

Friendship promiscuity as indexed by preferences for wide networks and intimacy with many friends: structure and validity of a new construct

Jessica D. Ayers*¹, Diego Guevara Beltran*², Denise Mercado³, & Athena Aktipis⁴

¹Department of Psychological Science, Boise State University

²Department of Psychology, University of Arizona

³Department of Anthropology, Rutgers University

⁴Department of Psychology, Arizona State University

* indicates co-first authors

Corresponding author: Jessica D. Ayers, Department of Psychological Science, Boise State University, jessicaayers@boisestate.edu

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Abstract

Friendships help people achieve many fundamental adaptive functions. As such, one might theorize that humans are designed to seek out and maintain as many friendships as possible. However, with time and energy as finite resources, humans face a unique challenge in determining the number of friendships they can sustain - do they prioritize maximizing friendship quantity (potentially at the expense of investment in each friend, thus compromising friendship quality), or do they prioritize friendship quality (potentially at the expense of friendship quantity)? Here, we introduce the novel concept of friendship promiscuity - an individual difference in preference for a wide friendship network and desire for friendship intimacy - and develop a tool for measuring this trait. Across 5 studies ($N_{Total} = 5,707$), we created and confirmed the Friendship Promiscuity Scale's factor structure, its test-retest reliability, and construct and discriminant validity. Critically, we demonstrate that the scale achieves measurement invariance across three geographically diverse countries and is associated with friend-seeking motivation and behaviors beyond relevant controls. The scale offers a novel method for assessing an unexplored aspect of friendships and provides a crucial tool for understanding this valued relationship.

Keywords: friendship, preferences, promiscuity, number of friends, investment in friends

Friendships promiscuity as indexed by preferences for wide networks and intimacy with many friends: structure and validity of a new construct

Humans are a species that requires social relationships to satisfy fundamental needs to belong and accomplish many other adaptive goals (Baumeister & Leary, 1995; Hruschka, 2010). Beyond kin and mates, friendships – defined as medium- to long-term cooperative relationships among romantic and genetically unrelated individuals (DeScioli & Kurzban, 2009; Perlman et al., 2015) – help people accomplish many of these goals. Indeed, friendships are a universal aspect of human social life (Brown, 1991; Hruschka, 2010). Higher quality friendships are associated with better physical and mental health (Dunbar, 2018; Fehr, 1996; Hruschka, 2010; Perlman et al., 2015), and are more likely to provide support during interpersonal conflict (Bleske-Rechek & Buss, 2001; A. Campbell, 1999; DeScioli & Kurzban, 2009, 2013; Lewis et al., 2011; Smuts, 1985), times of uncertainty (Aktipis et al., 2011, 2016, 2018; Ayers et al., 2022; Gurven & Hill, 2009; Tooby & Cosmides, 1996; van der Horst & Coffé, 2012), with childcare (Hrды, 2007), and with mate seeking (Bleske-Rechek et al., 2012; Mogilski & Wade, 2013).

Using a utility maximization framework (Cox, 2008), one might theorize that people have evolved to seek as many friendships as possible. However, this perspective overlooks the costs associated with seeking and maintaining one's friendships (Newman et al., 2018). High-quality friendships require high levels of investment. Moreover, even maintaining low-quality friendships or engaging in friend-seeking behaviors requires time and resources that cannot be spent pursuing other adaptive goals (e.g., caring for one's offspring). These constraints naturally limit the number of friendships one can actively pursue and maintain (Duck et al., 1991; Dunbar, 2018; Hall, 2018; Hill & Dunbar, 2003).

Consequently, friendship strategies favor investment in friends who provide the most benefit. Specifically, we seek friends with benefit-generating traits (e.g., specialized skills, generosity) and those who value us above others because such friends are more willing to provide benefits to us (Ayers et al., 2023, 2024; Felmlee et al., 2012; Hall, 2011; Krems & Conroy-Beam, 2020; Tooby & Cosmides, 1996; Williams et al., 2022). However, friendship strategies also favor investments that minimize the costs to oneself. This tension between maximizing friendship-derived benefits and limiting potential costs may manifest in a trade-off between the quality and quantity of friends, such that people have preferences for one friendship-making strategy over the other. We propose that this preference—what we call friendship promiscuity—exists as an individual difference that regulates friend-seeking and maintenance behaviors.

Fundamental trade-offs and individual differences

Friendship promiscuity may be akin to other individual differences stemming from life-history trade-offs. For example, due to the time and energy associated with raising offspring, individuals can invest in having many offspring at the expense of investing more heavily in any one offspring, thus compromising offspring quality (Becker, 1960; Becker & Lewis, 1973; Stearns, 1976, 1992). Compared to other animals, humans tend to invest more in the quality of their offspring than in quantity (Lawson & Mace, 2011; Walker et al., 2008). However, even within human societies, people differ in the extent to which they favor quality over quantity of their offspring, thus giving rise to individual differences in mating effort versus parental investment strategies stemming from this trade-off (Walker et al., 2008).

Another fundamental trade-off is the quality versus quantity of sexual partners, conceptualized as investment in short-term uncommitted romantic

relationships versus long-term committed relationships (Gangestad & Simpson, 1990; Simpson & Gangestad, 1991). This trade-off gives rise to individual differences in sociosexual orientation (SOI). For example, men report more unrestricted SOI than women (Blasco-Belled et al., 2022). Moreover, people with unrestricted SOIs are more likely to have sex earlier in their relationships, have more than one sexual partner at a time, place less importance on commitment, intimacy, and attachment (Banai & Pavela, 2015; Simpson & Gangestad, 1991), and ultimately experience reduced relationship stability compared to people with more restricted SOIs (Mattingly et al., 2011). In turn, these individual differences impact the extent to which people invest in the quality versus the quantity of romantic partners (Mattingly et al., 2011; Penke & Asendorpf, 2008).

Why the sociosexual orientation trade-off may be similar to friendship preferences

Given the similarity and overlapping features between friendships and romantic relationships (K. Campbell et al., 2018; Reis et al., 2000; VanUitert & Galliher, 2012), friendship preferences resemble mating preferences with few notable differences. For example, under monogamous mating, there is a trade-off between having one long-term partner and multiple partners (Buss & Schmitt, 2019). In contrast, people can be friends with more than one person at a time—both pursuing new friendships while maintaining current friendships—without being considered a violation of the relationship. Additionally, while mating preferences have some stability across the lifespan, it is also possible that friendship preferences are more temporally determined and flexible, given their social environment. Therefore, it stands to reason that we should be able to map trade-offs in friendship preferences using trade-offs in mate psychology as a template.

As life history strategy gives rise to adaptive strategies, psychological mechanisms may help to mediate the trade-offs humans experience. SOI, specifically, may be particularly well-suited as a template since it indexes differences in behaviors, attitudes, and desires surrounding mating orientation. These differences vary across human groups and regulate both mate-seeking and mate retention behaviors. Similarly, humans have an implicit desire to affiliate (Kenrick et al., 2010; Neel et al., 2016), can sustain different numbers of friendships (S. G. B. Roberts et al., 2008), and desire to acquire new friends (de Matos Fernandes et al., 2025). Therefore, friendship promiscuity may result from a quantity vs. quality trade-off regarding people's attitudes, desires, and behavior surrounding friendships preferences.

Overview of Studies

Our goal in these studies was to create and validate a measure pertaining to the novel construct of friendship promiscuity following best practices (DeVellis, 2016; Morgado et al., 2017). In Studies 1a-1d, we generated items and explored the factor structure of friendship promiscuity. Study 2 confirmed the factor structure of the scale. Study 3 demonstrated test-retest reliability, as well as concurrent, convergent, and discriminant validity. Study 4 examined predictive validity. Finally, Study 5 examined the generalizability of the scale across three countries.

Openness and data transparency

These studies were not pre-registered. We ran factor analyses with the *Lavaan* package for R (Rosseel, 2012), bivariate and partial correlations, as well as linear/logistic regressions with SPSS V29, and mixed-effects models with the MIXED procedure for SAS V9. Data and analysis code for Studies 1-5 are available upon request.

Studies 1a-1d

The first iteration of the Friendship Promiscuity Scale was adapted from the revised SOI scale (Penke & Asendorpf, 2008). Following the structure of the SOI, items were expected to load onto three interrelated latent constructs: behaviors surrounding making friends, attitudes towards low-commitment friendships, and desire for emotional intimacy with friendships. Across a diverse set of samples ($N_{Total} = 3488$, collected between 2019-2020; see Supplemental Information S1), we found that a two-factor model was a better fit to the data, with one factor indexing *preference for a wide friendship network*, and the second indexing *desire for friendship intimacy*.

Study 2

We aimed to confirm the factor structure from Study 1d because two items were removed from the scale due to low factor loadings (Tables S7-S8). Thus, a limitation was whether the factor structure was replicable. Additionally, we examine associations between friendship promiscuity and demographic characteristics (i.e., age, sex, relationship status; see SI S2).

Method

Participants and measures

During Fall 2020, 1089 participants completed the study as part of a larger pre-screening survey administered to psychology undergraduates ($M_{age} = 18.90$, $SD_{age} = 2.14$). Participants completed the Friendship Promiscuity Scale and reported demographic information (64.4% women; 54.2% White, 4.4% Black/African American, 20% Hispanic/Latino, 1.5% Native American, 16.4% Asian/Asian

American, 3.5% Middle Eastern; socio-economic background (1 = *Upper class*, 5 = *Working class*): $M = 2.88$, $SD = 0.94$).

Results

A Confirmatory Factor Analysis (CFA) replicated the two-factor structure observed in Study 1d ($N = 1066$, $\chi^2(34) = 241.60$, $p < 0.001$, CFI = 0.96, TLI = 0.95, RMSEA = 0.07, CI_{90%} [0.07, 0.08], SRMR = 0.05; Table 1), with items 1-6 creating preference for a wide friendship network ($M = 4.40$, $SD = 1.26$; Cronbach's $\alpha = 0.85$, mean inter-item $r = 0.48$), and items 7-10 creating desire for friendship intimacy ($M = 4.64$, $SD = 1.45$; Cronbach's $\alpha = 0.89$, mean inter-item $r = 0.67$).

Table 1

CFA of the Friendship Promiscuity scale (Study 2)

Item	M (SD)	Wide network preference	Desire for intimacy
How many new friends have you made in the past 12 months?	3.98 (1.71)	0.52	
I enjoy making casual friendships with many different people	4.96 (1.67)	0.80 (0.09)	
I try to make new friends even if I can't be sure that I will develop close friendships with all of them	4.94 (1.59)	0.74 (0.08)	
I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	3.81 (1.74)	0.66 (0.08)	
In situations where I am around new people, I often feel really motivated to make new friends	4.27 (1.64)	0.68 (0.08)	
It doesn't matter how many friends I have, I am always looking to meet new people to talk to/hang out with	4.49 (1.71)	0.76 (0.09)	
I often find myself wishing I could be friends with lots of new people	4.58 (1.73)		0.88
I often find myself wishing I could get closer with lots of new people	4.66 (1.66)		0.84 (0.02)
I often wish I could become friends with many of the people that I meet	4.59 (1.61)		0.81 (0.02)

)	
I often wish that others would introduce me to new people to talk to/hang out	4.72 (1.69)	0.75 (0.03)

Note. Item 1 was scored as $1 = 0$, $7 = \text{more than } 20$, items 2-10 were scored as $1 = \text{strongly disagree}$, $7 = \text{strongly agree}$. The table shows standardized factor loadings (standard errors in parentheses). Wide network preference and desire for friendship intimacy factors were positively correlated ($r = 0.53$). Table S9 shows inter-item correlations.

Study 3

Study 2 documented that the proposed factor structure is internally valid. The next step, therefore, was to assess the scale's test-retest reliability and its validity against a battery of relevant constructs, including individual differences, social network characteristics, and in quality vs. quantity of friendship measures. Broadly, we predicted that friendship promiscuity would be associated with larger social network size, higher scores on quantity over quality of friendship, and lower scores on quality over quantity of friendship measures.

Method

Participants

Participants who completed Study 2 received an invitation to participate in Study 3 via email. Returning participants completed this study 5-8 weeks later ($N = 370$; $M_{age} = 19.27$, $SD_{age} = 2.80$; 71.9% women; 57.68% White, 3.74% Black/African American, 17.23% Hispanic/Latino, 1.12% Native American, 17.6% Asian/Asian American, 2.25% Middle Eastern; parent's household income ($1 = \text{Under } \$15,000$, $4 = \$35,001-\$50,000$, $9 = \text{Over } 200,000$): $M = 6.15$, $SD = 2.25$).

Measures

We provide a summary of measures here, but a complete description can be found in SI S2.2. Participants first reported their wide network preference ($M = 4.29$, $SD = 1.27$, $\alpha = 0.85$), and desire for friendship intimacy ($M = 4.60$, $SD = 1.36$, $\alpha = 0.85$).

Individual differences. The following measures assessed discriminant validity: (1) dispositional desire to be valued by others ($M = 6.62$, $SD = 1.42$, $\alpha = 0.88$; Lemay & Spongberg, 2015); (2) self-perceived friendship value ($M = 5.29$, $SD = 0.92$, $\alpha = 0.86$; Edlund & Sagarin, 2014; Krems & Conroy-Beam, 2020); (3) self-perceived mate value ($M = 4.87$, $SD = 1.20$, $\alpha = 0.91$; Edlund & Sagarin, 2014); (4) socio-sexual orientation ($M = 3.43$, $SD = 1.63$, $\alpha = 0.87$); and (5) the Big Five Inventory-2-XS, a 15-item personality inventory (Extraversion: $M = 3.23$, $SD = 0.85$, $\alpha = 0.62$; Agreeableness: $M = 3.75$, $SD = 0.78$, $\alpha = 0.61$; Neuroticism: $M = 3.0$, $SD = 0.96$, $\alpha = 0.68$ ¹; Soto & John, 2017).

Social network characteristics. The distributions across the network size measures were highly skewed (skewness = 1.53 to 9.80). We reduced skewness by converting values above the 95th percentile to the 95th-percentile value +1 (skewness = 0.98 to 2.35). These included: 1) number of same-sex friends ($M = 10.46$, $SD = 8.79$, $Min = 0$, $Max = 31$) and closest friends ($M = 3.74$, $SD = 2.72$, $Min = 0$, $Max = 11$); 2) number of friends, closest friends, acquaintances, and family members who would help participants in two need situations. We averaged these two items to index support network size per target (Acquaintances: $M = 5.21$, $SD = 7.77$, $Min = 0$, $Max = 31$; Family: $M = 6.07$, $SD = 4.05$, $Min = 0$, $Max = 17.5$; Friends: $M = 6.03$, $SD = 5.48$, $Min = 0$, $Max = 22$; Closest friends: $M = 3.69$, $SD =$

¹ The internal reliability of the openness ($\alpha = 0.50$) and conscientiousness ($\alpha = 0.48$) facets were lower than acceptable so we excluded them from subsequent analyses.

2.53, $Min = 0$, $Max = 10$). Participants then reported their satisfaction with the quality ($M = 5.14$, $SD = 1.49$), and quantity of their friendships ($M = 4.81$, $SD = 1.80$).

Quality vs. quantity of friendships. Participants answered the following (1 = *Strongly disagree*, 7 = *Strongly agree*): (1) *I have a lot of different friendships with lots of different people, which sometimes prevents me from spending time with only a few of my closest friends* ($M = 2.82$, $SD = 1.51$); (2) *I have a few friends that I am very close with, which sometimes prevents me from spending time with different people* ($M = 4.05$, $SD = 1.73$); and (3) *Rate where you would place yourself on the following scale (1 = I very much prefer to spend time with lots of different friends, 7 = I very much prefer to spend time with one or few friends; reversed-scored, $M = 3.02$, $SD = 1.45$)*. Next, participants reported their commitment towards maintaining their current friends ($M = 5.34$, $SD = 1.18$, $\alpha = 0.73$), and closest friends ($M = 5.98$, $SD = 1.12$, $\alpha = 0.76$) (adapted from Rusbult et al., 1998), as well their perceived intimacy with friends ($M = 3.59$, $SD = 0.76$, $\alpha = 0.85$) and closest friends ($M = 4.22$, $SD = 0.68$, $\alpha = 0.86$) (adapted from Allgood, 2008).

