



11-2017

Who Likes to be Reachable? Availability Preferences, Weak Ties, and Bridging Social Capital

Penny Trieu

Joseph B. Bayer

Nicole B. Ellison

Sarita Schonebeck

Emily B. Falk

University of Pennsylvania, falk@asc.upenn.edu

Follow this and additional works at: https://repository.upenn.edu/asc_papers

 Part of the [Cognition and Perception Commons](#), [Cognitive Psychology Commons](#), [Interpersonal and Small Group Communication Commons](#), [Personality and Social Contexts Commons](#), and the [Social Psychology Commons](#)

Recommended Citation

Trieu, P., Bayer, J. B., Ellison, N. B., Schonebeck, S., & Falk, E. B. (2017). Who Likes to be Reachable? Availability Preferences, Weak Ties, and Bridging Social Capital. *Information, Communication & Society*, <https://doi.org/10.1080/1369118X.2017.1405060>

This paper is posted at Scholarly Commons. https://repository.upenn.edu/asc_papers/562
For more information, please contact repository@pobox.upenn.edu.

Who Likes to be Reachable? Availability Preferences, Weak Ties, and Bridging Social Capital

Abstract

In this paper, we investigate how individual differences in *availability preferences* are related to (1) self-reported quality of interaction with strong and weak ties and (2) perceptions of bridging social capital. We employed experience sampling methods and collected data over the course of two weeks—combined with surveys at baseline and endpoint, from a random sample of college students ($N = 154$). We show that individuals who prefer to be more available to others report more rewarding interactions with weak ties. Furthermore, we demonstrate how the quality of weak tie interactions mediates a positive relationship between availability preferences and bridging social capital. We conclude by discussing the relationships between availability, interaction quality, and bridging social capital. We propose availability preferences as a key construct to be considered in future research.

Keywords

availability, weak ties, strong ties, social capital, communication technologies

Disciplines

Cognition and Perception | Cognitive Psychology | Communication | Interpersonal and Small Group Communication | Personality and Social Contexts | Social and Behavioral Sciences | Social Psychology

Who Likes to Be Reachable? Availability Preferences, Weak Ties, and Bridging Social Capital

Penny Trieu ^{a*}, Joseph B. Bayer^b, Nicole B. Ellison ^a, Sarita Schonebeck ^a, & Emily Falk ^c

^a School of Information, University of Michigan, Ann Arbor, MI; ^b School of Communication, Ohio State University, Columbus, OH, USA; ^c Annenberg School of Communication, University of Pennsylvania, Philadelphia, PA, USA

Corresponding author: Penny Trieu, dieptl@umich.edu, North Quad Room 4413, School of Information University of Michigan, 105 S State Str., Ann Arbor, MI, 48104, USA

Penny Trieu is a PhD student in the School of Information at the University of Michigan. Her research interests concern how relational processes unfold via a range of communication technologies, particularly social media. She also looks at identity processes, notably self-presentation and impression management, on social media.

Joseph B. Bayer is an Assistant Professor in the School of Communication at The Ohio State University. His research centers on social media and social network cognition, with a special focus on mobile behavior and perception.

Nicole B. Ellison (1999, University of Southern California) is a Professor in the School of Information at the University of Michigan. Her research addresses issues of social capital, relationship development, self-presentation, and identity in social media environments such as Facebook and online dating sites. This research has been funded by the National Science Foundation, the Bill & Melinda Gates Foundation, and the National Academies of Science. A complete list of her publications is available here: <http://scholar.google.com/citations?user=POXTYBEAAAAJ>

Sarita Schoenebeck is an Assistant Professor in the School of Information at the University of Michigan. Her research explores the study and design of social computing systems, with a focus on families and social media use. A list of her publications is available at <http://yardi.people.si.umich.edu/publications.html>

Emily Falk is an Associate Professor of Communication, Psychology and Marketing at the University of Pennsylvania. She studies why people share information and what makes them successful in persuading others. She also studies what makes people receptive to social influence and how ideas spread through social networks. Prof. Falk employs a variety of methods drawn from communication science, neuroscience and psychology, with particular focus on neural predictors of behavior change.

Who Likes to Be Reachable? Availability Preferences, Weak Ties, and Bridging Social Capital

In this paper, we investigate how individual differences in *availability preferences* are related to (1) self-reported quality of interaction with strong and weak ties and (2) perceptions of bridging social capital. We employed experience sampling methods (ESM) and collected data over the course of two weeks—combined with surveys at baseline and endpoint, from a random sample of college students ($N = 154$). We show that individuals who prefer to be more available to others report more rewarding interactions with weak ties. Furthermore, we demonstrate how the quality of weak tie interactions mediates a positive relationship between availability preferences and bridging social capital. We conclude by discussing the relationships between availability, interaction quality, and bridging social capital. We propose availability preferences as a key construct to be considered in future research.

Keywords: availability, weak ties, strong ties, social capital, communication technologies

Research on communication technologies highlights their ability to support constant, near-synchronous interactions, fostering a stream of “perpetual contact” (Katz & Aakhus, 2002; Licoppe, 2004; Schrock, 2015). However, the *technical* capacity of these tools to support constant communication with a broader network does not mean people universally use them in this way. People may differ in their availability preferences, in that not everyone wants to be uniformly available for interacting at all times or with all of their contacts. As such, availability preferences serve to regulate the flow and frequency of mediated interactions in our emerging communication landscape.

While a number of studies have explicated availability as a societal phenomenon, our understanding of how availability preferences vary at the personal level is rather limited. Our paper responds by considering availability preferences at the individual level, independent of technical features and perceived affordances. We investigate this idea and examine the

relationships between preferences for availability and established social outcomes, including quality of everyday communication, closeness of interaction partners, and bridging social capital.

Availability as a key construct

The emergence of permanent availability

Over the last twenty years, the use of new communication technologies, and mobile devices especially, have become commonplace, introducing heightened expectations of availability (Bayer, Campbell, & Ling, 2016; Licoppe, 2004). Scholars have applied various terms to this increased social availability, such as “persistent contact and pervasive awareness,” as in Hampton’s (2016, p. 102) discussion of digital communication technologies or “permanently online – permanently connected,” as in Vorderer, Krömer, and Schneider’s (2016) conception of practices associated with social media and mobile technologies. These descriptions reinforce the notion that new technologies have afforded users the ability to stay perpetually available to their contacts. However, for at least some, the pervasiveness of these communication technologies, especially when paired with expectations of immediate response, has been met with ambivalence (Ames, 2013; Baron, 2011; Mazmanian, 2013).

