

Biased first impressions yield positive illusions that facilitate friendship initiation



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Abstract

Quality friendships are highly beneficial, yet relatively little research has identified processes that facilitate the initiation of friendships. One process that motivates relationship maintenance—forming positive illusions about another person—may also occur when interacting with strangers and similarly motivate friendship initiation. We tested this idea in three studies. Study 1 was a dyadic observational study of strangers who had introductory conversations with one another. In Studies 2–3, participants evaluated strangers' profiles on an online friendship service that was ostensibly being developed. Results indicated that people who were more motivated to form friendships were more likely to form positive illusions about strangers (Studies 2–3) and people were more likely to desire friendship from those strangers to the extent that they formed positive illusions about them (Studies 1–3). Together, these results suggest that people generate positive illusions about unfamiliar others and those illusions increase their desire to form friendships with them.

Keywords

Biased perceptions, friendship, positive illusions, relationship initiation, strangers

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Introduction

“Friendship at first sight, like love at first sight, it is the only true one.”

Herman Melville (1957, p. 224)

Some of the most meaningful relationships are with close friends. Indeed, friends provide companionship (e.g., Demir & Weitekamp, 2007), contribute to better mental health (e.g., Narr et al., 2017) and life satisfaction (e.g., Goodwin & Plaza, 2000), and can encourage behaviors that promote physical health (e.g., safe-sex practices, Kalichman et al., 2003). Similarly, support from friends tends to help people meet their personal goals (e.g., Wing & Jeffrey, 1999) and increases feelings of control over their life (e.g., Leary et al., 1995), especially during times of stress (Sarason et al., 1997). Although romantic and familial relationships can provide similar benefits (e.g., Braithwaite & Holt-Lunstad, 2017; Nguyen et al., 2016), friendships are unique in that people tend to form considerably more friendships over their lives (Fehr, 1996). Because of this, people typically spend more time initiating friendships than other types of relationships, highlighting the importance of friendship initiation throughout the lifespan.

Despite the importance of friendships, research on adults has focused primarily on romantic and family relationships (see Fehr, 2000) and relatively little research has addressed processes that promote friendship initiation. Nevertheless, many of the factors that facilitate the initiation of romantic relationships also appear to facilitate new friendships. For example, people are more likely to desire a friendship with strangers who gradually disclose intimate information about themselves (Sprecher, 2021) and who are more responsive (e.g., encouraging) to their own self-disclosures (Kleiman et al., 2015). Similarly, an extensive body of research has revealed that people are more likely to develop friendships with people who have similar demographic qualities, preferred activities and hobbies, and values as themselves (for review, see Fehr, 2008). Finally, people also tend to desire friendships with others who display desirable personality traits, such as those who are kind (Cuperman & Ickes, 2009), trustworthy (Apostolou & Vetsa, 2023), and more outgoing (Back et al., 2011). In the current research, we examine whether another factor that promotes romantic relationships—forming positive illusions—may similarly facilitate the initiation of friendships.

The function of positive illusions

Positive illusions are biased perceptions that overemphasize positive information about another person (e.g., their desirable behaviors, motives, and dispositions) and underemphasize negative information about that person (e.g., their undesirable behaviors, motives, and dispositions) compared to what is objectively warranted (Murray et al., 1996a, 1996b; Murray & Holmes, 1997). A vast body of research has identified the benefits of positive illusions for romantic relationships (e.g., Miller et al., 2006; Murray et al., 1996a, 1996b). In particular, positive illusions have been theorized to protect relationships against the feelings of doubt that commonly emerge over the course of a

relationship (Miller et al., 2006; Murray, 1999). More specifically, when romantic relationships begin, people often strive to make the best impression possible and thus expend considerable effort to meet their partner's ideals (Holmes & Boon, 1990). However, over time, people engage in less impression management (Tice et al., 1995) and sources of conflict inevitably emerge as partners' goals and interests diverge from one another (Braiker & Kelley, 1979), which can lead people to occasionally question whether or not a partner truly meets their ideals (e.g., Murray, 1999). Creating positive illusions about a partner can help assuage those concerns, thus preventing commitment to that partner from wavering and thus protecting the relationship (McNulty et al., 2008; Miller et al., 2006; Murray et al., 1996a). Indeed, forming positive illusions increases relationship maintenance efforts (Huston et al., 2001) and decreases the likelihood of relationship dissolution (Le et al., 2010; Rusbult et al., 2000).

Although this research suggests that positive illusions emerge in established relationships to protect imperfect relationships, it does not preclude the possibility that positive illusions may also emerge earlier, such as when first meeting or seeing a stranger. During these initial encounters, people tend to quickly evaluate others (for review, see Ferguson & Zayas, 2009) and any positively-biased evaluations should serve as the foundation for positive illusions about those unfamiliar others. Further, because people typically have limited information about strangers, they may evaluate strangers in a manner more consistent with their desires than reality. Indeed, people tend to make evaluations of others that are more biased to the extent that they lack convincing information about them (e.g., Cone et al., 2019), suggesting that, at times, people may form biased impressions, and thus positive illusions, of strangers. Research on the halo effect (e.g., Nisbett & Wilson, 1977)—the tendency for people to assume that unfamiliar others who possess one desirable trait (e.g., attractiveness) also possess other desirable, yet unrelated, traits (e.g., intelligence, kindness)—is similarly consistent with the idea that people sometimes evaluate strangers in a positively-biased manner. Nevertheless, little is known about how such positive illusions develop and whether they also emerge during relationship formation.

If people do form positive illusions of strangers, those illusions may serve a similar, yet not identical, function as positive illusions of established relationship partners. In particular, whereas people who are motivated to maintain relationships often form positive illusions about relationship partners (Murray & Holmes, 1997) and thus remain committed to maintaining those relationships (Murray et al., 1996a), we posit that people who are motivated to *initiate* relationships may similarly form positive illusions about strangers that ignore those strangers' flaws and thus increase their desire to initiate relationships with them. Indeed, people who are motivated to form new relationships often engage in processes that facilitate their formation, such as offering to help others (Richard & Schneider, 2005) and attempting to learn more about others (McAdams & Losoff, 1984). They may similarly be more likely to form positive illusions of strangers than are people who are less motivated to form new relationships. Consistent with this idea, a large body of research suggests that motives often bias people's initial evaluations of others in a manner that facilitates goal progress (Tidwell et al., 2013; for review, see Ditto et al., 2009). For example, people who expect to interact with a stranger (vs. those who do not)

are more likely to enhance that stranger's positive traits and downplay their negative traits in order to ensure that future interactions are pleasant (Knight & Vallacher, 1981; Lassiter & Briggs, 1990). Furthermore, these positive evaluations increase the likelihood of relationship initiation. For example, people are more likely to communicate (Denrell, 2005) and invest effort into initiating relationships (Eastwick & Finkel, 2008) with people they evaluate favorably compared to those they evaluate less favorably. Taken together, this suggests that people may form biased evaluations when motivated to initiate a new relationship and such biased evaluations might increase efforts to do so.

