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## Stress and Coping Due to Global Virtual Teamwork

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STRESS AND COPING DUE TO GLOBAL VIRTUAL TEAMWORK

A Thesis

Presented to

The Faculty of the Department of Psychology

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

Irina A. Shargo

August 2010

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The Designated Thesis Committee Approves the Thesis Titled

STRESS AND COPING DUE TO GLOBAL VIRTUAL TEAMWORK

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## ABSTRACT

### STRESS AND COPING DUE TO GLOBAL VIRTUAL TEAMWORK

by Irina A. Shargo

Global virtual teams (GVTs), project teams composed of individuals working across time and space via electronic platforms, are becoming increasingly commonplace in most organizations today and in global organizations specifically. The aim of this study was to explore issues employees experienced when working virtually in GVTs in order to develop recommendations for addressing those issues and encouraging solutions to benefit the employees, teams, and organizations as a whole. This paper presents findings from 27 interviews on coping and strain reactions to participation in intercultural computer-mediated communication (CMC). Analyses of the qualitative data suggest that intercultural training were helpful in reducing miscommunication and strains or helping individuals to cope (e.g., using problem-focused coping) with strains, although analyses were not statistically significant. In addition to sample size, tenure, experience, and personality might also contribute to few reported negative emotions and the need to actively cope with intercultural CMC stressor. Implications of the findings are discussed.

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## INTRODUCTION

“A new trend in today’s global economy is the increased prevalence of virtual teams (VTs) – individuals collaborating in geographically dispersed work teams who may reside in different time zones and countries” (Horwitz, Bravington, & Silvis, 2006, p. 472). Virtual project teams in the fast-paced, information technology-driven 21st century represent a new organizational structure as a response to the need for high-quality, low-cost, rapid solutions to complex organizational problems. Teams enable organizations to pool the talents and expertise of employees by eliminating time and space barriers (Furst, Reeves, Rosen, & Blackburn, 2004). Overall, VTs provide organizations with unprecedented levels of flexibility and responsiveness (Powel, Piccoli, & Ives, 2004).

Virtual teams are almost a necessity when companies have subsidiaries worldwide or have some components of the organization outsourced to another country. Even in the same location, communicating with project team members is often through email. Although researchers noticed some time ago the need to improve the way people of different cultures communicate (Abe & Wiseman, 1983), the challenges of working in a virtual environment (specifically through internet platforms) have become more apparent in recent years.

This paper focuses on the challenges associated with virtual teams and uncovers some of the negative emotional responses (i.e., strains) that employees face as a result of engaging in intercultural virtual exchanges. More specifically, this paper focuses on individuals’ abilities to adapt to challenges presented in global virtual teams (GVTs). In

particular, I study the quality of interactions as a result of intercultural training, individuals' emotional responses to working in GVTs, and ways of coping with the demands of global virtual teamwork. These topics fit into the framework of stress as presented by the Conservation of Resources (COR) model (Hobfoll, 1989). This model posits that

people strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of these valued resources [which can be defined as] objects (e.g., car, home), personal characteristics, conditions (e.g., tenure, marriage) or energy (e.g., time, knowledge) that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions or energies (p. 516).

Training and, particularly for this study, intercultural communication training is an energy resource in that it provides a person with knowledge and skills on how to avoid and prevent strain associated with intercultural virtual communication (threat to resources).

Currently, there is little to no literature on the study of strains associated with intercultural virtual communication; therefore, this qualitative exploratory effort is important, especially if results will provide directions for guiding GVTs and future studies. Due to the many benefits associated with GVTs and the globalization of organizations, it is unlikely that organizations will cease their use of GVTs. Therefore, it is important to highlight problem areas (e.g., individual strains) associated with working on a GVT and follow it up with provision of some opportunities on how to address the

challenges. Strains have numerous detrimental effects to both the individual employee in terms of health and illness, as well as detrimental effects to the organization's effectiveness (Beehr & Glazer, 2001). Thus, this area of research is necessary in keeping both employees and organizations healthy and productive.

In the next section I review literature on stress (i.e., the stressor-strain relationship), followed by the process of communication and how miscommunication due to culture and virtual interactions can lead to stress. Benefits associated with intercultural communication training (i.e., learning to tailor communication, and using training as a coping tool to reduce strain) are also discussed in an effort to provide further support for COR model.

## LITERATURE REVIEW

### *Stress*

Broadly defined, stress refers to “a particular relationship between the person and environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (Lazarus & Folkman, 1984, p. 19). The stress process is best distinguished by two components, stressors and strains. Stressors are demands, constraints, opportunities, or challenges unique to an individual that may or may not lead to strain (Glazer, 2008). If a stimulus is perceived by an individual as a stressor and is not effectively coped with, strain (negative emotional, physiological, and/or behavioral responses) will result. Due to the subjective nature of stress, the same stressors will not result in strain in different people or even in the same person across time (Glazer). In addition to stressors and strains, the Transactional Model of Stress (Lazarus & Folkman) presents other variables in the “stress” process, including properties of the person (e.g., personality), properties of the environment (e.g., social support), and time/duration that influence the stressor-strain relationship.

