

# On Relationship between Self-construal and Individual Behavior in Video-Mediated Multicultural Group Decision Making

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**Abstract.** The study of cultural difference is increasingly becoming important in the research of multicultural group work. Most of the existing literatures have focused on the national level of cultural difference (e.g., individualism or collectivism) to explore individual behavior and group performance. There have been few studies identifying the role of individual level of cultural variability (e.g., self-construal) in multicultural group work. This study investigates the relationship between (a) self-construal and individual participation, and (b) self-construal and individual decision change in video-mediated multicultural group decision making. In a laboratory experiment, forty-five participants coming from fourteen countries formed ten multicultural groups. Each group solved a preference decision-making task using a group videoconferencing system. The results indicated a negative relationship between interdependent self-construal and individual participation in video-mediated group decision making. The relationship between self-construal and decision change was not found. Recommendations on increasing the participation of highly interdependent members are proposed.

**Keywords:** culture, self-construal, group decision making, video-mediated communication, multicultural group.

## 1 Introduction

Globalization plays an important role in our society and in the business world today. People coming from different cultural backgrounds need to communicate, make decisions, and work together. However, people with different cultural backgrounds tend to vary in their styles of communication and decision making. The complex and challenging nature of multicultural group to practitioners has made it a continuous focus of academic research. One interesting question in the study of multicultural group is how cultural differences influence individual behavior in group work. Most of previous studies have used a general concept such as nationality or specific values

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such as Hofstede's cultural construct (1980) to explain the differences across cultures. They usually used groups of fixed cultural compositions, such as Asian-Caucasian (Li, Karakowsky, & Siegel, 1999), American-Japanese (Oetzel, 1998a, 1998b, 2001), and American-Chinese (Li, Rau, & Salvendy, in press; Zhang et al., 2007). However, most multicultural groups in organizations especially the globally distributed teams have no fixed cultural composition. In this situation, it is not appropriate to use nationality for analysis. Besides, Hofstede's cultural construct is a national level measurement of cultural difference. The requirement of the cultural dimension scale, the Values Survey Module, clearly states that the ideal size for a homogeneous sample is fifty respondents, and sample sizes smaller than twenty should not be used (Hofstede et al., 2008). Thus, for groups composed of people with mixed cultural backgrounds, it is difficult to have sufficient number of participants required for analysis if using Hofstede's construct.

To solve this problem, some researchers moved to look at the individual level of cultural variable when studying multicultural group. Oetzel and his colleges (1998a, 1998b, 2001) found that besides individualism-collectivism, self-construal as an individual level of cultural variable took an important role in culturally diverse groups. In addition, the recent work of Li et al. (in press) has revealed the important role of self-construal on group decision quality. They used five-person mixed American-Chinese groups to study group composition's effect on video-mediated group decision making. They found that besides the effect of group composition, the independent self-construal had a negative effect on group decision quality. They explained that groups composed of members with higher independent self-construal categorize self and others in a much stronger way, which consequently impedes the group interaction. The results of these studies indicate that the focus on individual level of cultural variable may provide us a new way to generate explanations in relation to an individual's attitudes, beliefs, and intentions in multicultural groups.

Thus, in this study, we consider how self-construal affects individual participation and decision change in multicultural group work. Video-mediated communication was used in this study because video-mediated groups have become more common in the workplace, especially for globally distributed teams, due to geographic constraints on group members from different countries. Besides, the study of intercultural collaboration in video-mediated settings represents an important theme in organizational research (Connaughton & Shuffler, 2007).

## **2 Literature Review**

### **2.1 The Concept of Self-Construal**

Markus and Kitayama (1991) first proposed the two distinctive views of the self: the independent self and the interdependent self. People with independent self-construal view themselves as unique individuals. In contrast, people with interdependent self-construal believe that they are connected to other group members. Later on, Cross, Bacon and Morris (2000) extended the work of Markus and Kitayama by proposing two forms of the interdependent self-construal. They argued that the specific form of

the interdependent self-construal may vary across people coming from individualist and collectivistic cultures. They proposed two forms of interdependent self-construal: the relationship-centered conception of interdependence, which emphasizes close relationships to others, and the group-oriented notion of interdependence, which focuses on relationships to in-groups. Integrating the views of previous researchers, Sedikides and Brewer (2001) differentiated among different views of the self and developed the scales to measure independent self-construal, relational-interdependent self-construal, and collective-interdependent self-construal.