Positive illusions in friendship

Although most research has addressed positive illusions within the context of romantic relationships, people may similarly form biased evaluations of non-romantic others. Indeed, despite the unique importance of romantic relationships (Finkel et al., 2014), considerable research suggests that people evaluate romantic and non-romantic partners in a relatively similar manner. For example, people not only tend to evaluate their romantic partners in a favorable manner (Baker & McNulty, 2020), they also tend to evaluate close non-romantic partners, such as their friends and family members, favorably (e.g., Endo et al., 2000; Martz et al., 1998). Further, people tend to evaluate their similarity to (Pearce et al., 2020), the support they receive from (Bachman & Bippus, 2005), and the humor and warmth of (Sprecher & Regan, 2002) friends to a similar degree as they evaluate romantic partners. Even implicit evaluations of friends operate in a similar manner to those of romantic partners (DeHart et al., 2004). The implications of these evaluations are also similar for friends and romantic partners. For example, evaluations of friends often shape commitment to, and maintenance of relationships with, those friends (Oswald et al., 2004). Given these similarities, it is reasonable to expect that people may also form positive illusions about friends and potential friends, although we are unaware of research that has addressed this idea. Thus, the second goal of this research is to address the role of positive illusions within friendships.

Assessing positive illusions

As previously mentioned, positive illusions reflect the extent to which people view another person more favorably than what is objectively warranted. However, it can be quite challenging to assess what is objectively warranted. As Murray and colleagues note: "the central challenge in understanding the role of positive illusions in romantic relationships is identifying appropriate benchmarks or baselines for 'reality'" (1996b, p. 1176). Given these challenges, most previous studies (e.g., Barelds & Dijkstra, 2011; Barelds-Dijkstra & Barelds, 2008; Conley et al., 2009; Murray et al., 1996a, 1996b) have used others' self-reports "as proxies for truth" (Murray et al., 1996b, p. 1176). This approach relies on the idea that people hold more positive illusions of another person to the extent that they evaluate that other person more favorably than that other person evaluates themselves.

Although this approach has been fruitful, it operates under the assumption that others' self-reports are relatively accurate. However, as scholars have noted (Murray et al., 1996a, 1996b, 2003), this approach likely underestimates the extent to which people are forming positive illusions because others' self-reports also tend to be inflated (for review, see Dufner et al., 2019). More importantly though, numerous factors determine whether, and how much, others self-enhance and thus inflate their self-reports. For example, people high in narcissism (Grijalva & Zhang, 2016) and from individualistic cultures (Sedikides et al., 2003) tend to self-enhance more than average. In contrast, people who are experiencing depression (Taylor et al., 2003) and social anxiety (Shean & Uchenwa, 1990) tend to self-enhance less than average. Because the extent to which people self-enhance varies from person to person, relying on others' self-reports as a standard for comparison introduces unnecessary measurement error into the assessment of positive illusions.

Accordingly, some researchers have opted to take a more objective approach by relying on third-party evaluations of others rather than those others' self-reports. For example, to assess positive illusions, researchers have compared people's evaluations of their romantic partner to either their friend's evaluations (Murray et al., 2000) or neutral observers' evaluations (Barelds et al., 2011) of that partner. The current research takes a similar approach. Specifically, we assessed positive illusions by comparing participants' ratings of another person to either (a) an objective team of coders' ratings of that same person or (b) the average of all participants' ratings of that person (i.e., the group consensus). By comparing participants' evaluations of others to third-party evaluations of those others (rather than those others' self-reports), this approach decreases measurement error and provides more accurate assessments of positive illusions.

Overview of the current research

The purpose of the current studies was to better understand how positive illusions develop by using a more objective approach to evaluate the extent to which people develop positive illusions of strangers and examine whether such illusions promote friendship initiation with those strangers. We made three predictions based on our theoretical arguments. First, we predicted that the motivation to initiate new friendships would increase the likelihood of forming positive illusions about strangers. Second, we predicted that forming positive illusions about strangers would increase the desire to become friends with those strangers. Taken together, our final prediction was that positive illusions about strangers would mediate the association between the motivation to initiate new friendships and the desire to become friends with those strangers.

We tested these ideas in three studies. Study 1 was a dyadic observational study of undergraduate strangers who had lengthy introductory conversations with one another. In Studies 2 and 3, young adults evaluated strangers' profiles on an online friendship service that we were ostensibly developing. Given that positive illusions refer to biased evaluations of both behavior and personality, Study 1 addressed evaluations of strangers' desirable behaviors (e.g., responsiveness) and Studies 2–3 addressed evaluations of strangers' desirable personality traits (e.g., kindness). We opted to examine friendship formation specifically among young adults because this is a critical time period for the

formation of friendships. In particular, although people tend to believe that friendships are important throughout their life, friendships become increasingly important during adolescence and early adulthood (Shulman, 1975). For example, people tend to prioritize the time they spend with friends during this time period as they decrease their time with their family of origin and often have yet to start their own family (Crosnoe, 2000; de Vries, 1996). Further, it is not uncommon for the friendships formed during early adulthood to persist throughout the remainder of one's life (Rawlins, 1992). Despite the importance of friendship during this developmental period, current young adults have reported greater difficulties developing new friendships and feelings of loneliness compared to previous generations (Cigna, 2018), highlighting the need to better understand the ways in which young adults can successfully initiate friendships.

Study 1

Study 1 relied on previously collected data from a laboratory study of undergraduate strangers who engaged in video-recorded conversations and were later asked to report the extent to which (a) their conversation partner engaged in self-disclosure and responsiveness, which are two behaviors that people typically desire from their friends (Kleiman et al., 2015; Sprecher, 2021), and (b) they desired a friendship with that stranger. Researchers later coded the extent to which each person engaged in self-disclosure and responsiveness during the conversations to examine whether participants formed positive illusions of their interaction partners. We hypothesized that people would desire a friendship with their conversation partner more to the extent that they held more positive illusions of that partner (i.e., evaluated the partner's behavior more favorably than objective evaluations of their behavior). Although data were collected prior to the development of these hypotheses, analyses were preregistered at https://osf.io/f5juv/?view_only=9f79f1ffac5648f4a4a9313e6af76c51.

Method

Participants. One-hundred and ten undergraduates (89 cisgender women, 21 cisgender men), who were paired together in 55 dyads, participated in a broader study of friendship in the southeastern region of the United States. A priori power analyses were not conducted because the current hypotheses were developed after these data were collected; nevertheless, a sensitivity power analysis indicated that this sample would be powered ($>.80$) to detect small-to-medium-sized effects ($r = .26$). Participants had a mean age of 18.50 years ($SD = .91$, $Mdn = 18$, Range = 18–23). Forty-one participants (37%) identified as White/Caucasian, 34 (31%) identified as Black/African-American, 13 (12%) identified as Asian, 12 (11%) identified as Hispanic/Latino/a, two (2%) identified as American Indian/Alaska Native, two (2%) identified as another race not listed, and six (5%) identified as two or more ethnicities. Because of the broader study goals that were unrelated to the current hypotheses, participants were eligible for the study if they were between the ages of 18 and 23 and were in their first or second semester at the university.

