Media choice in the workplace:

Effect of strength of tie
ABSTRACT

Existing research on media choice has focused on the media characteristics or task dependencies as the primary determinant of choice. Much less attention has been paid to the relationship between the people who are communicating. We explored whether the strength of tie between pairs of people affected media preferences. Results indicated a marked interaction between media and tie strength with richer media preferred for strong ties and less rich media for weak ties. Media types were further distinguished in their association with perceptions of competency and likability. We discuss the implications for organizational and media design.

Author Keywords
Media choice, instant messaging, social network analysis, collaboration, communication
INTRODUCTION

Coordination and collaboration in the workplace is increasingly mediated by technology whether by telephone, email, video or audio-teleconferencing and instant messaging (chat). Given so many readily accessible technologies, how does someone decide whether to pick up the phone, send an email, have a quick chat or meet face to face?

Previous research has argued that media choice is guided by media richness (Daft & Lengel, 1986; Rice & Steinfeld, 1984), social influence (Kraut et al, 1994) or the nature of the task (Herbsleb et al, 2002; Kraut & Attewell, 1997). An alternate approach is that the choice of media is influenced by the nature of the relationship with the other person (Cummings & Ghosh, 2006; Haythornthwaite, 2001; Haythornthwaite & Wellman, 1998).

In this paper we first review the relevant literature on media choice before turning to the motivation for considering a relational view. We then present the design and results of a large survey based study which examined the association between the strength of relationship (strength of tie) between pairs of people and the preferred form of communication. Given the ubiquity of media based communication in the workplace, we also explored how media choice might impact performance by analyzing the relationship between media choice and team performance as well as effects on person perception. The paper concludes with a discussion of the broader implications for organizational and media designers of a relational approach to media choice especially for distributed teams.

Media Choice

Ongoing innovations in communication technologies have made it possible for people to work together whether they are located in the same office area or physically separated. Nevertheless, face to face communication is still considered the gold standard when it comes to
establishing the right level of trust, commitment, mutual understanding and support necessary for effective and seamless coordination of work (Bos et al, 2005; Kiesler & Cummings, 2002; Olson & Olson, 2000).

In examining why people select a particular technology for communication, the choices are implicitly or explicitly compared against face to face. Thus we have theories such as media richness (Daft & Lengel, 1986; Rice & Steinfeld, 1984) which argue that media vary in how much of the personal qualities and characteristics get translated through the medium. By this account technologies which are synchronous such as phone and video conferencing are generally considered to provide more visual and auditory cues to the speaker than asynchronous text based communication such as email (Sproull & Kiesler, 1993). Recent support for this theory comes from a study of distributed teams (McKinney & Whiteside, 2003). They found that face to face was rated highest in media richness, followed by video conferencing and then email and phone at approximately the same level followed by letters and fax. On the other hand, (Cummings et al, 2001) showed that an increase in phone communication was most strongly associated with an increase in feelings of closeness, regardless of whether family and friends were nearby or far away.

A related view that takes into account the characteristics of the technology is that people will select the medium to fit the task because of the design features or affordances of the tool. For instance, text-based communication tools such as instant messaging (IM) and group chat have proven to be an effective means of communication in organizational settings. These tools tend to be less intrusive than a telephone as message receipt does not create much interruption and response can be deferred to a convenient time (Nardi et al, 2000). IM applications also provide the user with an indication of the availability of a remote colleague. Distributed coworkers can
use IM for negotiating availability, asking quick questions, discussing task activities, and as a reminder that work is required on a project, much as seeing someone in the hallway. It also makes it easier for people to communicate with one another and to change the course of each other’s work plans (Cutrell et al, 2000). The use of associated presence awareness technology may help to lower the difficulty and frustration of contacting a colleague in a remote location (Herbsleb et al, 2000, 2002). Several studies have suggested that coordination of work in distributed software teams is accomplished most effectively through spontaneous, informal talk since it fosters awareness, spontaneous conversation (Allen & Hauptman, 1987), project focus, problem solving, and the development of social relationships (Bos et al, 2005; Olson & Olson, 2000). When informal interactions do occur, they enhance trust and rapport between remote counterparts (Jarvenpaa & Leidner, 1999).