## 2.2 Video-Mediated Communication

Video-mediated communication is currently being widely used for education and learning (e.g., distance learning), health and medicine (e.g., telemedicine), meetings and conferences (e.g., board meetings), personal communication and community building. Although video is a rich media than other electronic-mediated communication media (e.g., E-mail, instant messaging, and telephone), video-mediated communication does not offer the same benefits as face-to-face communication and it is not a seamless substitute for face-to-face communication (Ferran & Watts, 2008). On the one hand, it was found that mental workload is higher in the video-mediated condition than in the face-to-face condition (Ferran & Watts, 2008; Storck, 1995). In the video-mediated environment, it is difficult to maintain eye contact due to resolution limitations and the distance between the camera and the monitor, and it is challenging to interpret body language and gestures, especially as the number of participants increases (Wainfan & Davis, 2004). Thus, the discussion in video-mediated communication tends to be less social and more task-oriented than face-to-face communication (Isaacs & Tang, 1994; McLeod, 1992; Wainfan & Davis, 2004). On the other hand, results showed that compared to face-to-face groups, video-mediated groups take more time for turns, require fewer turns to complete the task, interrupt each other less, and are less satisfied (van der Kleij et al., 2004). Participants in the video-mediated groups feel a lack of “social presence” because the attenuation of visual signals, in particular direction and eye gaze in the video-mediated environment which helps in regulating turn-taking (Bruce, 1996).

## 3 Research Framework and Hypotheses

In this study, we want to explore the relationship between self-construal and individual behavior in video-mediated multicultural group decision making. The theoretical model is shown in Figure 1.

We predict that self-construal will influence an individual’s participation in group decision making. Individuals with highly independent self-construal tend to be more assertive and have a greater need to express themselves. In contrast, individuals with highly interdependent self-construal tend to value cooperation and relationship among group members. Moreover, compared with face-to-face communication, the video-mediated environment reduces turn taking and disruption during discussion, which

may consequently make individuals with highly independent self-construal participate more and individuals with highly interdependent self-construal participate less.

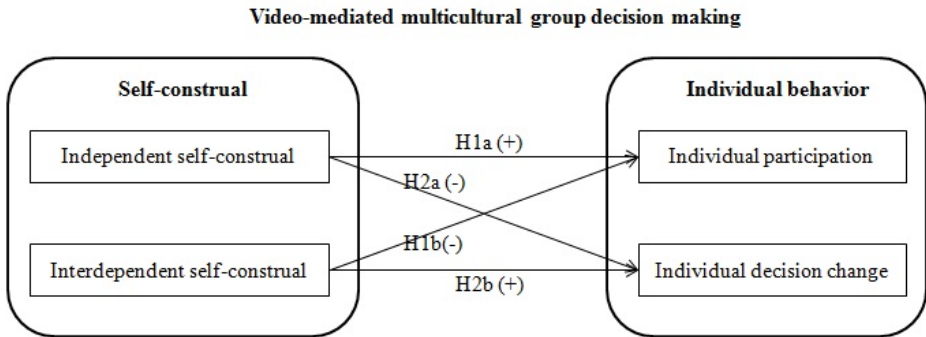
*Hypothesis 1a: The more independent one's self-construal is, the more one participates in video-mediated group decision making.*

*Hypothesis 1b: The more interdependent one's self-construal is, the less one participates in video-mediated group decision making.*

We also predict that self-construal will influence an individual's decision change in group decision making. Individuals with highly interdependent self-construal tend to be more relationship-oriented and motivated to sustain the harmony of the group. Thus, we predict that participants with interdependent self-construal are more likely to change their decisions to align with the decision of the group, especially when consensus is needed. In contrast, individuals with highly independent self-construal are more likely to insist on their own views when working with others. Furthermore, given that video-mediated communication tends to be more task-oriented, which may favor the outcome-oriented independent individuals, and thus the independent individuals might less likely to change their decision in group decision making.

*Hypothesis 2a: The more independent one's self-construal is, the less likely one is to change his or her decisions to align with the group in video-mediated group decision making.*

*Hypothesis 2b: The more interdependent one's self-construal is, the more likely one is to change his or her decisions to align with the group in video-mediated group decision making.*



**Fig. 1.** Research framework

## 4 Methodology

### 4.1 Task

A preference decision-making task was used in this study. Groups were required to select, by consensus, a preferred alternative based on contextual norms. The preference

decision-making task has been widely used in the study of group decision making (Li, 1994; Li et al., in press; Roger & Karen, 2003; Zhang et al., 2007). We chose this kind of task because no cultural bias has been found in previous studies. The task presented a hypothetical scenario, described as follows. The participants were act as space crews. The space ship was forced to land at a spot on the moon due to mechanical difficulties, and most of the equipment had been damaged during the crash landing. Participants had to work together to rank the importance of ten given items in terms of their importance for them to arrive at the meeting point on the moon.

