilevel analyses in which each social interaction partner was nested within participant (Laurenceau & Bolger, 2005). For all models, we used maximum likelihood estimation and allowed intercepts to vary randomly while treating slopes as fixed. See SOM for R packages and functions used for specific models.

To test Hypothesis 1, we separately tested the association between each self-reported behavior and post-interaction interest in affiliating. We also controlled for how well the participant knew the social partner prior to the interaction and, separately, the duration of the initial interaction. Additional models controlling for a different type of variable, enjoyment of the interaction, can be found in SOM. We then investigated three alternative explanations for each association in separate models; these models controlled for three unique facets of desirability of the social partner: warmth, competence, and attractiveness. Based on theory, we did not predict Hypothesis 1 would be moderated by relationship type and also test that model.

Tests of all indirect effects to address Hypothesis 2 (i.e., theorized social perceptual mechanisms linking behavior with post-interaction interest in affiliating) used the standard of 1-1-1 mediation (Zhang et al., 2009). Specifically, we used the Monte Carlo Method for Assessing Mediation (MCMAM; Selig & Preacher, 2008), setting iterations to 20,000 and the CIs significance threshold to 95%. The pre-registered analysis testing the same social perceptual mechanisms linking behavior with one-week future reconnection can be found in the SOM.

To address Hypothesis 3, we tested whether each social behavior was directly associated with longitudinal outcomes, specifically, interacting with the social partner again within the week (categorical) as well as relationship status (categorical), affiliation behavior (continuous)

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and relationship quality (continuous) at the end of the semester, controlling for how well they knew them prior to the initial interaction.

Finally, to test Hypothesis 4, we use the same MCMAM strategy outlined above to examine if those direct associations were mediated by immediate interest in affiliating as a result of the initial interaction.³

Descriptive Statistics

Table 4 displays descriptive information for all study variables, organized by relationship type (potential friend versus potential romantic interest). As planned, these interactions were of brand-new, budding relationships: only 31 of the 591 total reports reported somewhere between knowing of the social partner and knowing them well ($n = 2$). Notably, despite feeling there was potential for a relationship when completing the Initial Report, not every meaningful first encounter developed into one: whether participants considered themselves to have a relationship with the person approximately two months later was much higher than base-rates from speed-dating paradigms (Eastwick et al., 2021), but not much better than chance: approximately 61% and 57% of the potential friends and romantic interests, respectively, were said to be in relationships at end-of-semester follow-up.

³ Data and code can be will be made publicly available upon publication.

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Table 4

Means, SDs, and Frequencies for all Study Variables, Grouped by Relationship Type

	<i>M (SD)</i>	
	Reported with Potential Friend	Reported with Potential Romantic Interest
Participant's Affectionate Touch	17.28% touched	41.62% touched
Shared Laughter	5.23 (1.50)	5.45 (1.40)
Partner's Expression of Gratitude	1.68 (1.38)	1.64 (1.34)
Post-Interaction Interest in Affiliating	5.57 (1.22)	5.64 (1.29)
Partner Warmth	5.50 (1.17)	5.42 (1.31)
Partner Competence	5.40 (1.15)	5.26 (1.21)
Partner Attractiveness	4.82 (1.18)	5.34 (1.18)
Prior Knowledge of Social Partner	1.75 (0.95)	1.97 (1.05)
Perceived Intimacy	3.75 (1.65)	4.30 (1.57)
Perceived Similarity	4.73 (1.08)	4.72 (1.13)
Perceived Social Partner's Responsiveness	5.35 (1.09)	5.42 (1.15)
Reconnection Within One Week	40.60% saw partner again	47.58% saw partner again
Future Relationship Status	61.37% still in relationship	57.06% still in relationship
Future Behavioral Affiliation	2.31(1.13)	2.21 (1.26)
Future Relationship Quality	0.05 (0.86)	-0.11 (1.04)

Note. *M, SD* and frequencies within relationship type collapse across the entire sample.

All means, SDs, ranges and bivariate correlations for study variables can be found in Table 5. Note the bivariate correlations do not account for nesting of the data (i.e., report nested within participant), but illustrate the associations. We note significant but modest correlations between participant's affectionate touch and shared laughter ($r = .15$) and shared laughter and partner's gratitude expression ($r = .16$) but no correlation between affectionate touch and partner's gratitude ($r = .06$), suggesting participants didn't unilaterally endorse all three behaviors.

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Table 5

Raw Bivariate Correlations, Means, Level 1 and Level 2 SDs, and Ranges for All Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	<i>M</i>	<i>SD</i> Level 1	<i>SD</i> Level 2	Range
1. Participant's affectionate touch	--															26% yes	0.41	0.15	0-1
2. Shared laughter	.15	--														5.34	1.30	0.69	1-7
3. Partner's expression of gratitude	.06	.16	--													1.71	1.06	0.83	0-4
4. Post-interaction interest in affiliating	.14	.47	.19	--												5.62	1.13	0.53	1-7
5. Reconnection within one week	-.02	<u>.11</u>	-.02	.12	--											43% yes	0.48	0.14	0-1
6. Future relationship status	-.04	.16	.07	.19	.23	--										60% yes	0.47	0.13	0-1
7. Future behavioral affiliation	.01	.29	.15	.39	.29	.66	--									2.28	1.09	0.42	0-4
8. Future relationship quality	-.03	.25	.17	.35	.25	.65	.89	--								0	0.83	0.39	-2.13-1.54
9. Perceived intimacy	.33	.35	.32	.45	<u>.12</u>	.15	.23	.21	--							3.97	1.37	0.90	1-7
10. Perceived similarity	<u>.09</u>	.45	.20	.60	.13	.14	.30	.27	.42	--						4.75	1.01	0.45	1-7
11. Perceived partner responsiveness	.07	.42	.23	.50	.12	<u>.11</u>	.27	.25	.36	.45	--					5.42	0.96	0.57	1-7
12. Warm	.12	.34	.21	.34	.06	.08	.15	.13	.30	.36	.40	--				5.49	1.16	0.38	1-7

INITIAL SOCIAL INTERACTIONS FORECAST NEW RELATIONSHIPS

13. Competent	.07	.37	.16	.44	.08	.21	.28	.26	.33	.44	.39	.36	--	5.40	1.03	0.55	1-7		
14. Attractive	.21	.14	.16	.34	.06	.05	.13	.05	.33	.28	<u>.11</u>	.25	.22	--	5.01	1.14	0.39	1-7	
15. Prior knowledge of social partner	.11	.05	.01	.07	.08	.16	<u>.11</u>	.07	.13	.04	-.02	-.04	<u>.10</u>	<u>.09</u>	--	1.82	0.90	0.41	1-5

Note. **Bold number** $p < .01$. Underlined number $p < .05$.

Correlations represent raw bivariate correlations, not controlling for interdependence. *M*, *SD* Level 1, and *SD* Level 2 reflect the intercept and standard deviations of the variance components, respectively, in an intercept-only model in which the listed variable was the dependent variable. *SD* Level 1 is the standard deviation of the residual – at the level of the Initial Social Interaction Report – and *SD* Level 2 is variance of the mean for each participant around the overall variable mean.

Hypothesis Tests

Hypothesis 1: Does Behavior Predict Post-Interaction Interest in Affiliating? In separate models with each reported behavior predicting post-interaction interest in affiliating, engaging in affectionate touch with the social partner ($b = .40, p < .01$), sharing a laugh with them ($b = .39, p < .001$), and perceiving the social partner to express gratitude ($b = .17, p < .001$) were each associated with greater interest in affiliating at the end of the interaction, controlling for knowing the social partner prior; see SOM for full model results.

In the interest of space, we present the results of several additional tests in the SOM. Results held after controlling for the length of the interaction (Supplementary Table 3). Each behavior also continued to predict interest in affiliating when controlling for the warmth, competence, or attractiveness of the social partner, separately (Supplementary Table 6). In models with all three behaviors simultaneously predicting post-interaction interest in affiliating, the conclusions are the same (Supplementary Table 5). Finally, with one exception, the association was not moderated by relationship type, and even there (shared laughter), the simple slopes within each type remained significant, with the expected association being stronger for romantic interests than friends (Supplementary Table 7).

