

# Impact of Initial Trust on Video-Mediated Social Support

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## ABSTRACT

This study<sup>1</sup> explores how initial trust in a provider of social support and person-centeredness in supportive messages affect outcomes in video-mediated social support interactions. A controlled study was conducted with 240 participants who were randomly assigned to a condition in a 3 (initial trust in the support provider: affective, cognitive, and neutral) x 2 (person-centeredness of the support message: high or low) experimental setup. Results show that the effects of person-centeredness in support messages are the same as reported elsewhere for Face-to-Face (FtF) or text-based computer-mediated scenarios: high person-centered messages led to higher perceptions of support quality than low person-centered messages regardless of perceptions of initial trust in the support provider. Results also show that participants perceived the support provider's quality to be higher if personal information (affective trust) about the support provider was available over expertise information (cognitive trust). Ethnicity of participants also had a significant effect on perceptions of support provider's quality. Caucasians reacted much more positively to the message with high person-centeredness and much more negatively to the message with low person-centeredness than other ethnic groups. Asians perceived support provider's quality highly regardless of person-centeredness. Hispanics and African Americans fell somewhere in between. This study demonstrates important implications in message delivery for video-mediated social support.

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## CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in collaborative and social computing**

## KEYWORDS

Video-mediated social support; video-based communication; trust, social support, verbal person-centeredness.

## ACM Reference format:

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## 1 INTRODUCTION

Information and communications technology (ICT) has created opportunities for people to communicate over distance. Video-based technologies such as Skype, Google Hangouts, and Facetime have become popular due to cheaper, faster, and more ubiquitous Internet access [21, 33]. A 2015 report by Pew Research found that 59% of all teens video chat with their friends [27], up from 37% in 2012 [28]. People use video-mediated communication (VMC) technology for various reasons and purposes (e.g., entertainment, education, romance, etc.) Most likely, they are also using video-mediated platforms to seek and provide help as well. For example, a person experiencing a distressing situation may contact a friend via a videoconference application in order to seek support remotely. Although this type of supportive communication may be occurring frequently, there is a lack of research that studies how VMC may be affecting support exchange. Literature has reported benefits of social support communication for both physical and mental health (e.g., [29]), yet the beneficial outcomes have been mainly measured in FtF and text-based computer-mediated communication conditions. Studies that focused on effects of ICTs on social support have found that the quality of outcomes of a support interaction mainly depend on the level of person-centeredness of the support messages [17, 41] and level of trust between support provider and support receiver [6, 15]. However, these factors (trust and person-centeredness), which affect social

support interactions, have not been studied together in video-based interactions thus far.

Given the increasing availability and ubiquity of VMC platforms, it is necessary to understand how the use of video impacts the communication of social support. Ultimately, this line of research may provide insights and generate useful guidelines for development of more effective video-based social support computer applications in the future. Below, we provide a literature review on trust, VMC and social support. We also describe a controlled experiment that involves testing how cognitive and affective trust can influence the perception of support outcomes based on messages with different levels of person-centeredness delivered via video. Finally, we provide an analysis of the findings and discuss implications and limitations of this study as well as directions for future research.

## 2 LITERATURE REVIEW

### 2.1 Trust

Although scholars still struggle to give a single definition to the multidimensional concept of trust [39]; in general, it refers to a situation where one party (the trustor) is willing to rely on another party's actions (the trustee's) despite uncertainty and associated risks [31]. Cognitive and affective have been identified as the two main dimensions of trust [30]. Cognitive trust is knowledge-driven and it impacts the trustor's confidence on the trustee based on a rational evaluation of the trustee's ability, competence or reputation whereas affective trust is emotion-driven and it impacts the trustor's confidence on the trustee based on personality cues and emotional connectedness [13, 22]. Trust has been analyzed in a wide variety of domains like Sociology and Psychology, but the most common scenarios have focused on the organizational (e.g., [43]) and managerial (e.g., [14]) settings. In both, it has been established that trust between people is necessary to improve overall performance in terms of team work and quality of task outcomes.

