Family Communication Patterns and Willingness to Engage in Family Discussion about Organ Donation in the United States

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Abstract

Individuals can register as organ donors via state organ donor registries. But when individuals wish to donate their organs in the future, it is also important for them to engage in family discussion about these wishes. In many cases of organ donation, family members need to consent to the wishes of the deceased. In order to better understand possible reasons why young people may or may not engage in family discussions about organ donation, the current study focused on undergraduate students. Because they are young, undergraduates and their family members may be less likely to think about a possibility for their untimely death. Because of their youth, however, if undergraduates face an unfortunate deadly accident, they can become deceased donors well-suited for saving many others' lives. Undergraduate participants (n = 461) in the United States responded to a questionnaire assessing two dimensions of family communication patterns (conformity and conversation orientations), altruism, attitudes about organ donation, intention to sign an organ donor card, and willingness to talk to family about organ donation. Findings showed that attitude toward organ donation was a stronger predictor of willingness to engage in family discussion when a conformity orientation was high than when it was low (simple slopes, b = 0.28 versus b = 0.07). On the other hand, intention to sign a donor card was a stronger predictor of willingness to engage in family discussion when a conversation orientation was high than when it was low (simple slopes, b = 0.70 versus b = 0.45). Additionally, willingness to engage in family discussion was positively related to the self-reported behavior of family discussion about organ donation one week later.

Keywords: Family communication, Health communication, Organ donation, The United States

I. Introduction

One of the necessary steps for increasing organ donation is to create a society where "surviving family members would be comfortable giving permission" for organ donation from their loved ones (Institute of Medicine of the National Academies, 2006, p. 3). For individuals who wish to donate their organs in the future, individuals can

register as organ donors via state organ donor registries. However, it is important and necessary for individuals to these wishes to family members as well because family members need to consent to the wishes of the deceased. If individuals who have positive attitudes about organ donation engage in family discussion, their family members can be also positively influenced by the benefits of organ donation. For example, family discussion about organ donation has been found to be related to family members' more positive attitudes and beliefs about organ donation than before the discussion (Rodrigue, Cornell, & Howard, 2009).

A need to better understand the factors affecting intention or willingness to communicate with family about organ donation is not unique to one country. The lack of available organs for transplants has been a serious health problem worldwide. For example, in Korea, 15,897 patients were waiting for an organ transplant in 2007, but only 2,360 transplants were performed (Korean Network for Organ Sharing, 2008). Researchers in various countries have examined attitudes and related variables on organ donation among Japanese, Chinese, and Americans (e.g., Wu & Tang, 2009), people in Pakistan (Saleem *et al*., 2009), and people in Netherlands (Ryckman, Gold, Reubsaet, & van den Borne, 2009). In the United States, undergraduates have the overall positive attitudes about deceased organ donation (Feeley, 2007). A Gallup poll in 2005 showed that 78% of Americans in indicated their willingness to donate their organs. But organ donation still falls far short of organ transplant needs. In the United States, as of October, 2009, over 104,000 individuals were in need of transplant organs, but only about 12,834 transplants from deceased donors were conducted between January and July of 2009 (United Network for Organ Sharing, 2009).

One way to increase organ donation is to increase family consent rates. When the families of donor-eligible patients are approached for donation, their consent rates range from about 50% to 65% (Beasley *et al*., 1997; Christmas *et al*., 2008; Gortmaker *et al*., 1998; Siminoff, Gordon, Hewlett, &Arnold, 2001). A Gallup poll in 2005 found that 53% of Americans reported their family members had expressed wishes related to organ donation. These findings indicate that although one's wish to donate organs and consent rates are high, a significant number of American people still do not know their family members' wishes regarding deceased organ donation. Family members are significantly more likely to consent to organ donation when they know the wishes of the deceased than when they do not know them (Radecki & Jaccard, 1997; Siminoff *et al*., 2001). It is important to examine possible reasons why young people may or may not engage in family discussions about organ donation.