## 4.2 Participants

Forty-five graduate students enrolled in a work organization course at a university in China participated in this study for course credit. The participants were from fourteen countries (twenty Chinese, eleven Germans, two Spaniards, two Indonesians, one France, one Moroccan, one Kazakhstan, one Russian, one Iran, one Thai, one Korean, one Columbian, one Belgian, and one Canadian). The mean age of the participants was 23.13 (SD = 1.84) years. Of the participants, 71.1% were male and 28.9% were female. They were assigned into four-person or five-person groups at the beginning of the class for course projects. At the time at which the experiment was conducted, the students had been working together for two months.

## 4.3 Measurements

Participant self-construal was measured before the experiment. To measure self-construal, we used the scales developed by Brewer and Chen (2007). Their scale provides a finer distinction between the relational-interdependent self and the collective-interdependent self under the interdependent self-construal. In this study, we focused on the relational-interdependent self because it is a four- or five-person small group and participants have already worked together for two months. *Independent self-construal* was measured by using the individual self-representation subscale (3 items, calculated internal consistency was 0.69). *Relational-interdependent self-construal* was measured by using the relational self-representation subscale (6 items, calculated internal consistency was 0.65). Participants responded to scale items using a seven-point Likert-type scale (7=*strongly agree*, 1=*strongly disagree*).

Individual participation and decision change were collected after the task. *Individual participation* reflects the total duration that each participant talks during the group discussion. Participation was obtained from video recordings. Each individual's participation time was transformed into a percentage of the total time taken by the whole group. *Individual decision change* describes how one's initial decision differs from group's final consensus decision. It was calculated by adding the absolute score difference of all items between the ten decisions made by the individual and the ten decisions based on group consensus.

We also collected participants' extraversion and self-efficacy in communication as control variables before the experiment, because previous studies have indicated the relationship between extraversion and participation (Barry & Stewart, 1997; Myers, 1993; Yellen, Winniford, & Sanford, 1995), and self-efficacy in communication and

individual behavior in group work (Hardin, Fuller, & Davison, 2007; Li, 1993; Li et al., in press). Extraversion was measured by using the introversion-extraversion dimension (12 items) of Eysenck Personality Questionnaire (EPQ-R) (Eysenck, Eysenck, & Barrett, 1985). The calculated internal consistency was 0.80. Self-efficacy in communication was measured by using the scale from Li (1993). Four items were used to measure one's belief in his/her ability to communicate with others. Participants responded to the scale items using a seven-point Likert-type scale (7=*strongly agree*, 1=*strongly disagree*). The calculated internal consistency of the self-efficacy in communication scale was 0.78.

#### **4.4 Apparatus**

Five identical computers with Internet access were provided to each group member. Skype™ was used as the communication tool during group decision making. Earphones, microphones, and web cameras were provided for synchronous audio and video communication among group members.

#### **4.5 Procedures**

The experiment was conducted in a large, quiet laboratory that was partitioned in a way such that group members were unable to see or hear each other. Each participant was seated in front of a computer. Participants were asked to wear earphones and use a microphone to communicate with the others. After all of the participants had arrived, they were told that the experiment involved performing a group decision making task through a web-based video conferencing software and received a demonstration on using the software. Participants were asked to complete a pre-test questionnaire, after which they were given a general description of the task. First, participants read the scenario and made their own decisions within ten minutes. After that, the group was asked to work together on the same task again and required to reach a group consensus within twenty minutes. All materials used were in English. Participants did not report any problems in understanding the task or the scale instruments.

### **5 Results**

#### **5.1 Inter-Correlations of Member Characteristics**

Table 1 presents the inter-correlations of member characteristics. The results indicated a significant positive correlation between extraversion and self-efficacy in communication ( $r = .59, p < .01$ ) and a significant positive correlation between self-efficacy in communication and independent self-construal ( $r = .41, p < .01$ ).

#### **5.2 Testing of Hypothesis 1**

We used a hierarchical multiple regression to test the hypothesis. The results of bivariate correlation among participation and member characteristics showed significant

correlations between extraversion and participation ( $r = .40, p < .01$ ) and between self-efficacy in communication and participation ( $r = .31, p < .04$ ). Thus, these two variables were entered into the model as control variables in the first step. Then, we added independent self-construal and relational-interdependent self-construal in the second step using a stepwise method to explore their relationship on participation. Table 2 reports the result of the hierarchical regression on participation. The result indicated that only relational-interdependent self-construal entered the model, and it exerted a significant influence on participation ( $\beta = -.32, p < .03; \Delta R^2 = .09, \Delta F_{(1, 41)} = 5.22, p = .028$ ). Thus, only hypothesis 1b was supported. Extraversion and self-efficacy in communication accounted for 17%, relational-interdependent self-construal accounted for an additional 9%, and the change was significant. These three variables explained 26% of the variation in participation.