Results

Test-retest reliability

Participants generated a unique identifier in Study 2 and were asked to report this same code in Study 3, yielding 232 matches (62.7%). Wide network preference and desire for friendship intimacy were strongly correlated between studies (r 's = 0.70 to 0.77, p 's < 0.001). Moreover, there were no mean differences between studies for wide network preference ($t(231) = 0.18$, $p = 0.85$, $M_{diff} = 0.01$) or desire

for friendship intimacy ($t(231) = 0.21$, $p = 0.83$, $M_{\text{diff}} = 0.01$), indicating friendship promiscuity was temporally stable across 5-8 weeks.

Convergent, discriminant, and concurrent validity

Table 2 shows the bivariate and partial correlations of friendship promiscuity with the relevant constructs. Positive associations between wide network preference and extraversion as well as higher scores on quantity vs quality of friendship measures demonstrate convergent validity. Moreover, wide network preference was associated with higher friendship quantity, and having more friends and close friends willing to help. This association was weaker for the number of family and acquaintances willing to help, thus demonstrating concurrent validity. In contrast to our expectations, wide network preferences were weakly to moderately associated with quality vs. quantity of friendship measures, suggesting that people with stronger preference for wide friendship network may not necessarily invest less in their friendships. Additionally, wide network preference was weakly to moderately associated with self-perceived mate value and sociosexuality, showing some degree of discriminant validity but suggesting a potential confound in the association between friendship promiscuity and friend-seeking behaviors (see Study 4).

Desire for friendship intimacy, after controlling for wide network preference, was uniquely associated with worse friendship outcomes, including lower friendship quantity, fewer friends willing to help, and lower satisfaction with the quality and quantity of friends. Notably, this negative association was nearly twice as strong for quantity of friends, suggesting that desire for friendship intimacy is not just about lacking intimacy with friends, but about wanting intimacy with many friends. Additionally, desire for friendship intimacy was uniquely associated with greater desire for interpersonal value, and lower extraversion and self-perceived friendship

value. While demonstrating discriminant validity, these associations indicate that lack of friends and loneliness may be potential confounds in the association between friendship promiscuity and friend-seeking behaviors (see Study 4).

Table 2

Correlations between friendship promiscuity and validity measures (Study 3)

Construct type	Construct/item	Bivariate <i>r</i>		Partial <i>r</i>	
		Wide network preference	Desire for intimacy	Wide network preference	Desire for intimacy
Individual differences	Desire for interpersonal value	0.15**	0.38***	-0.06	0.36***
	Self-perceived friendship value	0.25***	-0.02	0.31***	-0.19***
	Self-perceived mate value	0.20***	0.02	0.22***	-0.09
	Sociosexuality	0.29***	0.11*	0.28***	-0.05
	Extraversion	0.46***	0.06	0.50***	-0.23***
	Aggreeableness	0.08	0.21***	-0.03	0.19***
	Neuroticism	-0.17**	0.11*	-0.26***	0.23***
Social network characteristics	Number of friends	0.44***	0.04	0.48***	-0.24***
	Number of closest friends	0.36***	0.09	0.37***	-0.11*
	Number of acquaintances willing to help	0.11*	-0.05	0.16**	-0.13*
	Number of family members willing to help	0.23***	0.03	0.25***	-0.10*
	Number of friends willing to help	0.33***	-0.005	0.38***	-0.21***
	Number of closest friends willing to help	0.35***	0.07	0.37***	-0.14**
	Satisfaction with quality of friends	0.12*	-0.16**	0.24***	-0.26***
	Satisfaction with quantity of friends	-0.06	-0.35***	0.30***	-0.44***
Quantity over quality of friendships	Having lots of friends prevents time with few close friends	0.35***	0.10	0.35***	-0.10*
	Prefers to spend time with different friends (vs. one or few)	0.48***	0.28***	0.41***	0.04
Quality over quantity of friendships	Time with close friends prevents time with different people	-0.02	0.11*	-0.09	0.14**
	Commitment towards friends	0.21***	0.16**	0.15**	0.06
	Commitment towards closest friends	0.18***	0.12*	0.14**	0.03
	Intimacy with friends	0.26***	0.03	0.28***	-0.13*

Intimacy with closest friends	0.27***	0.15**	0.22***	0.02
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Study 4

The primary goal of this study is to assess the predictive validity of friendship promiscuity. Study 3 showed that wide friendship network preference was associated with extraversion, sociosexuality, and more satisfaction with friendships. In contrast, desire for friendship intimacy was associated with lower self-perceived friendship value, neuroticism, and less satisfaction with friendships. Here, we examine whether friendship promiscuity is associated with friend-seeking behavior, controlling for potential confounds identified in Study 3. Moreover, we further examine the discriminant validity of friendship promiscuity against generalized anxiety and fundamental social motives. Finally, we aim to replicate key associations among friendship promiscuity and measures of individual differences, social network characteristics, and quality versus quantity of friendship.

Method

Participants and measures

We recruited an undergraduate student sample during Fall 2021 ($N = 457$, $M_{\text{age}} = 19.05$, $SD = 1.88$, 65.8% women; parents' household income (1 = *Under \$15,000*, 9 = *Over 200,000*): $M = 6.04$, $SD = 2.30$). Participants first reported their wide network preference ($M = 4.27$, $SD = 1.27$, $\alpha = 0.86$), and desire for friendship intimacy ($M = 4.59$, $SD = 1.35$, $\alpha = 0.84$), followed by friend-seeking motivation (*Are you interested in the possibility of getting in touch with other students who have participated in this study?*; 1 = not at all, 7 = very interested; $M = 2.96$, $SD = 1.84$, $Min = 1$, $Max = 7$), and friend-seeking behaviors (Sharing email: *If you would like to share your contact information with other students please enter your email*

address below; 0 = no email (71.3%), 1 = email provided (28.7%); Writing message: *Is there anything about yourself that you would like to share with other students who also choose to share their contact information with you?*; 0 = no message (84.2%), 1 = message provided (15.8%)). Participants then answered the same measures as in Study 3² (Table S12). Rather than the BFI-2-XS, which showed low internal consistency in Study 3, here participants completed the 44-item BFI Inventory (John et al., 1999). Additionally, participants completed the Generalized-Anxiety Disorder (GAD-7) scale ($\alpha = 0.91$; Spitzer et al., 2006), revised UCLA Loneliness Scale ($\alpha = 0.95$; Russell et al., 1980), and a portion of the Fundamental Social Motives Inventory (Neel et al., 2016), which measures individual differences in adaptive social goals, including independence ($M = 4.43$, $SD = 1.29$, $\alpha = 0.87$), exclusion concern ($M = 4.47$, $SD = 1.48$, $\alpha = 0.90$), affiliation ($M = 4.75$, $SD = 1.04$, $\alpha = 0.80$), status seeking ($M = 4.06$, $SD = 1.14$, $\alpha = 0.77$), and mate seeking ($M = 3.94$, $SD = 1.54$, $\alpha = 0.87$). Table S12 shows items and descriptive statistics.

Results

Convergent, discriminant, and concurrent validity

Associations between friendship promiscuity with social network characteristics, quantity vs. quality of friendships, and individual differences found in Study 3 replicated (Table 3). Anxiety was weakly associated with desire for intimacy, demonstrating discriminant validity. Additionally, friendship promiscuity was most strongly positively associated with affiliation, weakly associated with status and mate-seeking, and negatively associated with independence motivation, thus demonstrating convergent and discriminant validity against fundamental social motives. Consistent with having worse friendship outcomes (Study 3), desire for

² Values above the 95th percentile for social network characteristics were converted to the 95th percentile value + 1 to reduce skewness.

friendship intimacy was associated with higher exclusion concern.

Table 3

Correlations between friendship promiscuity and individual difference measures

(Study 4)

Construct type	Construct/item	Bivariate <i>r</i>		Partial <i>r</i>	
		Wide network preference	Desire for intimacy	Wide network preference	Desire for intimacy
Individual differences	Openness	0.08	0.15**	0.00	0.13**
	Conscientiousness	0.06	-0.05	0.10*	-0.10*
	Extraversion	0.50***	0.13**	0.51***	-0.16***
	Agreeableness	0.16***	0.12*	0.12*	0.05
	Neuroticism	-0.20***	0.10*	-0.29***	0.23***
	Generalized anxiety	-0.10*	0.15**	-0.21***	0.23***
	Self-perceived friendship value	0.39***	0.15**	0.37***	-0.06
	Independence motivation	-0.26***	-0.17***	-0.20***	-0.04
	Exclusion concern	0.07	0.39***	-0.16***	0.41***
	Affiliation motivation	0.35***	0.33***	0.22***	0.19***
	Status seeking	0.18***	0.14**	0.13**	0.05
	Mate seeking	0.17***	0.22***	0.08	0.15**
Social network characteristics	Number of friends	0.43***	0.05	0.47***	-0.22***
	Number of closest friends	0.27***	0.04	0.29***	-0.11*
	Number of acquaintances willing to help	0.27***	0.03	0.29***	-0.13**
	Number of friends willing to help	0.40***	0.05	0.43***	-0.19***
	Number of closest friends willing to help	0.31***	0.02	0.34***	-0.16***
	Number of family members willing to help	0.17***	0.04	0.17***	-0.05
	Satisfaction with quality of friends	0.12*	-0.12*	0.20***	-0.21***
	Satisfaction with quantity of friends	0.17***	-0.22***	0.33***	-0.35***
Quantity over quality of friendships	Loneliness	-0.22***	0.23***	-0.40***	0.40***
	Having lots of friends prevents time with few close friends	0.44***	0.21***	0.40***	-0.02
	Prefers to spend time with different friends (vs. one or few)	0.48***	0.32***	0.39***	0.10*
Quality over quantity of friendships	Time with close friends prevents time with different people	-0.03	0.11*	-0.10*	0.15**
	Intimacy with current friends	0.19***	0.06	0.19***	-0.05

Predictive validity

We ran a linear regression predicting friend-seeking motivation, and binary logistic regressions predicting friend-seeking behaviors. We first examine the effects of friendship promiscuity, followed by examining whether effects hold when controlling for extraversion, loneliness, number of friends, and fundamental social motives. All covariates were mean centered and standardized.

Wide network preference was not associated with friend-seeking motivation ($\beta = -0.09$, $SE = 0.10$, $p = 0.38$, $CI_{95\%} [-0.28, 0.11]$), sharing one's email address ($\beta = -0.20$, $SE = 0.12$, $p = 0.11$, $OR = 0.82$, $CI_{95\%} [0.65, 1.04]$), or writing a message ($\beta = -0.23$, $SE = 0.15$, $p = 0.13$, $OR = 0.80$, $CI_{95\%} [0.59, 1.07]$). However, desire for friendship intimacy was associated with higher friend-seeking motivation ($\beta = 0.46$, $SE = 0.10$, $p < 0.001$, $CI_{95\%} [0.27, 0.66]$), and higher odds of sharing one's email ($\beta = 0.43$, $SE = 0.13$, $p < 0.001$, $OR = 1.54$, $CI_{95\%} [1.20, 1.97]$) and of writing a message ($\beta = 0.54$, $SE = 0.16$, $p < 0.001$, $OR = 1.71$, $CI_{95\%} [1.25, 2.34]$) (Figure 1).

When including controls, desire for friendship intimacy ($\beta = 0.47$, $SE = 0.12$, $p < 0.001$, $CI_{95\%} [0.21, 0.68]$), loneliness ($\beta = 0.34$, $SE = 0.11$, $p = 0.002$, $CI_{95\%} [0.12, 0.55]$), and extraversion ($\beta = 0.22$, $SE = 0.11$, $p = 0.039$, $CI_{95\%} [0.01, 0.43]$) were associated with higher friend-seeking motivation ($F(10, 393) = 5.53$, $p < 0.001$, $R^2 = 0.12$). All other covariates were not statistically significant (p 's > 0.06).

We also see that desire for friendship intimacy ($\beta = 0.44$, $SE = 0.16$, $p = 0.006$, $OR = 1.56$, $CI_{95\%} [1.13, 2.14]$), and loneliness were associated with higher odds of sharing one's email ($\beta = 0.37$, $SE = 0.15$, $p = 0.01$, $OR = 1.44$, $CI_{95\%} [1.09, 1.92]$), while exclusion concern ($\beta = -0.39$, $SE = 0.15$, $p = 0.01$, $OR = 0.68$, $CI_{95\%} [0.51, 0.90]$) and having more friends ($\beta = -0.38$, $SE = 0.15$, $p = 0.01$, $OR = 0.68$,

$CI_{95\%} [0.50, 0.92]$) were associated with lower odds of sharing one's email (Δ -2LL $\chi^2(10)^2 = 38.73$, $p < 0.001$, Nagelkerke $R^2 = 0.13$). All other covariates were not statistically significant (p 's > 0.15).

Last, desire for friendship intimacy ($\beta = 0.62$, $SE = 0.20$, $p = 0.002$, $OR = 1.85$, $CI_{95\%} [1.25, 2.75]$), and loneliness ($\beta = 0.51$, $SE = 0.18$, $p = 0.006$, $OR = 1.66$, $CI_{95\%} [1.16, 2.38]$) were associated with higher odds, while exclusion concern was associated with lower odds ($\beta = -0.51$, $SE = 0.18$, $p = 0.005$, $OR = 0.60$, $CI_{95\%} [0.42, 0.86]$), of writing a message (Δ -2LL $\chi^2(10)^2 = 32.66$, $p < 0.001$, Nagelkerke $R^2 = 0.13$). All other covariates were not statistically significant (p 's > 0.23).

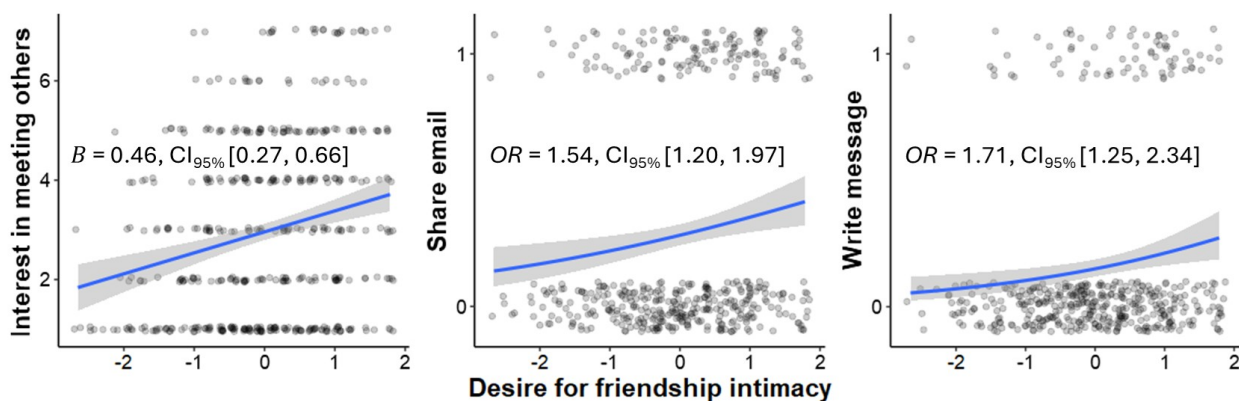


Figure 1. *Desire for friendship intimacy is associated with friend-seeking behavior.*

How might friendship promiscuity motivate friend-seeking behavior?

We conducted exploratory analyses to uncover plausible mechanisms by which friendship promiscuity might motivate friend-seeking behaviors. We reasoned that if friendship promiscuity is a feature of the mind that maximizes the size of one's friendship network, then outputs (e.g., friend-seeking behaviors) should be regulated by (a) one's desire for friendship intimacy and preference for a wide friendship network and (b) cues informing one's level of success in attaining the

desired outcome. Specifically, we investigated friendship quantity and dissatisfaction with friendship quantity (i.e., *I am happy with the number of friends that I have* - reversed scored) as candidate cues regulating friend-seeking behaviors.