Mazmanian (2013) described how the introduction of a mobile handheld device, the BlackBerry, increased both expectations of availability in the workplace and the erosion of personal time for certain members of an organization – but increased communication flexibility and personal freedom for others. Outside of the workplace context, Ames (2013) portrayed the ethos of smartphone use on college campuses as characterized by both increased expectations for constant connection and techno-resistance via people consciously disconnecting from the phone or setting boundaries to circumvent expectations of availability. Similar patterns of ambivalence emerged in a large-scale survey of mobile phone use across five countries: Baron (2011) found

that people most often identified connectivity as both the *most* and *least* favorable aspect of using mobile phones. While some participants enjoyed the ability to both contact and be contacted by others, certain participants complained about the disruptive and demanding elements of this constant connection (Baron, 2011). Such findings demonstrate the ambivalent and conflicting attitudes toward availability between users. In turn, we suggest that examining availability preferences at the individual level may help to explain why some users embrace and others eschew constant connectedness.

Availability preferences as individual difference

Existing research has largely discussed availability from a technological and relational lens, such as strategies to negotiate norms and expectations for availability in interpersonal relationships (Hall & Baym, 2012; Wohn & Birnholtz, 2015) or at the workplace (MacCormick, Dery, & Kolb, 2012; Mazmanian, 2013). However, beyond contextual factors, individuals themselves may vary in how they view and regulate their reachability via communication technologies. For example, Gonzales and Wu (2016) identified individual differences in *technostress*—feelings of distress associated with cellphone use—as a moderator of whether or not people feel ostracized when physically co-present conversation partners use cellphones instead of conversing with them. Specifically, only those experiencing high technostress perceived a conversation partner using cellphones, instead of talking to them, as a sign of exclusion (Gonzales & Wu, 2016).

When it comes to unplugging—intentionally disconnecting oneself from communication technologies—Rainie and Zickuhr (2015) reported that although 24% of American cellphone users frequently or occasionally *do* turn off their phones, 31% never do so. Attitudes about unplugging also vary between generations (Thomas, Azmitia, & Whittaker, 2016). For example,

both teenagers and emerging adults surveyed by Thomas et al. (2016) grew up with technology; however, compared to teenagers, emerging adults (those aged 18 – 29 years old) were more likely to cite loss of connection to friends and families as a reason not to unplug (Thomas et al., 2016). Together, these findings demonstrate individual variation in people's attitude toward mobile technologies, which have implications for personal practices and relationships.

Availability preferences, quality of interactions, and tie strength

As people carry out their interactions over different communication technologies, their perception of the technology itself can influence enjoyment and patterns of use (Ledbetter & Mazer, 2014; Ledbetter, Taylor, & Mazer, 2016). For example, accounting for the role of user cognition in how communication frequency relates to relational strength, Ledbetter and Mazer (2014) showed that frequency of Facebook communication predicts tie strength only when a user holds favorable attitudes about online self-disclosure and online social-connection. Given the salience of availability negotiation in contemporary life, we argue that availability preferences could be similarly informative of how people view their interactions. We thus hypothesize:

H1: The preference for greater availability will be positively associated with perceptions of interaction quality during daily life.

Another influential factor is how people communicate and manage their availability across relationships of varying strength, namely weak ties and strong ties (Eden & Veskler, 2016; Haythornthwaite, 2005). In past work, availability was often viewed from the lens of mobile communication, along with its possibilities and challenges. Since mobile communication typically occurs between strong ties in interpersonal contexts (Ling, Bjelland, Sundsøy, & Campbell, 2014; Miritello et al., 2013), research concerning availability has accordingly focused more on strong ties (Campbell, 2015).

Availability and interactions with strong ties

Drawing from ethnographic and interview accounts over two decades, Ling (2016) argued that, since its mass introduction, use of the mobile phone has evolved to bind us to our strong ties, a “soft coercion” of availability. Indeed, whether between romantic partners (Duran, Kelly, & Rotaru, 2011) or close friends (Hall & Baym, 2012), the balance between too little or too much cellphone communication is often a salient issue in relationships and predictive of satisfaction. Ironically, expectations of mobile relational maintenance predicts both dependence (associated with satisfaction) and overdependence (associated with dissatisfaction) in friendships (Hall & Baym, 2012). Moreover, feelings of entrapment, an obligation to be responsive via mobile phones, further predicts dissatisfaction in friendships (Hall & Baym, 2012). Focusing on interpersonal attention as managed via mobile devices, Wohn and Birnholtz (2015) found the negotiation of attention received from others and attention given to others to be a prominent aspect of contemporary interactions. In one example, a participant reported having an extra phone to communicate exclusively with her mom to manage her mom’s constant demand for attention (Wohn & Birnholtz, 2015).

Nonetheless, although work in this area has provided insights into how people perceive and navigate availability in their close relationships, past findings do not speak directly to the question of whether people *enjoy* these interactions more as a function of their availability preferences. In the case of strong ties, in particular, availability preferences may be associated with other types of relational dynamics, such as a sense of security in the relationship (Licoppe, 2004), rather than the quality of each interaction.

Availability and interaction with weak ties

In this paper, we also pay special attention to the implications of availability preferences for *weak ties*—a topic that has received little attention despite the prominent place of weak ties in contemporary communication technologies. As explicated above, the present literature on availability has concentrated on mobile practices and, consequently, strong tie relationships. However, current practices and the affordances of mobile and social media mean that interactions between weak ties are more frequent and normative. Specifically, the ubiquity of SNS platforms, combined with their integration in smart mobile devices, amplify the possibilities for connection between weak ties (Kobayashi, Boase, Suzuki, & Suzuki, 2015).

With older technologies such as landline phones (and earlier mobile phones), individuals selectively shared their contact information and often granted persistent access to only a few trusted relationships. For instance, a secretary might have the home number of an executive but use it only for emergencies. Through the integration of channels such as email and SNSs onto mobile phones, however, hundreds or thousands of weak ties now have the ability to produce content or even reach out directly via ever-present mobile phones. In addition, these platforms often incorporate push notifications that demand one's attention immediately and visual cues that signal user availability, potentially increasing expectations of a speedy response.

What then are the implications for this increased access for weak ties? As previous work showed that people often derived greater enjoyment and benefits from interactions with strong ties (Fu, Ho, & Chen, 2013; Ramirez & Broneck, 2009), people may want to be more available to strong ties and limit their communication with weak ties. However, in certain cases (e.g., when we need specialized information right away or when we want to gain access to a new network), communication with weak ties may be welcome, if not preferable (Sandstrom & Dunn, 2012; Wright, Rains, & Banas, 2010). Communication with weak ties may be more favorable

because weak tie communication can provide novel viewpoints and objective feedback, while carrying fewer risks and obligations due to the relatively shallow nature of the relationships (Wright & Miller, 2010).