### *Communication as a Stressor*

A team is a group of people that works together to achieve a common goal (Horwitz, 2005); communication is required for team members to coordinate their efforts in achieving a goal. Communication is defined as “the process by which two or more persons receive or acquire meaningful information” (Duronto, Nishida, & Nakayama, 2005, p. 251). Communication requires both a sender of a message and receiver of that message (Li, 1999). Senders encode a message and receivers decode it. As

communication is filtered by both parties, there are multiple ways (e.g., verbal and non-verbal nuances) in which communication can breakdown (Molinsky, Krabbenhoft, Ambady, & Choi, 2005). With numerous possible causes for communication breakdowns, it is easy to see how individuals may perceive a communication as a stressor. Miscommunication occurs when the receiver of the communication interprets the information differently than what the sender of the communication meant (O’Kane & Hargie, 2007). It can also occur when the sender encodes a message ineffectively.

### *Intercultural Communication*

In addition to the challenges associated with general communication, culture can add another layer of complexity. Culture is a “social legacy an individual acquires from his/her group” (Lambert & Meyers, 1992, p. 15). It reflects shared meaning, values, beliefs, norms, symbols, and attitudes of a group of people within a social group (Glazer & Beehr, 2002). Therefore, culture influences individuals’ affect, behaviors, and cognitions, including the way people perceive/experience emotions (Bagozzi, Verbeke, & Gavino, 2003; Glazer, 2008; Mesquita, 2001; Scherer & Wallbott, 1994), how they make assumptions that affect their behavior (Humes & Reilly, 2008), how they communicate (Jarvenpaa & Leidner, 1999), including nonverbal communication, such as body language, eye contact, and touching (Lambert & Meyers).

Intercultural communication is susceptible to misunderstandings (Chen, Tjosvold, & Fang, 2005). Hofstede (2001) provides some insight into the differences between cultures that extend to differences in how people communicate to cause communication misunderstandings. According to Hofstede, cultures differ along four cultural

dimensions, including collectivism/individualism, masculinity/femininity, power distance, and uncertainty avoidance. Numerous studies have shown how these cultural dimensions relate to intercultural communication (Brew & Cairns, 2004; Singelis & Brown, 1995). Adair and Brett (2005) studied negotiation behaviors between American and Japanese participants differed in terms of context: American negotiators communicate much more directly (low context) than do Japanese negotiators (high context). Low context communication places low importance on unspoken signals and is direct and explicit in communication and is usually found in Individualistic cultures, whereas high context communication emphasizes how things are said rather than what is actually said and is usually found in Collectivistic cultures (Triandis, 1994).

Offermann and Hellmann (1997) found that a culture's orientation on power distance (i.e., the extent to which a culture accepts uneven distribution of power and where relationships are more reserved and distant) translates into differences in communication. Participants from low power distance cultures were much more likely to approach their leaders for help and were less formal in their communication than participants from high power distance countries. Although these studies (Adair & Brett, 2005; Offermann & Hellmann) examined face-to-face (F2F) communication, it is important to keep in mind that these cultural differences can transcend into differences in how people of different cultures communicate online (Pfeil, Zaphiris, & Ang, 2006).

When people are unaware of how to properly communicate with a person of another culture, anxiety and frustration are likely to result (Nishida, 1999). Gudykunst's (1993) Anxiety/Uncertainty Management (AUM) Theory is the foundation for this

assumption; communication with strangers is usually characterized as such because a person does not have a lot of information about the other person with whom he/she is communicating which results in ambiguity. Ambiguity can lead to uncertainty, then to anxiety, and finally can result in ineffective communication (Arasaratnam & Doerfel, 2005; Duronto et al., 2005; Nishida, 1999). Duronto et al. found that Japanese students felt anxiety, uncertainty, and avoidance when meeting strangers of a different culture.

To alleviate intercultural communication as a stressor, Fujimoto, Bahen, Fermelis, and Härtel (2007) suggest that communication must be tailored to be effective; it is important for a writer to understand the other person's cultural uniqueness to effectively communicate. Lee (2004), in examining the written communication pattern of American and Chinese students, found that both are more likely to make direct requests of American teachers than Chinese teachers. This shows that when composing an email, writers modify their message to be in line with the receiver's culture. It follows that if communication is tailored to fit the cultural communication style of the recipient, there would be fewer perceived miscommunications. Thus, I expect that:

*Hypothesis 1:* People who tailor their communication to be culturally-appropriate will report fewer perceived communication-related misunderstandings than people who do not tailor their communication to be culturally appropriate.