Procedure. Participants signed up for the study through the university's undergraduate participant pool website. The study's project coordinator scheduled two participants who did not know one another to arrive at each session. Because we did not anticipate that effects would depend on whether participants interacted with someone of the same or different gender as themselves, gender was not a consideration when pairing participants, although the majority of participants (69%) were paired with someone of the same gender due to substantially more women participating in the study. At the beginning of each session, participants first provided consent and were informed that they would be taking part in a 45-min, video-recorded, social interaction task. This task, which was based on the Fast Friends paradigm (Aron et al., 1997), required participants to alternate between asking questions to their partner and answering questions from their partner. All questions were provided to participants on slips of paper in three envelopes that corresponded to the three, 15-minute segments of the task. The first set of questions that participants discussed were relatively impersonal (e.g., "How did you celebrate last Halloween?"). Based on the broader goals of the study that were unrelated to the current hypotheses, dyads were randomly assigned to one of two conditions. Participants in the control condition received and discussed questions in the second and third segments of the conversation that were similarly impersonal (e.g., "What did you do this summer?" "What was your high school like?"). However, participants in the experimental condition received and discussed questions that became increasingly personal in the second ("What is your most treasured memory?") and third ("When did you last cry in front of another person? By yourself?") segments of the conversation. Although we expected that our results would be robust to this manipulation, we conducted supplemental analyses that examined whether the condition moderated the results to ensure that this manipulation did not account for the obtained results. After completing the social interaction task, participants were separated into individual rooms where they completed questionnaires that assessed their perceptions of their conversation partner's behavior and their desire to initiate a friendship with that conversation partner. Finally, participants were debriefed and compensated with partial course credit.

Materials

Perceptions of partners' behavior. After the social interaction task, participants responded to three items that assessed their perceptions of their partners' self-disclosure (i.e., "During this conversation, to what extent did your conversation partner discuss his or her feelings about his- or herself with you?" "... express his or her personal thoughts and beliefs with you?" "... disclose intimate, personal things about his- or herself with you?") and four items that assessed their perceptions of their partners' responsiveness (i.e., "During this conversation, to what extent did your conversation partner make a lot of effort to really listen to you?" "... express liking and encouragement toward you?" "... make you feel valued?" "... give you good advice?"). Participants responded to all items using a 7-point Likert scale (1 = *not at all*, 7 = *a lot*). The average of the three self-disclosure items served as an index of participants' perceptions of their partners' self-disclosure and the average of the four responsiveness items served as an index of

participants' perceptions of their partners' responsiveness. Internal consistency for both was acceptable. ($\alpha_{\text{self-disclosure}} = .79$; $\alpha_{\text{responsiveness}} = .78$).

Objective ratings of self-disclosure and responsiveness. An objective team of coders individually watched the video-recorded conversations and, every 3 minutes, rated the extent to which each participant engaged in the same three self-disclosure behaviors (i.e., "disclose emotional experiences or feelings", "disclose intimate beliefs or thoughts", "reveal personal information about themselves") and the same four responsiveness behaviors (i.e., "pay attention to their partner", "express liking", "make the partner feel valued", "offer advice and suggestions") on a 7-point Likert scale (1 = *not at all*; 7 = *a lot*). Coders were trained and rated all conversations for self-disclosure behaviors before being trained and rating all conversations for responsiveness. Separate coding teams rated one partner from each dyad to ensure that a coder who rated one participant did not also rate that participant's partner. Because participants often require time to acclimate to being observed, we did not record or code the first 15 minutes of the conversations. The average of the ten codes for each behavior (one code per 3 minutes for the remaining 30 minutes of the conversation) served as an index of the extent to which that person engaged in that behavior throughout the conversation. The average of the three self-disclosure items served as an index of objective ratings of the partners' self-disclosure and the average of the four responsiveness items served as an index of objective ratings of the partners' responsiveness. Approximately 50% of the discussions were coded by a second rater. Intraclass correlation coefficients indicated that the coders were reliable ($ICC_{S,D.} = .93$; $ICC_{Resp.} = .81$).

Desire to form a friendship with the conversation partner. Participants responded to three items that evaluated the extent to which they wanted to initiate a relationship with their conversation partner (i.e., "To what extent do you want to interact with your conversation partner in the future?" "... would you want to informally spend time (i.e., hang out) with your conversation partner in the future?" "... would you want to become friends with your conversation partner?"). The average of these three items served as an index of the extent to which they desired a friendship with that person. Internal consistency was acceptable. ($\alpha = .90$).

Results

Descriptive statistics and preliminary analyses. Descriptive statistics and bivariate correlations between variables are reported in Table 1. Perceived self-disclosure and responsiveness scores were above the midpoint, suggesting that participants perceived that their conversation partner engaged in considerable disclosure and was responsive, on average. Similarly, participants' reports of their partners' self-disclosure and responsiveness were positively associated with their desire to form a friendship with those partners. Interestingly though, participants' desire to form a friendship with their partners was not associated with the objective ratings of those partners' self-disclosure and responsiveness.

Table 1. Descriptive statistics and correlations among variables in study 1.

	1	2	3	4	5
(1) Partners' self-disclosure ^a	.27*				
(2) Partners' responsiveness ^a	.59**	.24[†]			
(3) Partners' self-disclosure ^b	.31**	.24*	.32*		
(4) Partners' responsiveness ^b	.23**	.30**	.32**	.37**	
(5) Desire for friendship	.35**	.45**	.09	.02	.08
<i>M</i>	4.99	5.38	2.19	3.53	5.03
<i>SD</i>	1.44	1.06	0.50	0.19	1.16

Note. Correlations between partners appear on the diagonal in bold.

[†] $p < .10$, * $p < .05$, ** $p < .01$. ^a = participants' reports, ^b = coders' reports.

Finally, conversation partners' self-disclosure and responsiveness scores were positively associated with one another.

Were positive illusions associated with friendship desire? A residualized regression approach (see Castro-Schilo & Grimm, 2018) was used to evaluate the extent of participants' positive illusions. Specifically, in two separate analyses, we regressed participants' reports of each of their partners' behaviors (i.e., self-disclosure, responsiveness) onto the objective raters' scores for that behavior and saved the unstandardized residuals from these analyses. We opted for this approach rather than calculating traditional difference scores that would have subtracted one score (e.g., objective ratings of partners' behavior) from another score (e.g., participants' reports of partners' behavior) because difference scores have been criticized for inflating measurement error and leading to erroneous conclusions (see Cronbach & Furby, 1970; Johns, 1981). Nevertheless, the unstandardized residuals can be interpreted in a similar manner as difference scores (see Castro-Schilo & Grimm, 2018; Laird & Weems, 2011), such that higher scores indicate that participants evaluated their conversation partner more favorably than the objective raters and lower scores indicate that participants evaluated their conversation partner less favorably than the objective raters.