1.1 Attitude, Altruism, and Intention to Sign an Organ Donor Card

Individuals with more positive attitudes about organ donation and stronger altruistic tendencies and intentions to sign an organ donor card are expected to have higher willingness to express their organ donation wishes to their family members. Previous research findings on these three factors are, in general, supportive of these predications. Attitude toward organ donation was found to relate positively to willingness to engage in family discussion on the issue (Morgan & Miller, 2001), probably because individuals positively disposed toward organ donation are more likely to want their family members to know and respect their views on organ donation. Altruism, defined as "behavior carried out to benefit another without anticipation of rewards from external sources" (Macaulay & Berkowitz, 1970, p. 3) was also found to be related to diverse factors important in organ donation. For example, those who had signed a document indicating their wishes to become organ donors exhibited more altruistic dispositions than those who had not (Morgan & Miller, 2002). Finally, individuals who have stronger intentions to sign organ donor cards are more likely to know that family consent is crucial for their wishes to become organ donors. Research shows that most individuals who signed documents indicating their wishes to be organ donors also expressed their wishes to family members (Morgan, 2004; Morgan & Miller, 2001). In sum, the following hypotheses are advanced.

H1, 2, & 3: Attitude toward organ donation (H1), altruism (H2), and intention to sign an organ donor card (H3) are positively related with willingness to have family discussions about organ donation.

1.2 Family Communication Patterns

The perceptions of young individuals about their family communication patterns are likely to influence their willingness to express opinions about organ donation to other family members. Families have varying communication environments, which involve "norms of control and supportive messages" (Ritchie & Fitzpatrick, 1990, p. 525) and influence the extent to which family members express their own opinions or conceal certain information (Fitzpatrick & Ritchie, 1994). Individuals' perception about their ability to engage in family discussions about organ donation was an important factor influencing individuals' intentions to have family discussions (Afifi *et al*., 2006; Park & Smith, 2007). Considering that deceased organ donation is a sensitive topic about which family members may not talk on a regular basis and that disagreement is possible among

family members, the extent to which young people perceive their families to be open to diverse opinions versus avoidant of conflicts may be related to how willing young people might be to engage in family discussions.

Family communication patterns are thought to vary along two dimensions (Koerner, 2009; McLeod & Chaffe, 1972; Ritchie & Fitzpatrick, 1990). The ideas originally conceptualized as socio-orientation and concept-orientation dimensions of family communication patterns (McLeod & Chaffe, 1972) have been reformulated as *conformity orientation* and *conversation orientation*, respectively (Ritchie, 1997; Ritchie & Fitzpatrick, 1990). The conformity orientation dimension of family communication patterns refers to "the degree to which family communication stresses a climate of homogeneity of attitudes, values, and beliefs" (Koerner & Fitzpatrick, 2002a, p. 85). The conversation orientation dimension of family communication patterns is defined as "the degree to which families create a climate in which all family members are encouraged to participate in unrestrained interaction about a wide array of topics" (Koerner & Fitzpatrick, 2002a, p. 85). Research showed that more general family discussions occurred in a family that valued a conversation orientation than in a family that preferred a conformity orientation (Liebes & Ribak, 1992; Roberts, Pingree, & Hawkins, 1975). A conversation orientation was positively associated with young adults' preference for integrating and compromising strategies for handing conflicts with their parents, whereas a conformity orientation was positively associated with preferences for avoiding and obliging strategies (Shearman & Dumlao, 2008). Young adults who grew up in families with higher conversation orientation were more likely to indicate greater communication competence skills in their interpersonal relationship with others (Koesten, 2004). Additionally, research has shown that the two types of family communication patterns were differentially related to young adults' mental well-being (Schrodt & Ledbetter, 2007) and young adults' relational maintenance behaviors (Ledbetter, 2009).

Given that these two dimensions of family communication patterns assume opposite characteristics, some may suggest that these two dimensions should be combined into one dimension with the conformity orientation on one end and the conversation orientation on the other end. However, McLeod and Chaffe (1972) conceptualized these two dimensions as separate, arguing that some families may have a high level of both conformity and conversation orientations while other families may have a low level of both conformity and conversation orientations. Researchers have also reported empirical findings supportive of separate conceptualizations of conformity and conversation orientations (Koerner & Fitzpatrick, 1997). Advancing a theory of family communication, Koerner and Fitzpatrick (2002a, 2002b, 2006) conceptualized conformity and conversation orientations as important family communication beliefs contributing to individuals' development of family relationship schema. A meta-analysis showed that conformity and conversation orientations had "a meaningful association with a variety of cognitive activities and relational behaviors, as well as individual well-being" (Schrodt, Witt, & Messersmith, 2008, p. 248).