Although email has become ubiquitous in the workplace (Whittaker & Sidner, 1996) and is widely used for task-related work (Kraut & Attewell, 1997) it is not a rich medium and may do a poorer job of building and sustaining close social relationships than face to face and phone (Cummings et al, 2001; Sproull & Kiesler, 1993).

It is probably too simplistic to associate the development and maintenance of trusted relationships with richer media, especially face to face or perhaps video or audio conferencing and instrumental or task related activities with email. However, the weight of evidence seems to suggest that trust and greater levels of intimacy can be achieved best in face to face settings. Email tends to be at one end of the scale in terms of building and maintaining strong trusted social relationships (Cummings et al, 2002), face to face at the other end of the scale with phone, IM and teleconferencing (audio and video) variously arranged in between.
Relational View of Media Choice

The principal existing theories of media choice focus on the characteristics of the task or the technologies when it comes to selecting an appropriate communication tool. Consideration of the relationships between people argues that the selection of a particular method of communication depends on the relationship between the parties. Simply put, the choice of communication tool may depend on who you are talking with as well as what the communication is about. The most salient characteristic for communication, of this kind of relationship is the notion of strength of tie. Strong ties exist between people who know each other well and who also have some kind of strong trusted or other emotional or affective relationship (Granovetter, 1973). Where strong ties exist there is generally better, more trusted communication (Reagans & McEvily, 2003). On the other hand, weak ties can be a good source of technical advice (Constant et al, 1996), sharing knowledge across organizations, especially when the weak ties bridge from one organizational unit to another (Hansen, 1999), and, getting access to novel information that would not be part of the shared knowledge within one’s circle of strong ties (Granovetter, 1973).

Evidence for the relational approach comes from recent studies that examined media choice in light of tie strength. For instance, (Cummings & Ghosh, 2006) showed that technology use varied as a function of the organizational and physical distance between people. People with strong ties were more likely to use face to face communication relative to other communication choices of phone and email.

H1 Media preference will be affected by the strength of relationship between pairs of people. Media richness will predict preference but only for strong ties.
Haythornthwaite and colleagues (Haythornwaite, 2001; Haythornthwaite & Wellman, 1998) studied the range of media types selected for weak and strong ties and found that people tended to use more types of media with their strong ties than with their weak ties, a finding known as media multiplicity.

*H2 There will be more types of media used amongst strong ties than amongst weak ties*

Kiesler and Cummings (2002) have argued that how well technologies approximate to face to face depends on the overall cohesiveness in the group or team. Cohesive teams who also have the opportunity to meet face to face can sustain their commitment and collaboration through technology. For teams with low cohesiveness, however, the technology is not sufficient to compensate and in fact can make things worse. Thus factors other than media characteristics can affect choice and its outcome.

*H3 Groups which rely on face to face will be more cohesive than groups which prefer other forms of communication.*

**METHOD**

**Overview**

We collected data about media preferences by administering a web-based survey to 53 sales teams from a global technology firm. The teams were selected by first contacting the group VPs who identified the teams. Team leaders were contacted and 53 agreed to include their team in the study. Team leaders identified a total of 1039 team members. After removing from
consideration those individuals who had left the team or were inappropriately identified as team members, 898 remained. An invitation to participate in the study was emailed to all team members. This invitation was followed up by emails from the team leader as well as phone calls by senior researchers to yield an overall response rate of 77% (N = 695). Teams ranged in size from 4 to 47 (M = 17, SD = 10.9).

Sample

The teams we studied are dedicated to providing hardware, software, and other services to a single client. Clients range from public sector non-profits to major retail, service, and manufacturing organizations. People on the teams play a variety of roles, including the main customer relationship manager, project managers, and hardware and software specialists. Team members are encouraged to share leads and information with each other in order to best serve the interests of their client. Communication amongst members of the team is mostly about the client – updates in requirements, coordinating and discussing the details of a particular sale – general information exchange. Each team is based in the same geographic location as their client although in practice most individuals work from a home based office and travel frequently including spending extended time at the client site.