**Table 1.** Inter-correlations of member characteristics

	Mean (SD)	1	2	3	4
1 Age	23.13 (1.84)	-			
2 Extraversion	8.44 (2.99)	.06	-		
3 Self-efficacy in communication	5.74 (0.88)	-.09	.59**	-	
4 Independent self-construal	4.53 (1.02)	.33*	.27	.41**	-
5 Relational-interdependent self-construal	5.44 (0.63)	-.15	.12	.24	-.06

Note: \*  $p < .05$ , \*\*  $p < .01$ .  $N = 45$ .

**Table 2.** Regression model of participation

	Step 1		Step 2			
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Constant	0.06	0.09		0.28	0.13	
Extraversion	0.01	0.01	.34	0.01	0.01	.33
Self-efficacy in communication	0.01	0.02	.11	0.02	0.02	.19
Relational-interdependent self-construal				-0.05	0.02	-.32*

Note:  $R^2 = .17$ , adjusted  $R^2 = .13$  for Step 1;  $\Delta R^2 = .09$ , adjusted  $\Delta R^2 = .08$  for Step 2 ( $ps < .05$ ), \*  $p < .05$ .

### 5.3 Testing of Hypothesis 2

Multiple regression was used to test hypothesis 2. Previous studies did not suggest any other individual level variables that relate to decision change, thus only independent self-construal and relational-interdependent self-construal were entered into the model using a stepwise method to explore their relationship on decision change. The result showed that independent self-construal and relational-interdependent self-construal had no significant influence on decision change. Thus, hypothesis 2 was not supported.

## 6 Discussion

This study explores the effect of self-construal on individual participation and decision change in video-mediated multicultural group decision making. The results indicate that relational-interdependent self-construal negatively influence an individual's participation in group decision making. When we listened to group conversations, we observed that individuals with highly interdependent self-construal tended to speak only on points that they felt certain about. Their presentation of ideas resembled soft suggestions, and they tended not to defend their opinions unless they found significant contradictions. In terms of individual decision change during group interactions, not as what we have expected, no significant relationship between self-construal and decision change was found. From the recordings, we found that the amount of influence that highly interdependent members had upon the final group decision depended much on the extent to which the other team members listened to their ideas. If the other team members did not listen, then they would remain quiet throughout the rest of the discussion and align with the group's final decision.

Based on the observation during group interaction, we propose two directions for future studies. One direction is about the relationship between self-construal and group effectiveness. We found that there were some groups that took a long time to come to an agreement without a good decision quality. A typical case was a group which composed of three highly independent members and one highly interdependent member. They took the longest time to reach consensus and had the second worst decision quality among ten groups. This was because the highly independent members hold different opinions and they defended and protected their own opinions strongly during group interaction. The only highly interdependent member in this group listened silently most of the time and only spoke when he found significant contradictions. In contrast, we found one group which made the best decision and took the second shortest time. The highly interdependent members in this group well balanced the opinions among all group members which made the discussion much more efficient. Based on these intuitive findings, we wonder if groups having balanced independent and interdependent members will benefit group effectiveness. Future studies might be conducted to further examine the relationship between the composition of self-construal and group effectiveness. Another research direction is the way to express opinions in group work. We found that a person's communication style places an important role. A typical case was that of an extraverted highly independent Chinese group member who was in a group with some Germans. The Chinese member would try to say something forcefully, but a simple comment from one of the Germans was all it took for the Chinese member to stop defending his position. Even though the Chinese group member had a highly independent self-construal, what he considered to be a direct and strong defense of his idea turned out not to be strong in the eyes of the Germans. On the same token, what the Germans considered to be mild and conservative came across as very direct to the Chinese member. Thus, in addition to the self-construal of a person, there may be differences in the ways in which people across cultures express their opinions or in how directly the language is used. This could cause a very real problem for groups working together to reach an



agreement because the same meaning, when expressed differently, could have different effect for people from different cultures.

## 7 Conclusion

In this paper, we investigate how self-construal influence an individual's participation and decision change in video-mediated multicultural group decision making. The results showed that individuals with highly relational-interdependent self-construal participated less in group interaction. We did not find support on the relationship between self-construal and individual decision change in group decision making. The findings highlight the importance of improving the participation of highly interdependent members in globally distributed teams. Managers and team members should encourage the highly interdependent members to express their opinions and carefully listen to their viewpoints. Besides, a moderation system can be designed which monitors the participation of each member during group interaction, for instance the system will notice the talkative group members to ask opinions of relative salient members and changing the salient members' voice larger when they speak.

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