To examine whether positive illusions were associated with greater friendship desire, we estimated 2, two-level models using the HLM 7.03 computer program (Raudenbush et al., 2013). In the first level of each model, participants' desire to initiate a friendship with their conversation partner was regressed onto participants' positive illusions of either their partner's self-disclosure or responsive behavior. The non-independence of partners' data was controlled in the second level of the model that allowed for a randomly varying intercept. Results indicated that positive illusions of self-disclosure were positively associated with friendship desire, $B = 0.29$, $SE = 0.08$, $t(54) = 3.70$, $p < .001$, $r = .45$, suggesting that participants had a greater desire to initiate a friendship with their partner to the extent that they reported that partner engaged in more self-disclosure than did objective coders. Similarly, positive illusions of responsiveness were positively associated with friendship desire, $B = 0.54$, $SE = 0.10$, $t(54) = 5.59$, $p < .001$, $r = .61$, suggesting that

participants also had a greater desire to initiate a friendship with their partner to the extent that they reported that partner engaged in more responsiveness than did objective coders. Supplemental analyses revealed that positive illusions about both self-disclosure, $B = 0.30$, $SE = 0.08$, $t(52) = 3.64$, $p = .001$, $r = .45$, and responsiveness, $B = 0.53$, $SE = 0.10$, $t(52) = 5.40$, $p < .001$, $r = .60$, remained significant after controlling for both participants' and their partners' gender. Further, the association between positive illusions of self-disclosure and friendship desire was not moderated by participants' gender, $B = 0.37$, $SE = 0.21$, $t(52) = 1.74$, $p = .088$, $r = .23$, the gender of their partner, $B = 0.09$, $SE = 0.17$, $t(52) = 0.52$, $p = .609$, $r = .07$, or their interaction, $B = 0.31$, $SE = 0.48$, $t(49) = 0.65$, $p = .520$, $r = .09$; similarly, the association between positive illusions of responsiveness and friendship desire was not moderated by participants' gender, $B = 0.22$, $SE = 0.23$, $t(52) = 0.99$, $p = .329$, $r = .14$, the gender of their partner, $B = 0.18$, $SE = 0.16$, $t(52) = 1.10$, $p = .276$, $r = .15$, or their interaction, $B = 0.35$, $SE = 0.23$, $t(49) = 1.53$, $p = .134$, $r = .21$. Finally, participants' condition did not moderate the association between friendship desire and positive illusions of either self-disclosure, $B = 0.28$, $SE = 0.15$, $t(53) = 1.90$, $p = .063$, $r = .25$, or responsiveness, $B = 0.02$, $SE = 0.20$, $t(53) = 0.12$, $p = .907$, $r = .02$.

Given that positive illusion scores were created from both participants' and raters' evaluations of the partner, the association between these positive illusions scores and friendship desire may reflect participants' evaluations, the coders' evaluations, or both. To tease apart the influence of each, we conducted supplemental analyses that regressed participants' friendship desire onto participants' and coders' raw reports of the partners' behavior (i.e., either self-disclosure or responsiveness). Results indicated that participants' evaluations of the partner's self-disclosure, $B = 0.29$, $SE = 0.08$, $t(53) = 3.63$, $p = .001$, $r = .45$, and responsiveness, $B = 0.54$, $SE = 0.10$, $t(53) = 5.56$, $p < .001$, $r = .61$, were associated with greater friendship desire, but coders' evaluations of the partner's self-disclosure, $B = -0.07$, $SE = 0.30$, $t(53) = -0.30$, $p = .764$, $r = -.04$, and responsiveness, $B = -0.78$, $SE = 0.46$, $t(53) = -1.69$, $p = .097$, $r = -.23$, were not, suggesting that participants' evaluations were primarily responsible for the association between positive illusions and friendship desire.

Discussion

Study 1 provided preliminary evidence that positive illusions about a stranger are associated with a greater desire to form a friendship with that stranger. Specifically, positive illusions about the extent to which a stranger engaged in two desirable behaviors—self-disclosure and responsiveness—were positively associated with participants' desire to form a friendship with that stranger. Nevertheless, Study 1 was limited in three ways. First, because Study 1 relied on preexisting data, we were unable to account for other potentially confounding variables. For example, mood or personality (e.g., agreeableness) may account for the association between positive illusions and desire for friendship. Second, Study 1 did not address our first or third hypotheses, which predicted that the people who are more motivated to make friends would make more positive illusions about others, which would consequently lead to a greater desire to be friends with those others. Finally, Study 1 examined positive illusions about desirable behaviors,

yet did not address positive illusions about desirable personality traits. Study 2 addressed these limitations.

Study 2

Participants in Study 2 first completed questionnaires that assessed their motivation to make new friends, personality, and mood. Participants were then asked to test a new online friendship service. To do so, they were asked to evaluate the extent to which individuals on this service possessed qualities desirable for friendship (e.g., kindness) and the extent to which they would want to be friends with each individual. In both Studies 2 and 3, each participant's evaluations of a profile were compared to the average of all of participants' evaluations of that profile to assess the extent to which each participant formed positive illusions. Based on our theoretical analysis and the results from Study 1, we predicted that (a) the motivation to make friends would be associated with forming more positive illusions about strangers, (b) positive illusions about those strangers would be associated with a greater desire to be friends with those strangers, and (c) positive illusions would mediate the association between the motivation to make friends and a greater desire to be friends with the strangers that were viewed. This study was preregistered prior to data collection: https://osf.io/8hvf2/?view_only=ac05472eadd44d9da2d753dbcd54ae9b.

Method

Participants. Two hundred and eighteen participants were recruited from Amazon Mechanical Turk. Participants were eligible for the study if they spoke English (to ensure comprehension of the study materials) and were between the ages of 18 and 30 (to ensure they were of a similar age as the people in the profiles they were evaluating for potential friendship). A Monte Carlo power analysis for indirect effects indicated that a sample size of 201 participants was necessary to achieve a power of .80. We assumed a small-to-medium effect size ($r = .20$) for the relationship between the predictor and the mediator, and a small effect size ($r = .10$) for the relationship between the predictor and the outcome. We used the most conservative effect size from Study 1 ($r = .45$) for the relationship between the mediator and the outcome.

Following our preregistered criteria, 11 participants were excluded because they failed two or more attention checks. Thus, the final sample consisted of 207 participants (131 cisgender men, 76 cisgender women). Participants had a mean age of 27.66 years ($SD = 2.69$, $Mdn = 29$, Range = 18–30). One hundred and fifty-six participants (75%) identified as White/Caucasian, 20 (10%) identified as Black/African-American, 12 (6%) identified as Hispanic/Latino/a, 9 (4%) identified as Asian, 5 (2%) identified as American Indian/Alaska Native, 3 (1%) identified as two or more ethnicities, and 2 (1%) declined to provide their ethnicity.