### 2.2 Video-Mediated Communication and Trust

Research has identified differences between VMC and FtF communication. Naturalness of communication (i.e., the effectiveness of transmission of verbal and nonverbal cues) and group collaboration may be compromised in VMC [1, 35]. That is, the level of performance of video-based conditions is affected negatively if the bandwidth—or quality—of the video is low and, despite using the same verbal and nonverbal cues as FtF interactions, participants in the video-based conditions generally feel less confident that they are understanding each other during a conversation. In addition, individuals tend to have problems with detecting directions of gaze in video-based conditions and feel unsure about mutual understanding during the communicative exchange [36]. Nonverbal behavior such as body gestures and eye contact may be distorted and not communicated adequately due to technological factors like video bandwidth, camera viewpoint and image resolution quality [10, 16, 20, 24]. In this sense, traditional videoconferencing systems

have been found to disrupt spatial characteristics of gaze, body orientation, and pointing gestures, which ultimately have an impact on a video-mediated interaction [33, 40].

In spite of these shortcomings, video has been found to be helpful for people who engage in negotiation tasks [47] as well as in making people feel closer to acquaintances [26] and more intimate with romantic partners [34]. Prior research also shows that interactants are able to adapt [12] or get accustomed to the affordances of videoconference technology, and eventually learn how to better regulate video-mediated interactions (e.g., knowing when and how to gaze) in order to promote enhanced shared experiences in personal and professional contexts [5]. Consequently, researchers suggest that the difference between video-based and FtF interactions may be rooted in the way interactants behave when they realize that they are not co-present by changing patterns in gazing and dialog construction [16, 33]. In this sense, setting up an environment that fosters telepresence—or a sense of proximity—has been argued to be essential for effective VMC [8, 45]. For instance, it has been suggested that when someone is to be shown on a video, this person should look directly at the camera (as if to make eye contact with the viewer) with the upper body being visible at all times in order to maximize telepresence [8, 33].

Regarding trust, findings indicate that video conferencing were nearly as good as FtF in developing trust—although trust was developed more slowly and it was more fragile—in collaborative tasks involving social dilemmas [4]. Other findings suggest that perceptions of trust are increased only for tasks that involve conflict such as negotiation tasks rather than brainstorming tasks [51], and that affective and cognitive trust seem to be affected differently. For example, Zhang et al. [51] found that video increases the perception of affective trust (but not cognitive trust) among strangers. Teoh et al. [46] found that the type of task (negotiation vs. idea generation) mediates the relationship between perceptions of trust and the amount of visual information available on video (head-to-shoulders vs. head-to-waist). They found that in negotiation tasks, participants trusted their partners slightly more in a head-to-shoulders view whereas there was little difference in trust ratings regardless of the amount of visual information available for the idea generation task. In addition, Kim and Sundar [25] conducted an experiment with Android-based smartphones comparing the impact of screen size and perceptions of trust towards an ad stimulus for a product (living essentials, communication devices and food) either in video or text mode. They found that large screen size (5.3" Android-based smartphone) and video mode promoted greater affective trust whereas small screen size (3.7" Android-based smartphone) and text mode promoted greater cognitive trust.

More importantly, nonverbal cues such as gaze and eye contact have been found to be important when it comes to developing trust in VMC [2, 35]. For instance, Bekkering and Shim [2] found that subjects recorded from above or from the side are trusted less compared with those looking straight into a camera due to people associating poor eye contact with

deception. Nguyen and Canny [35] experimented with a multiple camera setup that can simultaneously display different high-quality video streams to different participants based on their viewing position. They found that groups meeting through directional video conferencing so that viewers are always looking straight into each other's eyes (multiview setup) show higher levels of overall trust than groups meeting through non-directional video conferencing (normal single viewpoint setup). Finally, video image quality has been found to affect the ability to detect whether the speaker on the video is lying or telling the truth. When video quality is low (i.e., lower resolution or more pixelated), it is harder to detect deception due to the distortion of visual/nonverbal cues [19].