In summary, the literature on availability has largely focused on interactions between strong ties, without clear conclusion about implications of availability for interaction quality. Meanwhile, few insights exist at all about the implications of availability for weak ties. Given the dearth of evidence linking availability attitudes and tie strength in predicting interaction quality, we ask the following research question:

RQ1. Does the preference for greater availability interact with tie strength in predicting perceptions of interaction quality?

Availability, weak ties, and bridging social capital

As the present research homes in on weak ties and availability, we also seek to investigate the implications of different availability preferences for social provisions. We examine bridging social capital given its strong theoretical connection to communication technologies and association with weak ties. Social capital refers to “the resources embedded in social networks accessed and used by actors for actions” (Lin, 2001, p. 25). Literature on social capital also underscores weak ties as a critical source of bridging social capital—access to novel perspectives and new information (Putnam, 2000; Granovetter, 1973).

Technology researchers have long devoted attention to social capital, showing how online media may enhance connection to weak ties, functioning as the mechanism behind gains in social capital (Burke, Kraut, & Marlow, 2011; Ellison, Vitak, Gray, & Lampe, 2014; Hampton, Lee, & Her, 2011). For instance, Hampton et al. (2011) found that users of communication technologies, including Internet users, heavy Internet users at work, and SNS users, have more

diverse core networks. Moreover, a mediated relationship was found between use of communication technologies and network diversity: communication technology users were more likely to participate in traditional public activities, to visit semi-public places, and to volunteer—activities that predicted the diversity of social networks (Hampton et al., 2011).

Besides reinforcing the creation of new weak ties, some forms of communication technologies, such as SNSs, can also support the maintenance of existing networks of weak ties (see Ellison and Vitak, 2015, for a review). For example, Ellison et al. (2014) found that engaging in relational maintenance behaviors on Facebook (such as answering questions posed by one's Facebook connections) was associated with higher levels of bridging social capital, particularly for users with fewer Facebook contacts they considered "actual" Friends. Ellison et al. (2014) suggest that these users may use Facebook as a platform to engage with weaker ties and cultivate their bridging social capital.

Overall, the literature on SNSs suggest that individuals who actively connect with their network are better positioned to reap the benefits of these activities, including social capital resources. On Facebook, examples of active engagement include relational maintenance behaviors such as responding to friends' questions (Ellison et al., 2014) or private messaging (Burke et al., 2011). Given the importance of active social engagement in accruing benefits from communication technology use, we argue that, beyond specific affordances of technologies, a propensity to be available (e.g., staying connected and responding to others) plays a key role in the outcomes people derive from use of communication technologies. Being available to others potentially offers more opportunities for social interactions—the conduits through which we develop social capital—either in the form of provisions of in-the-moment social support, timely

responses to information requests, or opportunities to reciprocate attention. Thus, we also hypothesize:

H2: The preference for greater availability will be positively associated with perceptions of bridging social capital.

Method

Participants and procedure

Participants were undergraduates at a large university in the United States. The university's Registrar's Office randomly generated a list of 1,656 students and emailed them an invitation to participate in a larger study about use of social media. We screened for individuals who were 18 years or older, owned a smartphone, had a United States phone number, and reported posting content to Facebook (versus just reading other people's content). Of the 364 participants who responded to the pre-screening survey, 220 were eligible and invited to participate in the study, and 154 participants completed all phases of Study 1. Our sample was 67% women, with 74% of participants identifying as White. The average age was 20.4 years ($SD = 2.02$). The university's Institutional Review Board approved this study.

Data collection involved three components: 1) an online baseline questionnaire, 2) six daily smartphone surveys for fourteen days, where we used experience sampling methods (ESM), and 3) an online endpoint questionnaire. The ESM phase entailed participants filling out six short questionnaires per day for two weeks. To incentivize completion of each survey throughout the study ($M = 88.7\%$, $SD = 12.5\%$), participants received \$0.50 for each survey, \$1 for the end of day survey, and a \$1.50 bonus for each day where they completed all six surveys. We delivered survey links through text messages, using the API services of a public cloud communications company. We instructed participants to complete the surveys "right away," but

not to answer a survey once a newer one arrived. Completion of each survey typically required less than two minutes due to their short length. We collected 11,200 observations across 154 participants from the ESM survey. Face-to-face interactions, with 6,737 observations, was the most common reported interaction type.

Survey measures

Availability preferences

We measured participants' preferences for availability ($M = 3.45$, $SD = .78$) with a 4-item scale developed for this study. The scale was reliable ($\alpha = .815$). These items were developed based on prior qualitative work documenting expectations of communicative availability for oneself and others (Ito & Okabe, 2005; Ling, 2012). The scale was designed and pretested to exhibit impartiality in regards to the merit of greater availability, as well as to minimize acquiescence bias by asking about "importance" rather than agreement (Kuru & Pasek, 2016). Each item begins with the stem "How important is it to you..." followed by a statement. The four statements are: "...that you are always available for other people to contact?," "...that you are easy for other people to reach?," "...that you respond to other people right away?," and "...that you do not take long to reply to other people?" The answer choices ranged from 1 ("Not at all Important") to 5 ("Very Important").

Social capital

We measured bridging social capital twice, once at baseline and once at endpoint appointments—two weeks after baseline. Participants completed a 10-item scale on perceptions of bridging social capital adapted slightly from Williams (2006). The scale includes items such as "Interacting with people in my social network makes me feel like part of a larger community"

and “Interacting with people in my social network makes me want to try new things.” Response options ranged from 1 (“Strongly disagree”) to 5 (“Strongly agree”).

Communication frequency and extraversion

We measured the frequency with which participants engaged in a variety of mediated interactions (e.g., making voice calls, sending texts, sharing pictures on Snapchat) from their phones and computers ($\alpha = .70$). Response options included “Never,” “Monthly,” “Weekly,” “2–3 times a week,” “Daily,” “2–3 times a day,” “Hourly,” “2–3 times an hour,” and “Every 10 minutes.” We also measured general extraversion tendencies via a brief Big-5 Inventory (Rammstedt & John, 2007).