All participants had access to all the technologies we studied. Although they can use email while traveling, they can only use Instant Messaging (IM) from a computer that is on a network that is within the company firewall.

Data Collection

Data were collected through a web-based survey administered to each team in Fall 2005. The survey consisted of questions about demographic variables including the individual’s location (city and state), role, team tenure, organizational tenure and division. The survey included
several social network questions for which individuals were asked to respond about each other
person on their team. A roster of the team was provided.

Strength of tie. Following previous studies (Haythornthwaite, 2001; Haythornthwaite &
Wellman, 1998) we used frequency of communication as our operational definition of strength of
tie recognizing that it may somewhat underplay the more complex measure of time spent in a
relationship that is also used as a measure of strength of tie (Marsden & Campbell, 1984).
Responses for communication frequency ranged from 1 to 4 (1 = less than once a month; 4 =
daily). Data were dichotomized as Strong (= at least once a week or daily) or Weak (=less than
once a month). A separate matrix was created for each strength of tie (Strong and Weak) in
which each cell $X_{ij}$ of the matrix represents the presence or absence (1 or 0) of a tie at that
strength from person i to person j.

Media preference. The survey included a question about media preference: Please indicate
which of these methods you prefer to use when communicating with this person about an
important client issue (face-to-face, instant messaging, email, phone, conference calls, shared
repository). The question was deliberately worded to elicit preferences rather than estimated
choices to provide data on a person’s intended behavior free of the constraints that may govern
actual choices. Media Preference matrices were constructed by creating a separate matrix for
each medium such that each cell $X_{ij}$ indicates whether or not i indicated a preference for the
particular medium (e.g., phone) with j.

Media preference and strength of tie. These variables capture the number of times a person
preferred to use a particular medium (e.g., phone, email) when communicating with a (a)
Strongly or (b) Weakly tied other. First, each Media Preference matrix was multiplied (element-
wise) by each Strength of Tie matrix. This created a total of 6 (Media Preference) x 2 (Strength
of Tie) or 12 matrices (e.g., StrongPhone, WeakF2F). Then, the row sums were calculated for each Preference * Strength matrix to create 12 within-subjects variables, each representing the frequency count of a particular medium preference at a different strength of tie. To create additional between-subjects variables, these data were also normalized by dividing each frequency count variable by the total number of media preference choices. These variables are called Media Preference Proportions.

**Proximity.** Location data was extracted from organizational archives. Each pair of people (dyad) was coded as residing in the same or different city (Same-City) and same or different state (Same-State). In these two matrices, a 1 in cell $X_{ij}$ indicates that i and j are in the same city (or state) whereas a 0 in cell $X_{ij}$ indicates that i and j are not in the same city (or state). All $X_{ij} = X_{ji}$.

Although data were collected at the team level, the matrices were joined into one large matrix, with missing values representing the links between members of different teams. Because all network analyses focus on the dyad as the unit of interest, joining the matrices simplifies analyses without confounding units of analysis.

**Reciprocity.** Reciprocity in media preference is the percentage of reciprocated preferences within each medium relative to the total number of possible choices. More specifically, it is the number of instances in which $X_{ij} = X_{ji}$ relative to $N - 1$. This variable was calculated to include only Strong or only Weak ties.

**Multiplexity.** We operationalized multiplexity as the number of different media preferred (range = 1 to 5) when communicating with (a) Strong and (b) Weak ties.

**Perception.** Perceptual networks captured the perceptions that teammates had about one another. Participants were asked the extent to which they agreed with each of the following statement (1 = strongly disagree, 5 = strongly agree): I am aware of which opportunities this
person is currently working on (Aware), This person is very competent at his/her job (Competent) and Interactions with this person are enjoyable (Enjoy). From their responses, three networks were constructed: Aware, Competent, and Enjoy. Matrices were dichotomized so that every cell $X_{ij}$ represented the presence ($= 1$) or absence ($= 0$) of a strongly held perception (i.e., agreed or strongly agreed with the statement). Although data were collected at the team level, the matrices were joined into one large matrix, with missing values representing the links between members of different teams.