### 2.3 Social Support, Person-Centeredness and Trust

Social support can be defined as the verbal and nonverbal behavior that fosters the provision of resources and assistance to those who need them [7, 18, 38]. The concept of social support entails a communicative interaction between a support provider and a support receiver. Many studies in the social sciences have corroborated the positive impact that social support has on physical and psychological health (e.g., [7, 29, 37]). In particular, Burleson [7] has identified factors that moderate the outcomes of social support communication (i.e., perceptions of support receiver's emotional outcome and support provider's quality). That is, in order for the support to lead to positive perceptions of emotional outcome (a distressed support receiver feeling better) and positive perceptions of support provider's quality (provider being supportive), there is a set of factors that have to be in place so that the provision of support and its effects can reach maximum benefits. These factors include message content and nonverbal cues during the supportive interaction, type of relationship as well as other physical and psychological features of the provider and receiver. The dual-process theory of supportive communication outcomes proposed by Burleson groups all such factors into a simplified model that takes into account the receiver's cognitive ability to process support messages, the outcomes of the supportive interaction and person-centeredness of support messages. Level of person-centeredness has been used to operationalize quality of emotional support provision in communication theories and refers to the extent to which messages acknowledge and legitimize the feelings and perspective of the support receiver. For example, let's imagine the scenario of a student named Peter who has just failed an exam. A high person-centered (HPC) message explicitly recognizes and legitimizes the other's feelings and further elaborates on the reasons behind those feelings [3]. Accordingly, an HPC supportive message for Peter would be: "*Peter, I am really sorry that you didn't do well on the exam. I know how much you have prepared for it. I'm sure you'll do better next time.*" In contrast, a low person-centered (LPC) message denies the other's feelings by challenging their legitimacy [3]. In this case, a LPC message for Peter would be: "*Don't worry too much. Shit happens. Maybe you should try harder next time!*"

Additionally, the dual-process theory states that when messages receive a high level of scrutiny from the receiver, the supportive outcomes are influenced mainly by level of person-centeredness in the support messages. In contrast, if the recipient assigns little scrutiny to the messages, features of the context or the helper, or nonverbal behaviors – rather than the messages themselves may have more influence on the outcomes of the supportive interaction [3, 7]. This theory has been tested in FtF and text-based computer-mediated conditions and it has been demonstrated that HPC messages do lead to better supportive outcomes if the receiver is sufficiently motivated and has the necessary cognitive ability to process those more elaborated HPC messages [17, 41].

Few research has connected the concepts of social support and trust though. It has been established that interpersonal trust is necessary for a successful support exchange in both FtF [32] and computer-mediated settings [6] as disclosure of information from support provider and support receiver is important during the supportive interaction. Such disclosure is encouraged when there is trust between both interactants [48]. In particular, studies have shown that trust in the support receiver increases the level of person-centeredness in support provider's messages [15]; and, trust in the support provider encourages support receiver's disclosure and promotes a favorable perception of the support provider's ability to give useful support [6]. There are no studies that have conducted an exploration of impact of person-centeredness and trust on support outcomes in VMC settings though.

## 3 HYPOTHESIS

Based on the literature review on how person-centeredness of support messages and trust affect supportive outcomes, we forward the following hypothesis:

**H1.** A support message with HPC leads to higher perceived support provider's quality and higher perceived support receiver's emotional outcome than a message with LPC in a VMC setting. And,

**H2.** Promoting initial trust in the support provider leads to higher perceived support provider's quality and higher perceived support receiver's emotional outcome in a VMC setting.

## 4 STUDY DESIGN

In order to assess the effects of trust and person-centeredness on video-mediated social support communication, it was necessary to design a study that promoted initial affective trust and cognitive trust in the support provider that appears on the video - as well as have a baseline trust condition - by giving different types of information about the support provider (personal, expertise, or no information/neutral) to the viewer of the video (the study participant). In addition, the support provider on video gave a message with either high or low levels of person-centeredness looking straight into the camera and appearing with an up-close proximity (showing upper body from shoulders to head) in order to minimize nonverbal cue distortion and maximize trust levels. Thus, the experiment had a 3 (initial

trust in the support provider: affective, cognitive, and neutral) x 2 (person-centeredness of the support message: high or low) between-subject experimental setup (see Table 1). The independent variables are type of information about the support provider and level of person-centeredness in the support message. The dependent variables are viewer’s perceptions of support provider’s quality and viewer’s perceptions of the anticipated support receiver’s emotional outcome.