Procedure. Participants signed up for the study via the Amazon Mechanical Turk website. Participants were directed to the study on Qualtrics where they first provided informed

consent. Eligible participants then completed questionnaires that assessed their desire to form friendships, personality, and mood. Following this, participants were told that, in light of COVID-19 restrictions making it difficult for people to meet new people, we were developing an online friendship matching service. Participants were told that this service would be similar to online dating services but the focus was on fostering friendships rather than romance. Participants were told that their assistance was needed to help us develop this friendship service. Specifically, participants were told that we were still developing the matchmaking algorithm and thus we needed to better understand who people seek friendship from. To this end, participants were asked to view 27 profiles from the service and rate each profile on three qualities—outgoingness, kindness, and reliability—and also rate their desire to initiate a friendship with the person in the profile. These profiles were created by research assistants for this study to ensure that they sufficiently varied in these three qualities. All participants viewed these profiles in the same order to reduce between-subject error variance. After rating the profiles, participants provided demographic information and were compensated with \$3.

Materials

Motivation to form friendships. Participants completed a modified version of the Interpersonal Orientation Scale (IOS; Hill, 1987) to assess their general desire to form friendships. This scale consisted of six items (e.g., “I think it would be satisfying if I could have very close friendships with quite a few people”) that participants indicated their agreement with on a 5-point scale (1 = *Not at all true* to 5 = *Completely true*). Participants’ responses to these items were averaged. Internal consistency was acceptable. ($\alpha = .87$).

Profiles. Participants viewed and rated the profiles of 27 individuals. Each profile contained a picture of someone who was similar in age as the participants (i.e., between 18–30 years old) and brief biography of that individual. A team of six research assistants wrote each of the biographies with the goal of ensuring that they independently varied in three qualities that people often desire in friends: outgoingness, kindness, and reliability. Participants viewed and rated each profile on these three qualities: outgoingness (i.e., “How outgoing is this person?”; $M = 4.88$, $SD = 1.50$, $ICC = .94$), kindness (i.e., “How kind is this person?”; $M = 5.00$, $SD = 1.44$, $ICC = .94$), and reliability (i.e., “How reliable is this person?”; $M = 4.95$, $SD = 1.49$, $ICC = .95$) on a 7-point scale (1 = *Not at all* to 7 = *A lot*). Interrater reliability was good, indicating that participants were able to reliably discern each of the three qualities. Participants also reported their desire to form a friendship with the person in the profile (i.e., “To what extent would you want to become friends with this person?”) using the same 7-point scale.

Covariates. Participants’ personality and mood were assessed and controlled for in supplemental analyses to ensure that they did not account for any obtained effects. First, participants completed the Mini-IPIP (Donnellan et al., 2006), a 20-item scale that assesses neuroticism (e.g., “I get upset easily”; $\alpha = .52$), extraversion (e.g., “I am the life of the party”; $\alpha = .51$), agreeableness (e.g., “I feel others’ emotions”; $\alpha = .49$),

conscientiousness (e.g., “I like order”; $\alpha = .54$), and openness (e.g., “I have a vivid imagination”; $\alpha = .75$), each with four items, using a 7-point scale (1 = *Not at all* to 7 = *A lot*). Second, participants completed the short-form of the Positive and Negative Affect Schedule (PANAS; Thompson, 2007), a 10-item scale that assesses participants’ current positive (“Inspired”, “Alert”; $\alpha = .76$) and negative (“Upset”, “Nervous”; $\alpha = .94$) mood, each with five items, using a 5-point scale (1 = *Very slightly or not at all* to 5 = *Extremely*). Finally, participants completed the Life Orientation Test (Scheier et al., 1994), a 6-item scale that assesses participants’ optimism (e.g., “I’m always optimistic about the future”; $\alpha = .68$), using a 5-point scale (1 = *I agree a lot* to 5 = *I disagree a lot*). Participants’ responses to each of the items within each scale were averaged.

Results

Descriptive statistics and preliminary analyses. Descriptive statistics and bivariate correlations between variables that were assessed once are reported in Table 2. As shown there, participants who were more motivated to make friends were higher in extraversion, agreeableness, and both positive and negative affect, yet were lower in conscientiousness. The extent to which participants desired a friendship with each profile was also positively associated with their evaluations of how outgoing ($r = .54, p < .001$), kind ($r = .66, p < .001$), and reliable ($r = .71, p < .001$) the profile appeared. Finally, all three of participants’ evaluations were also highly positively correlated with one another: their evaluations of outgoingness were positively associated with kindness ($r = .58, p < .001$) and reliability ($r = .57, p < .001$), and evaluations of kindness were positively associated with reliability ($r = .67, p < .001$).

Table 2. Descriptive statistics and correlations among variables in study 2.

	1	2	3	4	5	6	7	8	9
(1) Motivation for friends									
(2) Neuroticism	.06								
(3) Extraversion	.46**	-.32**							
(4) Agreeableness	.27**	-.31**	.42**						
(5) Conscientiousness	-.21**	-.87**	.16*	.37**					
(6) Openness	.00	-.40**	.32**	.60**	.47**				
(7) Positive affect	.43**	-.20**	.36**	.14*	.01	-.07			
(8) Negative affect	.18**	.40**	-.23**	-.49**	-.48**	-.69**	.19**		
(9) Optimism	-.05	.37**	-.31**	-.12 [†]	-.21**	-.14*	-.20**	.16*	
M	3.72	3.49	3.87	4.75	4.64	4.22	3.76	2.15	2.85
SD	0.80	1.13	0.97	1.01	1.06	1.39	0.85	1.17	0.82

Note. [†] $p < .10$, * $p < .05$, ** $p < .01$.

Positive illusions and friendship initiation. Given the strong interrater reliability of participants' ratings of each quality of each profile, we used the average of their ratings as an objective assessment of each quality of each profile. Unlike in Study 1, in which each participant evaluated a different person, all participants in Study 2 evaluated the same profiles. Thus, because there was not variability in the objective ratings of each profile, we could not use the residualized regression approach to assessing positive illusions that we used in Study 1. Instead, positive illusion scores were created by subtracting the objective assessment of each quality from each profile (i.e., the average of participants' ratings) from each participant's rating of that quality such that higher scores indicate that a participant evaluated a profile more positively than did the rest of the participants. As previously noted, evaluations of each of the three qualities were highly correlated with one another; thus, following our preregistered criteria, we used the average of participants' three positive illusion scores for each profile as a composite of the extent to which participants formed positive illusions of each profile. All predictions were tested with two-level cross-classified models using the jamovi computer program ([The jamovi project, 2024](#)) and the GAMLj ([Gallucci, 2022](#)) module, in which evaluations of each profile were nested within persons and profiles that controlled for the non-independence of both participants' multiple evaluations and profiles, and included randomly varying intercepts for both participants and profiles.¹