ESM surveys

The ESM surveys consisted of four questions about participants’ “most recent interaction. Interactions were defined as “any form of communication between you and another person.” The first question asked “How did your most recent interaction occur?”, with Face-to-Face, Voice Call, Text or Instant Message, Email, Facebook (including Messenger), Twitter, Instagram, Snapchat, and Other as answer choices. The remaining questions inquired about the quality of the interaction and the closeness of interaction partner (Eisenberger, Taylor, Gable, Hilmert, & Lieberman, 2007): “How pleasant or unpleasant was your most recent interaction?” with response options: 5 (“Very pleasant”) to 1 (“Very unpleasant”) ($M = 3.99, SD = 0.98$); “Within that interaction, how supportive or unsupportive was that person to you?” with response options: 5 (“Very supportive”) to 1 (“Very unsupportive”) ($M = 3.90, SD = 0.97$); and “How close are you to that person?” with response options: 1 (“Not at all close”) to 5 (“Very close”) ($M = 3.89, SD = 1.24$). We also asked participants questions about their current physical and emotional status; these results are reported elsewhere.

Analysis plan

From the ESM surveys, we obtained several aggregate measures of participants' daily interactions across the two-week study period. We performed our analyses on all types of interactions, face-to-face and mediated. Analyses performed with just mediated interactions or just face-to-face interactions do not change any of our findings regarding the effects of availability or tie strength of interaction partner. We computed interaction quality for each interaction by averaging the social enjoyment and supportiveness ratings ($r = .61$).

Based on the distribution of responses for the partner closeness ratings across the sample (4,940 interactions rated as "Very close;" 2,504 as "Close;" 2,155 as "Somewhat close;" 876 as "Not close;" and 756 as "Not close at all"), we operationalized weak-tie interactions as those with partners rated "not close at all", "not close", or "somewhat close" and strong-tie interactions as "close" and "very close" partners. For each participant, we then computed the average interaction quality of all interactions with weak-tie partners and strong tie partners, creating separate variables denoting each participant's quality of weak-tie and strong-tie interactions.

We used linear mixed modeling to account for the hierarchical nature of our data (i.e., multiple responses over time nested within individuals). Our models included random intercepts for days (1-14), nested within participants (154 total). Using linear mixed models allowed us to take advantage of the rich data available about the multiple interactions that a given individual had over the two-week period, while accounting for the fact that those observations are not independent of one another. We implemented the linear mixed models using the `lmer` function in R using the REML estimation and the `lmerTest` function to test for significance. Our primary predictor variables in these linear mixed models were availability preferences and the closeness

of the interaction partner. We also included an interaction term between availability preferences and the closeness of the interaction partner.

Results

Availability preferences and patterns of mediated interactions

A Pearson correlation revealed a positive and significant relationship between availability preferences and perceived *frequency* of mediated interactions ($r = 0.249, p = 0.002$). However, we observed an insignificant correlation between availability preferences and *proportion* of mediated interactions across the two-week period ($r = 0.036, p = 0.656$).

Availability and quality of interactions with weak ties versus strong ties

Our first hypothesis (H1) stated that people with greater availability preferences would report better interactions overall. We also asked a research question (RQ1) concerning availability preferences and tie strength as related to interaction quality. To examine H1 and RQ1, we conducted a linear mixed model analysis with interaction quality as the dependent variable. The primary predictors are preferences for availability and closeness of interaction partners, as well as an interaction term between these two variables. Gender, age, day of report, channel (as a binary variable—either face-to-face or mediated), and extraversion served as control variables.

The main effect for preferences for availability was significant, indicating that participants with greater preferences for availability report higher quality interactions ($\gamma = 0.224, t = 4.398, p < .001$), lending support for H1. In addition, a significant interaction effect ($\gamma = -0.046, t = -5.848, p < .001$) between availability preferences and interaction partner closeness emerged (RQ1), such that participants with greater preferences for availability have better interactions with their *weak ties*, as compared to participants with lower preferences for

availability. Table 1 reports the full results of this analysis. In summary, as hypothesized, results revealed that people with greater availability preferences reported having better interactions overall, but particularly with weak ties. By contrast, we found no relationship between availability preferences and strong-tie interaction quality (see Figure 1).

Availability preferences and changes in social capital

We next tested whether availability preference was positively associated with bridging social capital (H2) using a standard ordinary least squares regression. Social capital measured at endpoint served as the outcome variable. Availability preferences provided the primary predictor, also controlling for proportion of interactions with strong ties, proportion of face-to-face interaction, age, gender, and extraversion. Supporting H2, results showed that the preference for availability positively predicted social capital at endpoint ($\beta = .215, p < .001$). The full results are reported in Table 2.

Earlier we identified an interaction between availability and tie strength, such that people with higher availability preferences have better interactions, but only with weak ties. In turn, previous work suggests a positive relationship between quality of weak ties network and bridging social capital (Granovetter, 1973). Combined with the finding of a significant, positive relationship between availability and bridging social capital, we decided to test a mediation model in which quality of weak tie interactions mediates the relationship between availability and bridging social capital.

We specified this path model (see figure 2) and formally tested the model with the lavaan package in R (Rosseel, 2012). The results demonstrated the mediating effect of weak ties interaction quality on the relationship between availability preferences and bridging social

capital (indirect effect of weak ties interaction quality: $\beta = .046$, $p = .035$; total effect: $\beta = .221$, $p < .001$).

In addition, to test for a longitudinal relationship between availability preferences and increases in social capital, we re-ran the mediation analyses while controlling for social capital measured at baseline (see Figure 3). The direct relationship between availability preferences and social capital at endpoint became marginal ($\beta = .087$, $p = .071$), as did the indirect effect of quality of interaction with weak ties on social capital at endpoint (indirect effect: $\beta = .029$, $p = .092$; total effect: $\beta = .116$, $p = .011$).

Finally, to confirm that the mediation effect was specific to weak ties, we also tested a model in which strong tie interaction quality mediates the relationship between availability preferences and bridging social capital (see Figure 4). In contrast to our weak ties findings, analyses showed no relationship between preferences for availability and quality of interactions with strong ties, ruling out any mediation effect.

Discussion

This paper makes several contributions that clarify how the preference to be available reflects individuals' experiences of their daily interactions and views of their social networks. We suggested that variations in availability preferences might have different implications for ties of varying strength, as well as bridging social capital. We find that individuals with a greater preference for availability enjoy higher interaction quality, but this increase only occurs among their weak ties. In addition, individuals who prefer to be available report higher levels of bridging social capital measured at the end of the study, a relationship mediated by their satisfaction from weak tie engagement. Longitudinally, controlling for social capital measured at

baseline, these individuals reported marginally increased social capital at endpoint, and weak tie interaction quality marginally mediated this relationship.