Hypothesis 2: Did the Theorized Social Perceptual Mechanisms Link Each Behavior with Post-Interaction Interest in Affiliating? Results are consistent with hypotheses. Participant's affectionate touch was significantly positively associated with perceiving greater intimacy with the social partner ($b = 1.08, 95\% \text{ CI } [.81, 1.36]$), which in turn predicted the participant's greater interest in affiliating with the person immediately following the interaction ($b = .34, 95\% \text{ CI } [.28, .40]$), controlling for affectionate touch. The indirect effect had an associated 95% CI of [.28, .51]. Sharing laughter was significantly positively associated with

perceiving the social partner as more similar ($b = .32$, 95% CI [.26, .38]), which in turn was associated with the participant's greater immediate post-interaction interest in affiliating ($b = .54$, 95% CI [.46, .62]), controlling for shared laughter. The indirect effect had an associated 95% CI of [.13, .21]. Finally, partner's expression of gratitude predicted perceiving that partner as responsive ($b = .18$, 95% CI [.11, .25]), which in turn predicted participant's greater post-interaction interest in affiliating ($b = .54$, 95% CI [.45, .62]), controlling for partner's gratitude expression. The indirect effect had an associated 95% CI of [.05, .13].

Hypothesis 3: Do Social Behaviors Forecast Relationship Development? One key question this study addresses is whether behavior during initial interactions forecasts the long-term development of a relationship. Of all the reported new potential social partners, participants saw 43% of them again within the week. And, approximately two months later, 60% of them were still in relationships. Table 6 summarizes the results of models with each behavior directly predicting the four indicators of relationship development.

Participant's affectionate touch did not directly forecast the development of the relationship: no associations were significant. However, shared laughter robustly forecasted the development of the relationship, significantly predicting whether they saw the social partner again within the week, whether they indicated the relationship was ongoing at the end-of-semester follow-up, as well as greater future behavioral affiliation and future relationship quality. Partner's gratitude expression was not significantly associated with the categorical outcomes of seeing the partner again within the week or indicating that they had a relationship with the person at the end-of-semester follow-up, but did significantly positively forecast future behavioral affiliation and future relationship quality. Results held when controlling for prior knowledge of the social partner; see SOM for full results.

Conclusions for reconnecting within one week held when controlling for social perceptions of the partner (see SOM, Supplementary Table 6). Conclusions also held when controlling for the number of days between the initial interaction and long-term outcomes (i.e., end-of-semester follow-up) and those full results are reported in the SOM (Supplementary Table 9).

Table 6*Initial Affectionate Touch Provision, Shared Laughter, and Expressed Gratitude Predicting Future Indicators of Relationship Development*

Relationship-Promoting Behaviors	Reconnection Within One Week		Future Relationship Status		Future Behavioral Affiliation		Future Relationship Quality	
	<i>b</i> [95% CI]	<i>z</i>	<i>b</i> [95% CI]	<i>z</i>	<i>b</i> [95% CI]	<i>t</i>	<i>b</i> [95% CI]	<i>t</i>
Participant's Affectionate Touch	-.14 [-.60, .31]	-0.61	-.19 [-.65, .27]	-0.82	.08 [-.17, .32]	0.61	-.01 [-.20, .18]	-.13
Shared Laughter	.15 [.01, .30]	2.15*	.23 [.09, .37]	3.24**	.22 [.14, .29]	5.94***	.14 [.08, .20]	4.93***
Partner's Expression of Gratitude	-.02 [-.17, .13]	-0.27	.13 [-.03, .29]	1.62	.10 [.01, .18]	2.32*	.08 [.02, .15]	2.51*

Note. CI = confidence interval.

All associations with future outcomes held when controlling for number of days between the initial interaction and completion of end-of-semester follow-up. * $p < .05$. ** $p < .01$. *** $p < .001$.

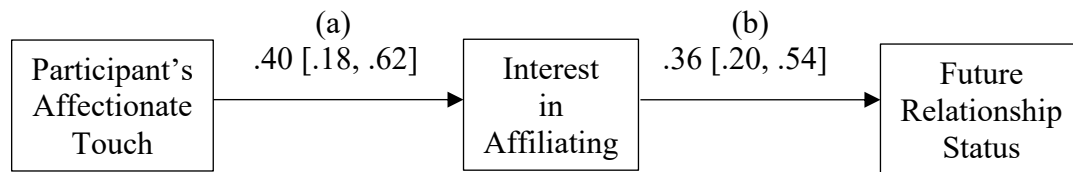
Hypothesis 4: Does Behavior Predict Relationship Development *Through* Post-Interaction Interest in Affiliating? Consistent with Hypothesis 4, 11 out of 12 mediation models revealed that, through the mechanism of post-initial-interaction interest in affiliating, each theorized relationship-promoting behavior within that interaction was associated with each long-term relationship outcome. Figures 1-3 present mediational models for each behavior.

Figure 1

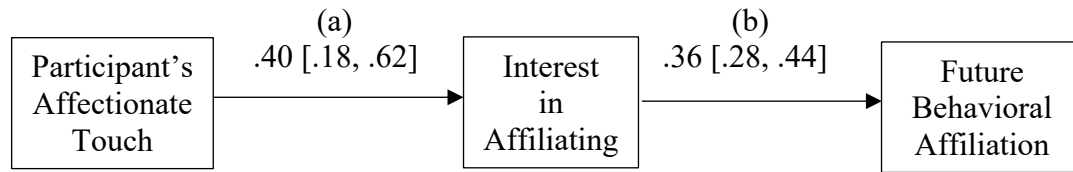
Mediation Analyses Examining Post-Interaction Interest In Affiliating As A Mechanism Linking Participant's Affectionate Touch with Future Relationship Outcomes



Indirect effect = 95% CI [.02, .19]
c' = -.23 [-.70, .23]



Indirect effect = 95% CI [.05, .27]
c' = -.37 [-.84, .11]



Indirect effect = 95% CI [.06, .24]
c' = -.08 [-.31, .15]



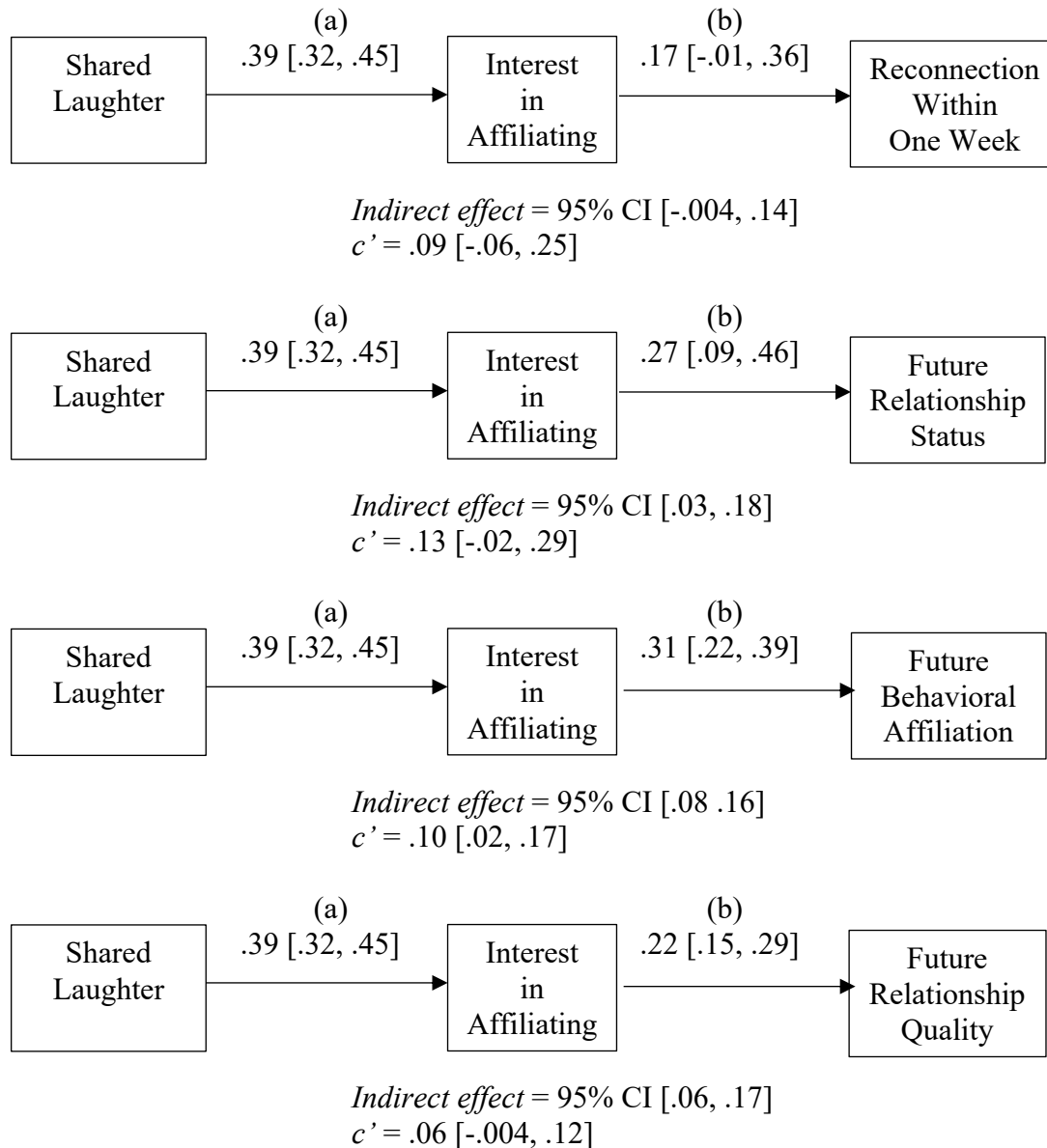
Indirect effect = 95% CI [.04, .17]