To test our first prediction, we regressed participants' positive illusion scores onto their motivation to form friendships scores. Results indicated that participants formed more positive illusions about the strangers in the profiles they viewed to the extent that they were more motivated to form friendships, $B = 0.47$, $SE = 0.06$, $t(206) = 7.28$, $p < .001$, $r = .45$. Importantly, a supplemental analysis revealed that this association remained significant after controlling for personality (i.e., the Five Factor Model, optimism) and mood, $B = 0.37$, $SE = 0.08$, $t(206) = 4.86$, $p < .001$, $r = .32$, and another supplemental analysis revealed that this association remained significant after controlling for participants' gender and the gender of the profile, $B = 0.46$, $SE = 0.07$, $t(205) = 7.11$, $p < .001$, $r = .44$. Further, this association was not moderated by participants' gender, $B = 0.16$, $SE = 0.15$, $t(205) = 1.08$, $p = .255$, $r = .08$, the gender of the profile, $B = -0.06$, $SE = 0.05$, $t(5330) = -1.15$, $p = .249$, $r = -.02$, or their interaction, $B = -0.10$, $SE = 0.06$, $t(5330) = -1.58$, $p = .114$, $r = -.02$.

To test our second prediction, we regressed participants' reports of their desire to be friends with each profile onto their positive illusion scores and their motivation to form friendships scores. Results indicated that participants reported a greater desire to be friends with each stranger to the extent that they formed positive illusions about that stranger, $B = 0.81$, $SE = 0.01$, $t(5435) = 59.09$, $p < .001$, $r = .63$. Importantly, a supplemental analysis revealed that this association remained significant after controlling for personality (i.e., the Five Factor Model, optimism) and mood, $B = 0.81$, $SE = 0.01$, $t(5448) = 58.53$, $p < .001$, $r = .62$, and another supplemental analysis revealed that this association remained significant after controlling for participants' gender and the gender of the profile, $B = 0.81$, $SE = 0.01$, $t(5407) = 58.97$, $p < .001$, $r = .63$. Further, this association was not moderated by participants' gender, $B = 0.00$, $SE = 0.03$, $t(5260) =$

0.09, $p = .929$, $r = .00$, the gender of the profile, $B = 0.02$, $SE = 0.05$, $t(5329) = 0.36$, $p = .722$, $r = .00$, or their interaction, $B = 0.08$, $SE = 0.04$, $t(5408) = 1.88$, $p = .061$, $r = .03$.

Finally, to test the prediction that positive illusions about each stranger would mediate the association between the motivation to form friendships and the desire to form a friendship with that stranger, we calculated an estimate of the mediated effect, $B = 0.38$. Further, we computed the 95% confidence intervals around this indirect effect (.28;.49) using RMediation (Tofghi & MacKinnon, 2011), which did not contain zero and therefore indicated a significant indirect effect.

Discussion

Study 2 provided further evidence that people are more likely to desire friendship from individuals about whom they form positive illusions. Further, people were more likely to form positive illusions to the extent that they were more generally motivated to form friendships. Importantly, these associations remained after controlling for the Five Factor Model of personality, optimism, and both positive and negative mood, suggesting that the effects of positive illusions are not simply due to other individual differences between participants. Nevertheless, Study 2 was limited in two ways. First, Studies 1 and 2 both relied on correlational designs, which limit the causal conclusions that can be drawn from these studies. Second, participants in Study 2 knew that they would not meet the people they were evaluating and thus knew that any positive illusions they formed would not actually facilitate friendship formation. Study 3 was an experiment that addressed these limitations.

Study 3

Participants in Study 3 were randomly assigned to complete two tasks that would either increase or decrease their motivation to form friendships. Next, participants evaluated people on an online friendship service similar to Study 2; however, participants in Study 3 believed that they might match and thus possibly become friends with the people they evaluated. Based on our theoretical analysis and the results from Studies 1–2, we predicted that (a) participants who were led to be more motivated to form friendships would form more positive illusions about strangers than would those who were led to be less motivated, (b) positive illusions about those strangers would be associated with a greater desire to be friends with those strangers, and (c) positive illusions would mediate the association between the motivation condition and a greater desire to be friends with the strangers participants viewed. This study was preregistered prior to data collection: https://osf.io/s9x5b/?view_only=33b4bae8330f40ec90bbd5086db4ea66.

Methods

Participants. One hundred and eighty-nine undergraduates living in the southeastern region of the United States were recruited from the research pool at the authors' university. Participants were eligible for the study if they spoke English (to ensure comprehension of

the study materials) and were between the ages of 18 and 30 (to ensure they were of similar age as the people in the profiles they were evaluating for potential friendship). A Monte Carlo power analysis for indirect effects, using the effect size from Study 2, showed that a sample size of 153 participants would be necessary to reach a power of .80 for the proposed indirect effect. We made the a priori decision to overrecruit until the end of the semester that we reached that target sample size.

Following our preregistered criteria, three participants were excluded because they failed two attention checks. Thus, the final sample consisted of 186 participants (144 cisgender women, 33 cisgender men, 6 nonbinary, 1 transgender man, 2 who did not respond). Participants had a mean age of 19.00 years ($SD = 1.84$, $Mdn = 18$, Range = 18–29). Sixty-one participants (33%) identified as White/Caucasian, 55 (30%) identified as Black/African-American, 38 (20%) identified as Hispanic/Latino/a, 13 (7%) identified as Asian, 2 (1%) identified as Middle Eastern or North African, 1 (1%) identified as American Indian/Alaska Native, and 16 (9%) identified as two or more ethnicities.

Procedure. Participants signed up for a laboratory session through the undergraduate participant pool website. At this session, they reviewed and provided informed consent and were randomly assigned to either a high or low friendship motivation condition. Next, participants were told that, in light of COVID-19 restrictions and online courses making it difficult for students to meet new friends, we were developing a friendship matching service for students and needed their help. For the first part of the study, participants were told that we needed to better understand how people make friends. To do so, participants completed two different tasks that were intended to manipulate their motivation to make friends. The first task required participants to recall a time in which they successfully or unsuccessfully made a new friend and the second task required participants to imagine that they successfully or unsuccessfully made a new friend. Following this, participants completed a manipulation check and provided demographics information. Finally, participants were asked to evaluate the profiles of strangers so that we could ostensibly refine our match-making algorithm (see Brady et al., 2020). To make this believable, participants were told that the profiles were of previous participants in the study who were students at their university. Participants actually viewed and evaluated the same profiles that were in Study 2. To ensure that participants believed that they had the opportunity to form new friendships, participants were told that they would have the opportunity to make a profile for the service at the end of the study, that their profile would be evaluated by future participants, and that we would connect them with people they matched with. After evaluating the profiles, participants were instead debriefed and compensated with partial course credit.