The two dimensions of family communication patterns are likely to moderate the effects of attitude, intention to sign an organ donor card, and altruism on willingness to have family discussions about organ donation. In general, it is expected that young adults who perceive their family communication patterns to be higher on the conformity orientation may believe that they are likely to offend their parents by initiating discussions about organ donation. Consequently, they should be less likely to initiate family discussions about organ donation. On the other hand, young adults who perceive their family communication patterns to be higher on the conversation orientation should be more willing to have family discussions because they may feel less apprehensive and more capable of managing family discussions on the issue. To be more specific, for young adults from a family with a higher conversation orientation, it is possible that positive attitude about organ donation is more likely to lead to willingness to engage in family discussion. For young adults from a family with a higher conformity orientation, however, regardless of their attitude about organ donation, they may not be willing to engage in family. Similarly, the way intention to sign an organ donor card and altruism affect willingness to engage in family discussion can depend on family communication patterns. In sum, conformity orientation of family communication pattern is hypothesized to weaken the positive effects of attitudes, altruism, and intention to sign on willingness to engage in family discussion, whereas conversation orientation of family communication pattern is hypothesized to strengthen the positive effects of attitudes, altruism, and intention to sign on willingness to engage in family discussion.

H4, 5, & 6: As individuals perceive their family communication patterns to be more conformity-oriented, the positive effects of their attitude toward organ donation (H4), altruism (H5), and intention to sign an organ donor card (H6) on willingness to engage in family discussions about organ donation will be weaker.

H7, 8, & 9: As individuals perceive their family communication patterns to be more conversation-oriented, the positive effects of their attitude toward organ donation (H7), altruism (H8), and intention to sign an organ donor

card (H9) on willingness to engage in family discussions about organ donation will be stronger.

1.3 Willingness to Engage in Family Communication and Self-Reported Behavior

Willingness to engage in family discussions about organ donation is expected to be positively related to individuals' behavior of actually engaging in family discussion. Research has shown that willingness to communicate about organ donation was predictive of engaging in family discussion and having an organ donor card witnessed (Smith, Kopfman, Lindsey, Yoo, & Morrison, 2004). In addition, other studies found that individuals who had family discussions had more positive attitudes toward organ donation and were more altruistic than individuals who had not (Morgan, 2004). Thus, there are reasons to hypothesize a positive relationship between willingness to engage in family discussion and the self-reported behavior of having family discussions one week later.

H10: As individuals are more willing to engage in family discussion about organ donation, they will be more likely to engage in family discussion one week later.

2. Method

2.1 Participants

Participants were 461 undergraduates (66.2% women, age M = 19.96, SD = 1.57) enrolled in a communication class at Michigan State University in the United States. The data were collected from a class in which 606 students were officially enrolled. The researchers explained the study to the students and sent e-mails that contained a description of the study and a link to an on-line survey. Of 606 students, 76% participated in the study voluntarily in exchange of extra credit. Students who did not want to participate in our study were provided with alternate tasks with which they could earn an equivalent amount of extra credit. In general, the ethnic make-up of Michigan State University students included 82% Caucasian, 8% African American, 3% Hispanic, 1% Native American, and 6% Asian/Pacific Islander. The participants completed the first survey before the Thanksgiving holiday (i.e., between the18th and the 23 of November, 2004) and then completed another survey one week later (i.e., the 29th of November and the 3rd of December, 2004) when they came back to the class after the holiday. The survey was administered before and after the Thanksgiving holiday because most undergraduates went back home to spend the holiday with their family and could have an opportunity to engage in family discussion about organ donation. This study received an approval of human subjects from the institutional review board (IRB) at Michigan State University in the United States.

2.2 Measures

Reliabilities (Cronbach's α), means, standard deviations, and correlations of the variables are shown in Table 1. All of the measures used a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). For all the measures, confirmatory factor analysis (CFA) showed a good fit with most fit indices greater than .90 for unidimentionality. For family communication patterns, a two-dimension model was tested as explained below.