#### *Computer-Mediated Communication (CMC)*

Computer-mediated communication refers to communication technologies (e.g., emails) that provide a medium by which people connect and exchange information with each other (Minkin, 2008). Misinterpretations of communications may be a problem

specific to CMC (i.e., email communication) where there is limited nonverbal and visuals that are otherwise found in F2F communication (Goleman, 2007). However, in virtual communication, lack of visual and social cues might help to expedite important decisions. For example, Hedlund (1998) in a study on hierarchical decision-making made by managers, shows that those in virtual teams made better choices because of the lack of visual and social cues (e.g., the confidence level of the advisee) than those in F2F teams; the author suggests that multiple modes of communication may be beneficial in the first stages of projects, but for the decision-making stages of the task, the team leader would benefit from a lack of visual and social cues. Lack of nonverbal and social cues also eliminates some cultural differences that get in the way of communication (e.g., accents), but can be more costly (i.e., time consuming) as the sender must be very conscientious of the receiver (by encoding the message carefully) and for the receiver to understand the message (decoding the message correctly) (Shachaf, 2005). Lack of visual and social cues and/or anonymity in CMC also decreases conformity when compared to F2F teams (Cinnirella & Green, 2007).

Despite the advantages associated with virtual communication, O’Kane and Hargie (2007) assert that intercultural email communication results in stressors, such as increased information overload, misinterpretation of tone, and avoidance of face-to-face contact. It can also create ambiguity about decision-making and task execution processes (Holton, 2001). Similarly, Kankanhalli, Tan, and Wei (2007) assert that virtual communication leads to information overload, which in turn results in numerous conflict episodes. Kankanhalli et al. suggest the problem is with lack of immediate feedback. In

addition, people still see the importance of F2F communication (Dubé & Robey, 2008) as it provides opportunities to clarify communication and engage in team building, including building an emotional connection with other team members (Holton). Given the costs and benefits of CMC, it is clear that having multiple modes of communication may be useful and that culturally preferred modes of communication needs to be available for team members (Malhotra, Majchrzak, & Rosen, 2007).

#### *Intercultural Communication Training and Tailoring*

Intercultural training is becoming more popular as organizations have employees all around the world who must work together (Ptak, Cooper, & Brislin, 1995). According to the model of Conservation of Resources (Hobfoll, 1989), training can be seen as an anticipatory effort by individuals to protect their resources; anticipatory loss of resources can be just as stressful as actual loss of resources (Hobfoll, 2002). Thus, training is a way to prevent strains caused by interacting virtually with people of different national cultures.

Little research has been done to focus on the content and the effects of intercultural training in terms of strains. Although only a few studies have been done on the effects of cultural training (Ptak et al., 1995), it can be concluded that employees who had received such training were more likely to tailor their communication (Anawati & Craig, 2006). Tailoring communication included the following strategies: limiting use of jargon and slang, using simple short words, keeping to the point, confirming understanding, being more descriptive, using lists, avoiding humor. These results seem to be generalizable across cultures as Anawati and Craig examined data on participants

who worked in 17 different countries and had spent their childhoods in 28 different countries.

As emails are a daily part of life for most business professionals, sometimes it is hard to remember if the person who is on the receiving end of the email is someone of a different culture. Perhaps these trainings remind employees to be more conscientious of that fact and that their cultural style of communication needs to be taken into consideration when interpreting the message. According to Ptak et al. (1995), cultural training specialists agree that such training should teach employees how to observe or recognize that others are culturally different and to change their behavior accordingly.

*Hypothesis 2:* People who have had intercultural training will more likely tailor their communication than those who have not received intercultural training.

#### *Training as a Coping Tool*

To provide support of the COR model for stress caused by actual loss of resources, Holahan, Holahan, Moos, and Cronkite (1999) conducted a longitudinal study over the course of 10 years measuring the link between life change, resources (e.g., family support, self-confidence), and depressive psychological symptoms (e.g., mood, features). Resource loss was positively related with depressive psychological symptoms and resources mediated the relationship between life events and depressive psychological symptoms. Chen, Westman, and Eden (2009) studied the strain-mitigation effects of training; employees that received an additional resources workshop in addition to technical training before an upcoming IT installation had higher satisfaction and lower exhaustion scores when compared to employees that just received the technical training.

These researchers demonstrated how anticipatory resource loss (i.e., not being sure if the new IT program will be successful) can cause strain if this fear of resource loss is not addressed (i.e., not having the resources training).

When feeling negative emotions (i.e., strain), individual differences emerge in how different individuals cope (Bunce, 1997). Some individuals take on a more effective, proactive approach (e.g., learn about the other person's culture, ask someone for help, enroll in training), whereas others take a more detrimental, reactive approach (e.g., quit their job, sabotage a project). Some individuals are so negatively affected by intercultural communication that they will actively sabotage business deals (Garfinkle, 2004). In a meta-analysis of expatriate research studies, not being able to adjust (i.e., cope) properly in a new environment led to job dissatisfaction, as well as intentions to quit an assignment before it was over (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005). In contrast, Bhaskar-Shrinivas and colleagues also found that adjustment positively related to better performance and relationship development with co-workers. In terms of coping, active coping styles (e.g., problem-focused coping) negatively relates with psychological strain, whereas avoidance (e.g., emotion-based coping) positively relates with psychological strain (Jex, Bliese, Buzzell, & Primeau, 2001). Intercultural communication training should provide individuals with a way to resolve communication-related misunderstandings in an effective way (i.e., use problem focused coping techniques).