Materials

Manipulating friendship motivation. To manipulate participants' motivation to form new friendships, all participants completed two tasks. The first task was a recall task that required participants to recall a time when they tried making a new friend; those in the high (low) motivation condition were asked to recall a time they were (un)successful in making a new friend. Given that prior research has demonstrated that recalling previous

failure tends to decrease motivation and recalling success increases motivation (e.g., Hutchinson et al., 2008), recalling an unsuccessful attempt to make a friend should decrease participants' motivation to make new friends and recalling a successful attempt should increase motivation. To ensure participants actually recalled memories, participants were asked to describe the situation and why they (un)successfully made a new friend.

The second task was an imagination task (see Weckbacher & Baker, 2018) that required participants to imagine a situation where they might try to make a new friend; those in the high motivation condition were asked to imagine that they successfully made a new friend and those in the low motivation condition imagined they were unsuccessful. Participants were then asked to describe several things that might happen that would have caused them to (un)successfully make a new friend. Participants were told to provide these details so that we could better understand obstacles and facilitators of friendship; however, the actual purpose was to manipulate their motivation to form friends. Specifically, given that generating explanations for beliefs tends to increase confidence in those beliefs (e.g., Anderson, 1983), and given that perceptions of a task's difficulty tend to shape motivation to complete that task (Hughes et al., 1985), identifying obstacles to forming friends should decrease motivation to do so and identifying facilitators should increase motivation.

Manipulation check. To ensure the manipulation successfully shaped participants' motivation to form friendships, participants completed the same modified version of the Interpersonal Orientation Scale (IOS; Hill, 1987) used in Study 2. Internal consistency was acceptable. ($\alpha = .90$).

Profile qualities. Participants rated each of the same 27 profiles on the same three qualities using the same items from Study 2. Interrater reliability of these qualities was good, indicating that participants were able to reliably discern each of the three qualities: outgoingness ($M = 4.53$, $SD = 1.71$, $ICC = .94$), kindness ($M = 4.85$, $SD = 1.58$, $ICC = .96$), and reliability ($M = 4.26$, $SD = 1.65$, $ICC = .94$). Participants also reported their desire to form a friendship with the person in the profile (i.e., "To what extent would you want to become friends with this person?"). To mirror the approach used by dating apps, participants responded to the friendship desire item using a binary "Yes" or "No" option rather than a Likert scale

Results

Descriptive statistics and preliminary analyses. Confirming the effectiveness of the manipulation, those in the high friendship motivation condition ($M = 4.10$, $SD = 0.69$) were more motivated to form friendships than were those in the low friendship motivation condition ($M = 3.74$, $SD = 0.81$), $t(184) = -3.30$, $p = .001$, $d = .48$. The extent to which participants desired a friendship with each profile was positively associated with their evaluations of how outgoing ($r = .11$, $p < .001$), kind ($r = .19$, $p < .001$), and reliable ($r = .19$, $p < .001$) the profile appeared. Finally, all three evaluations were also highly

positively correlated with one another: evaluations of outgoingness were positively associated with kindness ($r = .62, p < .001$) and reliability ($r = .52, p < .001$), and evaluations of kindness were positively associated with reliability ($r = .70, p < .001$).

Positive illusions and friendship initiation. Similar to Study 2, we again created positive illusion scores by subtracting the objective evaluations of each quality of each profile (i.e., the average score provided by participants in the current study) from each participant's rating of that quality such that higher scores indicate that participants evaluated a profile more positively than the rest of the participants. As previously noted, evaluations of each of the three qualities were highly correlated with one another; thus, following our preregistered criteria, we used the average of participants' reports of the three evaluations of each profile as a composite of the extent to which participants formed positive illusions of each profile. All predictions were tested with multilevel cross-classified models using the approach that was described in Study 2.¹

To test our first prediction, we regressed participants' positive illusion scores onto a dummy code for their condition (0 = low motivation, 1 = high motivation). Results indicated that participants in the high friendship motivation condition formed more positive illusions about the strangers in the profiles they viewed than did the participants in the low friendship motivation condition, $B = 0.35, SE = 0.11, t(186) = 3.17, p = .002, r = .23$. Further, this association was not moderated by participants' gender, $B = -0.43, SE = 0.31, t(177) = -1.40, p = .163, r = -.10$, the gender of the profile, $B = -0.02, SE = 0.05, t(4836) = -0.39, p = .698, r = -.01$, or their interaction, $B = -0.22, SE = 0.13, t(4602) = -1.64, p = .101, r = -.02$, and it remained significant after controlling for participants' gender and the gender of the profile, $B = 0.35, SE = 0.11, t(177) = 3.05, p = .003, r = .22$.

To test our second prediction, we regressed participants' reports of their desire to be friends with the stranger in each profile onto their positive illusion scores of each profile and the dummy-code for their condition. Results indicated that participants reported a greater to be friends with strangers in the profiles to the extent that they formed positive illusions about those strangers, $B = 0.11, SE = 0.06, t(4992) = 17.87, p < .001, r = .25$. Further, this association was not moderated by participants' gender, $B = -0.01, SE = 0.02, t(4677) = -0.83, p = .407, r = -.01$, the gender of the profile, $B = 0.02, SE = 0.01, t(4820) = 1.73, p = .084, r = .02$, or their interaction, $B = 0.00, SE = 0.02, t(4589) = 0.13, p = .897, r = .00$, and it remained significant after controlling for participants' gender and the gender of the profile, $B = 0.11, SE = 0.01, t(4748) = 17.97, p < .001, r = .25$.

Finally, to test the prediction that positive illusions about each stranger would mediate the association between a general motivation to form friendships and the desire to form a friendship with that stranger, we calculated an estimate of the mediated effect, $B = 0.04$ and the 95% confidence intervals around this indirect effect (.01-.06) using RMediation, which did not contain zero and therefore indicated a significant indirect effect.

General discussion

Despite the importance of friendships for personal well-being (e.g., Goodwin & Plaza, 2000; Narr et al., 2017), relatively little research has addressed processes that motivate friendship initiation in adults (see Fehr, 2000). Given that forming positive illusions leads people to overlook undesirable qualities of established partners and thus motivates them to remain in relationships with those partners (Miller et al., 2006; Murray, 1999), we hypothesized that forming positive illusions might similarly lead people to overlook the undesirable qualities of strangers and motivate them to form relationships with those strangers. The current studies provide evidence for this idea. In Study 1, participants had lengthy introductory conversations with a stranger and reported a greater desire to become friends with that stranger to the extent that they formed positive illusions about that stranger. In Studies 2 and 3, participants evaluated the profiles of strangers on an online friendship service. Participants who were more motivated to make friends formed more positive illusions about those strangers than did those who were less motivated, and such positive illusions were subsequently associated with a greater desire to become friends with those strangers. These results emerged across studies that were sufficiently-powered and diverse in regard to design (i.e., cross-sectional, experimental, observational), type of sample (i.e., online crowd-sourced, undergraduate participant pools), and some demographic qualities (i.e., ethnicity, gender).