Moderation analyses showed that desire for friendship intimacy was associated with higher dissatisfaction with quantity of friends ($\beta = 0.23$, $SE = 0.04$, $p < 0.001$, $CI_{95\%} [0.14, 0.32]$), even when controlling for quality of friends, which was associated with lower dissatisfaction with quantity of friends ($\beta = -0.26$, $SE = 0.04$, $p < 0.001$, $CI_{95\%} [-0.35, -0.18]$) and moderated the effect of desire for friendship intimacy on dissatisfaction ($\beta = -0.14$, $SE = 0.05$, $p = 0.005$), such that desire for friendship intimacy was associated with higher dissatisfaction with quantity of friends for people with less (-1SD) friends ($\beta = 0.37$, $SE = 0.06$, $p < 0.001$, $CI_{95\%} [0.25, 0.49]$) but not for people with more (+1SD) friends ($\beta = 0.09$, $SE = 0.07$, $p = 0.20$, $CI_{95\%} [-0.05, 0.23]$) (Figure 2a).

Moreover, desire for friendship intimacy ($\beta = 0.34$, $SE = 0.14$, $p = 0.02$, $OR = 1.41$, $CI_{95\%} [1.06, 1.84]$) and dissatisfaction with quantity of friends ($\beta = 0.37$, $SE = 0.12$, $p = 0.002$, $OR = 1.45$, $CI_{95\%} [1.15, 1.82]$) were associated with sharing one's email. While we find no main effect of wide network preference on sharing one's email ($\beta = -0.07$, $SE = 0.14$, $p = 0.58$), wide network preference moderated the effect of dissatisfaction with quantity of friends on sharing one's email ($\beta = 0.29$, $SE = 0.12$, $p = 0.01$), such that dissatisfaction with quantity of friends was associated with sharing one's email for people high (+1SD) on wide network preference ($\beta = 0.66$, $SE = 0.18$, $p < 0.001$, $OR = 1.93$, $CI_{95\%} [1.36, 2.72]$) but not for people low (-1SD) on wide network preference ($\beta = 0.08$, $SE = 0.15$, $p = 0.61$, $OR = 1.08$, $CI_{95\%} [0.80, 1.46]$) (Figure 2b).

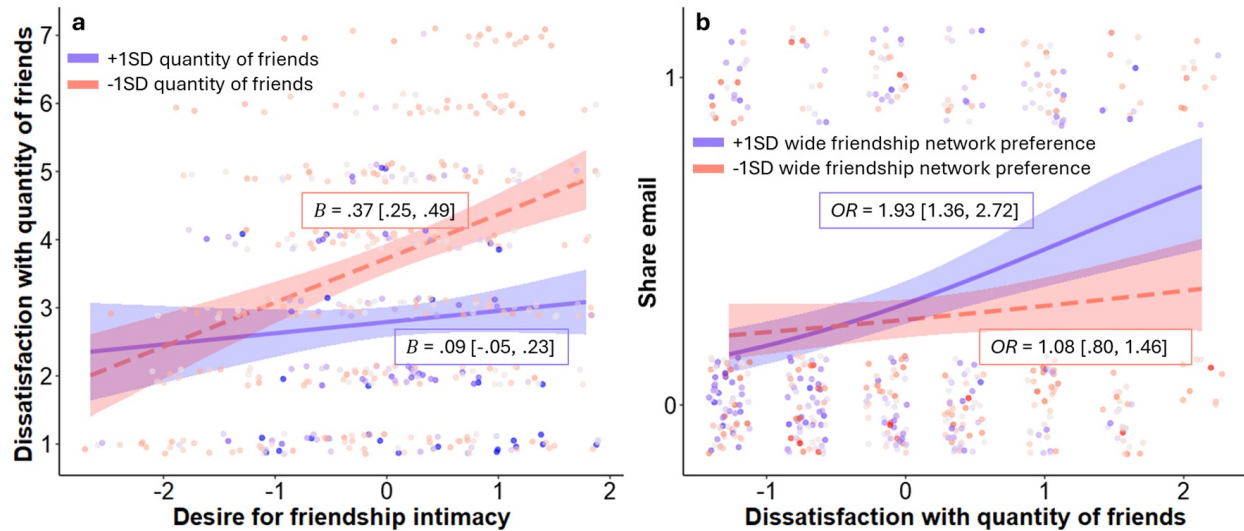


Figure 2. *Friendship promiscuity, quantity of friends, and satisfaction with quantity of friends regulate friend-seeking behavior.*

Combined, results suggest that desire for friendship intimacy is associated with greater dissatisfaction with one's quantity of friends, especially among people with few friends. In turn, this greater dissatisfaction is associated with friend-seeking behavior, but *only* for people with moderate-to-high wide friendship network preference. Said differently, among people with moderate-to-high desire for friendship intimacy, only those reporting high friendship quantity reported being satisfied with their number of friends. In turn, those reporting higher satisfaction were less likely to share their email regardless of their wide friendship network preference – presumably because they have already achieved the goal of maximizing friendship network size (see SI S4.2 for tests of this indirect effect).

Study 5

Study 4 demonstrated that friendship promiscuity is associated with friend-seeking behaviors over and above potential confounds (i.e., extraversion, loneliness, fundamental social motives). However, Studies 1-4 relied on undergraduate US samples, posing a serious limitation to the scale's generalizability. Thus, here, we examine the measurement invariance of friendship promiscuity in a geographically diverse sample of adults.

Additionally, we further examine discriminant and predictive validity against relational mobility – the extent to which people have opportunities to form new social relationships, as well as the freedom to choose their social partners. This socio-ecological factor varies across cultures, and explains affiliative patterns that allow people to form new relationships with many social partners, such as friendship intimacy and prosociality (Kito et al., 2017; Milfont et al., 2020; Thomson et al., 2018). Therefore, we examine whether friendship promiscuity is associated with intimacy – indexed by perceived relationship closeness – and prosocial behavior controlling for relational mobility. We also explored whether relational mobility moderates these effects, such that friendship promiscuity would be more strongly associated with closeness and prosociality when relational mobility is high, because affiliation in such contexts is more likely to result in new relationships.

Method

Participants

Data for the present study come from a large project investigating the role of relational mobility on prosociality across cultures. Only the measures relevant to the present study are presented here. Participants from Brazil ($n = 222$), Egypt ($n =$

237), and the Philippines ($n = 214$) completed the study ($N_{\text{total}} = 673$, $M_{\text{age}} = 32.05$, $SD = 8.95$, $Min = 18$, $Max = 71$; 56.9% women). These countries were selected to follow high (Brazil), medium (Philippines), and low (Egypt) levels of relational mobility (Thomson et al., 2018), within the pool of available countries in Besample (<https://besample.app/>), an online recruitment platform. Most participants identified as White-Brazilian in Brazil (58.6%), Egyptian in Egypt (98.7%), and Tagalog (53.7%) in the Philippines. The most common religious groups were Muslim (32.8%) or Catholic (32.7%). People in this sample had high educational attainment (Bachelor's degree = 70.1%). Full demographic information is reported in SI S5.1.

Measures

Participants reported their closeness and prosociality towards a stranger, acquaintance, and friend. Participants also reported their friendship quantity (*How many same-sex friends do you have?* 1 = 0, 4 = 6-10, 7 = more than 20; $M = 3.58$, $SD = 1.64$, $Min = 1$, $Max = 7$).

Prosociality. Participants played a dictator game where they could allocate lottery tickets between themselves and targets using a slider bar with tickets ranging from 0-100 (Stranger: $M = 36.96$, $SD = 31.23$; Acquaintance: $M = 46.56$, $SD = 31.53$; Friend: $M = 53.11$, $SD = 29.28$; All targets $Min = 0$, $Max = 100$). To increase credibility, participants were instructed to enter their own, as well as the targets' email addresses (except for the stranger). In reality, one participant was selected at random to receive the \$50 USD prize at the end of the study.

Closeness. Participants completed the Inclusion of the Other in the Self (IOS) Scale, a reliable and valid measure of perceived relationship closeness (Aron et al., 1992). This one-item measure shows two overlapping circles, one representing the self and the second representing a target (1 = least overlapping, 7 = most

overlapping), and asks participants to select the circle that best represents their relationship with a target (Stranger: $M = 2.03$, $SD = 1.56$; Acquaintance: $M = 3.43$, $SD = 1.92$; Friend: $M = 4.44$, $SD = 1.71$).

Relational mobility. Participants completed the 12-item relational mobility scale (1 = *Strongly disagree*, 6 = *Strongly agree*), which captures opportunities for meeting new people (e.g., *They (the people around you) have many chances to get to know other people*), and the freedom to choose social partners (e.g., *They are able to choose, according to their own preferences, the people whom they interact with in their daily life*), which creates a second-order relational mobility factor. We examined the psychometric properties of the scale to determine how to center resulting composites and whether we could make between-country comparisons. Invariance measurement testing showed the factor structure replicated across countries ($\chi^2(52) = 103.488$, $p < 0.001$, CFI = 0.978, TLI = 0.972, RMSEA = 0.045, SRMR = 0.040). We computed means of the meeting ($M = 4.11$, $SD = 0.84$, $\alpha = 0.71$) and choosing factor ($M = 3.83$, $SD = 0.83$, $\alpha = 0.82$), which we then averaged to create the relational mobility composite ($M = 3.97$, $SD = 0.71$, $r_{meeting,choosing} = 0.46$, $p < 0.001$). However, the scale did not achieve strong invariance, indicating that composites should be centered by country mean (rather than the sample mean), and between-country mean comparisons are not supported (S5.1; Table S13).

Results

Invariance across countries

We ran multiple-group CFAs to examine the measurement invariance of friendship promiscuity across countries. Model comparisons show that the scale

achieved weak ($\Delta\chi^2(16)^2 = 10.92, p = 0.81$), but not strong ($\Delta\chi^2(16)^2 = 49.28, p < 0.001$) invariance. The weak invariance model had excellent fit ($\chi^2(118)^2 = 242.12, p < 0.001$, CFI = 0.97, TLI = 0.97, RMSEA = 0.07, SRMR = 0.04) (Table S15), showing similar factor loadings across countries on wide network preference (Egypt: λ 's = 0.32 to 0.77; Philippines: λ 's = 0.32 to 0.83; Brazil: λ 's = 0.39 to 0.83), and desire for friendship intimacy (Egypt: λ 's = 0.83 to 0.87; Philippines: λ 's = 0.84 to 0.92; Brazil: λ 's = 0.76 to 0.83), as well as inter-factor correlations (Egypt: $r = 0.93$; Philippines: $r = 0.73$; Brazil: $r = 0.91$). Results indicate that the two-factor model of friendship promiscuity replicates and is interpreted with similar meaning across countries, but intercepts differ between countries. Therefore, we only investigated how friendship promiscuity is associated with variables of interest across countries.

Discriminant validity

Table S16 shows correlations of friendship promiscuity with relevant measures. Friendship promiscuity was not associated with relational mobility, except for a small positive bivariate correlation between desire for friendship intimacy and opportunities to meet new people ($r = 0.08, p = 0.04$), demonstrating strong discriminant validity against relational mobility. Replicating Studies 3-4, wide network preference (controlling for desire for intimacy) was more strongly correlated with higher friendship quantity ($r = 0.24, p < 0.001$) than desire for friendship intimacy (controlling for wide network preference; $r = -0.09, p = 0.02$).

Friendship promiscuity is associated with affiliative tendencies

Prosociality. Mixed-effects regressions (see SI S5.2 for modelling specifications) showed that wide network preference ($\beta = 4.34, p < 0.001$), and desire for intimacy ($\beta = 4.10, p < 0.001$) were associated with giving more tickets in separate models, but not when included in the same model (p 's > 0.06). We

therefore averaged them together to create a friendship promiscuity composite ($\beta = 4.48$, $SE = 1.02$, $p < 0.001$, $CI_{95\%} [2.48, 6.48]$). The positive effect of friendship promiscuity holds ($\beta = 2.69$, $SE = 1.05$, $p = 0.01$, $CI_{95\%} [0.63, 4.75]$) controlling for friendship quantity ($\beta = 0.23$, $SE = 1.02$, $p = 0.82$, $CI_{95\%} [-1.76, 2.23]$), relational mobility ($\beta = -0.91$, $SE = 0.98$, $p = 0.35$, $CI_{95\%} [-2.85, 1.02]$), the between-person effect of closeness ($\beta = 5.80$, $SE = 1.03$, $p < 0.001$, $CI_{95\%} [3.78, 7.83]$), and the within-person effect of closeness ($\beta = 9.95$, $SE = 0.51$, $p < 0.001$, $CI_{95\%} [8.94, 10.96]$).

We then included a friendship promiscuity \times relational mobility interaction to the controls model, finding a significant interaction ($\beta = -2.09$, $p = 0.02$). However, further analyses probing the interaction by each component of relational mobility revealed this interaction was driven by opportunities to meet ($\beta = -2.94$, $SE = 0.90$, $p = 0.001$, $CI_{95\%} [-4.70, -1.18]$), not freedom to choose relationships ($\beta = -0.66$, $SE = 0.90$, $p = 0.46$, $CI_{95\%} [-2.44, 1.11]$). The interaction model (Table S17) improved fit relative to the controls model ($\Delta\chi^2(1)^2 = 10.20$, $p < 0.01$), accounting for 2.72% of the between-person variance, and 29.82% of the within-person variance ($ICC = 0.51$). In contrast to our expectations, we found that friendship promiscuity was associated with giving more tickets among people perceiving lower (-1SD) opportunities to meet new people ($\beta = 6.35$, $SE = 1.51$, $p < 0.001$, $CI_{95\%} [3.38, 9.33]$) but not among those perceiving higher (+1SD) opportunities ($\beta = 0.47$, $SE = 1.25$, $p = 0.70$, $CI_{95\%} [-1.98, 2.93]$) (Figure 3a). Results suggest that, when opportunities to meet new people are scarce, friendship promiscuity could motivate people to place greater effort in affiliation to use the few opportunities they have to form friendships. When opportunities to meet new people are abundant, the cost of finding new friends is low, therefore people may not need to put in as much effort to

secure new friendships.

Relationship closeness. The friendship promiscuity composite was associated with higher closeness ($\beta = 0.37$, $SE = 0.05$, $p < 0.001$, $CI_{95\%} [0.28, 0.46]$) (Figure 3b). This effect held ($\beta = 0.36$, $SE = 0.05$, $p < 0.001$, $CI_{95\%} [0.26, 0.45]$) controlling for friendship quantity ($\beta = 0.06$, $SE = 0.05$, $p = 0.23$, $CI_{95\%} [-0.03, 0.15]$), and relational mobility ($\beta = -0.07$, $SE = 0.05$, $p = 0.13$, $CI_{95\%} [-0.16, 0.02]$). However, we do not find a friendship promiscuity \times relational mobility interaction on closeness for neither the global composite ($\beta = -0.04$, $p = 0.38$), meeting factor ($\beta = -0.04$, $p = 0.32$), or choosing factor ($\beta = -0.03$, $p = 0.44$). Friendship promiscuity (Table S18) improved fit relative to an intercepts-only model ($\Delta\chi^2(1)^2 = 211$, $p < 0.001$), accounting for 4.80% of the between-person variance and 1.74% of the within-person variance ($ICC = 0.51$).

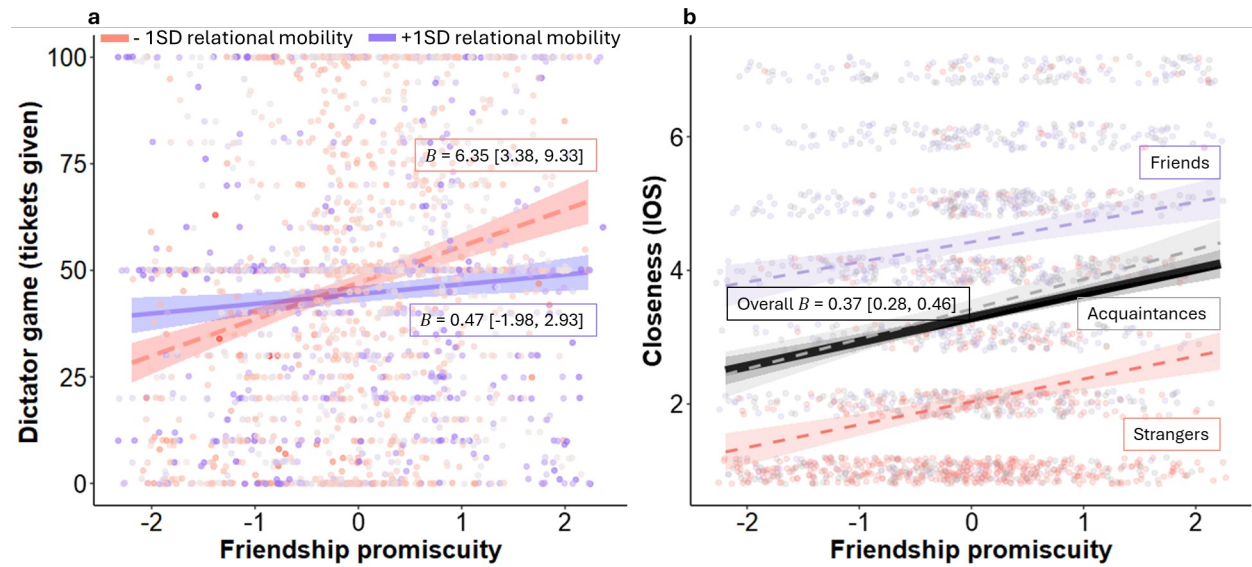


Figure 3. Friendship promiscuity is associated with prosociality and closeness.