*Hypothesis 3:* People who have had intercultural training versus people who have not had intercultural training will more likely engage in problem-focused coping than emotional-based coping.

#### *Training Reduces Strains*

Inzana, Driskell, Salas, and Johnston (1996) provide further support for the beneficial effects of training in reducing strain. They examined the effects of preparatory information (e.g., sensory, procedural, or instrumental information) on performance of a stressful task and the stress reaction to the task. In completing a computer-based decision task, those who received preparatory information (vs. the group that received just general information) performed better on the decision tasks and reported less strain (e.g., tension, nervousness, anxiety). Thus, the last hypothesis in this study is that:

*Hypothesis 4:* People who have had intercultural communication training will report fewer negative emotions (e.g., strains) as a result of a miscommunication between themselves and others who are culturally different from them when compared to employees who have not received training.

In this study, I set out to discover (a) the challenges employees face when having to engage in CMC with people of different national cultures, (b) how they react to these challenges, and (c) if these challenges are mitigated by prior training and/or experience. In order to do this I interviewed individuals who work on projects that require intercultural computer-mediated communication. Below I describe the methodology used to gather data and plans for data analysis.

## METHOD

### *Participants*

To be a part of this research effort, participants had to either currently or in the past be in a job where they are/were involved in using computer-mediated-communication in order to communicate with persons of a different national culture than them. The author of this paper asked family and friends who fit these criteria if they would participate in this research effort; several of said family members and/or friends asked others that they knew who fit the criteria to participate as well.

Of the 27 participants interviewed, 12 were male and 15 were female. In terms ethnic identity, 17 were Caucasian/White/European/Canadian, 1 was Mexican/Hispanic, 3 Chinese, 3 were Indian/Hindu, 1 was Middle Eastern, and 2 were Caucasian/Filipino (see Table 1). Participants were not asked other demographic questions (e.g., age, number of years in the USA) or other distinguishing characteristics (e.g., tenure at present company) as the original goal was simply to discover strains associated with computer-mediated intercultural communication efforts. As for the industry of the participants, most were either in the high tech industry (e.g., engineers, managers, interns) or in the healthcare industry (managers, HR professionals).

Table 1

*Gender and Race/Ethnicity of Participants*

| Ethnicity                   | Male | Female | Total |
|-----------------------------|------|--------|-------|
| Caucasian/European/Canadian | 9    | 8      | 17    |
| Caucasian/Filipino          | 0    | 2      | 2     |
| Chinese American            | 0    | 3      | 3     |
| Hindu/Indian                | 2    | 1      | 3     |
| Latino/Hispanic/Mexican     | 1    | 0      | 1     |
| Middle Eastern              | 0    | 1      | 1     |
| Total                       | 12   | 15     | 27    |

*Procedure*

The author of this paper interviewed all 27 participants. For the first three interviews, the author had assistance from members from Dr. Sharon Glazer’s research team, taking notes while the interview was being conducted. However, to make the interview process easier, the subsequent 24 interviews were recorded by the author and then transcribed for analyses.

All of the questions in the interview schedule were asked, but all participants were told at the beginning of the interview that they had the right to skip any question that they

were not comfortable answering (Appendix B). The author asked follow-up questions to get clarification or for extra information when she felt it was appropriate.

### *Measures*

The research team developed the semi-structured interview questionnaire (see Appendix B) that was administered. This research effort is part of a larger research effort to examine the strains associated with intercultural virtual communication. After reading literature on various related topics (e.g., virtual environments, strain associated with teams, culturally heterogeneous teams), the research team came up with questions that addressed important topics to ask participants.

There were four focal questions for this study. The “training” variable was measured by the question “Have you ever had intercultural communication training” (yes/no). The tailoring variable was measured by the question “If you knew the person was culturally different than you, did you communicate differently than you usually do?” (yes/no). The “misunderstanding” variable was measured by the question “What misunderstanding did you feel you had, if any?”; miscommunication(s) was/were coded into a number that represented the number of misunderstandings the interviewee mentioned during the intercultural interaction. The “strains” variable was measured by the question “Name any emotions, positive or negative, that you felt as a result of the intercultural communication”; emotions felt as a result of the intercultural interaction were counted to represent the total number of emotions mentioned (synonyms such as “mad and “angry” were counted once per subject) and then were coded as either negative (strains) or positive. The “coping” variable was measured by the question “Name

something you have done since you had a negative intercultural interaction to deal with the negative feelings you had”; coping was coded into four categories; the technique(s) used was/were categorized (based off the categorization of behaviors presented by Herman & Tetrick, 2009, p. 78) as “problem-solving focused” coping, “emotion-focused” coping, a combination of the two, or neither because coping was not need after the intercultural interaction. The number of emotions felt (total and negative) and the style of coping used were coded by two additional coders to verify the open-ended responses ( $\kappa = 0.56$  for total number of emotions,  $\kappa = 0.68$  for number of negative emotions, and  $\kappa = 0.36$  for type of coping style; <0: no agreement, 0.0-0.20: slight agreement, 0.21-0.40: fair agreement, 0.41-.60: moderate agreement, 0.61-0.80: substantial agreement, 0.81-1.00: almost perfect agreement) (Fleiss, 1971); whenever there was a disagreement, there was a discussion until consensus was met.