**Table 1: Study Design**

Independent Variables						
Information about the support provider	Personal		Expertise		Neutral	
	LPC	HPC	LPC	HPC	LPC	HPC
Dependent Variables						
Support provider’s quality and support receiver’s emotional outcome						

#### 4.1 Procedure

During the study, participants recruited via Amazon Mechanical Turk (1) filled out a pre-survey about their propensity to trust people in general, (2) read about a hypothetical distressing situation that a fictitious character named Paul was facing: “Paul just learned that he was not chosen for a job that he was almost sure he would get after the final round of interviews,” along with one out of three possible types of information about the support provider, (3) watched one of two possible 30-second pre-recorded videos with high resolution quality of an Indian-American young woman (named Melissa) giving a supportive message with different levels of person-centeredness to Paul, and (4) filled out a post-survey about their perceptions of support provider’s quality and support receiver’s anticipated emotional outcome. On average, the study took about 20 minutes to complete per participant.

#### 4.2 Independent Variables

*4.2.1 Initial Trust (Cognitive vs. Affective vs. Baseline) and Person-Centeredness (High vs. Low) of Support Message.* There are two main types of trusts: cognitive and affective trust. Cognitive trust builds on rational evaluation of an individual’s expertise and competency, and affective trust builds on one’s emotional bond and affinity with the person. The type of information about interactants mediates the perceptions of initial trust in computer-mediated environments [39]. Cognitive trust can be enhanced by knowing more about the support provider’s expertise. Thus, for the cognitive trust condition the study participant receives the following information: “Melissa works in the Human Resources department for a successful company. She has received training in recruitment for over a year now.” Affective trust can be enhanced by knowing more about the

support provider’s personal information. Thus, for the affective trust condition the study participant receives the following information: “Melissa and Paul have been good friends for over five years now. Paul would reach out to Melissa when he wants to talk about personal issues.” Finally, the study participant receives no information about the support provider in the baseline condition. To validate the initial trust manipulation, the information messages were tested. A 10-item scale was adapted from [30] to assess cognitive trust (e.g., “I see no reason to doubt Melissa’s competence”), and affective trust (e.g., “I would share personal information with Melissa”). The manipulation proved to be reliable ( $\alpha = 0.81$  for affective trust and  $\alpha = 0.84$  for cognitive trust).

For person-centeredness, a message with high person-centeredness is one that explicitly recognizes the other’s feelings. Accordingly, in the HPC condition, the message delivered by the support provider was “I’m sorry to hear that Paul. I know that you were really excited for this job. It must be really frustrating”. A LPC message denies the other’s feelings. Thus, in the LPC condition, the message delivered by the support provider was “This happens all the time. Maybe you should prepare better next time.” To validate the person-centeredness manipulation, a 10-item scale was adapted from [23] to assess the level of person-centeredness in the message (e.g., “Melissa validates Paul’s situation”). The manipulation proved to be reliable ( $\alpha = 0.89$ ).

#### 4.3 Dependent Variables

*4.3.1 Perceived Support Provider’s Quality and Support Receiver’s Emotional Outcome.* Viewer’s perceptions of support provider’s quality and support receiver’s emotional outcome were adapted from scales developed by [23] that are based on the 13-item Comforting Responses scale by [11] and the 27-item Ratings of Alter Competence developed by [4]. The dependent variables were measured with items on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). For perceptions of support provider’s quality, items included statements like: (a) “Melissa was supportive,” (b) “Melissa was polite,” and (c) “Melissa ignored Paul’s feelings.” For perceptions of support receiver’s emotional outcome, items included statements like: (a) “Paul would have felt more optimistic,” (b) “Paul would have felt better about himself,” and (c) “Paul would have thought that Melissa was really concerned about him.” Both the support provider’s quality scale ( $\alpha = 0.96$ ) and the support receiver’s emotional outcome scale ( $\alpha = 0.89$ ) were found to be reliable.

*4.3.2 Propensity to Trust.* As a validation check, we also measured study participant’s propensity to trust to see if this personal trait has an influence on the perceived support provider’s quality and support receiver’s emotional outcome. A 10-item pre-survey measured participant’s general level of trust towards other people adapted based on the general trust scales developed by [49] and [50]. Items were measured on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Examples of items include statements like: (a) “most people are basically honest,” (b) “most people are trustful of others,” and (c)

“one should be very cautious with strangers.” The propensity to trust scale was found to be reliable ( $\alpha = 0.84$ ) as well.