General Discussion

The goal of these studies was to investigate the motivations people have for forming friendships as they juggle the trade-off between the number of friends they

can sustain and the amount they can invest in each friendship. To this end, we created and validated the Friendship Promiscuity Scale across 5 studies. Factor analyses revealed the underlying two-factor structure. We then demonstrated test-retest reliability across a 5-8 week timespan, concurrent, convergent, and discriminant validity across a battery of theoretically relevant measures; and predictive validity as well as cross cultural generalizability, such that friendship promiscuity was associated with friend-seeking behaviors and motivations over and above pertinent controls across geographically diverse samples.

Our results suggest that friendship promiscuity indexes preferences for having a wide friendship network and desire for intimacy with many friends. While individual differences like sociosexuality index a trade-off between two ends of a spectrum (i.e., quality vs. quantity), the Friendship Promiscuity Scale does not appear to capture this bipolarity —rather, the scale measures unidimensional preferences and motivations for making more friends without sacrificing preference and motivation for investing in friends. This highlights an important facet of friendships, as one can both maintain current friendship while seeking new friendships without violating norms found among committed romantic relationships (Buss & Schmitt, 2019; Gangestad & Simpson, 2000; Simpson & Gangestad, 1991).

Although the Friendship Promiscuity Scale does not seem to capture a quality vs. quantity trade-off, this does not mean that this trade-off does not exist. For instance, when one's friend directs attention away from us in favor of a rival, people experience friendship jealousy that can trigger both maintenance *and dissolution* behaviors (Krems et al., 2021). Therefore, promiscuously friendly people might, inadvertently, lose investment from current friends when they seek new friendships. Notwithstanding, the Friendship Promiscuity Scale offers a reliable tool for

measuring preferences and motivations for making many friends across cultures, and for making predictions about friend-seeking, making, and maintenance behaviors that could ultimately reveal the nature of a quality vs. quantity of friendships trade-off.

The relationships that we observed with the Friendship Promiscuity Scale and theoretically relevant constructs also align with previous research. For example, extraverted (Pollet et al., 2011; Zell et al., 2014) and conscientious people (Lee et al., 2010) tend to have larger and more connected support networks, while people higher in neuroticism have smaller networks and fewer close friends (Harris & Vazire, 2016). We also found that wide network preference was positively associated with affiliation, mate-seeking, and status-seeking (Kenrick et al., 2010; Neel et al., 2016), consistent with the notion that wider networks provide more friends to help individuals reach these goals. Similarly, people with high friendship value are typically preferred by others as friends (Krems & Conroy-Beam, 2020), and we observed that these individuals also reported higher wide friendship network preference .

Limitations and future directions

One unexpected limitation is that the Friendship Promiscuity Scale does not appear to index a quantity vs. quality of friendship trade-off in the same fashion as other trade-offs. For example, friendship promiscuity was associated with higher perceived intimacy and commitment with friends (Studies 3-4). Similarly, friendship promiscuity was (weakly) associated with more guarding and retention behaviors in a friend-poaching scenario (Study 3; Table S10). Therefore, it remains unclear whether people necessarily sacrifice investment in friends when they prefer wider networks, or whether they invest more in affiliation overall, potentially at the

expense of other adaptive functions.

While posing challenges for determining whether people adopt one strategy over the other, this lack of dichotomy highlights an important aspect of friendships. Unlike monogamous mating, where costs of investing in many partners can be high (e.g., relationship dissolution) people are not constrained to pursuing only one friend at a time or having to prioritize quality while sacrificing quantity (or vice-versa) to the same extent. Future research could investigate the nature of this trade-off using explore-exploit dilemmas where participants must decide between finding new friendships or exploiting existing ones to reveal whether friendship promiscuity predicts a trade-off in exploring over exploiting (Tsang et al., 2025). Additionally, investigating ecological factors could reveal when people are more likely to favor one strategy over the other. For example, in resource scarce urban environments, people may prefer to invest in few high quality, over many shallow, friendships (Adams & Plaut, 2003; Oishi & Kesebir, 2012). However, it is worth noting that this association may be reversed in subsistence societies because wider networks allow people to more effectively pool risks (Cronk & Aktipis, 2021; Jaeggi et al., 2016) or gain prestige (Ready & Power, 2018).

Another limitation is that we do not know the long-term implications of friendship promiscuity. For example, people tend to prune their social networks as they age (Bruine de Bruin et al., 2020; English & Carstensen, 2014) However, since we do not have longitudinal data, we cannot examine whether people move from a more promiscuous friendship-making strategy when they are younger to a less promiscuous strategy when they are older. Alternatively, friendship promiscuity might attenuate this pruning effect, with those endorsing a more promiscuous strategy maintaining a wider network even as they age.

Another important future direction will involve investigating the extent to which friendship promiscuity tracks ideal or actual friendship preferences. While we could not assess if friendship network preferences closely tracked ideal network composition, it is possible that those below their ideal friendship network composition – whether in terms of quantity or intimacy – endorse more promiscuous friendship-making strategies. Indeed, we find that desire for intimacy was associated with friend-seeking behavior for people with higher wide network preference but *only* if they reported having fewer friends, suggesting desire for intimacy up-regulates friend-seeking behavior when people are below their ideal friendship quantity and down-regulates friend-seeking when above the ideal quantity. However, how promiscuous friendship-making strategies might affect intimacy with one's friends will require investigating both individual and partner-rated perceptions of intimacy

Conclusion

From finding mates to raising offspring, humans are faced with many challenging trade-offs across the lifespan. We propose a novel trade-off: the number of friends one can sustain and the amount they can invest in each friendship. Across 5 studies, we outlined the creation of the Friendship Promiscuity Scale – a novel tool for measuring wide friendship network preference and desire for intimacy with many friends – its factor structure, reliability and validity, and friend-seeking motivations and behaviors associated with this new construct in geographically diverse samples. The scale offers a reliable tool for measuring preferences and motivations for making many friends across cultures, and for making predictions about friend-seeking, making, and maintenance behaviors that could ultimately reveal the nature of a quality vs. quantity of friendships trade-off.

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Supplemental Information

S1. Studies 1a-1d. Scale development

Overview of studies 1a-1d

In Study 1a we tested whether the Friendship Promiscuity scale followed a three-factor solution. Instead, analyses showed that a two-factor model yielded more interpretable results. Based on exploratory factor analyses from Study 1a, in Study 1b we removed and modified items, and ran additional exploratory factor analyses on the modified item list employing an older US sample. In Study 1c we confirmed the two-factor model observed in Studies 1a-1b, however, the scale showed low-construct reliability. In Study 1d, we made additional changes to the scale, showing that this final version of the scale was high on construct reliability, and the two-factor structure of the scale replicated in an international sample of participants.

Participants

Study 1a. We first administered the Friendship Promiscuity scale to a sample of incoming psychology undergraduates at a public university in the US ($N = 1868$, $M_{age} = 19.01$, $SD_{age} = 2.75$, 59.6% male; 53% White, 5% Black/African American, 20% Hispanic/Latino, 2% Native American, 15% Asian/Asian American, 2% Middle Eastern, 1% “other”; income-related socio-economic status $M = 2.88$, $SD = 0.97$ [1 = *Upper class*, 5 = *Working class*]) who were invited to complete a large pre-screening survey for partial-course credit.

Study 1b. We recruited 109 participants through Prolific.co ($M_{age} = 28.99$, $SD_{age} = 6.71$, 50% women; income $M = 4.38$, $SD = 1.92$ [1 = *Under \$15,000*, 8 = *\$150,001 or more*]; education $M = 4.44$, $SD = 1.27$ [1 = *Less than high school degree*, 4 = *Associate or two year degree*, 7 = *Doctoral or professional degree (e.g.,*

PhD, JD, MD)), to assess the factor structure of the Friendship Promiscuity scale in an older sample of US adults. Participants were compensated with \$1.00 for their time.

Study 1c. Here we administered the friendship promiscuity scale to 767 psychology undergraduates ($M_{age} = 19.24$, $SD_{age} = 2.74$, 53.7% women; 55% White, 5% Black/African American, 18% Hispanic/Latino, 2% Native American, 16% Asian/Asian American, 2% Middle Eastern, 1% “other”; income-related socio-economic status $M = 2.90$, $SD = 1.0$ [1 = *Upper class*, 5 = *Working class*]) who received partial course credit for their participation.

Study 1d. In this study, we recruited an international sample of adults through Prolific.co ($N = 635$, $M_{age} = 29.62$, $SD_{age} = 11.03$, 50% men; 82.3% White, 1.6% Black, 7.3% Hispanic/Latino, 0.2% Native, 6% Asian, 2.2% “other”; education $M = 4.04$, $SD = 1.63$ [1 = *Less than high school degree*, 4 = *Associate or two year degree*, 8 = *Doctoral or professional degree (e.g., PhD, JD, MD)*]). Participants resided in over 30 countries around the world, predominantly in Europe (57.5%), followed by the UK and Ireland (26.5%), North America (12.8%), and other regions (3.2%). Participants were compensated with \$1.25 for their time. Finally, we assess the associations between friendship promiscuity with age and participant sex.

Results

Tables S1a-S1d show the labels and response scales used to measure friendship promiscuity across Studies 1a-1d, and Tables S2a-S2d show the inter-item correlations. We ran exploratory and confirmatory factor analyses with the *Psych* and *Lavaan* packages for R Studio V. 1.41 ([Revelle 2017](#); [Rosseel 2012](#)). Data and analysis code for Studies 1a-1d are available upon request.

Study 1a

In addition to the 9 items adapted from the Sociosexual Orientation Inventory, we included the following two items: (1) *I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well* (item 10). This item was developed to capture a central issue in partner choice, that time and resources are limited ([Noë and Hammerstein 1994](#); [Noë and Hammerstein 1995](#)). Consequently, investments towards building a large network of friends may come at a cost to an individual's ability to make investments towards any one single individual within an existing network. And (2): *How long do you have to know someone before calling that person a friend?* (Item 11). We expected that people who score high on friendship promiscuity would require less time/investment from new potential partners to recognize them as friends and that this preference would form part of a promiscuously friendly psychology.

Table S1a. *Friendship Promiscuity Descriptives (Study 1a).*

Item	Labels (version 1)	Response Scale	<i>M</i>	<i>SD</i>
1	How many new friends have you made in the past 12 months?	Slider (0-50 friends)	17.6 3	13.7 7
2	How many of your friendships have only lasted a very short period of time (3 months or less)?	Slider (0-50 friends)	8.29	9.08
3	How often are you friendly to people without really being interested in being friends with them?	1 = Never 9 = More than once a week	6.42	1.73
4	Friendships without closeness are ok	1 = Strongly disagree 9 = Strongly agree	5.45	2.25
5	I enjoy making casual friendships with many different people	1 = Strongly disagree 9 = Strongly agree	6.36	2.13
6	I do not want to begin making friends with a person until I am sure that we can have a long-term friendship	1 = Strongly disagree 9 = Strongly agree	3.73	2.11
7	How often do you imagine yourself trying to be friends with someone you weren't friends with	1 = Never 9 = More than once a	4.37	2.20

	before?	week		
8	How often do you feel close to someone who is not currently your friend?	1 = Never 9 = More than once a week	3.38	1.98
9	In everyday life, how often do you wish you could be friends with someone you have just met?	1 = Never 9 = More than once a week	4.82	2.21
10	I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	1 = Strongly disagree 9 = Strongly agree	4.74	2.32
11	How long do you have to know someone before calling that person a friend?	1 = A few days 9 = More than one year	2.87	1.41

Table S2a. *Friendship Promiscuity inter-item correlations (Study 1a).*

Item	1	2	3	4	5	6	7	8	9	10
2	0.39***									
3	0.10***	-0.002								
4	0.16***	0.11** *	0.11** *							
5	0.33***	0.09** *	0.16** *	0.34** *						
6	-0.24***	-0.02	-0.13* **	-0.22* **	-0.26* **					
7	0.16***	0.09** *	0.17** *	0.02	0.16** *	-0.07* *				
8	0.16***	0.07**	0.11** *	0.01	0.15** *	-0.02	0.35** *			
9	0.16***	0.10** *	0.13** *	0.05	0.2***	-0.06* *	0.57** *	0.35* **		
10	0.32***	0.15** *	0.05*	0.36** *	0.47** *	-0.21* **	0.19** *	0.14* **	0.22** *	
11	-0.30***	-0.04	-0.09*	-0.16*	-0.24*	0.31**	-0.10**	-0.05*	-0.15*	-0.23*

** ** ** * * ** **

Note. *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$.

The Friendship Promiscuity scale (version 1) did not fit a 3-factor structure well

Following the revised Sociosexual Orientation Inventory ([Penke and Asendorpf 2008](#)), we first assessed whether the dimensionality of the Friendship Promiscuity scale (version 1) would fit a three-factor structure (i.e., behavioral propensity to make friends, attitudes towards making friends, and yearning for making friends). We ran a three-factor confirmatory factor analysis, allowing factor covariances to be estimated, and maximum-likelihood for the estimation method. Although the model showed adequate fit to the data, model fit was not sufficient to confirm a 3-factor model ($\chi^2(41) = 375.94$, $p < 0.001$, CFI = 0.89, TLI = 0.85, RMSEA = 0.07, CI_{90%} [0.06, 0.07], SRMR = 0.06). In addition, item 3 loaded weakly onto the behavior factor (see Table S2).

Table S3. Friendship Promiscuity scale (version 1) confirmatory factor analysis.

Item	Labels (version 1)	Behavior	Attitude	Yearning	σ^2
1	How many new friends have you made in the past 12 months?	0.82			0.32
2	How many of your friendships have only lasted a very short period of time (3 months or less)?	0.42 (0.04)			0.82
3	How often are you friendly to people without really being interested in being friends with them?	0.15 (0.03)			0.98

4	Friendships without closeness are ok	0.48	0.76
5	I enjoy making casual friendships with many different people	0.69 (0.09)	0.51
6	I do not want to begin making friends with a person until I am sure that we can have a long-term friendship	-0.38 (0.06)	0.85
7	How often do you imagine yourself trying to be friends with someone you weren't friends with before?		0.73 0.45
8	How often do you feel close to someone who is not currently your friend?		0.47 (0.04) 0.77
9	In everyday life, how often do you wish you could be friends with someone you have just met?		0.76 (0.05) 0.41
10	I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	0.69 (0.09)	0.52
11	How long do you have to know someone before calling that person a friend?	-0.38 (0.04)	0.85
		<i>r</i>	Attitude Yearning
		Behavior	0.59 0.30
		Attitude	0.33

Note. $N = 1684$. Factor loadings, residual variances, and inter-factor correlations reflect standardized estimates; standard errors are shown in parentheses.

Exploratory factor analyses suggest a 2-factor model

To investigate alternative solutions, we next ran a principal component analysis. Results and visual inspection of a scree-plot suggested a two-factor solution may best fit the data, with the first component explaining 68.33% of the variance, the second 20.52%, and a third only 3.03% of the variance. To explore this possibility, we ran exploratory factor analyses with a one, two, and three-factor solution to compare these alternative models.

As shown in Table S4, only Item 1 (*How many new friends have you made in*

the past 12 months?) and Item 2 (*How many of your friendships have only lasted a very short period of time (3 months or less)?*) loaded onto Factor 1 in the three-factor solution, suggesting that a three-factor solution is overfitting the data.