For each dichotomized matrix, an additional variable, Indegree, was calculated. The Indegree is the sum of nominations an individual receives. So, an EnjoyIndegree value of 8 meant that 8 people on Person A’s team agreed or strongly agreed that interactions with Person A were enjoyable. Indegrees were normalized by dividing by the number of possible degrees in each team.

**Cohesion.** Cohesion (also called Density) is the percentage of actual ties present in a team relative to the possible ties. Cohesion was calculated on the dichotomized network Aware because awareness of teammates’ activities indicates a minimum of cognitive knowledge about the other person. Cohesion was also measured on the dichotomized network Enjoy to capture the closeness of affective ties.

**RESULTS**

Descriptive statistics, including means, standard deviations, and correlations are presented in each section of the results. The sample size was 695 but there were missing values for organizational tenure. Therefore, correlations involving that variable had a reduced N of 693. Responses indicating a preference for shared repository were so low ($n = 28$) that they were removed from further analysis.
Each network matrix is square with 898 rows and 898 columns. Each row and column represents the total population from which the observed sample of 695 was drawn. The non-responders are included because they can be the target of a responder’s media preference. So, for example Responder A may indicate a relationship with Non-Responder B forming a valid dyad, AB, that captures A’s preferences and perceptions.

**Media preference and strength of tie**

The frequency of media preference choices was analyzed in a repeated measures analysis of variance with 5 levels of media preference (conference call, email, face-to-face, instant messaging, and phone) and 2 levels of tie strength, Weak ties (= communication less than once a month) and Strong ties (= communication more than once a week) as within-subjects factors, controlling for organizational tenure (n = 690). We controlled for organizational tenure on the grounds that people who have been in the organization longer are likely to have developed different patterns of communication which introduces an additional level of variance into the findings. We also ran each of our statistics without that control and got the same effects, albeit with stronger significances. We also found the same pattern of results for each level of tenure. Our population was skewed toward people who had been in the organization for more than 5 years, with over 80% of the population falling into that category. The general media preferences across the levels of tenure are shown in Figure 1. These results show a tendency for email preference to increase and F2F preference to decrease over time.

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Insert Figure 1 about here

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The overall media preferences across strong and weak ties are shown in Table 1.
There was a main effect of media preference ($F_{4, 685} = 2.52, p < 0.05$). In this population, phone was the most preferred and IM was the least preferred form of communication. Individual comparisons revealed that the frequency patterns for face-to-face and phone preferences were significantly different from each other and they were also each significantly different from IM, conference call and email preferences. IM and conference call preference patterns did not differ significantly from each other.

There was no overall effect of tie strength. The total number of Strong dyadic interactions was 3220; the mean number of Strong interactions per person was 3.59 ($SD = 4.1$). The total number of Weak dyadic interactions was 2224; the mean number of Weak responses per person was 2.48 ($SD = 3.12$). These differences in tie strength were not significant ($F_{1, 688} = 1.79, \text{n.s}$).

Figure 2 shows the mean plots for media preference and tie strength. This interaction was significant ($F_{4, 685} = 2.41, p < 0.05$) and clearly driven by the increase in phone and face-to-face preferences from low to high communication frequency ($M_{\text{diff}} = 1.33$ and $M_{\text{diff}} = .99$, respectively) and the corresponding decrease in email preferences from low to high communication frequency ($M_{\text{diff}} = -.68$). There was only a negligible change in preference for IM or conference calls across tie strength. The interaction effect, especially for the main media types of F2F, phone and email support the hypothesis that media preference is influenced by the strength of relationship not just by the characteristics of the medium with richer media, in this case F2F and phone being strongly preferred for strong ties and less rich media, in this case email, preferred for weak ties.
Proximity

To test the hypothesis that relationships are stronger when individuals are proximate, the two proximity matrices (i.e., Same-City and Same-State) were correlated with the 10 matrices representing Media Preference with Weak and Strong Ties. As network data are not independent and so do not satisfy assumptions of statistical inference in OLS regression, a quadratic assignment procedure (QAP) (Borgatti et al, 2002; Krackhardt, 1988) was used to calculate significance values.\(^1\) All network statistics and analyses were conducted using UCINET VI (Borgatti et al, 2002). The correlations are shown in Table 2.