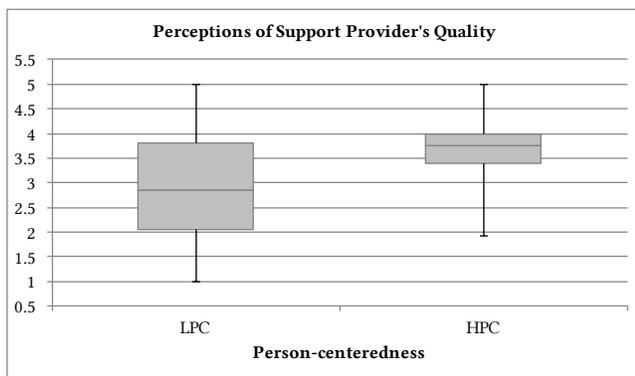
#### 4.4 Participants

A total of 240 participants (96 Caucasians - referred to as White hereafter -, 20 African Americans, 104 Asians, 13 Hispanics, 5 Native Americans and 2 Mixed) were recruited. 144 identified themselves as males, 93 as females, 1 as other and 2 chose not to specify sex. Regarding age range, the majority of participants (153 or 63.85%) were in the 25-39 range, 36 (15%) were in the 18-24 range, 31 (12.9%) were in the 40-49 range, and the remaining 20 (8.25%) were older than 50 years. All participants were fluent in English and were randomly assigned to each of the six possible conditions.

#### 5 RESULTS

A preliminary validation check of trust propensity shows that it does not influence participants’ perception of provider support and support receiver’s emotional outcome ( $p = n.s.$ ) Sex of the participants also has no effect on the dependent variables ( $p = n.s.$ )

Table 2 summarizes the results. To test H1 and H2, a MANOVA was performed. For H1, a main effect was found for person-centeredness on the perception of support provider’s quality ( $F(1,222) = 51.40, p < 0.001$ ) and the support receiver’s emotional outcome ( $F(1,222) = 53.72, p < 0.001$ ). Figures 1 and 2 show the main effect of person-centeredness. Post hoc comparisons show that participants in the HPC conditions rated support provider’s quality and support receiver’s emotional outcome higher than participants in the LPC conditions. Consequently, H1 is supported.



**Figure 1: Main Effect of Person-centeredness on Perceptions of Support Provider’s Quality.**

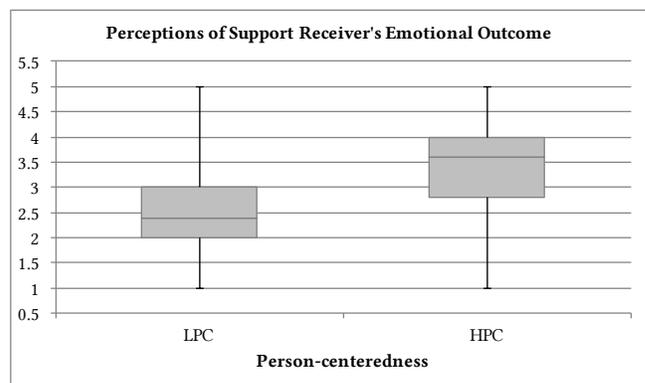
For H2, a main effect was found for initial trust but only on the perception of support provider’s quality ( $F(2,222) = 3.49, p < 0.001$ ) but not for the support receiver’s emotional outcome. Thus, H2 is partially supported. Additionally, Fig. 3 shows the main effect of initial trust conditions. Post hoc comparisons show that participants with enhanced initial affective trust rated

support provider’s quality higher than participants with enhanced initial cognitive trust.

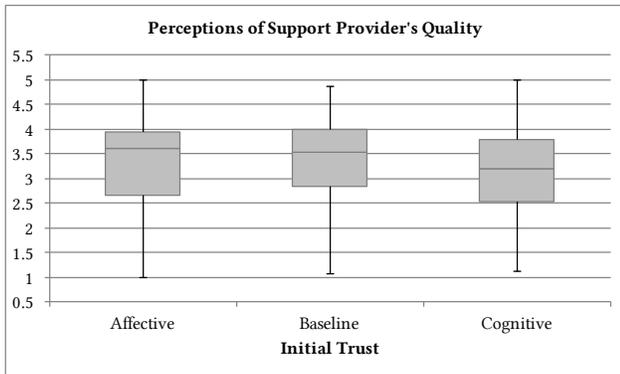
**Table 2: Main Effects of Person-centeredness, Initial Trust, and Ethnicity on Perception of Support Quality.**

Values are displayed as mean (standard deviation), with superscripts denoting the following statistically significant relationships:  $a > b > c$ .