In the two-factor solution, Item 7 (*How often do you imagine yourself trying to be friends with someone you weren't friends with before?*), Item 8 (*How often do you feel close to someone who is not currently your friend?*), and Item 9 (*In everyday life, how often do you wish you could be friends with someone you have just met?*) loaded on a single factor. These items were adapted to reflect chronic longing towards making new friends as was expected.

Item 1 (*How many new friends have you made in the past 12 months?*), Item 4 (*Friendships without closeness are ok*), Item 5 (*I enjoy making casual friendships with many different people*), Item 6 (*I do not want to begin making friends with a person until I am sure that we can have a long-term friendship- reverse-scored*), Item 10 (*I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well*), and 11 (*How long do you have to know someone before calling that person a friend?*) loaded on a second factor. Although these items were adapted to reflect two separate components of friendship promiscuity (i.e., behavior and propensity towards making friends, and attitudes towards making low-commitment friends), these items may instead reflect a single dimension that indexes *preference* towards maintaining a wide network of friends.

Table S4. Friendship Promiscuity scale (version 1) exploratory factor analyses.

	1-factor solution	2-factor solution		3-factor solution		
Item	F1	F1	F2	F1	F2	F3

1	0.54	0.06	0.51	1	-0.01	0
2	0.26	0.06	0.23	0.4	0.04	-0.03
3	0.23	0.15	0.14	0.01	0.16	0.14
4	0.42	-0.14	0.54	-0.07	-0.12	0.60
5	0.64	0.02	0.66	0.03	0.05	0.66
6	-0.38	0.07	-0.44	-0.08	0.05	-0.38
7	0.37	0.77	-0.03	0	0.77	-0.03
8	0.30	0.46	0.03	0.06	0.46	-0.01
9	0.41	0.74	0.03	-0.02	0.75	0.04
10	0.64	0.06	0.64	0.03	0.08	0.63
11	-0.41	-0.02	-0.41	-0.17	-0.03	-0.29
% variance		0.13	0.17	0.13	0.13	0.13
Total variance	0.19		0.33		0.38	
TLI	0.51		0.79		0.90	
RMSR	0.10		0.05		0.03	
RMSEA	0.13 [0.07, 0.09]		0.08 [0.07, 0.09]		0.06 [0.05, 0.07]	
		<i>r</i>	F2	<i>r</i>	F2	F3
		F1	0.33	F1	0.23	0.44
				F2		0.29

Note. Bolded values represent factor loadings ≥ 0.40 . Numbers in brackets represent 90% confidence intervals.

Study 1b

We made a number of changes to the scale based on results from Study 1a. First, Item 2 (*How many of your friendships have only lasted a very short period of time*) was removed given its low factor loadings (0.06-0.23). Second, although Item 3 (*How often are you friendly to people without really being interested in being friends with them?*) also loaded weakly (0.14-0.15), we decided to modify the item

to the following: *How often do you treat other people as if they were your friend, even when you may not really be interested in being friends with them?*. The concern with the previous item was that “friendly” may have been interpreted as simply being agreeable. The modified wording is meant to reflect willingness to maintain rapport with others in order to sustain a larger, albeit more shallow, network of friends.

Third, Item 6 (*I do not want to begin making friends with a person until I am sure that we can have a long-term friendship*), was modified to *I do not want to begin investing in a friendship with someone new until I am sure that we can have a long-term friendship*. This item is intended to reflect willingness (or lack thereof) to invest in new potential friendships even when the risk of them being short-lived is high. Fourth, responses to Item 1 (*How many new friends have you made in the past 12 months?*) were recorded as an open-ended response, rather than a slider ranging from 0-50, in order not to limit participants in their responses. Lastly, some items were moderately skewed, and thus, the scales were reduced from 9-point to 7-point Likert scales.

Table S1b. *Friendship Promiscuity Descriptives (Study 1b).*

	Labels (version 2)	Response Scale	<i>M</i>	<i>SD</i>
1	How many new friends have you made in the past 12 months?	[open text]	5.6 9	8.3 7
3	How often do you treat other people as if they were your friend, even when you may not really be interested in being friends with them	1 = Never 7 = More than once a week	4.1	1.8 6
4	Friendships without closeness are ok	1 = Strongly disagree 7 = Strongly agree	4.3 8	1.5 6
5	I enjoy making casual friendships with many different people	1 = Strongly disagree 7 = Strongly agree	4.1 7	1.6 8
6	I do not want to begin investing in a friendship	1 = Strongly disagree	3.5	1.6

	with someone new until I am sure that we can have a long-term friendship	7 = Strongly agree		7
7	How often do you imagine yourself trying to be friends with someone you weren't friends with before?	1 = Never 7 = More than once a week	3.0 7	1.5 3
8	How often do you feel close to someone who is not currently your friend?	1 = Never 7 = More than once a week	2.5 3	1.2 3
9	In everyday life, how often do you wish you could be friends with someone you have just met?	1 = Never 7 = More than once a week	2.8	1.3 2
10	I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	1 = Strongly disagree 7 = Strongly agree	3.3 3	1.6 7
11	How long do you have to know someone before calling that person a friend?	1 = A few days 7 = More than one year	3.9 6	1.3 9

Table S2b. *Friendship Promiscuity inter-item correlations (Study 1b).*

Item	1	3	4	5	6	7	8	9	10
3	0.20*								
4	0.20*	0.24*							
5	0.31**	0.04	0.38** *						
6	0.27**	0.18	0.38** *	0.34** *					
7	0.08	0.27**	0.19	0.07	0.17				
8	0.34** *	0.26**	0.27**	0.24*	0.11	0.42** *			
9	0.19	0.22*	0.29**	0.16	0.22*	0.62** *	0.42** *		
10	0.41** *	0.18	0.42** *	0.61** *	0.34**	0.34** *	0.38** *	0.41** *	
11	0.24*	0.09	0.32**	0.07	0.38**	0.25**	0.21*	0.33**	0.29**

Note. *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$.

The two-factor solution replicated in an older sample of participants

Considering the changes we made to the scale, we began these analyses by running another principal component analysis. Results and visual inspection of a scree-plot suggest a one or two-factor solution may fit the data best, with the first component accounting for 78.44% of the variance, the second for 6.93%, and a third only 3.79% of the variance. To compare these alternative models, we ran another set of exploratory factor analyses with a one, two, and three-factor solution (Table S5).

In the three-factor solution, we see that only two items loaded onto Factor 1 and Factor 3, respectively, suggesting a three-factor solution is over-fitting the data. The loadings extracted from the two-factor solution observed in Study 1a largely replicated here, with the exception that Item 11 (*How long do you have to know someone before calling that person a friend?*) loaded weakly onto the preference towards maintaining a wide network of friends (-0.33). In addition, as in Study 1a, Item 3 (*How often do you treat other people as if they were your friend, even when you may not really be interested in being friends with them*) did not load strongly on any factor (-0.12 to 0.32).

In contrast to Study 1a, here we found that in addition to the items indexing preference towards a wide network (i.e., Items 1, 4, 5, 6, and 10), the items indexing longing for making new friends (i.e., Items 7, 8, and 9) all loaded strongly onto a single factor in the one-factor solution (-0.44 to 0.77). These contrasting results suggest that either a one- or a two-factor solution could fit the data well.

Table S5. Friendship Promiscuity scale (version 2) exploratory factor analyses.

	1-factor solution	2-factor solution		3-factor solution		
Item	F1	F1	F2	F1	F2	F3

1	0.47	0.45	0.06	0.30	0.02	-0.26
3	0.32	0.07	0.32	0	0.28	-0.12
4	0.56	0.47	0.16	0.30	0.05	-0.39
5	0.55	0.82	-0.16	0.90	-0.06	0.04
6	-0.48	-0.42	-0.11	-0.22	0.07	0.54
7	0.50	-0.07	0.82	-0.05	0.85	0.05
8	0.55	0.22	0.45	0.20	0.49	-0.02
9	0.59	0.07	0.75	0.04	0.71	-0.10
10	0.77	0.73	0.2	0.62	0.26	-0.14
11	-0.44	-0.17	-0.33	0.13	-0.05	0.71
% variance		0.20	0.19	0.17	0.16	0.12
Total variance	0.29		0.39		0.46	
TLI	0.67		0.91		0.97	
RMSR	0.10		0.06		0.04	
RMSEA	0.12 [0.10, 0.19]		0.06 [0, 0.11]		0.04 [0, 0.10]	
		<i>r</i>	F2	<i>r</i>	F2	F3
		F1	0.36	F1	0.25	0.36
				F2		0.47

Note. Bolded values represent factor loadings ≥ 0.40 . Numbers in brackets represent 90% confidence intervals.

Study 1c

Considering that results from Study 1b suggested that the scale may fit either a one or a two-factor solution, the aim of this study was to compare the fit of a unidimensional confirmatory factor analysis relative to the fit of a two-dimensional confirmatory factor analysis in a new sample of participants. The only change to the scale was that we dropped Item 3 (*How often do you treat other people as if they were your friend, even when you may not really be interested in being friends with*

them) because it consistently loaded weakly across Studies 1a-1b.

Table S1c. *Friendship Promiscuity Descriptives (Study 1c).*

	Labels (version 3)	Response Scale	<i>M</i>	<i>SD</i>
1	How many new friends have you made in the past 12 months?	[open text]	17.8 7	26.3 9
4	Friendships without closeness are ok	1 = Strongly disagree 7 = Strongly agree	4.32	1.60
5	I enjoy making casual friendships with many different people	1 = Strongly disagree 7 = Strongly agree	4.89	1.56
6	I do not want to begin investing in a friendship with someone new until I am sure that we can have a long-term friendship	1 = Strongly disagree 7 = Strongly agree	3.53	1.56
7	How often do you imagine yourself trying to be friends with someone you weren't friends with before?	1 = Never 7 = More than once a week	3.68	1.68
8	How often do you feel close to someone who is not currently your friend?	1 = Never 7 = More than once a week	2.99	1.57
9	In everyday life, how often do you wish you could be friends with someone you have just met?	1 = Never 7 = More than once a week	3.97	1.72
10	I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	1 = Strongly disagree 7 = Strongly agree	3.76	1.67
11	How long do you have to know someone before calling that person a friend?	1 = A few days 7 = More than one year	4.86	1.22

Table S2c. *Friendship Promiscuity inter-item correlations (Study 1c).*

Item	1	4	5	6	7	8	9	10
4	0.08*							
5	0.26** *	0.26** *						
6	0.15** *	0.15** *	0.19** *					
7	0.09*	0.07	0.23** *	0.04				

8	0.06	0.02	0.19** *	0.04	0.23** *			
9	0.05	0.01	0.24** *	0.01	0.51** *	0.20**		
10	0.16** *	0.21** *	0.39** *	0.16** *	0.29**	0.14**	0.25** *	
11	0.21** *	0.10**	0.22** *	0.24**	0.08*	0.02	0.13** *	0.15**

Note. *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$. Items 6 and 11 were reversed-scored.

The Friendship Promiscuity scale (version 3) is a two-dimensional construct

In this study, responses to Item 1 (*How many new friends have you made in the past 12 months?*) ranged from 0 to 200, exhibiting much higher levels of variance (696.38) compared to other items, which ranged from 1.49 to 2.94. As a result, confirmatory factor analyses using the raw values of Item 1 yielded a non-positive definite Hessian matrix. To reduce the variance in Item 1, we divided responses by 10. A one-factor CFA fitted the data poorly ($\chi^2(27) = 216.75$, $p < 0.001$, CFI = 0.72, TLI = 0.62, RMSEA = 0.10, CI_{90%} [0.09, 0.11], SRMR = 0.07). However, a two-factor CFA fitted the data well ($\chi^2(26) = 74.23$, $p < 0.001$, CFI = 0.93, TLI = 0.90, RMSEA = 0.05, CI_{90%} [0.04, 0.07], SRMR = 0.04). Results indicate that two dimensions, one reflecting *preference* towards maintaining a wide network of friends (e.g., *I enjoy making casual friendships with many different people*), and a second reflecting chronic yearning towards making new friends (e.g., *How often do you imagine yourself trying to be friends with someone you weren't friends with before?*) best explains the data.

Table S6. Friendship Promiscuity scale (version 3) confirmatory factor analysis.

Item	Labels (version 3)	Preference for a wide network	Longing to befriend	σ^2
1	How many new friends have you made in the past 12 months?	0.35		0.88
4	Friendships without closeness are ok	0.34 (0.11)		0.88
5	I enjoy making casual friendships with many different people	0.69 (0.17)		0.52
6	I do not want to begin making friends with a person until I am sure that we can have a long-term friendship (reversed-scored)	0.30 (0.10)		0.90
7	How often do you imagine yourself trying to be friends with someone you weren't friends with before?		0.75	0.44
8	How often do you feel close to someone who is not currently your friend?		0.32 (0.06)	0.90
9	In everyday life, how often do you wish you could be friends with someone you have just met?		0.68 (0.10)	0.53
10	I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	0.58 (0.15)		0.66
11	How long do you have to know someone before calling that person a friend? (reversed-scored)	0.34 (0.08)		0.88
		<i>r</i>	Befriend	
		Wide network	0.47	

Note. $N = 669$. Factor loadings, residual variances, and inter-factor correlations reflect standardized estimates; standard errors are shown in parentheses.

The Friendship Promiscuity scale (version 3) showed low to acceptable levels of construct reliability

The longing to make new friends factor (i.e., Items 7, 8, and 9) showed a low but acceptable level of reliability (Cronbach's $\alpha = 0.62$), mean inter-item correlation = 0.35. However, results suggest that removing Item 8 (*How often do you feel close to someone who is not currently your friend?*) would improve this factor's reliability ($\alpha = 0.69$). The preference towards maintaining a wide network of friends (i.e.,

Items 1, 4, 5, 6, 10, and 11) did not reach an acceptable level of construct reliability (Cronbach's $\alpha = 0.56$), with a mean inter-item correlation = 0.19. Removing items would not improve this factor's reliability (α 's = 0.50 to 0.56). Overall, the global scale (i.e., all items) demonstrated a low but acceptable level of reliability (Cronbach's $\alpha = 0.62$). However, the mean inter-item correlation was low (0.16), and removing items would not improve reliability for the global scale (α 's = 0.54 to 0.62).

Study 1d

Although Study 1c provided strong evidence that the Friendship Promiscuity scale fits a two-factor structure, the two dimensions extracted showed poor construct reliability. With the aim of improving construct reliability, we made the following changes to the scale: (1) Item 1 was recorded on an ordinal scale (1 = *0 friends*, 7 = *More than 20*) to hold the variance of this item within a constrained range and prevent participants from reporting unusually high numbers. (2) We included the following text to Item 2 (*Friendships without closeness are ok, I don't feel like I need to be emotionally close with all of my friends*) to more clearly measure preference (or unwillingness) towards making low-commitment friendships. (3) Items 4 and 6 were modified to ease interpretability, such that response scales were in the same direction as other items. (4) Response scales for Items 7, 8, and 9 were also modified to improve interpretability and ease of responding, such that participants are asked to state their agreement or disagreement, rather than make inferences about the frequency to which they experience longing for making new friends. (5) Lastly, we included three additional items. Items 10 (*In situations where I am around new people, I often feel really*

motivated to make new friends), and 11 (*It doesn't matter how many friends I have, I am always looking to meet new people to talk to/hang out with*) were intended to measure propensity to make new friends across situations, and preference towards a large (i.e., wide) friendship network. Item 12 (*I often wish that others would introduce me to new people to talk to/hang out with*) was developed to further assess chronic longing for making new friends.

Table S1d. *Friendship Promiscuity Descriptives (Study 1d).*

	Labels (version 4)	Response Scale	<i>M</i>	<i>SD</i>
1	How many new friends have you made in the past 12 months?	1 = 0, 7 = More than 20	2.40	1.32
2	Friendships without closeness are ok, I don't feel like I need to be emotionally close with all of my friends	1 = Strongly disagree 7 = Strongly agree	3.99	1.3
3	I enjoy making casual friendships with many different people	1 = Strongly disagree 7 = Strongly agree	3.64	1.68
4	I try to make new friends even if I can't be sure that I will develop close friendships with all of them	1 = Strongly disagree 7 = Strongly agree	3.44	1.62
5	I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	1 = Strongly disagree 7 = Strongly agree	2.88	1.61
6	How long would you have to know someone to consider that person a friend	1 = More than 1 year 7 = A few days	3.76	1.63
7	I often find myself wishing I could be friends with lots of new people	1 = Strongly disagree 7 = Strongly agree	3.50	1.85
8	I often find myself wishing I could get closer with lots of new people	1 = Strongly disagree 7 = Strongly agree	3.59	1.87
9	I often wish I could become friends with many of the people that I meet	1 = Strongly disagree 7 = Strongly agree	3.57	1.75
1	In situations where I am around new people, I	1 = Strongly	3.32	1.63

0	often feel really motivated to make new friends	disagree 7 = Strongly agree		
1 1	It doesn't matter how many friends I have, I am always looking to meet new people to talk to/hang out with	1 = Strongly disagree 7 = Strongly agree	3.21	1.70
1 2	I often wish that others would introduce me to new people to talk to/hang out with	1 = Strongly disagree 7 = Strongly agree	3.70	1.90

Note. Labels were assigned a different item number compared to Studies 1a-1c.

