OUT OF REACH AND OUT OF TOUCH: DIFFERENCES IN SOCIAL AWARENESS BETWEEN AND WITHIN COLLOCATED AND VIRTUAL TEAMS

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ABSTRACT
Virtual teams are gaining traction in the business community, however they present many limitations that can negatively affect empathy and social awareness compared to collocated teams. This paper reports an empirical investigation into differences in team member perceptions of social awareness in collocated and virtual teams. Members of virtual and collocated decision making teams completed the social awareness items from the Emotional Competency Inventory (ECI; Boyatzis & Goleman, 2007). There were significant differences in self perceptions of empathy and social awareness in members of collocated and virtual teams. There were significant differences in the team member perceptions of other team members in empathy, organizational awareness, service orientation and social awareness. There were also significant differences in perceptions of how members see themselves versus how their team members see them on these dimensions. These findings have significant implications for the ability of virtual teams to form and function effectively in comparison with collocated teams.

INTRODUCTION
Interpersonal skills are arguably one of the most important skills for people in the workplace today. Social capital, defined as the social skills and personality features that allow individuals to increase their outcomes through interaction with others, is seen as a strong source of competitive advantage in organizations (Glaeser, Laibson, & Sacerdote, 2002). Many researchers have found strong ties between interpersonal skills and career success (e.g., Putnam, 2000; Seibert, Kraimer, & Liden, 2001). These skills are made all the more important by the use of teams in the modern organization.

Beyond the basic advantages of interpersonal skills, the contemporary shift from hierarchical organizational structures to flat structures reliant on team based workgroups increases the importance of being able to work closely and effectively with others. A step beyond simply using teams for their inherent advantages, advances in computer technology and use of the internet to connect people have enabled the common use of virtual teams (VTs) in the workplace. One view of VTs is that the ability to form teams based on expertise rather than geography can make them more effective at task performance

than collocated teams (Lipnack & Stamps, 1997). This reasoning is consistent with findings from the group decision making literature regarding enhanced group performance based upon enhanced access to expertise and individual knowledge (e.g., Lorge & Solomon, 1955). However, there is also a history of findings suggesting that even teams with the best resources can fail to use them if negative social processes prevail (e.g., Janis, 1982; Kerr, MacCoun, & Kramer, 1996a).

Interpersonal processes and skills of group members may create the defining difference between successful and unsuccessful groups when both have equivalent access to expertise (Kerr, MacCoun, & Kramer, 1996b). The ability of VTs and collocated teams to maintain positive qualities of interpersonal processes is dependent in part upon the levels of social awareness present in team members. In VTs, this contingency is more important as the basic mechanisms for developing positive interpersonal processes (e.g., trust) are more fettered by means and frequency of communication than they are in collocated teams (Lipnack & Stamps, 1997).

Researchers have found that VT communication can lead to decreases in team effectiveness (Baltes, Dickson, Sherman, Bauer, and Laganke 2002). Benbunan-Fich, Hiltz, and Turoff (2002) found that anonymity in VTs increases hostile behavior and extreme decision making. These researchers and others (Branson, Moe & sung, 2005; Branson & Sung, 2004) have found that asynchronous VT groups spent more time and energy on solving their general disagreements than solving their problem tasks. Branson Clausen and sung (2008) discovered that collocated teams were more likely to form constructively styled teams, while VTs were less likely and therefore more likely to form passive/defensive or aggressive/defensive teams. They concluded that VTs were less able to gather social intelligence (e.g., non-verbal communication cues) and were less capable of accurately assessing and managing their emotional and social relationships. It is evident that without strong underpinnings of social awareness in VTs, they are doomed to poor performance regardless of their potential advantages in member selection and information processing.

THE PRESENT RESEARCH
To examine the differences between the social awareness of collocated and VTs, we selected the Emotional Competency Inventory (ECI) as a reliable and valid measure of the emotional and social intelligences needed to interact successfully with others in a team environment (Boyatzis & Goleman, 2007). The ECI measures 21 different competencies relevant to interpersonal processes and perception in four basic clusters: Self-Awareness, Self-Management, Social Awareness, and Relationship Management. These measures are self-reported items wherein raters are asked to give the frequency with which they and others engaged in 63 different behaviors (e.g., "I offer feedback to improve another person's performance," "I listen attentively to others," etc.) on a scale of 1 (Never) to 5 (Consistently). These scores are then aggregated by group to form indices of not only individual emotional competence, but also others perception of their emotional competence and their aggregated perception of their group's emotional competence. We focused specifically on aggregated Social Awareness as well as the subset of characteristics that comprise it, including Empathy, Organizational Awareness, and Service Orientation as the consequential characteristics that could be undermined by the virtual environment. These characteristics are indicative of individuals' ability to accurately assess the moods and emotional responses of others, (Empathy), understand the power, culture, and politics of key relationships (Organizational Awareness), and match their own behaviors and availability to others' needs (Service Orientation); and would therefore present special difficulties in an environment wherein access to information about others' emotional states and reactions to one's behavior is highly limited. The ECI is well suited to studying interpersonal perceptions in groups as it engages the individual in assessing themselves, as well as the other members of their group in assessing them, providing the opportunity to directly compare an individual's self-perception with how others in the group perceive the individual. To study the differences in social awareness between VTs and collocated teams while maintaining a degree of matching control for individual differences, a mixed-repeated measures design was used. The