## RESULTS

### *Descriptive Statistics*

Of the 27 participants, 15 (55.6%) had intercultural training while 12 did not (44.4%). Twelve (44.4%) out of the 27 indicated that they tailor their communication to be culturally appropriate, whereas 15 (55.6%) did not. The majority (22 participants) claimed they did not have any misunderstandings; three people mentioned one misunderstanding, one person named two misunderstandings, and one person mentioned three misunderstandings during his/her intercultural interaction ( $M = .30$ ). Although interviewees were asked to mention five (positive and/or negative) emotions they felt as a result of the intercultural interaction, on average only one emotion ( $M = 1.33$ ) was shared and that emotion was most often negative (strains) ( $M = 1.07$ ). Of the total emotions (positive or negative) mentioned, nine people did not experience any emotional responses due to the intercultural interaction, seven reported one emotion, five reported two, five reported three, and one reported four emotions. As for negative emotions felt (strain), nine people did not have any strains, ten mentioned feeling one strain, six mentioned two, one mentioned three, and one mentioned four strains. Eighteen participants reported negative emotions (strains); frustration was mentioned most ( $n = 13$ ) followed by irritation ( $n = 6$ ), and anger and anxiety next ( $n = 4$ ). Fear and confusion were each mentioned once. A few positive emotions were also mentioned, including confidence, resolve, sympathy, and humor. As for coping strategies, 13 interviewees used problem-solving focused coping (e.g., learning about cultures, discussing the misunderstanding with his/her team member, seeking support from other people), three people used a

combination of problem- and emotion-based coping (e.g., stepping away from the situation, trying to limit contact with the other person) and 11 people did not mention any coping strategies because they did not feel that the intercultural interaction they had required any coping.

Table 2 displays correlations among the five variables examined in this study. Most notably, there is a strong correlation between the total number of emotions mentioned and the number of negative emotions (strains) ( $r = .91$ ); thus, most interviewees did not have positive emotions as a result of the intercultural interaction. Number of misunderstandings correlated moderately with both total number of emotions mentioned ( $r = .53$ ) and negative emotions (strains) mentioned ( $r = .64$ ); thus the higher the number of misunderstandings, the higher the number of total emotions mentioned, and the higher the number of negative emotions (strains) mentioned.

Table 2

*Percentages, Means, Standard Deviations, and Correlations*

|                      | %  | Mean | SD   | 1     | 2      | 3     | 4      |
|----------------------|----|------|------|-------|--------|-------|--------|
| 1. Training (Yes)    | 56 | -    | -    |       |        |       |        |
| 2. Miscommunications | -  | 0.30 | 0.51 | -0.06 |        |       |        |
| 3. Tailoring (Yes)   | 44 | -    | -    | 0.05  | -.15   |       |        |
| 4. Emotions (total)  | -  | 1.33 | 1.24 | 0.12  | 0.53** | -0.31 |        |
| 5. Strains           | -  | 1.07 | 1.04 | 0.16  | 0.64** | -0.30 | 0.91** |

\*\*  $p < .001$

### *Hypothesis Testing*

Hypothesis 1 stated that people who tailor their communication to be culturally appropriate will report fewer perceived communication-related misunderstandings than people who do not tailor their communication to be culturally appropriate. To test this hypothesis, a test of group differences (*t*-test) was performed to measure if there were group differences in the number of misunderstandings reported by people who tailored communication and those who did not. There was no significant difference in the number of miscommunications reported by interviewees who did tailor ( $M = .42$ ) their communication and those who did not ( $M = .20$ ) ( $t(25) = 0.77, p > .05$ ) (see Table 3).

Table 3

#### *Tailoring and Miscommunication (Hypothesis 1)*

| Tailoring | <i>N</i> | <i>M</i> | <i>SD</i> | <i>t</i> |
|-----------|----------|----------|-----------|----------|
| Yes       | 12       | 0.42     | 0.90      | 0.77     |
| No        | 15       | 0.20     | 0.56      |          |

Hypothesis 2 stated that people who have had intercultural training will more likely tailor their communication than those who have not received intercultural training. To assess the effect of training on tailoring, a Chi-squared analysis was performed. People who had training (55.6%) did not tailor significantly more than those who had not had training (44.4%) ( $\chi^2(1) = .07, p > .05$ ; see Table 4). Thus, Hypothesis 2 was not supported.