$$c' = -.12 [-.30, .06]$$

Note. Indirect effects analyses were conducted using bootstrapping procedures and CIs resampled 20000 times.

Figure 2

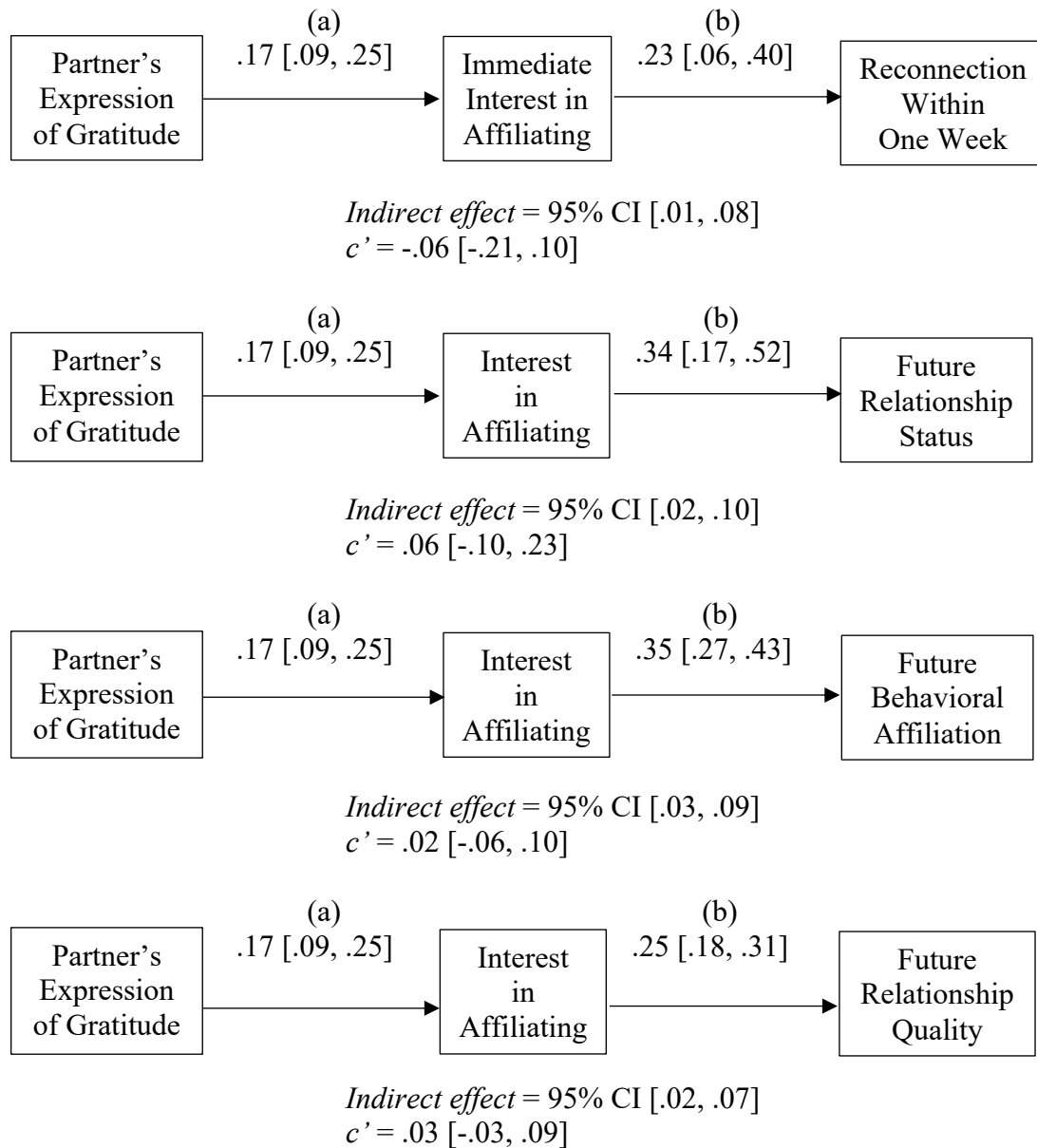
Mediation Analyses Examining Post-Interaction Interest In Affiliating As A Mechanism Linking Shared Laughter with Future Relationship Outcomes



Note. Indirect effects analyses were conducted using bootstrapping procedures and CIs resampled 20000 times.

Figure 3

Mediation Analyses Examining Post-Interaction Interest In Affiliating As A Mechanism Linking Perception Of Partner's Expression Of Gratitude with Future Relationship Outcomes



Note. Indirect effects analyses were conducted using bootstrapping procedures and CIs resampled 20000 times.

Discussion

What happens the first time someone meets another person should set the stage for what comes next. Interpersonal behaviors send interpersonal signals that help strike the proverbial match. In turn, this initial spark can feed forward to the development of a high-quality relationship. This study addressed a significant gap in the relationship initiation literature by using real-world first encounters to predict relationship formation.

Specifically, we focused on reports of three key behaviors in initial interactions between both friends and romantic interests that are theorized to *promote relationships* via interpersonal signals. The behaviors were affectionate touch, shared laughter, and partner's expressed gratitude. As predicted, reported affectionate touch was associated with greater concurrent interest in affiliating via increased perceptions of intimacy, shared laughter was associated with greater interest in affiliating via greater perceptions of similarity, and partner expressed gratitude was associated with greater interest in affiliating via perceptions of that person's responsiveness. Moreover, consistent with our theorizing, this greater interest in affiliating at the end of a first meaningful interaction provided an important mediating pathway through which each behavior was associated with greater likelihood of seeing that person within the week (except shared laughter, which had a singular and strong *direct effect* on reconnecting within the week), as well as greater likelihood of saying one was in a relationship with the person, reported behavioral affiliation, and quality of the relationship an average of two months later.

These three behaviors, each with their own area of research within established relationships, particularly those that are romantic in nature, share in common their value in promoting social bonds (Algoe & Jolink, 2021). However, this is the first study of which we are aware to study their value in the context of new potential romantic relationships, and – with just

two exceptions (cf. Kurtz & Algoe, 2017; Williams & Bartlett, 2015) – new potential friends. Moreover, the focal behaviors predicted immediate interest in affiliating, even beyond well-established social perceptual factors of perceived partner warmth, competence, and attractiveness. Critically, these effects were significant regardless of relationship type, which speaks to the potential value of examining relationship-transcending behavioral signals in future research (e.g., Montoya et al., 2018; Vacharkulksemsuk et al., 2016) as well as to the potential generalizability of the findings to other relational contexts (e.g., co-workers, mentor/mentee). Broadly, these findings provide an important contribution to the traditionally siloed literatures of friendship and romantic relationship initiation (Sprecher et al., 2018).