Table S2d. *Friendship Promiscuity inter-item correlations (Study 1d).*

Item	1	2	3	4	5	6	7	8	9	10	11
2	0.07										
3	0.30** *	0.21** *									
4	0.29** *	0.14** *	0.60** *								
5	0.33** *	0.20** *	0.56** *	0.52* **							
6	0.31** *	0.10* *	0.25** *	0.24* **	0.23** *						
7	0.19** *	0.03 *	0.46** *	0.50* **	0.53** *	0.22** *					
8	0.24** *	-0.003 *	0.44** *	0.49* **	0.51** *	0.20** *	0.81** *				
9	0.19** *	0.03 *	0.48** *	0.52* **	0.51** *	0.24** *	0.75** *	0.73** *			
10	0.29** *	0.06 *	0.64** *	0.55* **	0.44** *	0.18** *	0.43** *	0.43** *	0.47** *		
11	0.29** *	0.07 *	0.60** *	0.59* **	0.55** *	0.21** *	0.56** *	0.54** *	0.52** *	0.60** *	
12	0.17** *	0.01 *	0.44** *	0.47* **	0.44** *	0.19** *	0.74** *	0.73** *	0.71** *	0.44** *	0.52** *

Note. *** = $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$.

The Friendship Promiscuity scale (version 4) is a two-dimensional construct

Considering the changes made to the scale, we begin these analyses by first running an exploratory factor analysis with a two-factor solution to determine whether items loaded onto the expected corresponding factor. In this model, the longing to make new friends factor accounted for 26% of the variance, and the preference towards maintaining a wide network accounted for 25% of the variance ($\chi^2(43) = 131.93$, $p < 0.001$, TLI = 0.96, RMSEA = 0.06, CI_{90%} [0.04, 0.07]). As shown in Table S7, all items loaded onto the expected factor, with the exceptions of Item 2 (*Friendships without closeness are ok, I don't feel like I need to be emotionally close with all of my friends*), and Item 6 (How long would you have to know someone to consider that person a friend), which loaded weakly onto the preference towards maintaining a wide network factor.

Table S7. Friendship Promiscuity scale (version 4) exploratory factor analysis.

Item	Labels	F1	F2
1	How many new friends have you made in the past 12 months?	-0.07	0.45
2	Friendships without closeness are ok, I don't feel like I need to be emotionally close with all of my friends	-0.21	0.33
3	I enjoy making casual friendships with many different people	-0.09	0.88
4	I try to make new friends even if I can't be sure that I will develop close friendships with all of them	0.12	0.67
5	I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	0.20	0.54
6	How long would you have to know someone to consider that person a friend	0.05	0.28

7	I often find myself wishing I could be friends with lots of new people	0.92	-0.01
8	I often find myself wishing I could get closer with lots of new people	0.91	-0.02
9	I often wish I could become friends with many of the people that I meet	0.76	0.10
10	In situations where I am around new people, I often feel really motivated to make new friends	-0.02	0.76
11	It doesn't matter how many friends I have, I am always looking to meet new people to talk to/hang out with	0.19	0.63
12	I often wish that others would introduce me to new people to talk to/hang out	0.81	0.03

Note. Bolded values represent factor loadings ≥ 0.40 .

As we found in Study 1c, both Items 2 and 6 also loaded weakly here. Thus, we removed these two items from the scale and ran a two-factor CFA with the remaining 10 items (Table S8). This model showed excellent fit ($\chi^2(34) = 111.94$, $p < 0.001$, CFI = 0.98, TLI = 0.97, RMSEA = 0.06, CI_{90%} [0.05, 0.07]), SRMR = 0.03), reflecting the two expected constructs: *preference* towards maintaining a wide network of friends, and chronic longing for making new friends.

Table S8. Friendship Promiscuity scale (version 4) confirmatory factor analysis.

Item	Labels (version 4)	Preference for a wide network	Longing to befriend	σ^2
1	How many new friends have you made in the past 12 months?	0.38		0.85
3	I enjoy making casual friendships with many different people	0.78 (0.28)		0.39
4	I try to make new friends even if I can't be	0.76 (0.26)		0.43

	sure that I will develop close friendships with all of them			
5	I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	0.70 (0.25)		0.51
7	I often find myself wishing I could be friends with lots of new people		0.90	0.19
8	I often find myself wishing I could get closer with lots of new people		0.89 (0.03)	0.21
9	I often wish I could become friends with many of the people that I meet		0.84 (0.03)	0.30
10	In situations where I am around new people, I often feel really motivated to make new friends	0.74 (0.26)		0.45
11	It doesn't matter how many friends I have, I am always looking to meet new people to talk to/hang out with	0.80 (0.29)		0.37
12	I often wish that others would introduce me to new people to talk to/hang out		0.90 (0.03)	0.31
		<i>r</i>	Befriend	
		Wide network	0.74	

Note. $N = 633$. Factor loadings, residual variances, and inter-factor correlations reflect standardized estimates; standard errors are shown in parentheses.

The Friendship Promiscuity scale (version 4) showed high construct reliability

The preference towards maintaining a wide network of friends (i.e., Items 1, 3, 4, 5, 10, and 11) showed good construct reliability (Cronbach's $\alpha = 0.85$; mean inter-item correlation = 0.48), but removing Item 1 (*How many new friends have you made in the past 12 months?*) would slightly improve this construct's reliability ($\alpha = 0.87$). The chronic longing for making new friends factor (i.e., Items 7, 8, 9, and 12) also had high construct reliability (Cronbach's $\alpha = 0.92$; mean inter-item correlation = 0.74), and removing items would not improve its reliability (α 's = 0.89

to 0.91). Finally, the global scale also showed high construct reliability ($\alpha = 0.91$; mean inter-item correlation = 0.49), and again, removing Item 1 would slightly improve its reliability ($\alpha = 0.92$). However, we retained Item 1 as it measures a central behavioral component of friendship promiscuity (i.e., propensity towards making new friends).

Older people reported lower scores on the Friendship Promiscuity scale

We tested for possible associations between the Friendship Promiscuity scale and age and sex. We found that older people scored lower on both the preference towards maintaining a wide network factor ($r = -0.14, p < 0.001$), and the chronic longing for making friends factor ($r = -0.25, p < 0.001$). In contrast, men and women did not score differently on either the preference towards maintaining a wide network ($t(624) = -0.03, p = 0.97$) or the chronic longing for making friends factor ($t(627) = 1.74, p = 0.08$).

S2. Study 2

S2.1

Considering the demographic characteristics of our sample, we investigated a few associations between friendship promiscuity and these characteristics. We predicted that younger people would score higher on friendship promiscuity than older people, reflecting developmental trajectories in fundamental social motives (e.g., mate retention and kin care motivation becoming more pronounced later in life relative to early adulthood) (Ko et al., 2020). Moreover, we expected no differences in friendship promiscuity between partnered and single participants. That is, while traits associated with friendship promiscuity may overlap with traits associated with sociosexuality (e.g., extraversion), we expect that friendship

promiscuity should operate independently of mate-seeking motivations.

S2.2 Materials

Convergent validity items and contentment with existing friendships (quality vs. quantity measures and social network characteristics)

The following items are measured on a 7-point scale (1 = *Strongly disagree*, 7 = *Strongly agree*):

- I have a lot of different friendships with lots of different people, which sometimes prevents me from spending time with only a few of my closest friends
- I have a few friends that I am very close with, which sometimes prevents me from spending time with different people
- Please rate where you would place yourself on the following scales
 - 1 = *I prefer to spend time with lots of different friends*, 7 = *I prefer to spend time with one or few friends*
 - 1 = *I only talk to a small group of friends*, 7 = *I talk to a lot of different people*
- I am satisfied with the quality of my friendships
- I am not happy with the number of friends that I have; reverse coded
- I am not satisfied with the type of friendships that I have; reverse coded

Social support network

How many same-sex friends do you have? By friends we mean same-sex people that you would sometimes spend time with outside of work/school, but you would NOT consider them part of your best or closest friends. _____

How many same-sex best friends do you have? By best friends, we mean people that you consider dearest in your life and consider them to be part of your best and closest friends. _____

How many people could you turn to for help, who would be likely to help you, [if you were sick; during a serious emergency, or during a very difficult emotional situation] if you needed help buying food, paying rent, or utilities (e.g., water, electric, gas, etc)?

By acquaintances, we mean people you don't know really well, but you would stop and chat with them for a few minutes if you passed each other in public

By friends, we mean people that you would sometimes spend time with outside of work/school, but you would NOT consider them part of your best or closest friends

By best friends, we mean people that you consider dearest in your life and consider them to be part of your best and closest friends

Number of [target] _____

Commitment and perceived intimacy towards existing friends and

close/best friends

For the following statements, think of your [CLOSEST] same-sex friends. These should [be friends that you consider dearest in your life and would consider them to be your best friends] NOT include your closest friends. Rather, think of same-sex people that you would sometimes spend time with outside of work/school, but you would not consider them part of your best or closest friends.

The following items are measured on a 7-point scale (1 = *Strongly disagree*, 7 = *Strongly agree*).

Commitment (adapted from [Rusbult et al. 1998](#)).

- I want my [closest] friendships to last as long as possible
- I am committed to maintaining my current [closest] friendships
- It is unlikely that my [closest] friendships will end in the near future
- I'm not interested in getting to know others to make new [really close] friendships
- I do not want a new [close/best] friend

Intimacy (adapted from [Allgood 2008](#)).

- I can use my [closest] friends' things without asking permission
- I feel free to talk to my [closest] friends about almost anything
- I talk to my [closest] friends about my hopes and plans for the future
- I feel close to my [best] friends
- I speak up to defend my [closest] friends when other people say bad things about them
- I tell people nice things about my [closest] friends
- I know that whatever I tell my [closest] friends will be kept secret between us

Friend-poaching scenario (adapted from [Krems et al. 2021](#))

For the following questions, please think of [your CLOSEST same-sex friend. This should be the friend that you consider dearest in your life and would consider your best friend] one of your same-sex friends. These should NOT include your closest friends. Rather, think of a same-sex person that you would sometimes spend time with outside of work/school, but you would not consider them part of your best or closest friends.

Enter this person's initials below _____

To what extent would you feel the following emotions if your [best] friend started hanging out with another person -- a same-sex stranger -- instead of you? (1 = *Not at all*, 7 = *Very much*)

- Jealousy
- Sadness
- Anger
- Happiness

In that situation---where your [best] friend is becoming potentially closer with a new friend than your friend is with you---how likely would you be to do each of the following? (1 = *Not at all*, 7 = *Very likely*)

Friend guarding

- Pay attention to whether my [best] friend was spending time with a new friend
- Try to figure out if my [best] friend prefers a new friend's company to my company
- Spend all my free time with my [best] friend so they can't become closer with this other person
- Check up on my [best] friend, to see if they're with this person or not
- Try not to let my [best] friend hang out with this person when I'm not there
- Show interest in becoming friends with other people to make my [best] friend jealous
- Show my [best] friend how committed I am to them
- Make my [best] friend feel guilty for becoming close with this person

Friend retention

- Be cheerful and positive whenever I'm with my [best] friend
- Have an open discussion with my [best] friend
- Assure each other about the importance of our friendship
- Rely on other friends to help us through this rough patch
- Avoid talking about things that we disagree about
- Try to make my [best] friend laugh

Desire for interpersonal value ([Lemay and Sponberg 2015](#))

The following items are measured on a 9-point scale (1 = *Strongly disagree*, 9 = *Strongly agree*).

- I very much want to be loved by other people
- Being accepted and valued by others is important to me
- It bothers me when people seem cold or distant around me
- I want people to seek out my company
- I would not care if people left me
- I am not interested in being supported by others
- I would not care very much if people I know terminated their relationships with me
- Receiving affection from others is unimportant to me
- If other people wanted to keep a distance from me, I would not care
- I do not need to receive care from others
- When I have a need that others ignore, I'm hurt

Self-perceived friendship value (adapted from [Edlund and Sagarin 2014; Krems and Conroy-Beam 2020](#))

Many people look at specific characteristics in choosing their friends. Some common desirable traits include: being socially exciting, being physically attractive, having a good sense of humor, being kind and understanding, having good financial/professional status, being of high intelligence, being in good health, being trustworthy, being loyal, and providing help during difficult times.

- Overall, how would you rate your level of desirability as a friend on the

- following scale? (1 = *Extremely undesirable*, 7 = *Extremely desirable*)
- Overall, how would members of your same-sex rate your level of desirability as a friend on the following scale? (1 = *Extremely undesirable*, 7 = *Extremely desirable*)
 - Overall, how do you believe you compare to other people in desirability as a friend on the following scale? (1 = *Much lower than average*, 4 = *Average*, 7 = *Much higher than average*)

When you consider these common desirable traits people look for in friendships: being socially exciting, being physically attractive, having a good sense of humor, being kind and understanding, having good financial/professional status, being of high intelligence, being in good health, being trustworthy, being loyal, and providing help during difficult times:

- Overall, how "good" of a friend are you? (1 = *Very bad*, 7 = *Very good*)

Self-perceived mate value ([Edlund and Sagarin 2014](#))

Many people look at specific characteristics in choosing their potential romantic partners. Some common desirable traits include: being socially exciting, age, being physically attractive, having a good sense of humor, being kind and understanding, having good financial/professional status, being of high intelligence, being in good health, and liking children.

- Overall, how would you rate your level of desirability as a romantic partner on the following scale? (1 = *Extremely undesirable*, 7 = *Extremely desirable*)
- Overall, how would members of the sex you are physically attracted to rate your level of desirability as a romantic partner on the following scale? (1 = *Extremely undesirable*, 7 = *Extremely desirable*)
- Overall, how do you believe you compare to other people in desirability as a romantic partner on the following scale? (1 = *Much lower than average*, 4 = *Average*, 7 = *Much higher than average*)
- Overall, how good of a catch are you? (1 = *Very bad catch*, 4 = *Average*, 7 = *Very good catch*)

Socio-sexual orientation ([Penke and Asendorpf 2008](#))

Behavior (1 = 0 partners, 4 = 3 partners, 9 = 20 or more partners)

- With how many different partners have you had sex within the past 12 months?
- With how many different partners have you had sexual intercourse on one and only one occasion?
- With how many different partners have you had sexual intercourse without having an interest in a long-term committed relationship with this person?

Attitude (1 = *Strongly disagree*, 9 = *Strongly agree*)

- Sex without love is ok
- I can imagine myself being comfortable and enjoying "casual" sex with different partners
- I do not want to have sex with a person until I am sure that we will have a long-term, serious relationship

Desire (1 = *Never*, 4 = *About once a month*, 9 = *At least once a day*)

- How often do you have fantasies about having sex with someone you are not in a committed romantic relationship with?
- How often do you experience sexual arousal when you are in contact with someone you are not in a committed romantic relationship with?
- In everyday life, how often do you have spontaneous fantasies about having sex with someone you have just met?

Big-5 personality traits ([Donnellan et al. 2006](#))

Here are a number of characteristics that may or may not apply to you. Please rate the extent to which you agree or disagree with the following statements about yourself (1 = *Disagree strongly*, 5 = *Agree strongly*).