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1 QAP randomly permutes the rows and correlations of one matrix and then recomputes the correlation statistic. This step is repeated hundreds of times, creating a population of statistics to which the observed statistic is compared to determine the proportion of times that a random measure is larger than or equal to it. A proportion of less than .05 is considered unlikely to have occurred by chance.
crudeness of the measure, the lack of any relationship between location and other media is not especially surprising and presents no conclusive results on the effect of proximity for media preference. It is not surprising that we did not get any strong effects of people being in the same or different location since our measure of proximity was very coarse. It has been demonstrated that proximity effects diminish after a very short distance, measured in yards rather than miles (Allen, 1977). Our same-city measure does not distinguish between people across the street from each other from people across the city from each other.

**Reciprocity**

Social influence theory predicts that media preference will be influenced by choices that others in the community or group have already made. We examined the effect of social influence by looking at the rates of reciprocity; that is whether both members of the dyad expressed the same preferences. According to social influence theory we would expect a higher rate of reciprocity amongst strong than weak ties since these people know each other better and therefore have more opportunity to be influenced by the other person’s choice behavior. The data revealed low rates of reciprocity. Reciprocity among strong ties was highest for face-to-face (32.6%) and phone (27.3%). The lowest rates of reciprocity were for IM (5.8%), email (4.06%) and conference calls (4.3%). Among weak ties, reciprocity was much lower and much more evenly distributed across medias: email (7.8%), phone (5.14%), face-to-face (2.9%), conference calls (2.5%) and IM (2.3%). This suggests that strongly tied individuals tend to share media preferences, at least for rich media which is consistent with social influence theory.
Media multiplexity

To test the hypothesis of multiplexity -- that people will employ more types of media with strong ties than with weak ties – we computed the number of types of media used for each person. For instance, if someone preferred to only use email across all the people with whom they had weak ties, they would get a score of 1. But, if they preferred to use face to face, phone and email across their strong ties they would get a score of 3. The mean number of different media preferred for weak ties was 1.24 (SD = 1.01) and for strong ties was 1.63 (SD = .96). A paired samples t-test indicated that the difference in means was significant (t = 7.60, p < 0.0005).

This result confirms previous research (Haythornthwaite, 2001; Haythornthwaite & Wellman, 1998) which found that people would use a wider variety of media in communicating with a strong tie than with a weak tie, and suggests that media multiplexity is an effect of tie strength rather than a property of the relationship per se.

Impact of media preference

In addition to examining factors that influence media preference we also examined whether media preferences were associated with differences in how people were perceived or well people worked together.

Team Cohesion. Previous studies have suggested that media preference needs to be considered in the context of team cohesion such that more cohesive teams can better tolerate some of the diminishment in communication associated with less rich media. To examine the relationship between cohesion and media preference, we regressed team level measures of cohesion for the awareness and enjoyment network on media type controlling for organizational tenure. We recomputed media preferences as a proportion of all media preferences to normalize
the data. Team size was added as a control to take into account the fact that larger teams tend to be less cohesive than smaller teams and organizational tenure was added as a control.

The proportion of face-to-face communication with strong ties predicted AwareCohesion (F3, 622 = 96.05 p<.0005). Adjusted r-square = .314, pctF2F beta-weight = .12 is positive and significant (t = 3.56, p<.0005). Similarly, the proportion of F2F communication with strong ties predicted EnjoyCohesion, (F3, 616 = 200.03 p<.0005). Adjusted r-squared = .492, beta-weight for pctF2F (= .07) is positive and significant. These results indicate that the teams in which people relied on F2F for their strong ties relative to other media preferences also had more awareness of each other and there were more instances of enjoyable interactions.