We believe these are some of the first data to document associations between what happens in initial encounters and future *development* of a relationship with both friends and lovers. Further, our novel event-based paradigm offers several strengths. First, we studied people in a developmental period where they had ample opportunity to meet and continue to connect with others, meaning we could collect repeated measures from participants in a reasonable timeframe. Second, our assessments began when the spark began, meaning we may have increased the chance for the relationship to develop, compared to a zero-acquaintance paradigm like speed dating (Eastwick et al., 2021). Indeed, an average of two months later, approximately 60% said they were still in relationships. This means that participants could not always predict which relationships would develop from initial interactions, but we capitalized on that variability, using theory to test which aspects of those interactions might engender future relationships. Overall, despite recent evidence (Eastwick et al., 2018) and theoretical models (Eastwick et al., 2019) of relationship initiation trajectories over time, the present work leveraged prospective rather than retrospective reports to capture a real-world phenomenon that has eluded

rigorous psychological study: the actual genesis of high-quality relationships (Campbell & Stanton, 2014).

Although the prospective tests of relationship development strengthen conclusions, we acknowledge the limitation that the findings are correlational. This leaves open the possibility that the order of the proposed theoretical pathways for each behavior could be reversed (e.g., perhaps greater perceived similarity facilitated shared laughter). Though our hypotheses were well grounded in prior literature, we would encourage replication using complementary methods. The fact that we used self-reported rather than observed behavior is a limitation that we believe is offset by the ecological validity of the context and the myriad studies documenting that perceptions of behavior tend to be correlated with observed behavior (e.g., positive and negative emotions, Gordon & Chen, 2014; shared laughter, Kurtz & Algoe, 2016; conflict, Tobin et al. 2015) and meaningfully contribute to future outcomes (Fletcher et al., 2000). That said, self-report is not a perfect substitute for actual observed behavior and could instead be a reflection of another higher-level perception about the partner or relationship (e.g., initial attraction, reciprocal liking). Future work should endeavor to replicate these findings using more proximal reports (e.g., Electronically Activated Recorders worn in daily life) or observations (e.g., videorecorded initial interactions). Despite these methodological limitations, we see the current data as promising initial evidence that the relationship-promoting behaviors of affectionate touch provision, shared laughter, and perceptions of expressed gratitude may enhance social connections at their outset and serve as important cues about the potential trajectory of high-quality relationships. There may be others.

Additionally, we acknowledge that, as behavior and interest in affiliating were measured concurrently at the end of the interaction, they could have actually occurred in the reverse order

that we tested. For example, one's initial interest in someone may motivate them to engage in affectionate touch, as a way to signal that interest (Burgoon et al., 1992; Williams & Kleinke, 1993). This seems most plausible for affectionate touch, but a case could be made for shared laughter and partner expression of gratitude as well, and ultimately these processes likely work as a dynamic, bidirectional system. However, for the present study, we base our conclusions about Hypothesis 4 on the following pieces of evidence: First, mediational results are consistent with our hypothesized order. Second, in that these were initial interactions – the people did not know one another in advance – it makes logical sense that behavior would be an important signal of whether one might like someone, after, third, controlling (as we did) for perceived warmth, competence, and attractiveness. Finally, other evidence lends further support to our theorized causal order from behavior to downstream relationships, regardless of whether other factors sometimes prompted the behaviors (especially touch): controlling for either their prior knowledge of the person or interaction length did not mitigate results of Hypothesis 1, nor – crucially – did prior knowledge mitigate the significant direct associations between shared laughter or partner expressed gratitude on downstream relationship outcomes (Hypothesis 3). However, it will be important for future work to investigate precursors to these behaviors in initial interactions.

In closing, this study demonstrates an ecologically valid test of the hypothesis that behaviors known to promote existing relationships (Algoe & Jolink, 2021) are also important when those relationships are just beginning. In fact, they appear to sometimes directly, but always indirectly, contribute to the growth of new relationships. This work highlights affectionate touch provision, shared laughter, and expressions of gratitude as important features of initial interactions that may signal a potential viable social bond at zero-acquaintance, help to

ramp up initial interest in getting to know that person better – via initial interest in affiliating, which in turn spurs future interactions with them. The findings highlight relationship-promoting behaviors as an avenue for exploration within relationship initiation contexts, while showcasing a novel method through which to prospectively study trajectories of relationship development.

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SUPPLEMENTARY ONLINE MATERIALS – REVIEW

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Supplementary Table 1: Cross-Tabulation of Each Social Partner’s Gender for Each Relationship Type, by Participant Gender

Supplementary Table 1 provides information about who was interacting with whom, in both types of relationships. Number of reports missing these data within each category are also noted in the Table.

Supplementary Table 1

Cross-Tabulation of the Number of Reports by Social Partner Gender, Relationship Type and Participant’s Gender

Social Partner Characteristics	Participant’s Gender Identity			
	Woman	Man	Nonbinary	Missing
Friend				
Woman	212	32	1	3
Man	97	33	--	2
Nonbinary	2	3	--	--
Missing	7	1	--	--
Romantic Interest				
Woman	10	26	--	1
Man	148	6	--	3
Nonbinary	2	--	--	--
Missing	15	3	1	--

Supplementary Table 2: Full Model for Hypothesis 1 Controlling for Prior Knowledge of the Social Partner

Supplementary Table 2 shows full model results for Hypothesis 1, including effects for the alternative explanation about the nature of the relationship: knowing the social partner in advance of their initial interaction. Most people did not know the person, however, and prior knowledge was not associated with post-interaction interest in affiliating when any social bonding behavior was also in the model. (As the sole predictor in the model, knowing the social partner prior was positively associated with post-interaction interest in affiliating, $b = .11$, $SE = .05$, $t = 2.17$, $p = .03$.)

Supplementary Table 2

Initial Affectionate Touch Provision, Shared Laughter, and Expressed Gratitude Predicting Post-Interaction Interest in Affiliating Controlling for Prior Knowledge of Social Partner

Relationship-Promoting Behaviors	Post-Interaction Interest in Affiliating	
	<i>b</i> [95% CI]	<i>t</i>
Participant's Affectionate Touch	.35 [.07, .53]	3.07**
Prior Knowledge of Social Partner	.09 [-.01, .19]	1.81
Shared Laughter	.38 [.32, .44]	12.22***
Prior Knowledge of Social Partner	.08 [-.01, .17]	1.69
Partner's Expression of Gratitude	.17 [.09, .24]	4.20***
Prior Knowledge of Social Partner	.10 [-.001, .20]	1.95

Note. CI = confidence interval.

Estimates are unstandardized.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Supplementary Table 3: Hypothesis 1 Controlling for Length of Initial Interaction

The length of time (in minutes) participants spent with the new social partner varied for each interaction. Some initial interactions were as short as 10 minutes, others were five hours ($M = 180.26, SD = 346.97$). We ran models controlling for this variable and all significant effects of social bonding behavior on post-interaction interest in affiliating held. See Supplementary Table 3.

Supplementary Table 3

Initial Affectionate Touch Provision, Shared Laughter, and Expressed Gratitude Predicting Post-Interaction Interest in Affiliating Controlling for Length of Interaction

Relationship-Promoting Behaviors	Post-Interaction Interest in Affiliating	
	<i>b</i> [95% CI]	<i>t</i>
Participant's Affectionate Touch	.30 [.07, .53]	2.58*
Length of Interaction	.0005 [.0002, .001]	3.11**
Shared Laughter	.37 [.31, .44]	11.77***
Length of Interaction	.0003 [.00002, .001]	2.11*
Partner's Expression of Gratitude	.15 [.07, .23]	3.83***
Length of Interaction	.0005 [.0002, .001]	3.30**

Note. CI = confidence interval.

Estimates are unstandardized.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Supplementary Table 4: Hypothesis 1 with 4-Point Ordinal Reconnection Variable

At both the three day and one week follow up, recall that participants reported, “Since you filled out an initial social interaction [report] for [partner], have you: a) seen them, b) made plans to see them, c) communicated with them in some other way (i.e., not in person), d) none of the above.” In addition to the operationalization in the main text, whether or not the participant saw the social partner within the week, we explored a 4-point ordinal variable using these categories and ranging from 1 (no interaction) to 4 (seeing them again). Because this question was assessed three days *and* one week after the initial interaction, we created a new variable that reflected the higher value across the two timepoints. For example, if a participant hadn’t seen the interaction partner (1) at three days, but reported having seen them (4) at one week, the new variable was coded as a 4; if a participant had made plans to see the interaction partner (2) at three days and reported having not seen them (1) at one week, the new variable was coded as a 2. In subsequent supplementary tables, this variable will be identified as “Interacted with Again”.