same participants were placed in collocated teams as well as VTs while the membership between the two groups was otherwise completely different. This allowed us to compare not only what team members thought of an individual between VT and collocated team experiences, but also how individuals thought of themselves between these paradigms. The VT members were selected so they were geographically separated to prevent contamination of the process by face to face interaction.

Collocated and VTs were taken from a senior level Managerial Accounting course, and were performing cognitive/logical type decision making tasks in the form of a performance appraisal case and a budgeting case respectively. Each participant was a part of a collocated team as well as a VT. Following completion of the first team activity, participants completed the ECI social awareness items both for rating themselves and rating the other members of their team, then the second team task followed by social awareness ratings for themselves and the other members of this second team.

The hypotheses guiding this research are as follow:

> H1: It is hypothesized that the Social Awareness of participants will be perceived as lower by members of that participant's VT than members of their collocated team
>
> H2: Social Awareness of participants will be perceived as lower by members of those participants' VTs than by the individuals themselves in relation to those VTs
>
> H3: The Social Awareness of participants will be perceived similarly (no statistical difference) by members of their collocated teams and the individuals themselves in those collocated teams

It is unknown whether individual's self perceived social awareness may change as a function of membership in a VT versus a collocated team; however there is some basis to anticipate differential perception. Bem (1967) suggests that often our perception of our internal states is reliant upon self observation of our own behaviors. In the case of a VT, one might have lower frequencies of socially intelligent behaviors to self perceive, and therefore might rate themselves as less socially aware in such groups.

PARTICIPANT DEMOGRAPHICS

Participants were 72 undergraduate students (43 Female, 29 Male) from the main and satellite campuses of a small Midwestern university. Participation was completed via the instructional components (case analyses) in a senior level Managerial Accounting course. Their M work experience = 10 years, and their M age = 30 years. Participants were combined into 24 VTs and 22 collocated teams.

RESULTS

ECI scores were calculated for each dimension of the Social Awareness cluster for individual participants' self-perception in both their collocated and VTs (SELF-CT and SELF-VT), and the aggregate of other group members' perceptions of the individual in both their collocated and VTs (OTHER-CT and OTHER-VT). These scores were then used to calculate difference scores between Self and Other (for both CT and VT), Other-CT and Other-VT, and Self-CT and Self-VT within each of the dimensions of Social Awareness as well as the aggregated Social Awareness, as well as to make pairwise t-test comparisons using SAS. These dimensional scores and an aggregated Social Awareness score (the sum of Empathy, Organizational Awareness, and Service Orientation) were then compared to test Hypothesis 1: that individuals' social awareness will be perceived as lower by members of their VTs than members of their collocated teams. The results of these comparisons are seen in Table 1 below.

Item	M Other-CT	M Other-VT	M Difference	Std. Err	t	p
Empathy	4.01	3.29	0.72	0.12	6.28	**<0.01**
Organizational Awareness	3.74	3.32	0.42	0.10	4.21	**<0.01**
Service Orientation	4.01	3.45	0.56	0.12	4.57	**<0.01**
Social Awareness	11.76	10.05	1.71	0.30	5.72	**<0.01**
Table 1. Others-CT vs. Others-VT						

The perception of others in collocated teams was that individuals possessed significantly higher levels of Empathy, Organizational Awareness, Service Orientation, and Social Awareness.

Scores were also compared between self ratings on VTs (SELF-VT) and the ratings of others on those same VTs (OTHER-VT) to test Hypothesis 2: that individuals' social awareness will be perceived as lower by members of their VTs than by the individuals themselves. The results of these comparisons are seen in Table 2 below.

Item	M Self-VT	M Others-VT	M Difference	Std. Err	t	p
Empathy	3.83	3.29	0.55	0.12	4.50	**<0.01**
Organizational Awareness	3.59	3.32	0.27	0.11	2.45	**0.02**
Service Orientation	3.98	3.45	0.53	0.12	4.41	**<0.01**
Social Awareness	11.41	10.05	1.36	0.30	4.54	**<0.01**
Table 2. Self-VT vs. Others-VT						

The other members of VTs perceived individuals' social awareness as significantly lower than they self-perceived on all dimensions.