- Tends to be quiet
- Is compassionate, has a soft heart
- Tends to be disorganized
- Worries a lot
- Is fascinated by art, music, or literature
- Is dominant, acts as a leader
- Is sometimes rude to others
- Has difficulty getting started on tasks
- Tends to feel depressed, blue
- Has little interest in abstract ideas
- Is full of energy
- Assumes the best about people
- Is reliable, can always be counted on
- Is emotionally stable, not easily upset
- Is original, comes up with new ideas

Likelihood to attend social gatherings

Two of your friends are hosting separate parties on the same day. You're equally good friends with both of them. One party will be an outdoor party with about 50 guests. Some of the guests are mutual friends of yours, but most other guests you do not know. The other party will be a small outdoors barbecue with 5 of your good friends.

- Considering you have no other obligations, which party would you like to attend most? (1 = *The small barbecue*, 4 = *Not sure/can't decide*, 7 = *The large outdoor party*).
- Imagine that your friend's 50-guest party was taking place indoors. Considering the potential risk of contracting COVID-19, how likely would you be to attend this party if it were indoors? (1 = *Not at all*, 7 = *Very likely*).
- Imagine that your friend's small party with 5 of your good friends was taking place indoors. Considering the potential risk of contracting COVID-19, how likely would you be to attend this party if it were indoors? (1 = *Not at all*, 7 = *Very likely*).
- Considering the potential risk of contracting COVID-19, how likely would you be to attend a small, 5 guests party indoors, if the 5 guests involved were not some of your good friends? (1 = *Not at all*, 7 = *Very likely*).

S2.3 Additional results

The Friendship Promiscuity scale shows high construct reliability

The factor indexing preference towards maintaining a wide network of friendships (i.e., Items 1-6) showed good construct reliability (Cronbach's $\alpha = 0.85$, mean inter-item correlation = 0.48), and deleting items would not improve this factor's reliability (α 's = 0.81 to 0.85). The chronic longing for making friends factor (i.e., Items 7-10) also showed good construct reliability (Cronbach's $\alpha = 0.89$, mean inter-item correlation = 0.67), and deleting items would not improve this factor's reliability (α 's = 0.84 to 0.88). Finally, the global scale (i.e., Items 1-10) was also highly reliable (Cronbach's $\alpha = 0.87$, mean inter-item correlation = 0.41), and removing items would not improve reliability (α 's = 0.85 to 0.87). Table 2 shows the inter-item correlations of the Friendship Promiscuity scale.

Table S9. Friendship Promiscuity scale inter-item correlations (Study 2).

Item	Label	1	2	3	4	5	6	7	8	9
1	How many new friends have you made in the past 12 months?	-								
2	I enjoy making casual friendships with many different people	0.44								
3	I try to make new friends even if I can't be sure that I will develop close friendships with all of them	0.39	0.63							
4	I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	0.37	0.57	0.49						
5	In situations where I am around new people, I often feel really motivated to make new friends	0.41	0.50	0.50	0.39					
6	It doesn't matter how many friends I have, I am always looking to meet new people to talk to/hang out with	0.37	0.58	0.52	0.47	0.60				

7	I often find myself wishing I could be friends with lots of new people	0.1 3	0.3 4	0.33	0.35	0.29	0.4 8		
8	I often find myself wishing I could get closer with lots of new people	0.1 2	0.2 8	0.29	0.27	0.27	0.4 3	0.74	
9	I often wish I could become friends with many of the people that I meet	0.1 2	0.3 2	0.33	0.27	0.31	0.4 6	0.70	0.7 0
10	I often wish that others would introduce me to new people to talk to/hang out with	0.0 9	0.3 1	0.28	0.27	0.27	0.4 3	0.67	0.6 0 0.60

Note. All correlations are statistically significant ($p < 0.01$).

Women reported a greater longing to make new friends compared to men

Women ($M = 4.79$, $SD = 1.41$) scored higher on longing for making new friends than men ($M = 4.36$, $SD = 1.50$, $t(1079) = -4.65$, $p < 0.001$, $d = 0.29$). However, men and women did not differ in their preference for maintaining a wide network ($t(1070) = 0.20$, $p = 0.84$).

Younger people reported higher friendship promiscuity than older people

Older participants reported lower longing for making new friends ($r_{\text{Study 1d}} = -0.25$, $r_{\text{Study 2}} = -0.19$, p 's < 0.001), and preference for a wide network ($r_{\text{Study 1d}} = -0.14$, $r_{\text{Study 2}} = -0.11$, p 's < 0.001). Because of the restriction in the range of age among Study 2 participants, we examined differences between Study 1d and Study 2. Study 1d participants were older ($t(1088) = -170.20$, $M_{\text{diff}} = -11.05$, $CI_{95\%} [-11.18, -10.93]$), and scored lower on preference for a wide network ($t(1071) = 32.64$, $M_{\text{diff}} = 1.26$, $CI_{95\%} [1.18, 1.34]$), and longing for making new friends ($t(1080) = 23.69$, $M_{\text{diff}} = 1.05$, $CI_{95\%} [0.96, 1.13]$) than participants in Study 2.

People interested in dating reported a higher longing to make new friends

A one-way analysis of variance comparing friendship promiscuity by relationship status showed no differences in preference towards maintaining a wide network ($F(2, 989) = 2.62$, $p = 0.07$, $\eta^2 = 0.005$). However, relationship status was

associated with desire for friendship intimacy ($F(2, 997) = 8.50, p < 0.001, \eta^2 = 0.02$), such that people who reported being single but interested in dating ($n = 475, M = 4.82, SD = 1.39$) scored higher on this factor than single people uninterested in dating ($n = 220, M = 4.35, SD = 1.43, M_{diff} = 0.47, p < 0.001, CI_{95\%} [0.24, 0.70], d = 0.33$), and people in exclusive romantic relationships ($n = 297, M = 4.58, SD = 1.51, M_{diff} = 0.24, p = 0.02, CI_{95\%} [0.03, 0.44], d = 0.16$). People in exclusive romantic relationships and people uninterested in dating did not differ in longing for making new friends ($M_{diff} = 0.23, p = 0.07$).

S3. Study 3

S3.1

In study 2, beyond our primary objective of confirming the factor structure with a new sample of participants, we were also able to show that the friendship promiscuity scale was associated with demographic characteristics in generally expected ways: Older people scored higher in friendship promiscuity than younger people, consistent with prior research on aging and friendships (Fredrickson & Carstensen, 1990), and developmental reprioritizations of fundamental social motives (Ko et al., 2020). Moreover, men and women did not differ in their preference for a wide network, reflecting the fact that, despite sex differences in preference for one's friendship's traits (e.g., loyalty vs. instrumental support; (Ayers et al., 2023, 2024)), friendships serve important adaptive functions for both men and women (Williams et al., 2022). We also found that preference for a wide network was not associated with relationship status, suggesting this preference is independent of mating motivations.

Unexpectedly, however, single people interested in dating (compared to

partnered people or those uninterested in dating) reported higher longing for making new friends, suggesting this factor is shaped by both affiliation and mating motivations. Here, we examine correlations between sociosexuality and friendship promiscuity to further assess if friendship promiscuity is independent from mating motivations.

S3.2 Measures

Quality vs. quantity of friendships. Participants were asked to think about a friend (excluding closest friends), and their closest friend, and rate how they would react in a friend-poaching scenario for each target (e.g., [target] *is becoming potentially closer with a new friend than* [target] *is with you*) (Krems et al., 2021). Participants reported (1) the extent to which they would feel (1 = *Not at all*, 7 = *Very much*) jealousy ($M_{\text{friend}} = 1.93$, $SD_{\text{friend}} = 1.29$; $M_{\text{closest friend}} = 3.22$, $SD_{\text{closest friend}} = 1.85$), sadness ($M_{\text{friend}} = 1.89$, $SD_{\text{friend}} = 1.43$; $M_{\text{closest friend}} = 3.20$, $SD_{\text{closest friend}} = 1.99$), and anger ($M_{\text{friend}} = 1.51$, $SD_{\text{friend}} = 1.01$; $M_{\text{closest friend}} = 2.22$, $SD_{\text{closest friend}} = 1.55$); (2) likelihood of engaging in eight friend-guarding behaviors (e.g., *Try not to let* [target] *hang out with this person when I'm not there*; 1 = *Not at all*, 7 = *Very likely*; $M_{\text{friend}} = 2.03$, $SD_{\text{friend}} = 1.06$, $\alpha_{\text{friend}} = 0.90$; $M_{\text{closest friend}} = 2.66$, $SD_{\text{closest friend}} = 1.30$, $\alpha_{\text{closest friend}} = 0.90$); and (3) likelihood of engaging in six friend-retention behaviors (e.g., *Assure each other about the importance of our friendship*; 1 = *Not at all*, 7 = *Very likely*; $M_{\text{friend}} = 3.99$, $SD_{\text{friend}} = 1.34$, $\alpha_{\text{friend}} = 0.82$; $M_{\text{closest friend}} = 4.54$, $SD_{\text{closest friend}} = 1.24$, $\alpha_{\text{closest friend}} = 0.78$).

Affiliation vs. disease avoidance goals. In the last section of the study participants reported their preference towards attending a small outdoors barbecue with five of their close friends, or a large outdoors party with 50 guests (*Which party would you like to attend most?*; 1 = *The small barbecue*, 7 = *The large party*; $M =$

2.48, $SD = 1.68$), the likelihood (1 = *Not at all*, 7 = *Very likely*) of attending the same large party if it were indoors (*Considering the potential risk of contracting COVID-19, how likely would you be to attend this party if it were indoors?*; $M = 2.55$, $SD = 1.85$), and the likelihood of attending the same small barbecue if it were indoors ($M = 5.02$, $SD = 1.83$).

S3.3 Additional results

Quality vs. quantity friendship measures

Looking at the partial correlations of our quality vs. quantity of friendship measures, we see that participants who had a stronger preference for a wide network of friends reported that they experienced less sadness in response to the poaching of their closest friend. Participants who reported a stronger desire for intimacy in friendships reported more jealousy in response to the poaching of their friend and closest friend, and more friendship retention behaviors in response to the poaching of their closest friend.

Table S10

Correlations between friendship promiscuity and quality vs. quantity of friendships (Study 3)

	Bivariate r		Partial r	
	Wide network preference	Desire for intimacy	Wide network preference	Desire for intimacy
Quality vs. quantity of friendships				
Jealousy in response to friend poaching	-0.01	0.09	-0.06	0.11*
Jealousy in response to closest friend poaching	0.01	0.12*	-0.07	0.14**
Sadness in response to friend poaching	-0.09	-0.001	-0.10	0.05
Sadness in response to closest friend poaching	-0.07	0.05	-0.11*	0.10
Anger in response to friend poaching	-0.08	-0.02	-0.08	0.03
Anger in response to closest friend poaching	-0.01	0.01	-0.02	0.02
Guarding behaviors in response to friend poaching	0.06	0.01	0.06	-0.02

Guarding behaviors in response to closest friend poaching	0.12*	0.13*	0.06	0.09
Retention behaviors in response to friend poaching	0.15**	0.14**	0.10	0.07
Retention behaviors in response to closest friend poaching	0.16**	0.22***	0.06	0.16**

Affiliation vs. disease avoidance goals

Given the disease avoidance behaviors we collected, we see that individuals with a stronger preference for a wide network more strongly preferred to go to a 50-guest outdoor party, were more likely to attend a 50-guest indoor party even when there was a risk of COVID exposure, and were more likely to attend an indoors party with 5 good friends even though there is a higher risk of COVID infection.

Table S11

Correlations between friendship promiscuity and disease avoidance vs. affiliation (Study 3)

Disease avoidance vs. affiliation goal	Bivariate <i>r</i>		Partial <i>r</i>	
	Wide network preference	Desire for intimacy	Wide network preference	Desire for intimacy
Preference for 50-guest outdoors party (over outdoors party with 5 good friends)	0.28***	0.08	0.28***	-0.08
Likelihood of attending 50-guest indoors party considering higher COVID infection risk	0.26***	-0.01	0.30***	-0.17**
Likelihood of attending indoors party with 5 good friends considering higher COVID infection risk	0.18***	0.10	0.15**	0.01

S4. Study 4

S4.1 Method and materials

Table S11 shows all information for the relevant measures collected in Study 4, including means, standard deviations, response scales and item wordings.

Table S12 *Measures and descriptive statistics (Study 4)*

Construct	Label/sample item (scoring)	<i>M</i> (<i>SD</i>)	<i>Min</i> <i>Max</i>	α
<i>Individual differences</i>				
Self-perceived friendship value	How would you rate your own desirability as a friend? (1 = extremely undesirable, 7 = extremely desirable)	5.15 (.93)	1.25 7	.84
Conscientiousness	Makes plans and follows through with them (1 = disagree strongly, 5 = agree strongly)	3.63 (.62)	1.89 5	.78
Extraversion	Is outgoing, sociable (1 = disagree strongly, 5 = agree strongly)	3.03 (.79)	1.13 5	.85
Agreeableness	Is generally trusting (1 = disagree strongly, 5 = agree strongly)	3.84 (.59)	1.22 5	.79
Neuroticism	Worries a lot (1 = disagree strongly, 5 = agree strongly)	3.06 (.78)	1 5	.83
Openness	Is curious about many different things (1 = disagree strongly, 5 = agree strongly)	3.46 (.66)	1.2 5	.80
<i>Social network characteristics</i>				
Friends	How many same-sex friends do you have? People you spend time with but are not part of your closest friends.	10.92 (9.64)	0 36	-
Closest friends	How many same-sex best friends do you have? People you consider dearest in your life and part of your closest friends.	3.77 (2.71)	0 11	-
Acquaintances willing to help you	How many acquaintances could you turn to for help, who would be likely to help you?	4.33 (5.68)	0 22.5	-
Friends willing to help you	How many friends could you turn to for help, who would be likely to help you?	5.63 (5.07)	0 20	-
Closest friends willing to help you	How many close friends could you turn to for help, who would be likely to help you?	3.86 (2.70)	0 11	-
Family willing to help you	How many family members could you turn to for help, who would be likely to help you?	7.36 (5.71)	0 23	-
Satisfaction with quantity of friends	I am happy with the number of friends that I have (1 = strongly disagree, 7 = strongly agree)	4.76 (1.76)	1 7	-
Satisfaction with quality of friends	I am satisfied with the quality of my friendships (1 = strongly disagree, 7 = strongly agree)	5.08 (1.55)	1 7	-
<i>Quality vs. quantity of friendships</i>				
Spends time with many vs few friends	Having different friendships with lots of different people prevents me from spending time with only a few of my closest friends (1 = strongly disagree, 7 = strongly agree)	3.01 (1.60)	1 7	-
Spends time with few vs many friends	I like to spend most of my time with a few friends that I am very close with, which prevents me from spending time with other people (1 = strongly disagree, 7 = strongly agree)	4.92 (1.63)	1 7	-
Prefers time with many vs few friends	1 = I would rather spend my time with one or few friends, 7 = I would rather spend my time with lots of different friends	3.09 (1.44)	1 7	-
Intimacy with current friends	I feel free to talk to my friends about almost anything (1 = strongly disagree, 5 = strongly agree)	3.93 (.67)	1.86 5	.81

S4.2 Additional results

In addition to our focal analyses, we ran a moderated mediation model using the PROCESS (V4.1) macro model 21 for SPSS V.29, with desire for friendship promiscuity predicting sharing one's email address via higher dissatisfaction with quantity of friends, where number of friends moderated the effect of desire for friendship intimacy on dissatisfaction with quantity of friends, and preference for a wide friendship network moderated the effect of dissatisfaction with quantity of friends on sharing one's email address. All covariates were mean centered and standardized.