Ultimately, our results confirm that the concept of availability—which has been examined as a societal or technological phenomenon in prior literature—can be captured as a trait-like variable and linked to social experiences and resources. Notably, our measure of availability preferences correlated with the frequency of mediated interactions, providing convergent evidence that people who prefer to be more available actively stay more “connected.” Approaching availability as an individual difference may help to unpack the motivations that guide the use of different communication technologies, along with the longer-term implications of connectedness for individuals’ personal networks.

Surprisingly, whereas previous work demonstrated intense negotiation of availability among strong ties (Hall & Baym, 2012), we did not identify a relationship between availability preferences and quality of interactions with strong ties. Nonetheless, it is also possible that availability for close ties is not about interaction quality so much as feelings of security. Mobile affordances allow for an “ambient” line to a trusted listener (Ito & Okabe, 2005; Ling, 2012). Licoppe (2004) originally described the “reassurance” that comes from having a direct line to our core relationships, noting that, “The aims of reassurance and of maintaining a close link through small communicative gestures tend to merge” (p. 145). In other words, regardless of the quality of discrete conversations, each interaction “reassures” the individual that the close tie is ready to be called upon in the future. Future work should delineate these gratifications.

In contrast, we observe greater variability around weak ties interaction quality as a function of availability preferences. Whereas all participants tended to report similar levels of interaction quality with strong ties, the quality of weak tie interactions varied substantially.

Importantly, we control for extraversion in all of our analyses. In doing so, we are able to distinguish a general socializing orientation from availability preferences. The separation of these two constructs implies that the preference for availability is not simply about the desire to interact; rather, these individuals appear to appreciate weaker ties uniquely. Nevertheless, more research is needed to delve into the discriminant validity of this evolving orientation.

Previous work in both psychology (e.g., Kunda & Spencer, 2003; Maner, DeWall, Baumeister, & Schaller, 2007) and communication (Gonzales & Wu, 2016; Ledbetter & Mazer, 2014) suggests that people's experiences during an interaction are not objective, but instead are guided by existing goals, perceptions, and attitudes. Our findings are consistent with this account: those with a higher preference for availability reported higher enjoyment of their interactions. Possibly, the preference to be available to others may predispose someone to enjoy interacting with people more, regardless of closeness. The reverse may also be true: those who enjoy their interactions more may develop an affinity for being available in the hope of multiplying those experiences.

Moreover, for people higher in preferences for availability, the perceived superior quality of their interaction with weak ties in turn partially mediates reports of greater level of bridging social capital. Our findings thus bridge two major foci in the communication technology literature: online availability and social capital. The benefits of social capital are far-reaching, including feelings of greater support, access to help, and improved mental and physical health (e.g., Helliwell & Putnam, 2004).

Prior work has highlighted benefits of online technologies on weak tie relationships, such as maintaining relationships on Facebook (Ellison et al., 2014), but *not* the role of availability as related to social capital dynamics and weak tie interactions. Our finding that availability

preferences predicts interaction quality, and then increased social capital, suggests these preferences can play an important role in the background of daily life. Indeed, as posited above, greater preferences for availability may prime people to derive more enjoyment from their interactions, and, in turn, cultivate a more robust network of weak ties.

More broadly, the current findings also provide links to research on how individual differences shape both perceptions of and access to network resources. For example, a number of personality dimensions have been related to the scope and structure of individuals' social networks (Landis, 2016), bolstering interest in so-called *network cognition* (Brashears & Quintaine, 2015). Based on our data, availability preferences appear to reflect an individual's openness to broader network attention—and apparently appreciation—during daily life. More work is needed to establish the cognitive mechanisms and decision-making that underlies personal preferences in network attention. Here, we offer evidence that social network orientations (e.g., toward being available) can color cumulative day-to-day interactions, which in turn may shape personal network structure and perceptions of social capital.

Although we find moderate support for availability (via weak tie interactions) strengthening perceptions of bridging social capital, we caution against assumptions of causality. Indeed, although social capital is treated as an outcome here, there are theoretical reasons to suspect bidirectional processes. Rather than increased availability causing individuals to experience interactions with weak ties as more rewarding, subsequently affecting their perceptions of the social resources they have access to (social capital), the opposite directionality is also possible. That is, people who place more importance on being available may do so because of their personal appreciation of weak tie interactions and social benefits derived from such appreciation. In either case, we demonstrate a positive link between availability

preferences, weak-tie interaction quality, and bridging social capital—laying the groundwork for more integrative models of communication technology effects. Future work might also explore the results of sustained weak tie interactions through enhanced availability over time.

Limitations

Although our study has several major strengths, including the use of longitudinal measures in a randomly selected population of university students, certain limitations exist. This study was conducted with university undergraduates who may not be representative of other demographic groups, such as working professionals who have work-related expectations of availability. The time between baseline and endpoint was two weeks in the present study. It is possible that we would observe greater effects over a longer time period, especially with respect to changes in perceptions of social capital. For example, our longitudinal effects on social capital were marginal, likely because social capital is typically stable over a short time period.

Furthermore, this work should be expanded using additional measures. For instance, concerns have been raised about the Williams (2006) social capital scale used here, including the scale's correlation with other measures of social capital and its conceptualization of bridging social capital (Appel et al., 2014). Along similar lines, although we argue for availability as an individual difference, this does not rule out the possibility that an individual's preferences for availability might fluctuate over time depending on the context. Future studies should attempt to explicitly disentangle "state availability" from "trait availability" if possible.

Conclusion

Staying connected to others has often been framed as a positive dimension of contemporary relationships or as a negative agitator of life stress (Ames, 2013; Thomas et al., 2016). In practice, however, attitudes towards constant connectedness are more nuanced, with

reports of both positive and negative feelings associated with expectations of being available to others. Embracing the individual differences perspective, we explored the level of importance that people place on availability as a predictor of established social outcomes. We demonstrate that individuals who prefer to be available report more rewarding interactions with weak ties. Furthermore, the preference for availability positively predicted social capital over a two-week period. Our research thus shows the promise and relevance of approaching availability as an individual difference, a variable we hope that researchers interested in contemporary technologies and their implications will continue to explore.