Table 4  
*Training and Tailoring (Hypothesis 2)*

|          |     | Tailoring |           | $\chi^2 (1)$ |
|----------|-----|-----------|-----------|--------------|
|          |     | Yes       | No        |              |
| Training | Yes | 7(46.7%)  | 8 (53.3%) | 0.07         |
|          | No  | 5 (41.7%) | 7 (58.3%) |              |

Hypothesis 3 proposed that people who had intercultural training versus people who have not had intercultural training will more likely engage in problem-focused coping than emotion-based coping. To assess the effect of training on coping, a Chi-squared analysis was performed. Though the hypothesis originally was intended to look at differences in problem-focused and emotion-focused coping, coding the responses presented a challenge: no interviewees used strategies that could be classified as purely emotion-focused coping. Instead, interviewees clustered into three groups: 1) those who used problem-focused coping techniques, 2) those who used a combination of problem-focused and emotion-focused coping techniques, and 3) those who did not need to use a coping technique simply because they did not see their intercultural interaction as negative and therefore did not need to cope. Analyses showed no significant difference between people who had training and those who did not on how they coped with the intercultural interaction ( $\chi^2(2) = .80, p > .05$ ) (Table 5).

Table 5

*Training and Coping (Hypothesis 3)*

|          |     | Coping          |                 |             |           | $\chi^2(2)$ |
|----------|-----|-----------------|-----------------|-------------|-----------|-------------|
|          |     | Problem-focused | Emotion-focused | Combination | N/A       |             |
|          |     |                 |                 |             |           | 0.80        |
| Training | Yes | 8 (53.3%)       | 0 (0%)          | 1 (6.7%)    | 6 (40.0%) |             |
|          | No  | 5 (41.7%)       | 0 (0%)          | 2 (16.7%)   | 5 (41.7%) |             |

Hypothesis 4 stated that people who have had intercultural communication training would report fewer negative emotions (e.g., strains) as a result of a miscommunication between themselves and others who are culturally different from them when compared to employees who have not received training. People who had training did not differ significantly (i.e., they did not have fewer negative emotions) from people who did not have training ( $t(25) = 1.58, p > .05$ ; Table 6). Thus, hypothesis 4 was not supported.

Table 6

*Training and Strains (Hypothesis 4)*

| Training | <i>N</i> | <i>M</i> | <i>SD</i> | <i>t</i> |
|----------|----------|----------|-----------|----------|
| Yes      | 15       | 0.80     | 0.86      | 1.58     |
| No       | 12       | 1.42     | 1.17      |          |

## DISCUSSION

### *Summary of Findings*

The goal of this paper was to focus on the challenges associated with virtual teams and to discover negative emotional responses (i.e., strains) that employees face as a result of engaging in intercultural virtual exchanges and how they cope with these exchanges. Specifically, I wanted to examine the quality of interactions as a result of intercultural training, individuals' emotional responses to working in GVTs, and ways of coping with the demands of GVT teamwork per the assumptions of the model of Conservation of Resources (COR).

Hypothesis 1 stated that people who tailor their communication to be culturally-appropriate will report fewer perceived communication-related misunderstandings than people who do not tailor their communication to be culturally appropriate. There might be several reasons why this hypothesis was not supported: people may simply not tailor because they believed they had not had a misunderstanding and thus may not see a need to tailor their communication. Another reason may be because the vast majority of the respondents (22 out of 27) mentioned no misunderstandings at all, thus the number of respondents who actually mentioned misunderstandings were few (5) and significance may not have been reached due to sample size. In addition, the word "misunderstanding" may have been interpreted differently by respondents. Perhaps a more detailed question and a definition of a misunderstanding would have helped (e.g., was the communication effective in terms of compliance, successful completion of the task).

Hypothesis 2 stated that people who have had intercultural training will more

likely tailor their communication than those who have not received intercultural training. Overall, this sample of respondents did not tailor their communication: of the 15 that had training, eight did not tailor; of the 12 that did not have training, seven did not tailor. It may be that the training a particular respondent received was ineffective or did not encourage tailoring communication. Or perhaps despite training, there was resistance to changing communication styles or individuals felt no need to change communication styles because the current way of communicating seemed to be working well enough. Many respondents did mention that they had found a “right” way of writing emails that seemed to work well with all cultures: bulleting items, keeping sentences simple, and checking for understand were common themes in these universal-type emails. Such tailoring rules were also described in Anawati and Craig (2006).

Hypothesis 3 stated that people who have had intercultural training versus people who had not have intercultural training will more likely engage in problem-focused coping than emotion-based coping. Again, as more than half of the respondents did not feel any miscommunications occurred, coping was not necessary for them. In addition, how one interprets a stressor will affect strain and thus coping. If a person does not perceive an interaction as stressful, he/she will not likely develop strain (Glazer, 2008).