Total	N = 240		
Support Provider	3.28 (0.90)		
Receiver's Emo. Out.	2.98 (1.01)		
Person-centeredness	LPC (N=120)	HPC (N=120)	
Support Provider	2.88 (0.98) <sup>b</sup>	3.67 (0.59) <sup>a</sup>	
Receiver's Emo. Out.	2.51 (0.92) <sup>b</sup>	3.44 (0.88) <sup>a</sup>	
Trust	Affective (N=80)	Baseline (N=80)	Cognitive (N=80)
Support Provider	3.43 (0.93) <sup>a</sup>	3.31 (0.86)	3.09 (0.90) <sup>b</sup>
Receiver's Emo. Out.	3.04 (1.03)	3.00 (1.03)	2.89 (0.94)
Ethnicity	White (N=96)	Other (N=40)	Asian (N=104)
Support Provider	2.96 (0.98) <sup>b</sup>	3.37 (0.84) <sup>a</sup>	3.50 (0.77) <sup>a</sup>
Receiver's Emo. Out.	2.84 (1.13)	3.03 (0.94)	3.06 (0.90)



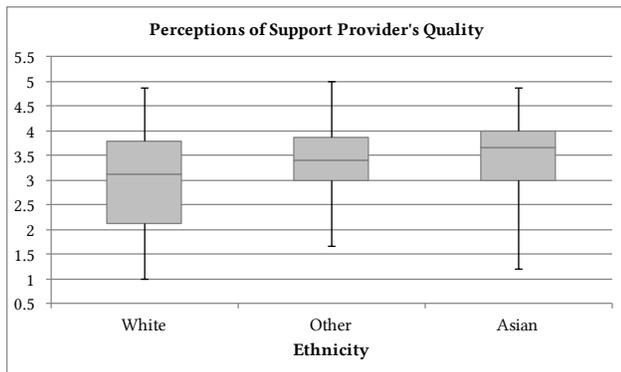
**Figure 2: Main Effect of Person-centeredness on Perceptions of Support Receiver’s Emotional Outcome.**



**Figure 3: Main Effects of Initial Trust on Perceptions of Support Provider's Quality.**

In addition, a main effect was found for participant's ethnicity but only on the perception of support provider's quality ( $F(2,222) = 14.00, p < 0.001$ ) but not for perceptions of support receiver's emotional outcome. Fig. 4 shows the main effect of ethnicity. Post hoc comparisons show that White participants' perceptions of support provider's quality were significantly lower than Asians and other ethnicities (African-Americans, Hispanics, Native Americans and mixed).

Looking further into the effects of ethnicity, a significant interaction was found between ethnicity and person-centeredness on the perceptions of support provider's quality ( $F(2,222) = 17.37, p < 0.001$ ) and perceptions of support receiver's emotional outcome ( $F(2,222) = 26.50, p < 0.001$ ). Table 3 summarizes the results.

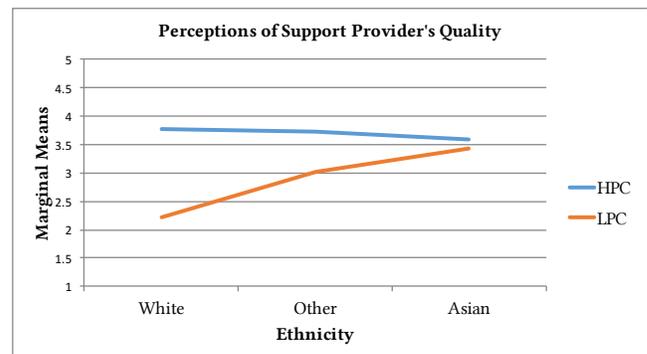


**Figure 4: Main Effect of Ethnicity on Perceptions of Support Provider's Quality.**

**Table 3: Interaction Effect of Ethnicity and Person-centeredness on Perception of Support Quality.** Values are displayed as mean (standard deviation), with superscripts denoting the following statistically significant relationships: a > b > c.