References

- Ames, M. G. (2013). Managing mobile multitasking: The culture of iPhones on Stanford campus. In *Proceedings of the 2013 conference on Computer supported cooperative work* (pp. 1487-1498). ACM.
- Appel, L., Dadlani, P., Dwyer, M., Hampton, K., Kitzie, V., Matni, Z. A., ... & Teodoro, R. (2014). Testing the validity of social capital measures in the study of information and communication technologies. *Information, Communication & Society, 17*, 398-416.
- Baron, N. S. (2011). Concerns about mobile phones: A cross-national study. *First Monday, 16*.
- Bayer, J. B., Campbell, S. W., & Ling, R. (2016). Connection Cues: Activating the Norms and Habits of Social Connectedness. *Communication Theory, 2*, 128-149.
- Brashears, M. E., & Quintane, E. (2015). The microstructures of network recall: How social networks are encoded and represented in human memory. *Social Networks, 41*, 113–126.
- Burke, M., Kraut, R., & Marlow, C. (2011). Social capital on Facebook: Differentiating uses and users. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 571-580). ACM.
- Campbell, S. W. (2015). Mobile communication and network privatism: A literature review of the implications for diverse, weak, and new ties. *Review of Communication Research, 3*, 1-21.
- Duran, R. L., Kelly, L., & Rotaru, T. (2011). Mobile phones in romantic relationships and the dialectic of autonomy versus connection. *Communication Quarterly, 59*, 19-36.
- Eden, J., & Veksler, A. E. (2016). Relational maintenance in the digital age: Implicit rules and multiple modalities. *Communication Quarterly, 64*, 119-144.

- Eisenberger, N. I., Taylor, S. E., Gable, S. L., Hilmert, C. J., & Lieberman, M. D. (2007). Neural pathways link social support to attenuated neuroendocrine stress responses. *Neuroimage*, *35*, 1601-1612.
- Ellison, N. B., Vitak, J., Gray, R., & Lampe, C. (2014). Cultivating social resources on social network sites: Facebook relationship maintenance behaviors and their role in social capital processes. *Journal of Computer-Mediated Communication*, *19*, 855–870.
- Ellison, N. B. & Vitak, J. (2015). Social network site affordances and their relationship to social capital processes. In Sundar, S. (Ed.) *The Handbook of the Psychology of Communication Technology*. Hoboken, NJ: Wiley-Blackwell, pp. 205 – 227.
- Fu, Y. C., Ho, H. C., & Chen, H. M. (2013). Weak ties and contact initiation in everyday life: Exploring contextual variations from contact diaries. *Social Networks*, *35*, 279–287.
- Gonzales, A. L., & Wu, Y. (2016). Public cellphone use does not activate negative responses in others... Unless they hate cellphones. *Journal of Computer-Mediated Communication*, *21*, 384-398.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, *78*, 1360–1380.
- Hall, J. A., & Baym, N. K. (2012). Calling and texting (too much): Mobile maintenance expectations,(over) dependence, entrapment, and friendship satisfaction. *New Media & Society*, *14*, 316-331.
- Hampton, K. N., Lee, C. J., & Her, E. J. (2011). How new media affords network diversity: Direct and mediated access to social capital through participation in local social settings. *New Media & Society*, *13*, 1031 – 1049.

- Hampton, K. N. (2016). Persistent and pervasive community: New communication technologies and the future of community. *American Behavioral Scientist*, *60*, 101-124.
- Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Community & Society*, *8*, 125-147.
- Ito, M., & Okabe, D. (2005). Technosocial situations: Emergent structurings of mobile email use. *Personal, portable, pedestrian: Mobile phones in Japanese life*, *20*, 257-273.
- Helliwell, J. F. K., & Putnam, R. D. K. (2004). The social context of well-being. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *359*, 1435-1446.
- Katz, J. E., & Aakhus, M. (2002). *Perpetual contact: Mobile communication, private talk, public performance*. Cambridge, UK: Cambridge University Press.
- Kobayashi, T., Boase, J., Suzuki, T., & Suzuki, T. (2015). Emerging from the cocoon? Revisiting the tele-cocooning hypothesis in the smartphone era. *Journal of Computer-Mediated Communication*, *20*, 330-345.
- Kunda, Z., & Spencer, S. J. (2003). When do stereotypes come to mind and when do they color judgment? A goal-based theoretical framework for stereotype activation and application. *Psychological Bulletin*, *129*, 522 – 544.
- Kuru, O., & Pasek, J. (2016). Improving social media measurement in surveys: Avoiding acquiescence bias in Facebook research. *Computers in Human Behavior*, *57*, 82-92.
- Landis, B. (2016). Personality and social networks in organizations: A review and future directions. *Journal of Organizational Behavior*, *37*, 107–121.
- Ledbetter, A. M., & Mazer, J. P. (2014). Do online communication attitudes mitigate the association between Facebook use and relational interdependence? An extension of media multiplexity theory. *New Media & Society*, *16*, 806-822.

- Ledbetter, A. M., Taylor, S. H., & Mazer, J. P. (2016). Enjoyment fosters media use frequency and determines its relational outcomes: Toward a synthesis of uses and gratifications theory and media multiplexity theory. *Computers in Human Behavior, 54*, 149-157.
- Licoppe, C. (2004). 'Connected' presence: The emergence of a new repertoire for managing social relationships in a changing communication technoscape. *Environment and planning D: Society and space, 22*, 135-156.
- Lin, N. (2001). *Social capital: A theory of social structure and action*. New York, NY: Cambridge University Press.
- Ling, R. (2012). *Taken for Grantedness: The Embedding of Mobile Communication in Society*. Cambridge, MA: MIT Press.
- Ling, R., Bjelland, J., Sundsøy, P. R., & Campbell, S. W. (2014). Small circles: Mobile telephony and the cultivation of the private sphere. *The Information Society, 30*, 282-291.
- Ling, R. (2016). Soft coercion: Reciprocal expectations of availability in the use of mobile communication. *First Monday, 21*.
- MacCormick, J. S., Dery, K., & Kolb, D. G. (2012). Engaged or just connected? Smartphones and employee engagement. *Organizational Dynamics, 41*, 194-201.
- Maner, J. K., DeWall, C. N., Baumeister, R. F., & Schaller, M. (2007). Does social exclusion motivate interpersonal reconnection? Resolving the "porcupine problem." *Journal of Personality and Social Psychology, 92*, 42.
- Mazmanian, M. (2013). Avoiding the trap of constant connectivity: When congruent frames allow for heterogeneous practices. *Academy of Management Journal, 56*, 1225-1250.