When doing this, we found that the positive indirect effect of desire for friendship intimacy on sharing one's email via dissatisfaction with quantity of friends was conditional on both quantity of friends and preference for a wide network (index of moderated moderated mediation = -0.04, SE = 0.02, CI_{95%} [-0.09, -0.01]), such that the indirect effect was conditional on quantity of friends for people with (+1SD) high (index of conditional moderated mediation = -0.09, SE = 0.04, CI_{95%} [-0.18, -0.03]) and mean (index of conditional moderated mediation = -0.05, SE = 0.02, CI_{95%} [-0.11, -0.01]), but not low (-1SD) wide network preference (index of conditional moderated mediation = -0.01, SE = 0.02, CI_{95%} [-0.06, 0.04]). Specifically, among people with fewer (-1SD) friends, desire for friendship intimacy was associated with sharing one's email via higher dissatisfaction with quantity of friends for people with (+1SD) high ($\beta = 0.24$, SE = 0.08, CI_{95%} [0.10, 0.42]) and mean ($\beta = 0.13$, SE = 0.05, CI_{95%} [0.04, 0.25]) wide network preference, but not for people with low (-1SD) wide network preference ($\beta = 0.03$, SE = 0.06, CI_{95%} [-0.09, 0.15]). Similarly, among people reporting a mean number of friends, desire for

friendship intimacy was associated with sharing one's email via higher dissatisfaction with quantity of friends for people with (+1SD) high ($\beta = 0.15$, $SE = 0.05$, $CI_{95\%} [0.06, 0.27]$) and mean ($\beta = 0.08$, $SE = 0.03$, $CI_{95\%} [0.03, 0.16]$) wide network preference, but not for people with low (-1SD) wide network preference ($\beta = 0.02$, $SE = 0.04$, $CI_{95\%} [-0.06, 0.09]$). Among people with more (+1SD) friends, we see no indirect effect of desire for friendship intimacy on sharing one's email address via dissatisfaction with quantity of friends for people with (-1SD) low ($\beta = 0.01$, $SE = 0.02$, $CI_{95\%} [-0.03, 0.05]$), mean ($\beta = 0.03$, $SE = 0.02$, $CI_{95\%} [-0.01, 0.09]$), or high (+1SD) wide network preference ($\beta = 0.06$, $SE = 0.04$, $CI_{95\%} [-0.01, 0.15]$) (Figure S1).

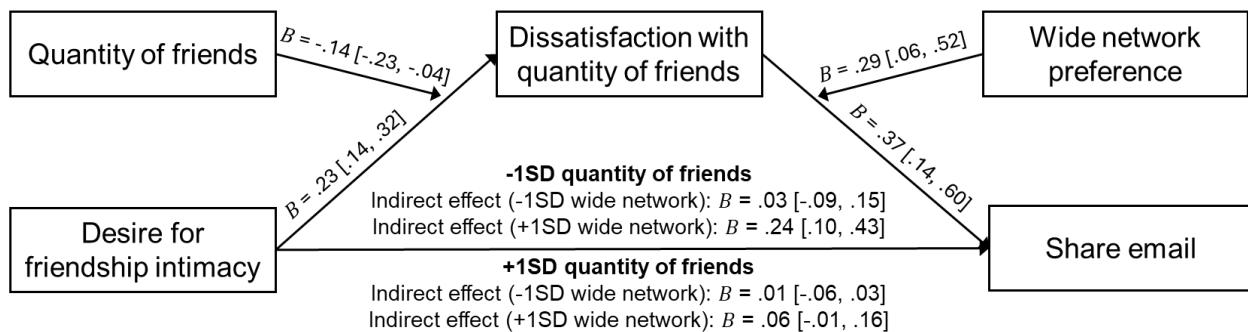


Figure S1. Moderated moderated mediation model predicting friend-seeking behavior.

S5. Study 5

S5.1 Participants and Materials

In terms of ethnicity, participants from Brazil identified as White-Brazilian (58.6%), Pardo (30.6%), African-Brazilian (8.1%), Asian-Brazilian (1.8%), or Indigenous (0.9%); participants from Egypt identified as Egyptian (98.7%), or other (1.3%); and participants from the Philippines identified as Tagalog (53.7%), Bisaya/Binisaya (20.6%), Ilocano (6.1%), Cebuano (6.1%), Bikol/Bicol (3.7%), Ilonggo

(3.3%), other (2.3%), or Kapampangan (1.9%). In terms of religion, most participants identified as Muslim (32.8%) or Catholic (32.7%), followed by Christian (15.6%), no affiliation (10%), Protestant (4.5%), other religion (2.4%), and Iglesia ni Cristo (Church of Christ; 2.1%). In terms of income, participants reported a mean household monthly income of 5.32 ($SD = 3.86$), corresponding to approximately \$4,000-\$5,000 BRL in Brazil (1 = *Less than \$1,000 BRL*, 11 = *More than \$10,000 BRL*), \$2,000-\$2,500 EGP in Egypt (1 = *Less than \$500 EGP*, 11 = *More than \$5,000 EGP*), and \$16,000-\$18,000 PHP in the Philippines (1 = *Less than \$9,000 PHP*, 11 = *More than \$65,000 PHP*). People in this sample were high on educational attainment, with a majority reporting having a Bachelor's degree (70.1%), followed by vocational/technical degree (10.8%), secondary education (grades 10-12; 10.8%), and postgraduate degree (e.g., Master's, PhD; 8%).

Target descriptions. In this study, participants were asked to report reported their intimacy and prosocial behavior towards a stranger (*A stranger from your country of residence, someone you have never met before*), acquaintance (*A same-sex person who is neither a friend nor an enemy, but is someone you see or interact with with some regularity, for example, weekly, monthly, a few times per year. This person should not be biologically related to you*), and friend (*A same-sex friend with whom you spend time with outside of your regular obligations. This person should not be biologically related to you*). Participants also reported their friendship quantity (*How many same-sex friends do you have? By friends we mean people who are NOT biologically related to you, with whom you spend time with outside of your regular obligations; 1 = 0, 2 = 1-2, 3 = 3-5, 4 = 6-10, 5 = 11-15, 6 = 16-20, 7 = more than 20; $M = 3.58$, $SD = 1.64$, $Min = 1$, $Max = 7$*).

Prosocial behavior. When the participants were playing the dictator's

game, they were presented with the following: *For this task, you will be asked to allocate 100 electronic lottery tickets between yourself and [target]. Each ticket is an entry for one \$50.00 USD price. You can allocate any amount of tickets between [target] and yourself. The more tickets you allocate to [target], the greater the chances of [target] winning. The more tickets you allocate to yourself, the greater your chances of winning.*

Residential mobility. Cross-cultural research among many nations shows that the residential mobility scale follows a hierarchical two-factor structure, with opportunities to meet new people (five items), and freedom to choose/leave relationships (seven items), factors loading on a second-order relational mobility factor. The model also includes a “style” factor (orthogonal to the three content factors) which controls for bias in participants’ response patterns. Specifically, bias in reporting greater agreement to positively rated items, and greater disagreement to negatively rated items ([Thomson et al. 2018](#)). All 12 items load onto the style factor, with loadings fixed to +1 for positively rated items, and -1 for negatively rated items. We assessed the psychometric properties of the scale to determine how to compute participant-level means, and examine measurement invariance across countries to determine how to center relational mobility in moderation analyses.

We first ran a confirmatory factor analysis across all countries. The variance of the style factor confirms that there was meaningful between-person variance in response bias ($\eta^2 = 0.469$, $SE = 0.040$, $p < 0.001$). The model showed excellent fit ($\chi^2(52) = 103.488$, $p < 0.001$, CFI = 0.978, TLI = 0.972, RMSEA = 0.045, SRMR = 0.040), and replicated the factor structure reported in previous studies (Table SX). Next, we assessed measurement invariance across countries in a multiple-group

confirmatory factor analysis. The configural model had excellent fit ($\chi^2(156) = 234.055, p < 0.001, CFI = 0.968, TLI = 0.959, RMSEA = 0.053, SRMR = 0.060$), with similar factor loadings across countries on the meeting factor (Egypt: λ 's = 0.40 to 0.70; the Philippines: λ 's = 0.36 to 0.54; Brazil: λ 's = 0.48 to 0.59), the choosing factor (Egypt: λ 's = 0.38 to 0.55; the Philippines: λ 's = 0.41 to 0.78; Brazil: λ 's = 0.43 to 0.66), and the second order relational mobility factor (Egypt: $\lambda_{\text{meeting}} = 0.52, \lambda_{\text{choosing}} = 0.78$; the Philippines: $\lambda_{\text{meeting}} = 0.79, \lambda_{\text{choosing}} = 0.83$; Brazil: $\lambda_{\text{meeting}} = 0.84, \lambda_{\text{choosing}} = 0.88$). The only exception was that item 4 (*There are few opportunities for these people to form new friendships*) did not load onto the meeting factor in Egypt ($\lambda = 0.20, p = 0.078$). The metric invariance (i.e., equal factor loadings) model ($\Delta\chi^2(20) = 37.5, p = 0.01$), and the scalar invariance (i.e., equal loadings and intercepts) model ($\Delta\chi^2(18) = 67.4, p < 0.001$) had worse fit than the configural model.

Table S13

Confirmatory factor analysis of the relational mobility scale (Study 5)

Factor	Factor/Item	Loadings				Intercept s		Variances		p
		Est.	SE	95% CI		Est.	SE	Est.	SE	
Relation al mobility	Meeting	.77	.04	.69	.85	-	-	.41	.06	<.001
	Choosing	.85	.05	.75	.95	-	-	.28	.09	.001
Meeting	They (the people around you) have many chances to get to know other people (RM1)	.59	.03	.52	.65	3.86	.13	.33	.04	<.001
	It is common for these people to have a conversation with someone they have never met before (RM2)	.48	.04	.40	.56	3.30	.10	.50	.04	<.001
	There are few opportunities for these people to form new friendships (RM4)	.42	.05	.32	.52	2.20	.06	.64	.04	<.001
	It is uncommon for these people to have	.4	.0	.3	.5	2.3	.06	.5	.05	<.00

	a conversation with people they have never met before (RM5)	7	5	7	6	5		9		1
	It is easy for them to meet new people (RM8)	.60	.04	.53	.67	3.56	.11	.34	.04	<.001
	They are able to choose, according to their own preferences, the people whom they interact with in their daily life (RM3)	.53	.04	.45	.61	3.72	.11	.40	.04	<.001
	If they did not like their current groups, they could leave for better ones (RM6)	.49	.04	.41	.57	3.25	.10	.49	.04	<.001
	It is often the case that they cannot freely choose who they associate with (RM7)	.57	.04	.50	.64	2.33	.06	.46	.04	<.001
	Even if these people were not completely satisfied with the group they belonged to, they would usually stay with it anyway (RM9)	.44	.05	.35	.53	2.20	.06	.57	.04	<.001
Choosin g	They are able to choose the groups and organizations they belong to (RM10)	.51	.04	.43	.59	3.60	.12	.44	.04	<.001
	Even if these people were not satisfied with their current relationships, they would often have no choice but to stay with them (RM11)	.60	.04	.53	.68	2.32	.06	.42	.04	<.001
	Even though they might rather leave, these people often have no choice but to stay in groups they don't like (RM12)	.66	.03	.60	.72	2.44	.06	.34	.03	<.001

Note. Estimates show the standardized solution.

S5.2 Additional results

Table S14

Correlations among covariates and responses to meeting new people (Study 5)

Covariate	Outcome variable		
	Interest in meeting others	Email	Message
Provided email	.70***	-	-
Wrote a message	.56***	.68***	-
Preference for wide friendship network	0.08	0.01	0.01
Desire for friendship intimacy	.23***	.14**	.14**
Extraversion	0.05	-0.02	0.01
Loneliness	.21***	.18***	.16***

Number of friends	-0.10*	-0.17***	-0.10*
Independence motivation	0.05	0.07	-0.04
Exclusion concern	0.05	-0.002	-0.005
Affiliation motivation	0.06	-0.01	0.03
Status seeking	0.02	0.05	-0.05
Mate seeking	.14**	.11*	0.01

Table S15

*Multiple-group confirmatory factor analysis of the friendship promiscuity scale
(Study 5)*

Factor	Item	Egypt		Phillipines		Brazil	
		Est. (SE)	95% CI	Est. (SE)	95% CI	Est. (SE)	95% CI
Preference for a wide friendship network	How many new friends have you made in the past 12 months?	.32 (.04)	.25, .39	.32 (.04)	.25, .40	.39 (.04)	.31, .48
	I enjoy making casual friendships with many different people	.70 (.03)	.64, .75	.81 (.02)	.77, .86	.76 (.03)	.70, .81
	I try to make new friends even if I can't be sure I will develop close friendships with all of them	.77 (.03)	.72, .82	.81 (.03)	.76, .85	.78 (.03)	.73, .83
	I want to have a lot of different friendships with a lot of different people, even if it means that I don't get to know all of them very well	.77 (.03)	.72, .83	.83 (.02)	.79, .88	.79 (.03)	.74, .84
	In situations where I am around new people, I often feel really motivated to make new friends	.77 (.03)	.72, .82	.82 (.02)	.78, .87	.82 (.02)	.77, .86
	It doesn't matter how many friends I have, I am always looking to meet new people to talk to/hang out with	.74 (.03)	.69, .80	.80 (.03)	.75, .85	.83 (.02)	.78, .87
Desire for friendship intimacy	I often find myself wishing I could be friends with lots of new people	.87 (.02)	.83, .90	.88 (.02)	.85, .91	.83 (.02)	.78, .87
	I often find myself wishing I could get closer with lots of new people	.86 (.02)	.82, .90	.86 (.02)	.82, .90	.81 (.02)	.76, .86
	I often wish I could become friends with many of the people that I meet	.86 (.02)	.82, .89	.92 (.01)	.90, .95	.83 (.02)	.78, .87
	I often wish that others would introduce me	.83	.79,	.85	.81,	.76	.71,

to new people to talk to/hang out	(.02)	.88	(.02)	.89	(.02)	.82
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Note. Estimates show standardized factor loadings.

Table S16

Correlations between friendship promiscuity and relational mobility, friends, IOS, and tickets given in the dictator game (Study 5)

Construct/measure	Bivariate <i>r</i>		Partial <i>r</i>	
	Wide network preference	Desire for intimacy	Wide network preference	Desire for intimacy
Relational mobility - meeting	0.07	0.08*	0.02	0.03
Relational mobility - choosing	-0.04	-0.05	0.002	-0.03
Relational mobility - global	0.02	0.02	0.02	0
Quantity of friends	0.26***	0.15***	0.24***	-0.09*
Dictator (tickets given) - stranger	0.17***	0.16***	0.08*	0.05
Dictator (tickets given) - acquaintance	0.12**	0.11**	0.05	0.03
Dictator (tickets given) - friend	0.15***	0.14***	0.06	0.05
IOS - stranger	0.25***	0.17***	0.18***	-0.03
IOS - acquaintance	0.25***	0.19***	0.16	0.01
IOS - friend	0.17***	0.16***	0.08*	0.05

We ran mixed-effects models predicting tickets given in the dictator game and relationship closeness (IOS). Across models, we include a random intercept for participant ID, allow within-person residual variances to be uniquely estimated (i.e., per target type), and use maximum-likelihood as the estimation method. The quantity of friends was grand-mean centered, friendship promiscuity and relational mobility were centered around each country's mean, and we computed cluster-means of IOS to estimate between-person effects, and cluster-mean centered scores to estimate within-person effects (including a random effect for this covariate). All covariates were then standardized. We used the MIXED procedure for

SAS V9. to run these analyses.

Table S17

Mixed-effects model predicting tickets given in the dictator game (Study 5)

Fixed effects	β	<i>SE</i>	<i>p</i>	95% CI	
Intercept	49.00	0.97	<0.001	47.09	50.92
Quantity of friends	0.44	1.01	0.66	-1.54	2.42
IOS (Level-2)	5.63	1.03	<0.001	3.62	7.65
IOS (Level-1)	9.95	0.51	<0.001	8.94	10.96
Relational mobility - meeting	-1.02	0.98	0.30	-2.95	0.91
Friendship promiscuity	3.41	1.06	0.001	1.33	5.50
Relational mobility - meeting x friendship promiscuity	-2.94	0.90	0.001	-4.70	-1.18
Random effects	β	<i>SE</i>	<i>p</i>		
Intercept	545.41	34.61	<0.001		
IOS	62.45	9.14	<0.001		
Residual variance	σ^2	<i>SE</i>	<i>p</i>		
Stranger	303.95	26.71	<0.001		
Acquaintance	187.25	18.29	<0.001		
Friend	167.81	18.22	<0.001		

Table S18

Mixed-effects model predicting relationship closeness (Study 5)

Fixed effects	β	<i>SE</i>	<i>p</i>	95% CI	
Intercept	3.28	0.05	<0.001	3.19	3.37
Friendship promiscuity	0.37	0.05	<0.001	0.28	0.46
Random effects	β	<i>SE</i>	<i>p</i>		
Intercept	0.28	0.10	0.003		
Residual variance	σ^2	<i>SE</i>	<i>p</i>		

Stranger	3.69	0.26	<0.001
Acquaintance	3.05	0.22	<0.001
Friend	3.93	0.28	<0.001