Importantly, the current research took a relatively novel approach toward assessing positive illusions. Although the majority of research (e.g., Barelds & Dijkstra, 2011; Barelds-Dijkstra & Barelds, 2008; Conley et al., 2009; Murray et al., 1996a, 1996b) has assessed positive illusions by comparing participants' evaluations of others to those others' self-reports, this approach likely (a) underestimates the extent of positive illusions because others tend to inflate their self-reports (see Dufner et al., 2019) and (b) introduces considerable measurement error because the extent to which others inflate their self-reports can vary considerably (Sedikides et al., 2003; Taylor et al., 2003). The current research joins a pair of other studies (Barelds & Dijkstra, 2011; Murray et al., 2000) that instead rely on the third-party evaluations of the target. In particular, the current studies compared participants' evaluations of strangers to researchers' (Study 1) and crowd-sourced (Studies 2–3) evaluations of those strangers. We would encourage future research on positive illusions to similarly take this approach to increase accuracy and decrease measurement error, which may systematically vary with the predictors or outcomes of positive illusions.

Given that positive illusions capture the discrepancy between participants' and others' (e.g., coders', that partner's) evaluations of the partner, the associations between positive illusions and other variables (e.g., friendship desire) that were observed in these and previous studies may be the result of either participants' evaluations, others' evaluations, or both. To identify what aspect of positive illusions were responsible for these results, participants' and coders' evaluations of the partner in Study 1 were separated and simultaneously included as predictors. Results revealed that participants', but not neutral observers', evaluations were associated with friendship desire. Importantly, by controlling for neutral observers' evaluations of partners' behavior, these analyses reveal the

implications of participants' evaluations beyond how those partners actually behaved. That is, participants' evaluations were not simply associated with friendship desire because those evaluations reflected how the partner actually behaved but rather because their behavior was viewed more favorably than what was actually warranted (i.e., a positive illusion). Unlike Study 1, in which participants evaluated different people, participants in Studies 2 and 3 evaluated profiles of the same people. Thus, in these latter studies, the objective evaluations of each profile were the same for all participants and thus it was not possible to examine whether objective evaluations of the profile were associated with between-participant variability in friendship desire. Nevertheless, the lack of between-participant variability in objective evaluations of each profile suggests that the association between positive illusions and friendship desire in these studies was driven exclusively by participants' evaluations rather than the objective qualities of those profiles. Thus, taken together, these results suggest that the association between people's evaluations of others and their desire to be friends with those others is not simply the result of the objective qualities of those others but rather the extent to which people view those others more favorably than what is objectively warranted.

Limitations

Several factors limit the conclusions that can be drawn from these results until they can be replicated and extended. First, although participants were diverse in some regards (e.g., gender, ethnicity), their age was relatively homogenous. Although we do not have reason to expect that positive illusions would operate uniquely among young adults, generalizations to other ages should be made with caution. Similarly, we did not assess participants' class or disability status and thus could not evaluate whether results varied as a function of either. Second, although Study 3 experimentally manipulated participants' motivation to make friends, increasing our confidence that this motive increases positive illusions, none of the studies manipulated positive illusions, thus limiting our confidence that positive illusions about a stranger increase the desire to be friends with that stranger, and not the reverse. Nevertheless, the association between illusions and friendship desire in Study 2 remained after controlling for several potentially confounding variables (i.e., personality, mood), suggesting that those variables did not account for this association. It is worth noting, however, that the internal reliability of the Five Factor Model scales was less than ideal and thus future research would benefit by testing this possibility with a more reliable measure of personality. Finally, as previously mentioned, participants in Study 2 had no reason to expect that they would have the opportunity to actually form friendships with the strangers they evaluated, which may have affected their evaluations and desire to become friends.

Implications and future directions

Despite these limitations, the current results have several theoretical and practical implications. First, the current studies expand our understanding of the contexts in which people form positive illusions. As mentioned, a considerable body of research (e.g., [Endo](#)

et al., 2000; Murray et al., 1996a; Murray & Holmes, 1997) has addressed the implications of positive illusions of established romantic relationship partners. Given that partners tend to become less concerned with presenting themselves in an ideal manner as relationships develop (Tice et al., 1995), it has been theorized (e.g., Martz et al., 1998; Rusbult et al., 2001) that positive illusions function to maintain idealized images of their partners in the face of counterevidence (e.g., occasional conflicts, selfishness) and thus motivate people to remain committed to imperfect partners. Although the current results do not challenge the idea that positive illusions help intimates maintain established romantic relationships, they suggest that people form positive illusions earlier than previously assumed. Specifically, the current results demonstrated that people often form positive illusions upon initially meeting or seeing strangers. Further, these results also suggest that doing so may facilitate friendship formation. In particular, not only did people create more positive illusions about strangers to the extent that they were motivated to form new friendships, but those positive illusions were also associated with an increased desire to be friends with those strangers.

Second, given that the current results revealed that people form positive illusions of strangers to facilitate relationship initiation, future research might benefit by examining whether other relationship maintenance processes similarly facilitate relationship initiation. For example, it has been suggested that people often demonstrate their willingness to sacrifice for a partner to maintain a relationship with that partner (e.g., Sizemore & Baker, 2024); however, it is possible that people also display that benevolence to initiate new relationships. Indeed, being both the benefactor and beneficiary of sacrifice tends to increase liking during relationship initiation (Algoe et al., 2008). Similarly, other behaviors that are considered relationship maintenance strategies (see Baker et al., 2013), such as self-disclosure (see Collins & Miller, 1994), active listening and being responsive (Sprecher, 2023), and sharing tasks (Aron et al., 1997), tend to increase liking among strangers. Given that many of these relationship maintenance strategies also operate outside of established relationships, future research could address whether people are more likely to engage in these processes when they desire new relationships. If so, these processes may function to promote relationships generally, rather than to specifically maintain established relationships.

Finally, the current findings also have important implications for interventions designed to treat loneliness and depression. In particular, loneliness and a lack of quality relationships are a common reason for seeking psychological treatment (Pinsker et al., 1985) and they also contribute to other psychological problems, such as depression and anxiety (Beutel et al., 2017), that people regularly seek treatment for. Thus, it is not uncommon for therapists to help clients identify obstacles that prevent them from forming new relationships (Herbert et al., 2005). The current research suggests one potentially fruitful means for achieving this goal. More specifically, loneliness and depression tend to contribute to negative perceptual biases of others (Spithoven et al., 2017), and the current results suggest that these negative biases may prevent people from developing new friendships. Future research might benefit by examining whether addressing these cognitive distortions facilitates relationship formation among lonely and/or depressed individuals.

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Open research statement



As part of IARR's encouragement of open research practices, the authors have provided the following information: This research was pre-registered. The aspects of the research that were pre-registered were the study design (Studies 2–3) and the analyses (Studies 1–3). The registration was submitted to: osf.io. The data used in the research are available. The data can be obtained by emailing: levirbaker@gmail.com. The materials used in the research are available. The materials can be obtained by emailing: levirbaker@gmail.com.

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Note

1. This analytical approach deviated from our preregistered plan because of valuable suggestions from reviewers.

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