- Miritello, G., Moro, E., Lara, R., Martínez-López, R., Belchamber, J., Roberts, S. G., & Dunbar, R. I. (2013). Time as a limited resource: Communication strategy in mobile phone networks. *Social Networks, 35*, 89-95.
- Putnam, D. R. (2000). *Bowling alone: The collapse and revival of American community*. New York, NY: Simon & Schuster, Inc.
- Rainie, L., & Zickuhr, K. (2015). Americans' views on mobile etiquette. *Pew Research Center*. Retrieved from <http://www.pewinternet.org/>
- Ramirez Jr, A., & Broneck, K. (2009). IM me': Instant messaging as relational maintenance and everyday communication. *Journal of Social and Personal Relationships, 26*, 291-314.
- Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German. *Journal of Research in Personality, 41*, 203-212.
- Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*, 1-36.
- Sandstrom, G. M., & Dunn, E. W. (2014). Social interactions and well-being: The surprising power of weak ties. *Personality and Social Psychology Bulletin, 40*, 910-922.
- Schrock, A. R. (2015). Communicative affordances of mobile media: Portability, availability, locatability, and multimediality. *International Journal of Communication, 9*, 18.
- Thomas, V., Azmitia, M., & Whittaker, S. (2016). Unplugged: Exploring the costs and benefits of constant connection. *Computers in Human Behavior, 63*, 540-548.
- Vorderer, P., Krömer, N., & Schneider, F. M. (2016). Permanently online – Permanently connected: Explorations into university students' use of social media and mobile smart devices. *Computers in Human Behavior, 63*, 694-703.

- Williams, D. (2006). On and off the 'Net: Scales for social capital in an online era. *Journal of Computer-Mediated Communication, 11*, 593–628.
- Wright, K. B., Rains, S., & Banas, J. (2010). Weak-tie support network preference and perceived life stress among participants in health-related, computer-mediated support groups. *Journal of Computer-Mediated Communication, 15*, 606-624.
- Wright, K. B., & Miller, C. H. (2010). A measure of weak-tie/strong-tie support network preference. *Communication Monographs, 77*, 500-517.
- Wohn, D. Y., & Birnholtz, J. (2015). From ambient to adaptation: Interpersonal attention management among young adults. In *Proceedings of the 17th International Conference on Human-Computer Interaction with Mobile Devices and Services* (pp. 26-35). ACM.

Table 1.

Hypothesis 1 testing: Availability preferences positively predicts quality of interactions

Predictors	DV: Quality of Interactions	
	γ	t
Availability Preferences	.214***	4.742
Closeness of Interaction Partner	.344***	12.357
Channel: Face-to-face versus mediated	-.287***	-18.404
Age	.016	1.197
Gender	-.096 [†]	-1.668
Day of Report	-.016 [†]	-1.884
Extraversion	.077**	2.753
Self-Availability*Closeness of Interaction Partner	-.046***	-5.853

*** $p < .001$ ** $p < .01$ * $p < .05$ [†] $p < .10$

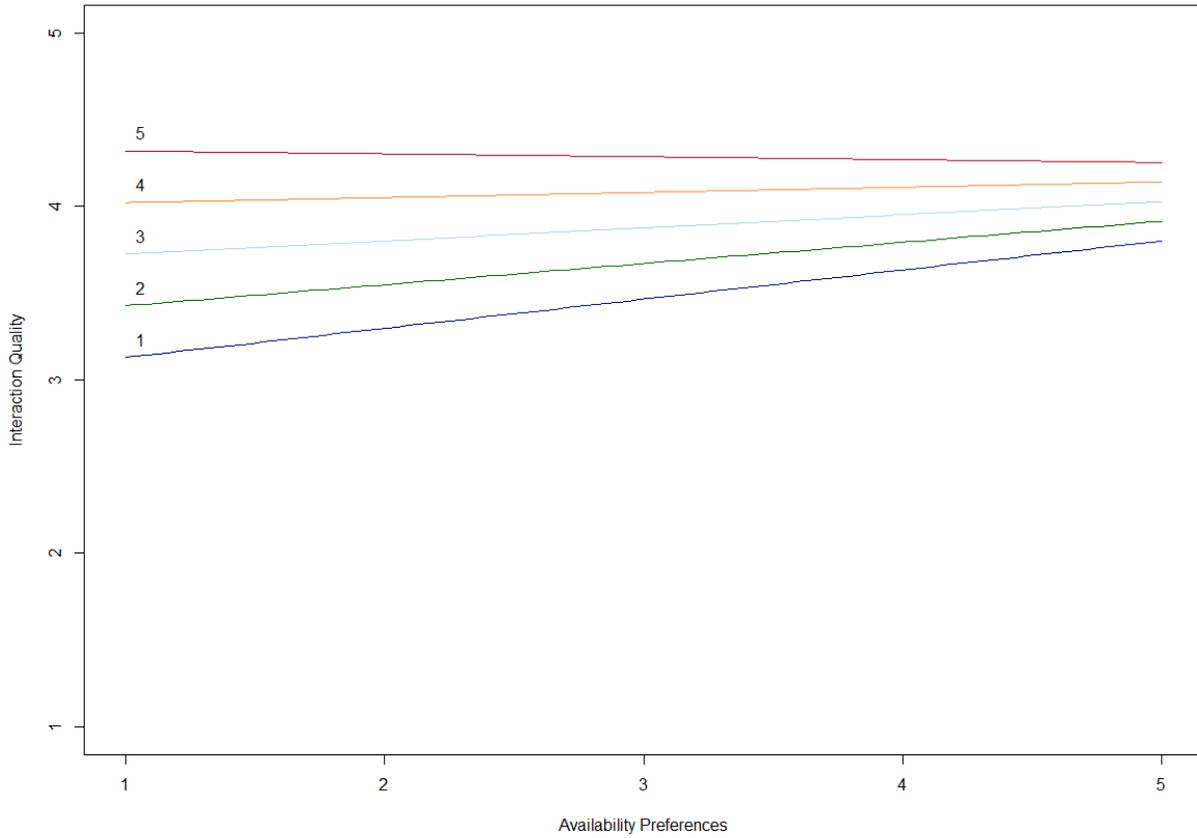
Table 2.