**Person Perception.** Our survey included three network questions that addressed perception of others: Aware, Competent, and Enjoy. To see whether there was any correlation between media preference and how someone was perceived we correlated each of these person-perception questions with media preferences for strong ties only, as a way to control for familiarity with the other person. Table 3 shows the correlations between media preference and perception of awareness, competency and enjoyment. The data were analyzed using the same QAP procedure outlined earlier, using the in-degree values of each perception factor. Each cell in the analysis corresponds to person A preferring to use a particular form of communication with person B who independently has rated person A in terms of awareness of that person’s skills, their competency and level of enjoyment of interactions.

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Insert Table 3 about here

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There were significant positive correlations between the perception factors and face to face or phone. In other words when people preferred to meet face to face or over the phone with people they knew well, the partner in that communication was more aware of their skills and perceived them as being more competent and more enjoyable to interact with. There were no corresponding effects for any of the other media. While these results are intriguing there is an inherent chicken and egg issue. Do people become more aware of people who use richer media such as face to face or phone or do we use richer media with people that we are already more aware of and who we regard as competent and enjoyable? Although we cannot disentangle the two interpretations with current data, the results suggest an association between some positive attributes and media richness.

DISCUSSION

There has been considerable research on factors that influence media preference. However, until recently, there was very little research that explored the relationship between the people in the communication as one of those factors. In this study we took a relational view to examine the contribution of the relationship between the pair of people on their stated media preference.

In support of our first hypothesis we found that media preference was strongly affected by the tie strength. When tie strength was weak, there was a preference to use a less rich media, email, for the communication. When the tie strength was strong, there was a preference for rich media, especially face to face or phone. There was also an overall effect of media type with phone being the most preferred and instant messaging, arguably a richer media than email, one of the least preferred. With the increased adoption of instant messaging in the workplace we had expected that instant messaging would have become a convenient alternative to the phone or even face to face communication. However, the data for instant messaging was relatively low
mainly, we believe, because of practical constraints governing its use thereby limiting any strong conclusions of how instant messaging might vary with tie strength.

In the workplace, all communication media are equally available, perhaps with the exception of being able to meet face to face or instance messaging and thus the preference for one media over another must be influenced by some other factor. Previous research has suggested that media richness, which generally corresponds to synchronous media such as face to face or phone are preferred when available over less rich media such as email or conferencing systems. Our argument for adding a relational component to the theories of media richness comes from our finding that people preferred a rich media for communication with someone they knew well but the same person would choose a less rich media for someone they didn’t know well.

In support of our second hypothesis, we found that there were a greater range of media types preferred amongst strong ties than amongst weak ties. In other words, although people preferred to use phone when communicating with their strong ties they would use other media more often than when communicating with their weak ties. The current finding extends the results of previous research (Haythornthwaite, 2001; Haythornthwaite & Wellman, 1998) which found that people used more types of media when communicating with each of their strong ties than with each of their weak ties. In the present study, we limited people to indicate only one preference per person. Our results indicate a greater variety of media types across strong ties.

In support of our third hypothesis, we found that teams with a greater proportion of preferences for face to face communication had higher measures of cohesion than did teams with a lower proportion of preferences for face to face. We further found correlations between media choice and how someone was perceived. When people used rich media – face to face or phone – they were perceived as more competent and more enjoyable, as well as the other person being
more aware of their knowledge and skills. There were lower perceptions of all these characteristics when people used email, conference calls or instant messaging. Taken together, these results suggest that media choice has an important consequence for individual and team behavior. We cannot establish causality with these results, that is we don’t know whether people who enjoy each other are also more likely to communicate by phone or whether people who communicate by phone come to enjoy each other more. Whatever the direction of causality, it suggests that media choice matters for individual and group behavior.

There are some obvious weaknesses in our study. First, we forced people to choose a single communication medium even though we know that people rarely use only one media type exclusively. Media multiplexity was supported in this study as well as by others. Thus it could be argued that any effect of media preference we might have established will be diluted when it comes to actual interactions. However, to our knowledge the relative weight or contribution of one media type over another has not been empirically established.