Supplementary Table 4 shows results of each social behavior separately predicting interacting with the social partner again which are consistent with results using the binary outcome.

Supplementary Table 4

Initial Affectionate Touch Provision, Shared Laughter, and Expressed Gratitude Predicting 4-Point Ordinal Reconnection Variable

Relationship-Promoting Behaviors	Interacted with Again	
	<i>b</i> [95% CI]	<i>t</i>
Participant’s Affectionate Touch	.09 [-.18, .36]	0.66
Shared Laughter	.11 [.02, .19]	2.58*
Partner’s Expression of Gratitude	.003 [-.09, .09]	0.07

Note. CI = confidence interval.

Estimates are unstandardized.

**p* < .05.

Supplementary Table 5: Hypothesis 1 with All Three Behavioral Predictors, Simultaneously

Supplementary Table 5 shows results of unique effects of each social behavior predicting post-interaction interest in affiliating when simultaneously entered into the model. We also simultaneously used all three social behaviors to predict both one-week outcomes (not pre-registered but exploratory): interacting with the social partner again (ordinal, introduced above in Supplementary Table 5) and seeing the social partner again (binary, see Table 3 in manuscript).

Supplementary Table 5

Initial Affectionate Touch Provision, Shared Laughter, and Expressed Gratitude Predicting Post-Interaction Interest Affiliating and Reconnection Within One Week in a Simultaneous Regression

Relationship-Promoting Behaviors	Post-Interaction Interest in Affiliating		Interacted with Again		Saw Again	
	<i>b</i> [95% CI]	<i>t</i>	<i>b</i> [95% CI]	<i>z</i>	<i>b</i> [95% CI]	<i>t</i>
Participant's Affectionate Touch	.20 [-.001, .41]	1.95*	-.11 [-.58, .36]	-0.45	.09 [-.18, .36]	0.66
Shared Laughter	.36 [.30, .43]	11.41***	.15 [.01, .29]	2.11*	.11 [.02, .19]	2.58*
Partner's Expression of Gratitude	.10 [.03, .17]	2.78**	-.02 [-.18, .13]	-0.29	.003 [-.09, .09]	0.07

Note. CI = confidence interval. Estimates are unstandardized.

†*p* < .07. **p* < .05. ***p* < .01. ****p* < .001.

Supplementary Table 6: Hypothesis 1 and One-Week Reconnection Controlling for Social Perceptual Alternative Explanations

Supplementary Table 6 shows results of Hypothesis 1 and one-week outcomes controlling for social perceptual alternative explanations, or how warm, competent or attractive the social partner was. Analyses from Hypothesis 1 (interest in affiliating) were pre-registered (see main text), and analyses with one-week outcomes, both the categorical and binary version of the measure, were also pre-registered. Controlling for alternative explanations did not eliminate any significant main effects of behavior (originally reported as tests of Hypothesis 1 on page 23 in the main text).

Supplementary Table 6

Initial Affectionate Touch Provision, Shared Laughter, and Expressed Gratitude Predicting Post-Interaction Interest in Affiliating and One-Week Outcomes Controlling for Social Perceptual Alternative Explanations

Relationship-Promoting Behavior	Post-Interaction Interest in Affiliating		Interacted with Again		Saw Again	
	<i>b</i> [95% CI]	<i>t</i>	<i>b</i> [95% CI]	<i>t</i>	<i>b</i> [95% CI]	<i>z</i>
Warmth						
Participant's Affectionate Touch Warmth	.29 [.98, .51] .32 [.24, .39]	2.66** 8.06***	.07 [-.20, .35] .06 [-.04, .15]	0.56 1.14	-.13 [-.61, .33] .11 [-.06, .28]	-0.56 1.30
Shared Laughter Warmth	.33 [.27, .39] .20 [.13, .28]	10.16*** 5.33***	.10 [.01, .19] .02 [-.08, .12]	2.31* 0.37	.14 [-.01, .29] .05 [-.12, .23]	1.80† 0.58
Partner's Gratitude Expression Warmth	.11 [.04, .19] .30 [.23, .38]	2.93** 7.66***	-.01 [-.10, .08] .06 [-.04, .16]	-0.20 1.21	-.05 [-.21, .11] .12 [-.05, .29]	-0.58 1.35
Competence						
Participant's Affectionate Touch Competence	.34 [.13, .55] .42 [.34, .51]	3.19** 10.49***	.08 [-.19, .35] .08 [-.02, .19]	0.58 1.62	-.13 [-.59, .34] .14 [-.03, .32]	-0.53 1.62
Shared Laughter Competence	.31 [.25, .37] .30 [.22, .38]	9.77*** 7.61***	.09 [.01, .18] .05 [-.06, .15]	2.16* 0.89	.13 [-.02, .38] .09 [-.09, .28]	1.70 0.97
Partner's Gratitude Expression Competence	.12 [.05, .19] .41 [.33, .50]	3.39*** 10.15***	-.01 [-.10, .08] .09 [-.02, .19]	-0.23 1.66	-.05 [-.20, .11] .15 [-.03, .33]	-0.59 1.68
Attractiveness						
Participant's Affectionate Touch Attractiveness	.24 [.02, .46] .31 [.23, .39]	2.11* 7.61***	.06 [-.22, .34] .06 [-.04, .16]	0.42 1.12	-.18 [-.66, .30] .12 [-.05, .29]	-0.73 1.39
Shared Laughter Attractiveness	.36 [.30, .42] .28 [.21, .35]	11.95*** 7.68***	.10 [.02, .18] .05 [-.05, .15]	2.47* 0.99	.14 [.003, .29] .09 [-.08, .26]	2.00* 1.06
Partner's Gratitude Expression Attractiveness	.12 [.05, .20] .30 [.22, .38]	3.22** 7.52***	-.004 [-.10, .09] .06 [-.04, .16]	-0.10 1.23	-.04 [-.19, .12] .11 [-.06, .28]	-0.47 1.31

Note. CI = confidence interval.

Estimates are unstandardized. Each focal behavior is tested in a separate model controlling for the specified social perceptual alternative, resulting in nine models separated by horizontal lines. Each significant effect of a focal behavior is presented in bold. † $p < .07$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Supplementary Table 7: Moderation by Relationship Type (Post-Interaction and One-Week Reconnection)

In Supplementary Table 7, we present analyses testing relationship type as a moderator. Relationship Type was dummy coded such that friend was the reference group, coded as 0, and romantic interest was coded as 1. Thus, we interpret all main effects as the effect of the predictor variable when relationship type is a potential romantic interest. We test the interaction between behavior and relationship type on post-interaction interest in affiliating (pre-registered as part of Hypothesis 1) and one-week outcomes, both the categorical and binary measure (also pre-registered). Supplementary Figures 1 and 2 depict simple slopes of shared laughter predicting interest in affiliating and interacting with again, by relationship type.