Hypothesis 2 testing: Availability preferences positively predicts social capital

DV: Social Capital	
Predictors	β
Availability preferences	.215***
Proportion of interaction with strong ties	-.144
Proportion of face-to-face interactions	.261
Age	-.028
Gender	-.056
Extraversion	..048

*** $p < .001$

Figure 1. Interaction between preferences for self-availability and closeness of interaction partner in predicting interaction quality



Note: Each line represents the quality of interaction with those in the corresponding category of closeness:

5: Very close

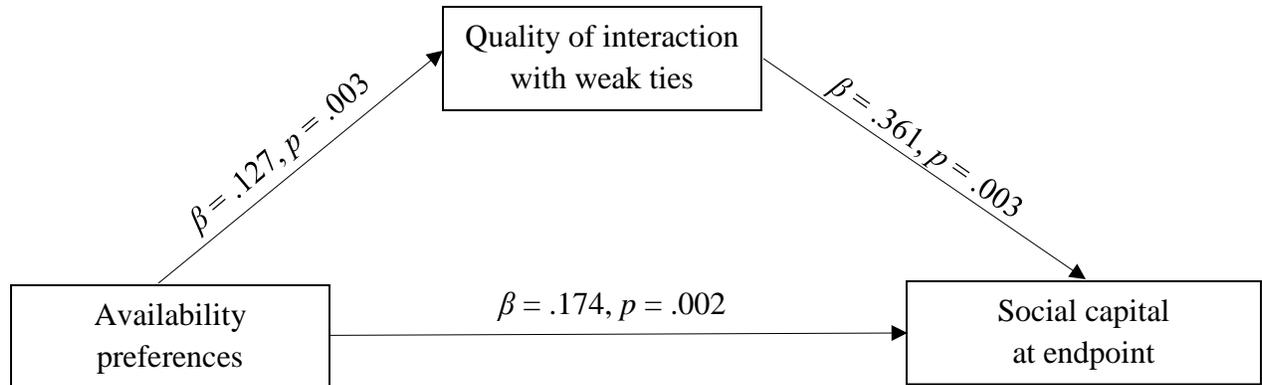
3: Somewhat close

1: Not close at all

4: Close

2: Not close

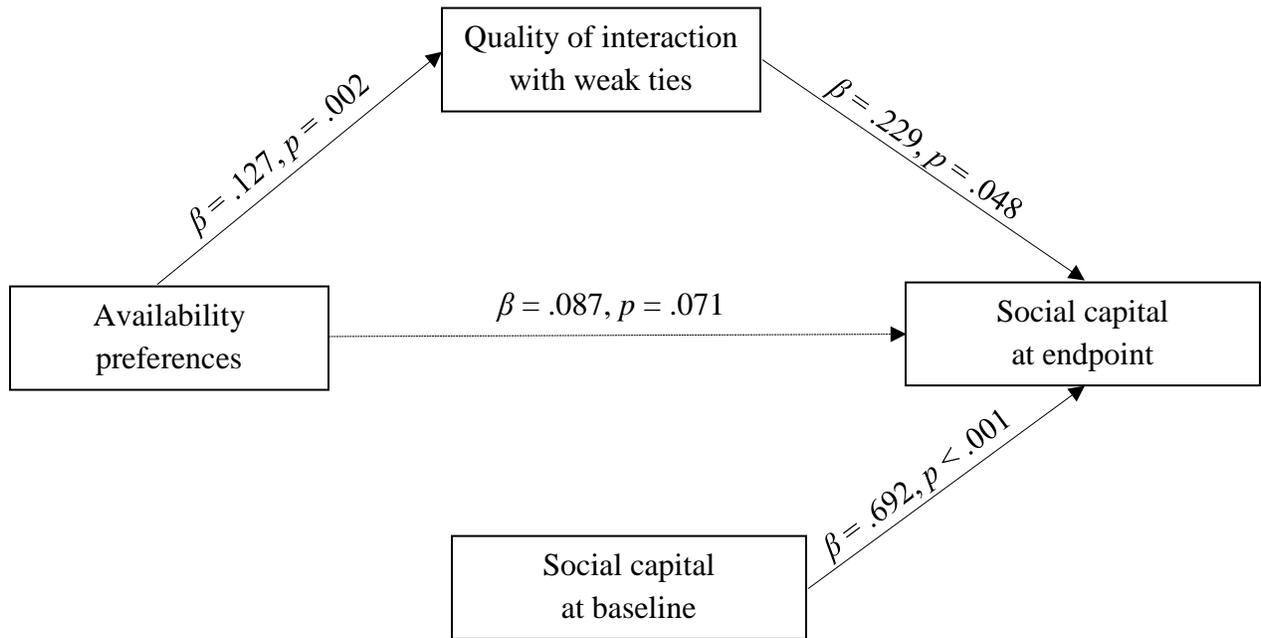
Figure 2. Quality of weak tie interactions mediates the relationship between availability preferences and bridging social capital (*not* controlling for bridging social capital at baseline)



Indirect effect: $\beta = .046, p = .035$

Direct effect: $\beta = .221, p < .001$

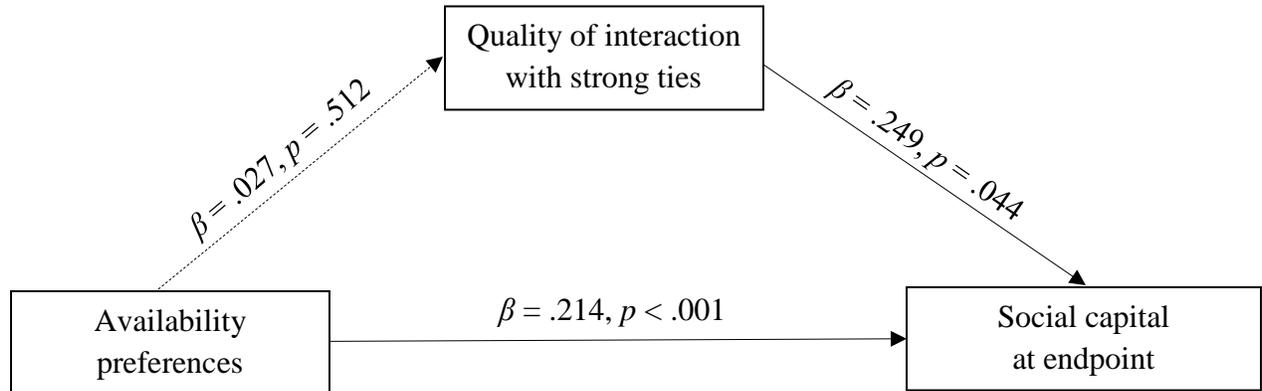
Figure 3. Quality of interaction with weak ties *marginally* mediates the marginal relationship between availability preferences and bridging social capital (*controlling* for bridging social capital at baseline)



Indirect effect: $\beta = .029, p = .092$

Direct effect: $\beta = .116, p = .011$

Figure 4. Quality of interaction with strong ties do *not* mediate the relationship between availability preferences and bridging social capital



Indirect effect: $\beta = .007, p = .592$

Direct effect: $\beta = .221, p < .001$