Hypothesis 4 stated that people who have had intercultural communication training will report fewer negative emotions (e.g., strains) as a result of a miscommunication between themselves and others who are culturally different from them when compared to employees who have not received training. The 15 interviewees that had intercultural communication training reported almost twice as many negative

emotions ( $M = 1.42$ ) than the 12 who did not have intercultural communication training ( $M = .80$ ). While these differences are not significant, they might not be so only due to sample size. It is possible that the employees who had intercultural communication training were either more sensitive in picking up intercultural miscommunications or were more frustrated as result in communication breakdowns despite having gone through training and not being understood by the other party.

### *Implications for the Workplace*

Although none of the study's hypotheses were supported, participant interviews revealed some interesting information that can be beneficial for companies and understand. Especially notable is how different people view intercultural CMC. Despite living in a highly diverse part of the country and state, four people mentioned how difficult they find communicating with people of a different national culture. One participant said, "Sometimes I just really need to get away and take a break because it can be so taxing and difficult." In contrast, seven mentioned how intercultural CMC is something that they are so used to that they do not even notice it anymore; four mentioned that they enjoy interacting with people who are culturally different than they are because they enjoy learning about other cultures. One participant said, "I see this as an opportunity to learn and I really enjoy it because I pride myself on being culturally sensitive." Asking participants about coping also elicited a wide range of responses: three people said they engaged in physical exercise to blow off steam, and seven mentioned counting on social support from family, friends, and/or others whom they felt they could discuss cultural issues (e.g., the correct ways of communicating, how to be

culturally sensitive when discussing issues in communication). Finally, seven interviewees said they did not understand why emotional reactions should be a part of the equation. Three said that this is a job and that it does not stress them because they just do not take it personally. Cumulatively, this indicates to organizations that they should realize that their employees are likely to be very different in how they perceive intercultural CMC and thus might want to tailor training, departments, and work teams accordingly.

Although no specific questions were asked during the interview and therefore no formal analyses were conducted, there seemed to be several patterns of responses. People who seemed to be passionate about their jobs and happy with their organization did not voice as many concerns or problems as those who did not. Also, it seems that older employees (both age and tenure) tended to mention that they really couldn't think of any miscommunications they had had recently and struggled to come up with something. Most tenured employees mentioned that they learned with time how to communicate well. For some ( $n = 12$ ), it was tailoring their communication specifically to the recipient's culture, and others ( $n = 10$ ) mentioned finding a uniform way of sending out emails that seemed to work across cultures. The remaining five participants said they tailored based on the recipient's personality rather than their cultural background. In addition, eight participants mentioned that developing a relationship that goes beyond work helps smooth over communication; people feel more comfortable with one another over time and experiences and communication should get easier. This may provide some credence to the COR model as experience over time can be seen as a resource in coping

with intercultural computer-mediated communication. Thus companies can do several things to capitalize on this knowledge, such as instituting buddy programs for newer employees who can learn from experienced employees how to handle intercultural CMC. Another possibility would be to hold company-wide events outside of work for employees to build relationships with each other and feel more comfortable.

### *Strengths and Limitations*

A major strength of the present research effort is that the data were qualitative, and therefore it was possible to ask follow-up questions to better understand the interviewees' points of view and experiences. Another strength of the present research effort is that the individuals interviewed were professionals in the field that experienced intercultural CMC on a daily basis; thus, information gathered is more realistic than if a student pool of participants was used.

As with any research, there were limitations to this study. One limitation is that some interviewees may have felt uncomfortable sharing information about intercultural interactions and thus may have under-reported the number of miscommunications and strains that they had as a result of the intercultural interaction. This, in turn, could have led to non-significant findings of the effects of intercultural training and tailoring of miscommunications and strains. A small sample size might also explain why there were no significant findings: most of the differences observed in the hypotheses were as predicted but they failed to reach significance (potentially due to the sample size that included a total 27 participants). Another limitation is that specific questions were not asked about the training; based on the literature, it was assumed that intercultural

communication training encourages tailoring, but this may have not been the case for some participants. In addition, participants' perception of how effective the training was in providing them with the necessary tools to engage in intercultural communication may have also been important to ask as this paper proposed that training would be a resource that participants can use to cope with the challenges associated with intercultural communication. Also, no data on how long the interviewee had been working and how long he/she had been working with the same group of people were gathered. Eight interviewees mentioned that spending more time with certain people helped to build a personal relationship, which in turn helped communication; this may have been an important question not considered for this preliminary study. One person said "It used to bother me but when you have been around as long as I have, you learn how to do things better." Research (Nibler & Harris, 2003) has shown that having a personal relationship helps communication. Perhaps having a personal relationship reduces anxiety and uncertainty which leads to more sharing of ideas and better performance which is in keeping with AUM theory (Gudykunst, 1993). In addition, no questions assessed personality traits (e.g., the Big 5) and/or characteristics of the interviewee (e.g., intercultural sensitivity), which may affect how people perceive intercultural communication. Expatriate research may be particularly applicable as expatriate employees usually go to work in groups in a country that is very culturally different than their own. Research has identified characteristics of an individual that lend themselves to an effective expatriate assignment: expatriates that were emotionally stable, high on agreeableness and openness to experience, outgoing, and cross-culturally competent were

better adjusted and had higher levels of performance (Shaffer, Harrison, Gregersen, Black, & Ferzandi, 2006). Cultural competence may also be important. A study of international humanitarian workers identified three levels of competence: peripheral (encounter and recognize), cognitive (familiarize and adjust), and reflective (transform and enlighten), with those at the reflective level reporting a more successful experience (Chang, 2007).