Supplementary Table 7

Relationship-Promoting Behavior, Relationship Type and Behavior x Relationship Type Interaction Predicting Post-Interaction Interest in Affiliation and Reconnection Within One Week

	Post-Interaction Interest in Affiliating		Interacted with Again		Saw Again	
	<i>b</i> [95% CI]	<i>t</i>	<i>b</i> [95% CI]	<i>t</i>	<i>b</i> [95% CI]	<i>z</i>
Relationship-Promoting Behavior						
Participant's Affectionate Touch	.48 [.15, .80]	2.88**	-.05 [-.44, .34]	-0.25	-.30 [-.98, .38]	-0.86
Relationship Type	-.04 [-.29, .21]	-0.31	.18 [-.12, .48]	1.18	.24 [-.27, .77]	0.93
Affectionate Touch x Relat. Type	.08 [-.55, .39]	-0.33	.16 [-.41, .73]	0.54	.20 [-.77, 1.18]	0.68
Shared Laughter	.34 [.26, .41]	8.94***	.05 [-.05, .15]	1.01	.06 [-.11, .23]	0.73
Relationship Type	-.85 [-1.6, -.13]	-2.34*	-.64 [-1.59, .31]	-1.33	-1.21 [-2.95, .46]	-1.40
Shared Laughter x Relat. Type	.15 [.02, .28]	2.33*	.16 [-.01, .33]	1.83 [†]	.27 [-.03, .58]	1.71
Partner's Gratitude Expression	.15 [.06, .25]	3.20***	-.01 [-.12, .10]	-0.20	-.05 [-.24, .13]	-0.57
Relationship Type	-.07 [-.39, .26]	-0.40	.14 [-.23, .53]	0.76	.08 [-.57, .74]	0.79
Gratitude Expression x Relat. Type	.06 [-.09, .22]	0.80	.05 [-.12, .23]	0.57	.10 [-.20, .41]	0.65
Simple effects of shared laughter with each relationship type						
SL Friend	.34 [.26, .41]	8.94***	.05 [-.05, .15]	1.01	.06 [-.11, .23]	0.73
SL Romantic Interest	.49 [.38, .60]	9.03***	.21 [.07, .35]	2.91***	.33 [.07, .59]	2.51**

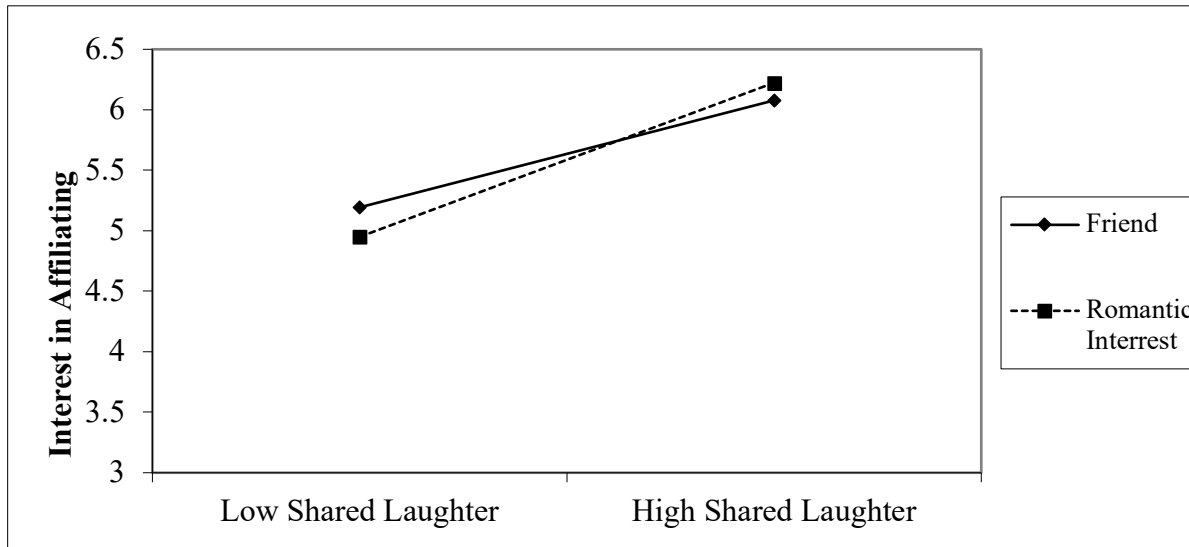
Note. CI = confidence interval. SL = shared laughter.

Estimates are unstandardized. Primary rows are the main effects and sub-row is the interaction term.
Horizontal line indicates new model.

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

Supplementary Figure 1

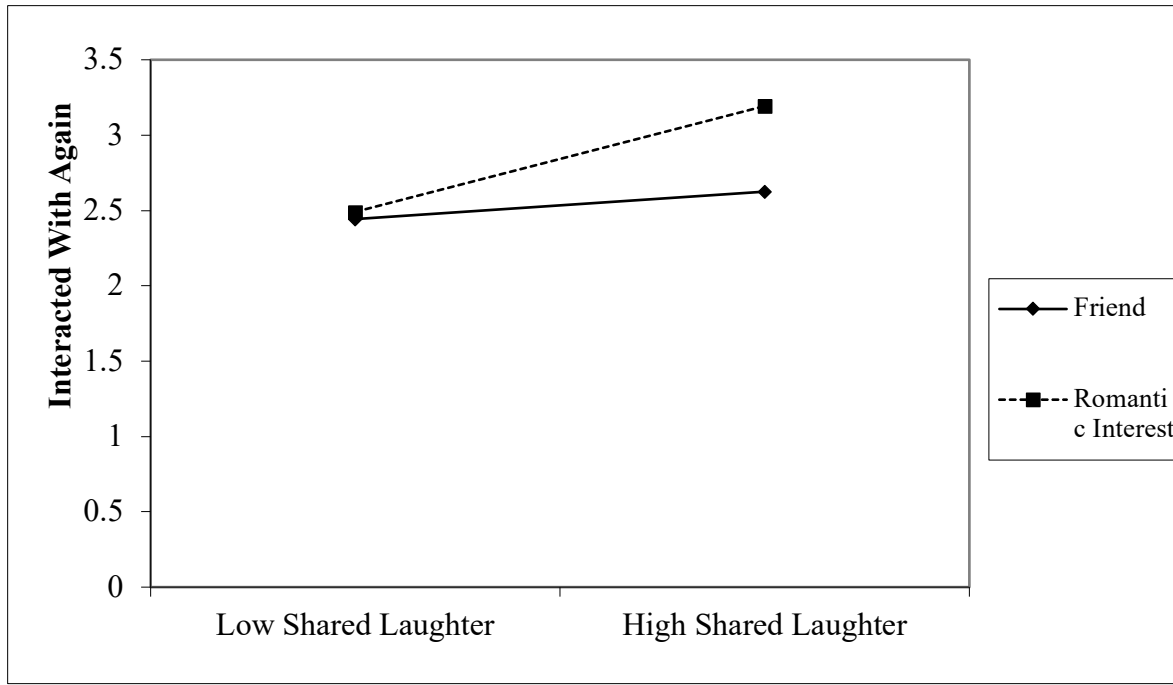
Interaction plot for shared laughter predicting post-interaction interest in affiliating moderated by relationship type



Note. Shared laughter was a stronger, positive predictor of post-interaction interest in affiliating for those who met a potential romantic interest (versus friend), however, simple slopes were significantly different than zero for both relationship types.

Supplementary Figure 2

Interaction plot for shared laughter predicting reconnection within one week, specifically the 4-point ordinal interacting with the person again



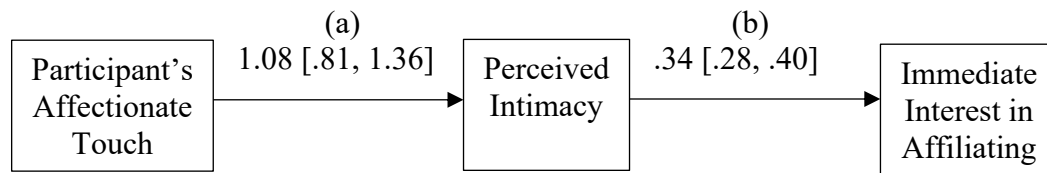
Note. Shared laughter was a stronger predictor of interacting with them again within the week for those who met a potential romantic interest (versus friend). Only the simple slope for romantic interest was significantly different than zero.

Mediation Models with Social Perceptual Mechanism Linking Behavior with Immediate Interest in Affiliating and One-Week Reconnection

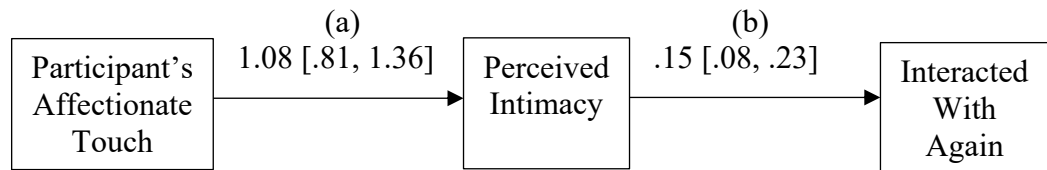
Results of pre-registered mediation models using behavior to predict immediate interest in affiliating (Hypothesis 2) *and* one-week future connection via each theoretically-derived social perceptual mechanism can be found in Supplementary Figures 3-5.