Lastly, scores were compared between individuals' self-ratings of social awareness in VTs and their self-ratings of social awareness on collocated teams. It was not known whether individuals' self-perception would differ between these two conditions. However, as can be seen in Table 3 below, individuals' self-perception significantly differed between the two conditions on the dimensions of Empathy and aggregated Social Awareness. Individuals' perceived themselves as significantly less empathetic and socially aware in VTs than in their collocated teams.

Item	M Self-CT	M Self-VT	M Difference	Std. Err	t	p
Empathy	4.01	3.83	0.18	0.07	2.64	**0.01**
Organizational Awareness	3.75	3.59	0.16	0.09	1.86	0.07
Service Orientation	4.08	3.98	0.10	0.07	1.47	0.15
Social Awareness	11.85	11.41	0.44	0.18	2.50	**0.01**
Table 3. Self-CT vs. Self-VT						

While these individuals also perceived themselves as lower in Organizational Awareness and Service Orientation according to raw means, the differences were not statistically significant (though Organizational Awareness was marginal).

Conclusion

Based upon this investigation of self and other perception of social awareness in VTs and collocated teams, individuals are perceived as significantly less socially aware in VTs than they are in collocated teams. Whether this is due to a paucity of information sampling (based on lower levels of interpersonal interaction) by team members or an actual degradation in the individuals' own manifested social awareness is unknown, but relatively unimportant. Whether the individual is in possession of greater social awareness than suggested by the ratings of others, the only individual those others interact with is the individual they perceive. As individuals are perceived as less socially aware by others in their VTs, they will be treated as such and interactions will likely degrade on this basis compared with collocated teams as suggested by the self-fulfilling prophecy effect (e.g., Gueguen, Lourel, Charron, Fischer-Lokou, & Lamy, 2009).

Individuals are also likely to differ significantly in their self-perception and the perceptions of their VT members, as evidenced by the significantly lower perception of individuals' social awareness by VT members than the individuals themselves. This suggests that even when we perceive ourselves interacting

successfully in VTs, we may not have an accurate gauge of how others perceive us; perhaps due to the limited communication paths available to us (Lipnack & Stamps, 1997). This sort of "unawareness" effect, wherein an individual misestimates their likely success based on a lack of accurately perceived feedback, has been evidenced in other arenas wherein accurate self-perception is prohibited by lack of experience or understanding of feedback (Kruger & Mueller, 2002). It is something that all members of VTs need to be made firmly aware of to prevent degradation of interactions through misinformed choice and behavior (e.g., mistakenly joking lightheartedly with someone who is angry at you). In addition, this finding is important to managing VTs because as Jordon and Ashkanasy (2006) found, high emotional self-awareness predicts team effectiveness, and team performance. Individuals that are high on self awareness are those with low difference scores between self and peer assessment. Our research adds to this literature by identifying additional barriers to accurate self and peer assessment specific to the VT environment. Understanding the limitations of VTs is essential to improve VT effectiveness and performance.

One of the most interesting findings of this study was the significant difference between how individuals perceived *themselves* in VTs as opposed to collocated teams. Bem (1967) suggests that often our self-perception of our own ambiguous internal states (e.g., how much we empathize with another person) is based on empirical observation of our own behaviors and inference from them. Under such a model, if we exhibit fewer interpersonally empathetic or socially aware behaviors in one setting (VTs) than another (collocated teams), we would be likely to perceive ourselves as less empathetic and socially aware in those settings. In fact, research has found that individuals who have an easy time recalling themselves behaving in ways relevant to a personality characteristic (e.g., recently behaving empathetically in a team) often adjust their estimation of their own possession of that characteristic to fit the recall based evidence (Schwarz et al., 1991).

Further research is needed to clarify the causal elements in these differential perceptions and to further explore their direct effect on team function, however some important conclusions may be drawn from even this limited investigation. When participating in a VT, one must take extra care to engage with that team in a socially intelligent fashion: maintaining an awareness of others' perceptions and emotional responses to oneself and others, communicating these and other elements clearly to team members, and providing and attending to additional interpersonal cues to fill in the void left by the more limited forms of interaction (Lipnack & Stamps, 1997). We must all be aware that others' perceptions of us may differ from even our own perceptions of ourselves, and avoid the pitfalls this may lead to in VTs.

As suggested in Branson Clausen and Sung (2008), it appears the shortage of social awareness and social cues in VTs may play a pivotal role in VT members not forming the trusting, productive relationships necessary to form constructive styled teams. In short, VTs hold worlds of promise in their ability to gather expertise and skill from across the globe. It is up to us as members and managers of these teams to ensure that these resources are recognized and appropriately utilized in VT environments and beyond.

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