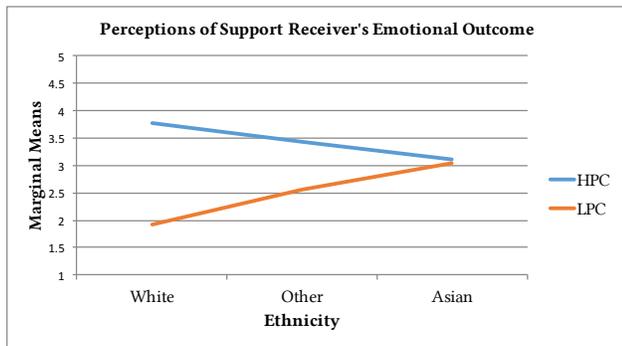
Support Provider	White	Other	Asian
HPC	3.77 (0.51)	3.72 (0.69)	3.60 (0.62)
LPC	2.22 (0.68)c	3.03 (0.89)b	3.43 (0.87)a
Receiver's Emo. Out.	White	Other	Asian
HPC	3.77 (0.74)a	3.43 (1.03)b	3.12 (0.83)c
LPC	1.92 (0.52)c	2.57 (0.51)b	3.04 (0.95)a

Figures 5 and 6 show the interaction effect between ethnicity and person-centeredness. Post hoc comparisons show that participants of all ethnicities perceived similar level of support provider's quality in the HPC condition, whereas White participants' perceptions of support provider's quality were significantly lower than participants of other ethnicities which is lower than Asian participants in the LPC conditions.



**Figure 5: Interaction Effect of Person-centeredness and Ethnicity on Perceptions of Support Provider's Quality.**

The gap in the perception differences is even bigger for perceptions of support receiver's emotional outcome, in which participants in the LPC condition reported the same trend as the perception found for support provider, but White participants' perceptions of support receiver's emotional outcome were significantly higher than participants of other ethnicities which is higher than Asian participants in the HPC condition. This means that White participants are much more sensitive to the level of person-centeredness in supportive messages.



**Figure 6: Interaction Effect of Person-centeredness and Ethnicity on Perceptions of Support Receiver's Emotional Outcome.**

Conducting additional analysis, it was found that White participants' overall perceptions of support quality are lower than participants of other ethnicities ( $F(2,474) = 12.07, p < 0.001$ ). Interestingly, it was also found that regardless of person-centeredness, Asians perceived support provider's quality (mean = 3.50, std. dev. = 0.77) much higher than support receiver's emotional outcome (mean = 3.07, std. dev. = 0.86;  $t(206) = 3.70, p < 0.001$ ), whereas White participants and participants of other ethnicities do not share this perception ( $p = n. s.$ ). This indicates that Asian participants may believe that the support provider acts in good faith and that the support receiver can handle the necessary sympathy (HPC) or criticism (LPC) regardless of the person-centeredness in the support message.

## 6 DISCUSSION

Regardless of condition, the HPC support message consistently led to higher ratings of support provider's quality and support receiver's emotional outcome than the LPC support message. This finding is aligned with studies that have corroborated the relation between HPC and better social support outcomes in FtF and computer-mediated settings [17, 41]. Yet, perceptions of support provider's quality were affected by the type of initial trust in the support provider operationalized by the type of information given about the support provider. Personal information, which enhances initial affective trust, led to higher ratings of support provider's quality than expertise information which enhances cognitive trust. In other words, personal information about the support provider - rather than expertise - led the viewer to perceive the support provider as offering better quality of support. One possible explanation for this finding may be that personal information about the support provider makes the viewer perceive the provider as better suited to help the receiver because the type of distressing situation is more emotionally charged and thus, affective trust ends up having a stronger impact on support outcomes. Another possible explanation may lie on the heuristic-systematic model (HSM) of information processing [9]. The HSM model states that the level of richness in cues plays a critical role in determining two

different types of information processing in people: heuristic vs. systematic processing. Heuristic processing entails low levels of cognitive load and the application of simple decision rules when an individual is assessing information. In contrast, systematic processing entails a greater allocation of cognitive resources to information scrutiny. [25] and [51] found that video led to greater viewers' perceptions of affective trust due to the activation of heuristic processing. In this sense, the use of video may be magnifying the effects of initial affective trust on the perception of support provider's quality; whereas, in the initial cognitive trust condition, the delivery of the support message through video - which promotes heuristic processing - may be counteracting or attenuating the effects of expertise information on trust development.