Supplementary Figure 3

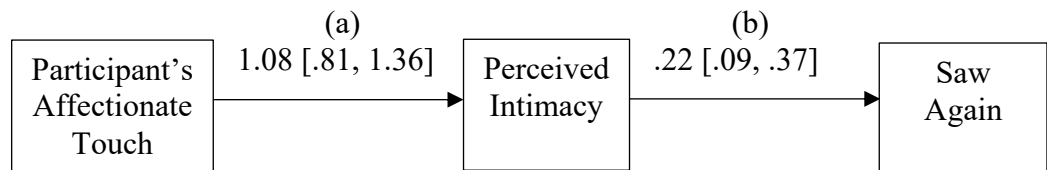
Mediation analyses examining perceived intimacy as social perceptual mechanism for participant's affectionate touch and immediate interest in affiliating and separately, reconnection within one week



Indirect effect = 95% CI [.09, .31]
c' = -.003 [-.22, .21]



Indirect effect = 95% CI [.09, .31]
c' = -.10 [-.37, .18]

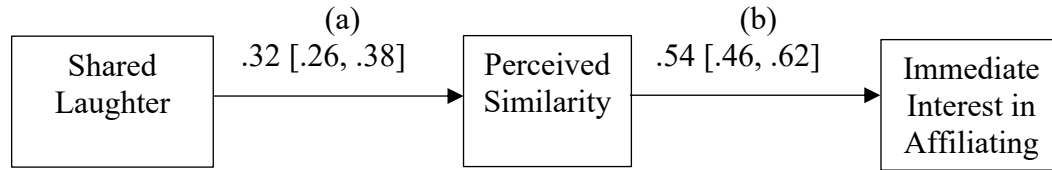


Indirect effect = 95% CI [.05, .43]
c' = -.39 [-.89, .10]

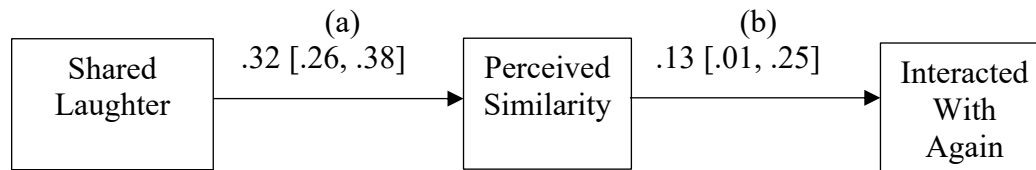
Note. Indirect effects analyses were conducted using bootstrapping procedures and CIs resampled 20000 times.

Supplementary Figure 4

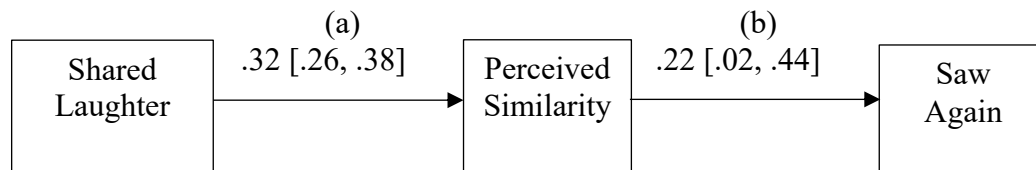
Mediation analyses examining perceived similarity as social perceptual mechanism for shared laughter and immediate interest in affiliating and separately, reconnection within one week



Indirect effect = 95% CI [-.02, .07]
 $c' = .22$ [.16, .28]



Indirect effect = 95% CI [-.02, .07]
 $c' = .07$ [-.02, .15]

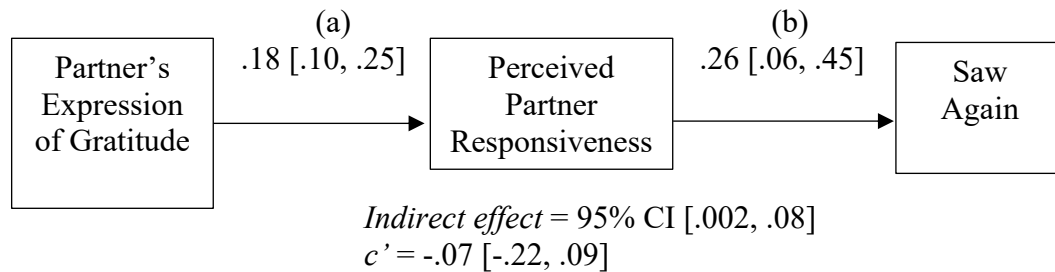
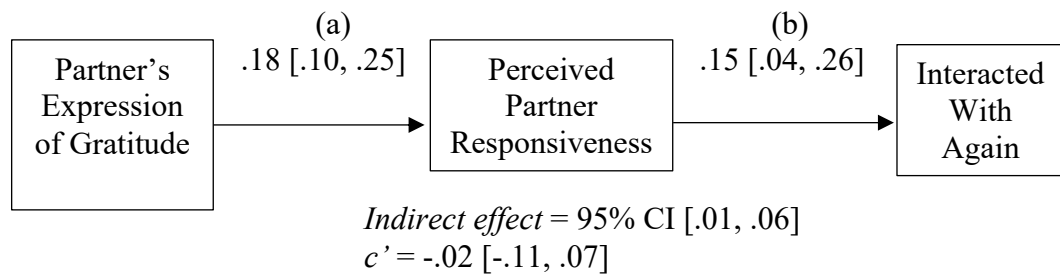
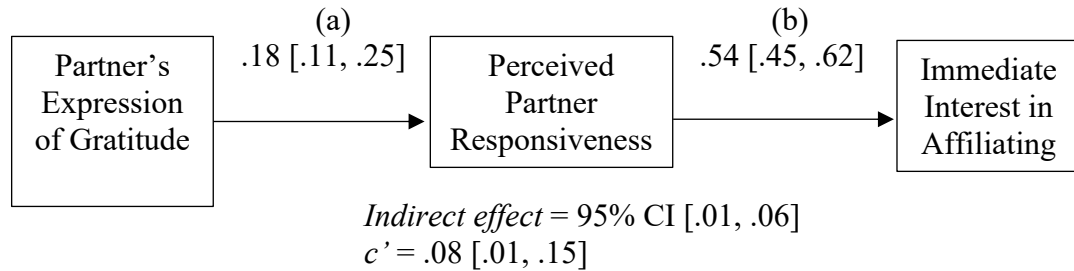


Indirect effect = 95% CI [-.05, .09]
 $c' = .09$ [-.06, .24]

Note. Indirect effects analyses were conducted using bootstrapping procedures and CIs resampled 20000 times.

Supplementary Figure 5

Mediation analyses examining perceived partner responsiveness as social perceptual mechanism for partner's expression of gratitude and immediate interest in affiliating and separately, reconnection within one week



Note. Indirect effects analyses were conducted using bootstrapping procedures and CIs resampled 20000 times.

Supplementary Table 8: Hypothesis 3 Controlling for Prior Knowledge of the Social Partner

Supplementary Table 8 shows results for Hypothesis 3 controlling for prior knowledge of the social partner. All significant effects held when this variable was included in the model, and conclusions do not change from the original models. Although most people did not know the social partner prior to the initial interaction, main effects of this variable emerged such that prior knowledge of the social partner was positively associated with end-of-semester, but not one-week outcomes.