From a research perspective it can be argued that it is necessary to isolate the factors under study first to see whether there is any singular effect before embarking on the more complex analysis that can identify its relative contribution. To that end, this study was designed to go beyond media preference to explore the implications of preference on individual and team behaviors. Thus, we reported a correlation between preferred media type and how one is perceived such that people who prefer to communicate face to face or by phone are perceived by the people they communicate with as being more competent, more enjoyable to interact with and there is a higher level of awareness of their skills. We know from other studies that how one is perceived can influence how information gets shared and disseminated in an organization (Casciaro & Lobo, 2005). People who are perceived as “lovable” will be sought out for
information more than people who are “jerks” even though the latter may be more competent. If one’s preferred choice of media is also associated with perceptions of competency or enjoyment this can reinforce existing impressions and further limit information sharing.

Media preference can impact group as well as individual behavior. We found that teams with a higher level of face to face communication were aware of and enjoyed interactions with, more people in their team. This result is consistent with an earlier finding (Kiesler & Cummings, 2002) that more cohesive teams could better tolerate communication with less rich media such as email and suggests that rich media such as face to face is needed to establish that cohesion.

A second weakness of this study is its reliance on surveys. Clearly with a population of nearly 900 people it would have been difficult to collect the scale of data except with log or other electronic records. However, that approach would have seriously undermined our goal of comparing different media since it necessarily overly represents the electronic media, although there are some intriguing experiments in tracking the social networks of face to face conversations (Pentland, 2004).

One of the themes running through our results is the importance of face to face communication, with phone running a close second, especially in comparison with less rich media such as email. These results reinforce a wealth of research on the importance of face to face communication (Olson & Olson, 2000). As organizations become more distributed and communication amongst employees is more virtual and mediated by technology there is a danger of limiting opportunities for that kind of rich interaction. The hope is that hybrid technologies such as instant messaging can become a replacement or strong adjunct to face to face meetings. Unfortunately, the present study is rather mute on whether IM really can start to approximate the richer media.
One of our main findings is that relationships matter when it comes to communication and choice of communication tool. Fortunately, there is a new class of application emerging, including those which support user-generated tags and the relationships themselves. Even existing technologies implicitly or explicitly build on relationships. As organizations become even more distributed and virtual it will be important to build in opportunities for face to face interaction but there is also the promise that the newer emergent technologies will provide better and stronger representation of relationships and people in the virtual world.
Figure 1: Overall media preference as a function of tenure in the company.

Table 1: Overall media preferences across strong and weak ties (N = 695)

<table>
<thead>
<tr>
<th>Media Type</th>
<th>Mean (S.D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face to Face</td>
<td>0.78 (0.05)</td>
</tr>
<tr>
<td>IM</td>
<td>0.34 (0.03)</td>
</tr>
<tr>
<td>Email</td>
<td>0.85 (0.05)</td>
</tr>
<tr>
<td>Conference Call</td>
<td>0.46 (0.05)</td>
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</table>
Figure 2: Media preference across Tie strength, controlling for organizational tenure (N = 695)
Table 2: Correlations for location (same or different city) by media preference and tie strength (N = 695)

<table>
<thead>
<tr>
<th>Media Preference</th>
<th>Different City</th>
<th>Same City</th>
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</thead>
<tbody>
<tr>
<td>F2F</td>
<td>0.07</td>
<td>0.08</td>
</tr>
<tr>
<td>Phone</td>
<td>0.05</td>
<td>0.01</td>
</tr>
<tr>
<td>WEAK TIE</td>
<td></td>
<td></td>
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<tr>
<td>IM</td>
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<td>0.01</td>
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<tr>
<td>Email</td>
<td>0.09</td>
<td>0.04</td>
</tr>
<tr>
<td>ConfCall</td>
<td>0.03</td>
<td>0.01</td>
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<tr>
<td>STRONG TIE</td>
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<tr>
<td>ConfCall</td>
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<td>0.03</td>
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</table>

* p < 0.05
Table 3: Correlations between media preference and perception of awareness, competency and enjoyment for strong ties (N = 695)

<table>
<thead>
<tr>
<th></th>
<th>Aware</th>
<th>Competent</th>
<th>Enjoy</th>
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</thead>
<tbody>
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REFERENCES