Interestingly, results also suggest that ethnicity plays an important role when evaluating social support quality. Asians tended to perceive support provider's quality and support receiver's emotional outcome significantly higher than White and participants of other ethnicities in LPC conditions. In contrast, White participants tended to perceive support receiver's emotional outcomes significantly higher than Asians and participants of other ethnicities in HPC conditions. In general, Asians tended to perceive support provider's quality highly regardless of person-centeredness. Perceptions of support quality by other ethnicities fell somewhere in between those of White and Asian participants. A possible explanation for these findings could be that the effects of person-centeredness on perceptions of support quality are more relevant for White participants in comparison to Asians and participants of other ethnicities. Indeed, prior studies have shown that self-enhancement and self-criticism are considered to be virtues in Asian culture [42, 44]. Therefore, Asian participants may find it easier to believe that the support provider is indeed acting in the best interest of the support receiver regardless of sympathy (HPC) or criticism (LPC) of the contents of the support message.

Overall, our findings contribute to the scant literature that analyzes relationships among person-centeredness in support messages, ethnicity and trust. In addition, as VMC is becoming increasingly prevalent -especially for teens and younger adults-, our findings may have important implications for video-mediated social support. For instance, support providers may have to communicate support using messages with high levels of person-centeredness. HPC messages were found to lead to better supportive outcomes in a consistent way regardless of the type of initial trust. This implication would be even more critical for White populations than for other ethnicities, because White participants are more sensitive to person-centeredness than Asians and other ethnicities. In this sense, ethnicity should be taken into account when designing information interfaces that support video-mediated social support interactions. In addition, it would be necessary to make the support provider's personal information always available - as opposed to professional or expertise information - in order to maximize the perceptions of quality about the video-mediated supportive interaction.

This study has several limitations. First, attributes such as ethnicity, age, and gender of the support provider may have had an effect in viewer's perceptions of support quality. It may be the case that, if the support provider on video would have been of a different ethnicity or gender, results about perceptions of support quality might have been altered. Future research should take into account these factors and conduct video-mediated social support provision with providers of different ethnicity, gender and age. Second, the reason to use a single distressing situation as well as pre-recorded videos of a support provider giving a support message was to expose all participants to exactly the same conditions and control for confounding factors. However, more research is needed in order to analyze how supportive outcomes are affected by different types of distressing situations influenced by initial trust and person-centeredness. For instance, distressing situations that make the support receiver seek for informational or instructional support (e.g., advice or instructions on how to change a flat tire) rather than emotional support may require support provider's expertise instead of personal information in order for the viewer to perceive higher support provider's quality. Third, future studies should assess the type of information processing taking place at a cognitive level at the moment of support quality evaluation in order to further validate our assumption that video-mediated support triggers heuristic processing of information as well as validate findings reported in previous research that state that video-based communication promotes affective trust. Fourth, the interactions found between ethnicity, person-centeredness and support quality should be explored further in order to uncover factors that lead ethnicities to evaluate support messages differently. Lastly, the perceptions of support quality were collected from a third-party viewer, which may not match the perceptions of individuals engaging in an actual video-mediated interaction. Yet, plenty of research on supportive communication uses this same basic methodology in order to obtain a fairly neutral assessment of support quality that is not tainted by the relationship between the interactants. Regardless of these limitations, our findings make a contribution to the underexplored research area of video-mediated social support by testing the effects of person centeredness and initial trust on the outcomes of video-mediated social support communication.

## 7 CONCLUSION

This study explored how initial trust in the support provider can impact perceptions of quality of video-mediated social support. Consistently, HPC support messages led to perceptions of higher support provider's quality and support receiver's emotional outcome than LPC support messages regardless of type of initial trust. In addition, video-based supportive interactions were more effective if personal information about the support provider was available before the supportive interaction. Ethnicity of participants also had a significant effect on perceptions of support quality. Asian participants tended to perceive support provider's quality significantly higher than White and participants of other ethnicities regardless of level of

person-centeredness in the support message. In addition, White participants were more sensitive to the effects of person-centeredness on perceptions of support quality than Asians and other ethnicities. Future research should address our limitations and further compare findings with those obtained in FtF and computer-mediated settings.

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