Family communication patterns were measured with Ritchie and Fitzpatrick's (1990) revised version of the Family Communication Pattern scale. A CFA was performed to test the adequacy of two dimensions (a conversation factor and a conformity factor). Most fit indices for the two-dimensional solution with all 26 items did not reveal a good fit (Non-Normed Fit Index [NNFI] = .82, Comparative Fit Index [CFI] = .83, Incremental Fit Index [IFI] = .84, Adjusted Goodness of Fit Index [AGFI] = .89). A one-factor model with the 26 items did not show good fit either (NNFI = .73, CFI = .75, IFI = .76, AGFI = .87). After dropping the items (seven items from a conversation orientation factor and seven items from a conformity orientation factor) that did not load substantially on their respective factors (e.g., factor loadings < .30) and/or had larger errors, the resulting CFA showed a good fit for the revised two-factor model (NNFI = .92, CFI = .94, IFI = .94, AGFI = .94). For the 12 items, the two-factor model was a better fit to the data than a one-factor model (NNFI = .77, CFI = .82, IFI = .82, AGFI = .86), $\Delta\chi^2(1) = 178.76$, $p < .001$. Eight of the remaining items were averaged to a create conversation factor (e.g., "My parents like to hear my opinions, even when they don't agree with me.") and the other four items were averaged to form conformity factor (e.g., "My parents often say something like 'A child should not argue with adults'.").

Attitude about organ donation was measured with five items (e.g., "I support the idea of organ donation for transplantation purposes," "I believe that organ donation is an act of compassion"). Altruism was measured with eleven items (e.g., "Helping others is one of the most important aspects of life," "I enjoy working for the welfare of other."). Intention to sign an organ donor card was measured with five items (e.g., "I intend to, or I have previously, signed an organ donor card," "I have thought about signing, or I have already signed, an organ donor card").

Willingness to engage in family discussion about organ donation was measured with four items (e.g., "I am willing to talk to my family about my decision to become an organ donor," "I would feel comfortable talking to my family about becoming an organ donor."). A week after the initial data collection time, the participants indicated yes or no to the question, "In the past week, did you do the following? I engaged my family in a discussion about my wishes regarding organ donation." Of the participants, 16.7% answered yes to the question.

3. Results

3.1 Overview

Before conducting the analyses, the continuous predictor variables were mean-centered to avoid nonessential multicollinearity when creating product terms (cf., Cohen, Cohen, West, & Aiken, 2003). For interaction effects, the criterion variable was regressed onto the product terms of the predictor variables. Hierarchical multiple regression analyses were conducted with the five predictors in the first block and the interaction terms in the second block. No other types of interactions and higher-order interactions were statistically significant and thus are not reported. Neither gender nor age was a significant predictor or moderator of the other predictors on the criterion variable and thus are not reported.

3.2 Hypotheses Testing

The regression results for willingness to engage in family discussion about organ donation are reported in Table 2. The overall model was significant, F (11, 449) = 41.28, $p < .001$, $adj.R^2 = .49$. For the predictors in the first block of the regression analysis, neither conversation nor conformity orientations of family communication were significant. Consistent with H1, 2, and 3, attitude toward organ donation (H1), altruism (H2), and intention to sign an organ donor card (H3) were positively related to willingness to engage in family discussion about organ donation.

For H4, 5, and 6, which predicted conformity orientation as a moderator for how attitude toward organ donation (H4), altruism (H5), and intention to sign an organ donor card (H6) would be related to willingness to engage in family discussion, the interaction terms in the second block were examined. Consistent with H4, but inconsistent with H5 and H6, conformity orientation was a moderator for attitude, but not for altruism and intention to sign. A simple regression analysis showed that attitude was a weaker predictor of willingness to engage in family discussion about organ donation (unstandardized simple slope, $b = 0.07$, $p = .31$) for those who had higher scores (1*SD* above) than for those who had lower scores on the conformity orientation of family communication (1*SD* below), $b = 0.28$, $p < .001$. That is, the positive relationship between attitude toward organ donation and willingness to engage in family discussion about organ donation was weaker for those with stronger conformity orientations of family communication.