Supplementary Table 8

Initial Affectionate Touch Provision, Shared Laughter, and Expressed Gratitude Predicting Future Indicators of Relationship Development Controlling for Prior Knowledge of the Social Partner

Relationship-Promoting Behaviors	Reconnection Within One Week		Future Relationship Status		Future Behavioral Affiliation		Future Relationship Quality	
	<i>b</i> [95% CI]	<i>z</i>	<i>b</i> [95% CI]	<i>z</i>	<i>b</i> [95% CI]	<i>t</i>	<i>b</i> [95% CI]	<i>t</i>
Participant's Affectionate Touch	-.19 [-.65, .28]	-0.79	-.26 [-.74, .22]	-1.06	.05 [-.20, .29]	0.37	-.04 [-.22, .15]	-0.37
Prior Knowledge of Social Partner	.16 [-.05, .36]	1.52	.45 [.22, .69]	3.78***	.17 [.06, .28]	2.99**	.10 [.01, .18]	2.24*
Shared Laughter	.15 [.01, .29]	2.07*	.22 [.08, .37]	3.01**	.21 [.14, .28]	5.79***	.14 [.08, .19]	4.79***
Prior Knowledge of Social Partner	.14 [-.07, .34]	1.31	.42 [.20, .66]	3.57***	.15 [.04, .25]	2.76**	.08 [.0003, .17]	1.98*
Partner's Expression of Gratitude	-.02 [-.17, .13]	-0.28	.12 [-.04, .28]	1.44	.09 [.004, .17]	2.10*	.07 [.01, .14]	2.35*
Prior Knowledge of Social Partner	.15 [-.05, .35]	1.44	.43 [.21, .67]	3.66***	.16 [.05, .27]	2.86**	.09 [.002, .17]	2.02*

Note. CI = confidence interval.

Each significant effect of a focal behavior is presented in bold. All associations with future outcomes held when controlling for number of days between the initial interaction and completion of end-of-semester survey.

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

Supplementary Table 9: Hypothesis 3 Controlling for Number of Days between Initial Interaction and End-of-Semester Follow-Up

We accounted for how long participants had to develop a relationship with the new social partner by controlling for the number of days between the initial social interaction report and the end-of-semester survey. This survey was either administered approximately 26 days after completing the one-week follow-up for the ninth report (timing based on periodic checks of the data conducted by the first author; $M = 26.38$, $range = 2 - 82$ days) or, for those who did not complete all nine reports, approximately two months after the last in-lab baseline session (i.e., enrollment for the study closed). On average, reports were completed 57.63 days ($SD = 27.62$, $median = 57$, $range = 5-126$) apart. Supplementary Table 9 shows the Hypothesis 3 findings controlling for this “number of days” variable. Conclusions do not change from the original analyses. For completeness, we also explored whether the number of days moderated these associations, but it was not a significant moderator of any effect (not reported).

Supplementary Table 9

Initial Affectionate Touch Provision, Shared Laughter, and Expressed Gratitude Directly Predicting Future Indicators of Relationship Development Controlling for Number of Days Between Initial Interaction and Exit

	Future Relationship Status		Future Behavioral Affiliation		Future Relationship Quality	
	<i>b</i> [95% CI]	<i>z</i>	<i>b</i> [95% CI]	<i>t</i>	<i>b</i> [95% CI]	<i>t</i>
Relationship-Promoting Behavior						
Participant’s Affectionate Touch						
Number of Days	-.18 [-.64, .29]	-0.76	.08 [-.17, .32]	0.63	-.01 [-.20, .18]	-0.12
Shared Laughter						
Number of Days	-.01 [-.02, .001]	-1.65	-.002 [-.01, .001]	-1.16	-.001 [-.004, .003]	-0.40
Partner’s Expression of Gratitude						
Number of Days	.23 [.09, .38]	3.24*	.22 [.14, .29]	5.95***	.14 [.08, .20]	4.94***
Number of Days	-.01 [-.02, .001]	-1.67	-.002 [-.01, .002]	-1.10	-.001 [-.004, .003]	-0.33
Number of Days	.13 [-.02, .30]	1.65	.10 [.01, .18]	2.33*	.08 [.02, .15]	2.53*
Number of Days	-.01 [-.01, .002]	-1.50	-.002 [-.01, .002]	-1.12	.0004 [-.004, .003]	-0.26

Note. CI = confidence interval.

Estimates are unstandardized. Each focal behavior is tested in a separate model controlling for number of days, resulting in three models separated by horizontal lines. Each significant effect of a focal behavior is presented in bold.

* $p < .05$. *** $p < .001$.

Supplementary Table 10: Measurement Information and Results of Hypothesis 1 and One-Week Reconnection Controlling for Enjoyment of the Interaction

The main manuscript reports the results of tests controlling for *social perceptions* for which there has been longstanding interest from the interpersonal interaction literature: perceived warmth, competence, and attractiveness. Here, we report results controlling for an additional category of variable (Algoe, 2019), related to a valenced evaluation of the interaction itself, which we call enjoyment. Valence taps a more global evaluation of how the interaction went generally rather than a more specific thing that happened (e.g., affectionate touch provision) or perception of the other person (e.g., partner's warmth), and is theorized elsewhere to provide important fuel for such interactions (Algoe, 2019; Fredrickson, 2016), so we do not focus on it for present purposes of identifying behavioral and social perceptual processes through which initial encounters may promote relationships.

Measures

Enjoyment of the Interaction. Enjoyment of the interaction was measured with two items. In the first, participants rated how much they enjoyed the interaction with a single item, “on average, the interaction was:” *fine* (1) to *terrific* (5). Next, happiness experienced during the interaction was measured with the following prompt: “during the interaction, to what extent did you feel or experience the following...happy/pleased/joyful”, measured from 0 (*not at all*) to 4 (*very much*). The happiness item was recoded to range from 1 to 5 and then the enjoyment and happiness items were averaged to form an “enjoyment of the interaction” composite, $\alpha = .6$. This is below typical lower limits for a reliable Cronbach's alpha (Cortina, 1993).

Results

Supplementary Table 10 presents results of pre-registered analyses testing Hypothesis 1 and one-week outcomes, controlling for enjoyment of the interaction in all models.

Supplementary Table 10

Initial Affectionate Touch Provision, Shared Laughter, and Expressed Gratitude Predicting Post-Interaction Interest in Affiliating and Future Connection at One-Week Accounting for Enjoyment of the Interaction

Relationship-Promoting Behavior	Post-Interaction Interest in Affiliating		Interacted with Again		Saw Again	
	<i>b</i> [95% CI]	<i>t</i>	<i>b</i> [95% CI]	<i>t</i>	<i>b</i> [95% CI]	<i>z</i>
Participant's Affectionate Touch	.06 [-.12, .25]	0.69	.02 [-.25, .30]	0.16	-.21 [-.68, .26]	-0.86
Enjoyment	1.08 [.97, 1.20]	18.42***	.27 [.09, .44]	3.06**	.37 [.07, .68]	2.43*
Shared Laughter	.14 [.07, .20]	4.25***	.05 [-.04, .15]	1.12	.09 [-.08, .25]	1.05
Enjoyment	.93 [.80, 1.07]	13.77***	.21 [.01, .41]	2.05*	.25 [-.09, .60]	1.43
Partner's Expression of Gratitude	.08 [.02, .14]	2.55*	-.01 [-.10, .08]	-0.28	-.05 [-.20, .11]	-0.58
Enjoyment	1.07 [.96, 1.19]	18.56***	.27 [.10, .44]	3.14**	.36 [.06, .66]	2.38*

Note. CI = confidence interval.

Estimates are unstandardized. Each significant effect of a focal behavior is presented in bold.

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

Discussion

All results should be interpreted with caution, as the two-item “enjoyment” variable did not reach adequate reliability. It was somewhat surprising that the effect of affectionate touch on interest in affiliating did not remain significant when enjoyment was in the model (while enjoyment was a significant predictor of affiliative interest). However, touch base rates were relatively low across the initial interaction reports while enjoyment was rather high on average. Regardless, enjoyment overpowered the effect of touch, meaning touch did not explain additional variance above and beyond that captured by enjoyment. This could be because those who enjoyed the interaction also always touched (i.e., touch was confounded with enjoyment), such that participants either touched the interaction partner if or when they felt enjoyment during the interaction, or providing touch induced great enjoyment of that specific interaction. It's possible if we did a mediation analyses, we could reverse that order (i.e., enjoyment mediating

the association between touch and interest in affiliating). Both paths are plausible and future work should determine the causal pathways linking affectionate touch and enjoyment during relationship initiation.

R Packages and Functions Used in Different Models

Linear mixed models were conducted using the `lmer` function in the `lme4` package (Bates et al., 2014) in R. When the outcome was ordinal (e.g., the type of reconnection within the first week), the `clmm` function in the `ordinal` package was used (Christensen & Christensen, 2015). When the outcome was binary (e.g., whether the participant still had a relationship with the social partner approximately two months later), we used the `glmer` function to run a generalized linear mixed model (Lee & Grimm, 2018).