#### *Directions for Future Research*

Future research should address the limitations of this study. More attention should be paid to gathering demographics of the interviewees, including personality, tenure, and intercultural sensitivity. Such variables might explain how a person views an intercultural interaction. With these findings, it would then be possible for companies to employ several types of training programs and/or pick individuals to work well together in a work group.

While research at the individual level is important, connecting individual level responses to work performance is important for organizations to maintain their worth in today's marketplace. Gathering quantitative information (e.g., ideas generated, products produced) about an intercultural interaction may also shed some light on the topic as research has been mixed on whether heterogeneous work groups outperform homogeneous ones (Chatman, Polzer, Barsade, & Neale, 1998; Horwitz and Horwitz, 2007; Jackson & Joshi, 2004).

## CONCLUSION

The purpose of the present study was to discover (a) the challenges employees face when having to engage in CMC with people of different national cultures, (b) how they react to these challenges, and (c) if these challenges are mitigated by prior training and/or experience. Individuals who work on projects that require intercultural computer-mediated communication were interviewed on topics such as intercultural communication training, tailoring when engaging in intercultural CMC, and strains and coping styles associated with intercultural CMC. While none of the hypotheses were statistically significant, this study demonstrates that there is a need and a place for cross-cultural CMC training, particularly early on in an individual's or first exposure to intercultural CMC.

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## APPENDIX: Participant Rights and Interview Questions

*First, thank you for coming. It is important that you know that participation in this interview is voluntary and you may withdraw at any time. Participating or withdrawing from the interview will not have any impact on your relationship with your organization or San Jose State University. The purpose of this interview is to understand how intercultural communication experiences have impacted your work in terms of performance, but more specifically in terms of job-related stress. You may reflect upon current or past experiences (i.e., experiences when you were employed in a different organization). This interview is expected to take 45-60 minutes. At the end of 45 minutes I will ask you if you would like to continue for another 15 minutes or prefer to stop. All information obtained from you and all other interviewees will be reviewed by the research team in order to develop a survey regarding intercultural communication experiences in relation to job-related stress. I would like to emphasize that information you provide will be held strictly confidential and no individual responses will be identified. Do you have any questions that I could answer for you at this time? At any point during the interview, you may choose to leave and you may also choose to not answer questions posed. Finally, you may ask me any questions pertaining to this interview at any time.*

### BACKGROUND

1. How would you describe your ethnicity and/or nationality?
2. How often do you communicate with people from a different national culture via:
  - a.) email
  - b.) phone calls
  - c.) conference meetings
  - d.) face to face
3. How often do you collaborate with persons in another country (of that national origin) via:
  - a.) email
  - b.) phone calls
  - c.) conference meetings
  - d.) face to face
4. Does your company offer any type of intercultural communication training? If you have gone to such training, how effective/relevant was it to your current position?

### EVENT RECALL

1. Please tell me about a time (the more recent, the better) when you had to communicate through email with someone who is culturally different than you (describe it). Please note that we are not asking you to state the other party's name.

2. What were the circumstances surrounding the communication (e.g., giving direction, receiving direction, clarification)
3. What is your professional relationship with that person (superior, coworker, subordinate)
4. How did you know that the person was culturally different from you?
5. If you knew that the person was culturally different than you, did you communicate differently than you usually do to?
6. What communication differences came up?
7. What misunderstandings do you feel you had (if any)?
8. What would you or do you do differently when you communicate with people from other cultures?

### EFFECTS

1. What are 5 emotions (positive or negative) that you felt as a result of the intercultural interaction?
  - a. Please rank the top 5 emotions (1 being the most prominent; regardless of if it was positive or negative)
2. Name something that you have done since you had a negative intercultural interaction to deal with the negative feelings you had (probe, learn more about that person's particular culture, get to know the person better, ignore them, limit contact with them, quit the job or project)
3. Did knowing that the person was culturally different from you make you more understanding of the negative effects of the communication?
4. What can your company do differently to facilitate better communication via:
  - a. email
  - b. phone calls
  - c. conference meetings
  - d. face to face
5. What recommendations can you make regarding communications with people from other cultures via:
  - e. email
  - f. phone calls
  - g. conference meetings
  - h. face to face

### COPING

1. How have you coped or dealt with a situation in which you could not understand what the communicator wanted, and you knew it was because of cultural style of writing?
2. Describe coping methods you have heard or witnessed co-workers use when they did not understand a communicator because of a difference in cultural style of writing?