For H7, 8, and 9, which predicted conversation orientation as a moderator for how attitude toward organ donation (H7), altruism (H8), and intention to sign an organ donor card (H9) would be related to willingness to engage in family discussion, the interaction terms in the second block were examined. Consistent with H9, but inconsistent with H7 and H8, conversation orientation was a moderator for intention to sign, but not for attitude and altruism. A simple regression analysis showed that intention to sign was a stronger predictor of willingness to engage in family discussion about organ donation (unstandardized simple slope, $b = 0.70$, $p < .001$) for those who had higher scores (1*SD* above) than for those who had lower scores on the conversation orientation of family communication (1*SD* below), $b = 0.45$, $p < .001$. That is, the positive relationship between intention to sign an organ donor card and willingness to engage in family discussion about organ donation was stronger for those with stronger conversation orientations of family communication.

H10 predicted that participants with higher willingness to engage in family discussion about organ donation would be more likely to actually have performed the behavior a week later. As shown in Table 1, individuals who engaged in family discussion indicated higher willingness to engage in family discussion in the previous week than those who did not engage in family discussion. When a logistic regression analysis was done with family discussion as a binary outcome and conversation orientation, conformity orientation, attitude toward organ donation, altruism, intention to sign an organ donor card, and willingness to engage in family discussion as predictors, the model was significant, $\chi^2_{(6)} = 18.07$, p = .006, Cox & Snell $R^2 = .04$, Nagelkerke $R^2 = .07$. Among the predictors, only willingness to engage in family discussion was a positive predictor of actual engagement in family discussion, $B = .44$, Wald = 7.65, $p = .006$, whereas all of the other predictors were not significant, $B = .07$, Wald = 0.10, $p = .75$ for conversion orientation, $B = .07$, Wald = 0.20, $p = .65$ for conformity orientation, $B = .18$, Wald = 1.38, $p = .24$ for attitudes about organ donation, $B = .03$, Wald = 0.02, $p = .88$ for altruism, and $B = –.15$, Wald = 0.90, $p = .34$ for intention to sign an organ donor card.

4. Discussion

One important characteristic that should be considered in the examination of family discussion about organ donation is that it is a behavior that individuals cannot perform on their own. Individuals have to include their family members, and they are likely to communicate according to pre-existing patterns which already exist within the family structure. Though few people would dispute the benevolence of organ donation, some family members may find the topic uncomfortable or threatening, particularly when it involves their family members as donors. Faced with the potential to upset family members, individuals may decide whether or not they will engage in family discussion depending on the communication style that they perceive within the family. That is, while individuals are likely to engage in family discussion in an environment where free exchange of disparate opinions is encouraged, they might be less inclined to do so when family members expect agreement, or prioritize pleasant social interactions over heated discussions.

4.1 Interpretations and Implications of the Findings

The results showed that attitude toward organ donation, intention to sign an organ donor card, and altruism independently influenced willingness to engage in family discussion about organ donation. These results are consistent with past studies. A benefit of having family discussion about organ donation is that family members may be able to educate one another about organ donation and may motivate other family members to dispel misconceptions and to seek more accurate knowledge. As research has shown that factual knowledge about organ donation is related to intention to donate organs (Horton & Horton, 1990; 1991), individuals could be more willing to donate as a result of more accurate knowledge about organ donation they may gain through family discussions on the issue. If so, an important implication of the current finding is that individuals with positive attitudes toward organ donation, high intention to sign an organ donor document, and strong altruism may talk to their family members, not only to express their donation wishes to their family members but also to influence their family members to become more positive about organ donation processes.

The moderating roles of family communication patterns presented rather complex mechanisms underlying individual decision-making processes in relation to family discussion about organ donation. As conversation orientation and conformity orientation were theorized as two distinct dimensions (Ritchie, 1997; Ritchie & Fitzpatrick, 1990; Saphir & Chaffee, 2002) and the current data were consistent with a two-factor model, the effects of the two types of family communication patterns were not parallel.

A possible reason for the negative effect of a conformity orientation on the relationship between attitude toward organ donation and willingness to engage in family discussion could be that having a positive attitude about organ donation is not powerful enough to motivate people to engage in family discussion about organ donation when they perceive their parents and other family members are conformity-oriented. Even when individuals had positive attitudes about organ donation, expressing their attitudes to their conformity-oriented family members was often something to be avoided and not desired. It is interesting that despite the negative influence on the relationship between attitude and family discussion, the conformity orientation did not significantly affect the positive effects of altruism and intention to sign on willingness to engage in family discussion about organ donation. One possible reason for this pattern of findings could be that attitudes about organ donation might include more of a focus on death itself than do altruism and intention to sign an organ donor card. The conformity orientation may be a more relevant factor when the focus is on donating organs after death than on helping others in an abstract sense. That is, altruism is an idealistic notion about helping others. Intention to sign an organ donor card can mean that signing increases a chance to help others, however signing now does not result in donating organs now. Attitudes about organ donation, however, may have more direct relevance to the time and act of actually "donating" organs, which might be a more unpleasant and objection-invoking topic for family discussion. Thus, for individuals who were more likely to consider their families to be conformity-oriented, their positive attitudes about organ donation made them less willing to talk to their families about organ donation. However, regardless of how conformity-oriented individuals consider their families to be, individuals with stronger altruism and stronger intention to sign were more willing to talk to their families about the "benefits-of-helping-others" resulting from organ donation.

On the other hand, the positive effect of conversation orientation on the relationship between intention to sign an organ donor card and willingness to engage in family discussion implies that individuals' perceptions about their family communication being conversation-oriented is one of the crucial links which connects the two behaviors (signing an organ donor card and expressing one's wish to family members) critical to organ donation. This finding shows that individuals with stronger intentions to sign an organ donor card have greater motivation to have their wishes of being organ donors honored by their family members, and they appear to find it easier to

talk to their families about organ donation when they perceive their family members to be conversation-oriented. However, conversation orientation did not affect the effects of attitudes and altruism on willingness to engage in family discussion, possibly because attitudes about organ donation and altruism have less concrete implications for individuals and their family members than does the behavior of signing an organ donor card. That is, having a stronger intention to sign can imply stronger behavioral commitment to organ donor designation than can altruism and attitudes about organ donation, and this commitment has concrete implications about the death of a family member and other negative associations.

Because the current findings were based on responses of undergraduates in the United States, it remains unanswered whether the current findings could be generalizable to young adults in other countries. People in different cultures have different beliefs about the "ideal" ways of family interactions (Matsunaga & Imahori, 2009). But Koroshnia and Latifian (2008) showed that the revised family communication pattern scale had acceptable validity and reliability in Iran. Hsu (2002) showed that a conformity orientation and a conversation orientation had separate and differential effects on communication apprehension among undergraduates in Taiwan. Using the revised family communication pattern scale with people in other countries may reveal how cultures and family communication patterns affect the relationship between attitudes about organ donation and willingness to engage in family discussion about organ donation. Wu and Tang (2009) showed that attitudes were a significant predictor of family discussion among Americans and Japanese, but not among Chinese. Future studies may examine if a conformity orientation and a conversation orientation will further differentiate the relationship between attitudes and family discussion among people in different countries.

4.2 Limitations and Directions for Future Studies

As a limitation, the scale of revised family communication patterns in the current study had lower reliabilities than in previous studies using this scale (e.g., Ritchie & Fitzpatrick, 1990; Schrodt & Ledbetter, 2007). At this point, it is uncertain whether the scale needs improvement or whether the lower reliabilities in the current study were simply due to sampling error.

A second limitation is that the exclusive focus on participants' perception about their family communication patterns also resulted in the treatment of communication between participants and their parents as a unidirectional process as opposed to a bidirectional process. Considering that family communication patterns can change and be affected by sons and daughters initiating family discussions with their parents (Saphir & Chaffee, 2002), family discussions about organ donation initiated by undergraduates might influence their parents' opinions on the issue.

A third limitation is that the current study did not differentiate family members (e.g., mothers, fathers, and siblings) when participants were answering questions on family discussion. It is not certain whether the participants in the current study indicated their willingness to engage in family discussions as involving all members of their family or only one parent or perhaps only their siblings.

A fourth limitation is that this study examined only a small number of variables. There are many other factors to consider when attempting to understand family discussion about organ donation. For example, individuals' knowledge about organ donation may be another important variable because individuals with greater knowledge and accurate information about organ donation may feel more competent in responding to potential counterarguments from family members who oppose organ donation. Additionally, it would be informative to examine the situations or contexts under which families feel motivated to talk about organ donation. Future studies will need to make an effort to develop a more complex model of interrelated factors that provide comprehensive understanding of family discussion about organ donation.

The limitations of the current study provide some suggestions for future studies. It would be beneficial to examine both parents and their sons and daughters to fully understand individual, situational, and interactional factors affecting family discussions. The examination of both parents and their sons and daughters with a longitudinal study design would allow researchers to achieve this goal. The measurement of parents' opinions about organ donation and young adults' perceptions of their parents' communication orientations would make it possible to examine whether young adults have family discussions about organ donation as a result of their parents' positive attitudes toward the issue or the communication environment (i.e., conformity or conversation orientation) in which they are embedded. Additionally, considering that family communication patterns can differ across families with different ethnicities and individuals with different ethnicities may differ in their attitudes and intentions about behaviors critical to organ donation (Park, Shin, & Yun, 2009; Park, Smith, & Yun, 2009), it would be interesting to examine how people with different ethnicities undertake or avoid family discussion about organ donation.

5. Conclusion

The results of the current study replicated past research findings that attitude toward organ donation, intention to sign an organ donor card, and altruism were positively related to willingness to engage in family discussions about organ donation. Furthermore, the current study raised the important question of whether individuals' perceptions of their family communication patterns are an important factors affecting willingness to engage in family discussions about organ donation and found that they were. Although the current study is not without limitations, the results provide useful implications for communication campaigns to encourage family discussion about organ donation.

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Table 1. Reliabilities, means, standard deviations, and correlations of variables

		1	2	3	4	5	6	7
1. Conformity-oriented family communication		.68						
2. Conversation-oriented family communication		–.34***	.67					
3. Attitude toward Organ Donation		–.19***	.12*	.85				
4. Altruism		–.17***	.31***	.46***	.82			
5. Intention to Sign an Organ Donor Card		–.11*	.10*	.45***	.26***	.93		
6. Willingness for Family Discussions		–.16**	.17***	.48***	36***	.65***	.91	
7. Engaged in Family Discussions[§]		–.03	.05	.14**	.10*	.11*	.19***	—
total	*M*	2.77	3.00	3.29	3.02	3.18	3.09	0.17
	SD	(0.92)	(0.67)	(1.09)	(0.79)	(1.09)	(1.15)	(0.37)
Engagement in Family Discussion (n = 73)	*M*	2.72_a	3.07_a	3.64_a	3.21_a	3.45_a	3.59_a	
	SD	(0.86)	(0.65)	(1.07)	(0.79)	(1.20)	(1.31)	
No Engagement in Family Discussion (n = 365)	*M*	2.79_a	2.98_a	3.22_b	3.00_b	3.15_b	3.00_b	
	SD	(0.93)	(0.68)	(1.08)	(0.79)	(1.05)	(1.09)	

* $p < .05$, ** $p < .01$, *** $p < .001$, *df* ranged from 436 to 459

Reliabilities (Cronbach's α) are reported on the diagonal.

[§] Coded with engagement in family discussions in the next week = 1 and no engagement in family discussions in the next week = 0

Means with different subscripts (a and b) within each column are significantly different from one another at $p < .05$

Table 2. Multiple regression results

	B	*SE*		*t*	*sr*
First Block					
Conformity Orientation of Family Communication	–0.03	0.05	–.03	–0.75	–.03
Conversation Orientation of Family Communication	0.08	0.06	.05	1.21	.04
Attitudes about Organ Donation	0.19	0.04	.18	4.24***	.14
Altruism	0.18	0.06	.12	3.15**	.11
Intention to Sign an Organ Donor Card	0.56	0.04	.53	14.08***	.47
F (5, 455) = 85.95, p < .001, $adj.R^2$ = .48					
Second Block					
Attitudes about Organ Donation × Conformity Orientation	–0.11	0.05	–.10	–2.14*	–.07
Altruism × Conformity Orientation	0.10	0.07	.07	1.48	.05
Intention to Sign × Conformity Orientation	0.00	0.05	.00	0.00	.00
Attitudes about Organ Donation × Conversation Orientation	–0.09	0.07	–.06	–1.34	–.05
Altruism × Conversation Orientation	0.01	0.08	.00	0.08	.00
Intention to Sign × Conversation Orientation	0.19	0.07	.12	2.77**	.09
F_{change} (6, 449) = 2.57, p = .02, R^2_{change} = .02					

* p < .05, ** p < .01, *** p < .001

sr: semipartial correlation