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Interpersonal and Shared Decision Making models of communication applied to simulated requests for organ donation

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INTERPERSONAL AND SHARED DECISION MAKING MODELS OF COMMUNICATION APPLIED TO SIMULATED REQUESTS FOR ORGAN DONATION

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science at Virginia Commonwealth University.

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Abstract

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Using an analogue format, the present study evaluated the viability of relationship and interactional concepts that have been applied to the physician-patient interaction to the field of organ donation by examining the donation request process between procurement coordinators and simulated families. Interpersonal processes were assessed using behavioral ratings by independent observers. Procurement coordinators were viewed as being more submissive than dominant and more friendly than hostile. Family members were viewed as being more hostile than friendly, more dominant and hostile than submissive or friendly, disclosing slightly more personal information than medical information, and engaging in slightly more shared decision making than providing medical information. Procurement coordinator gender and ethnicity and family ethnicity influenced interpersonal behavior. Several interpersonal variables were associated with measures of the "decision to donate" obtained from raters and simulated families. Implications for the field of organ donation and the training of procurement coordinators are discussed.

Introduction

Despite remarkable improvements in immunosuppression and surgical techniques, patients awaiting transplantation continue to be hindered by the inadequate supply of organs. During the past decade, the rate of organ donation by deceased donor increased by 73% (from 5,793 deceased organ donors in 1998 to 7,984 donors in 2008), whereas the national waiting list grew by 55% (from 55,501 candidates in 1997 to 101,577 as of April 8, 2009). A recent national opinion survey indicated that 95% of the public supported the idea of donating organs for transplantation. However, less than half of the families of donor eligible patients approached for organ donation actually consent. Several factors such as attitudes and beliefs about organ donation, fears, trust, family stamina, and perceived warmth of the health care provider have been shown to influence the donation decision making process. These factors share several commonalities with those known to influence the physician-patient relationship. Using an analogue format, the present study contributed to the literature by evaluating the viability of relationship and interactional concepts that have been applied to the physician-patient interaction to the field of organ donation by examining the donation request process between procurement coordinators and simulated families.

Human organ transplantation became a technological reality in the 1960's with the discovery of immunosuppressive drugs. The success and cost effectiveness of organ transplantation quickly vaulted the procedure to be the most clinically effective treatment for individuals with chronic end-stage diseases. However, the demand for organs far exceeds the available supply in the United States. Since 1988, 221,209 living and

deceased donors have provided organs for 452,210 transplant recipients. Based on OPTN data as of April 8, 2009, there are more than 101,000 individuals waiting for an organ in the United States. In 2008 alone, 6,272 patients died while waiting for a transplant. Since 1995, more than 84,000 patients have died while waiting for a transplant. Each year the waiting list increases by approximately 15 percent, while the number of deceased organ donors increases by only 3 to 5 percent (Howard, 2001).

The need for more families to donate their loved one's organs are apparent and one way to facilitate increased organ donation is to better understand the interpersonal interactions between potential donor family members and procurement coordinators. For example, it is imperative to understand how the family has interpreted the prognosis, the option of organ donation, and other medical information they have received. Theories of interpersonal communication, well validated in health care, can provide new information to the field of organ donation and may provide the basis for increasing donation rates.

The process of organ donation occurs in approximately eight steps, beginning with the identification, referral and evaluation of a potential donor by a nurse or physician in the emergency room or critical care unit. A procurement coordinator from an outside organization approaches the family about consent for donation. Once the family grants permission, the type of care received by the donor transitions into a management phase, which focuses on bringing the donor organs into prime functioning. The organs are recovered and allocated to the recipients who need them. Finally, the procurement coordinator typically follows up with the family to provide them with support, anonymous information about the recipients, and grief counseling when needed.

The present study examined the video recorded interpersonal interactions between family members who were potential organ donors (portrayed by trained actors) and organ procurement coordinators in a simulated organ donation request situation. The interactions between the two parties were examined from the standpoint of interpersonal communication models that have been applied to both psychotherapist-patient and physician-patient interactions. The focus was on concepts derived from the Circumplex model of Interpersonal Behavior (Kiesler, 1996) and the Shared Decision Making model of physician-patient behavior (Charles, Gafni, & Whelan, 1997, 1999).

In the following sections, a brief history of organ transplantation is presented first, followed by a review of the attitudes toward and against organ donation by donor and non-donor families. In addition, we review the influence of ethnicity upon the donation decision. Next, the complexity of brain death and its relationship to the donation process is evaluated. Then the eight phases of the donation process are examined with emphasis on the interaction between the family member and the procurement coordinator. The similarities between surrogate decision making in critical care settings and the role of the family in the donation discussion are examined. Next, the Interpersonal Circumplex model, its role in the processes of health care, and potential application to the field of organ donation is reviewed. Additionally, the Shared Decision Making model, its role in health care, and potential application to the field of organ donation is reviewed. A brief section follows on the use of standardized patient methodology in medicine and its application to organ donation. Finally, the hypotheses of the present study are presented in detail.

Brief History of Organ Transplantation

The idea of transplanting organs from one human body to another has existed in the folklore, mythology, and religion of the Hindu, Greek and Roman cultures since 1200 B.C. (Hong & Kahan, 2001; Jones, 2003; Kahan, 1981; Silk, 2004). Modern transplantation, first successfully performed on humans in 1954 by Joseph Murray, can be divided into three eras each differentiated by method of immunosuppression. The 'Experimental Era', beginning in 1954, can be characterized by the search for modestly successful immunosuppression drugs and experimentation with surgical methods for grafting organs such as the kidney, liver, and heart. Until the introduction of modern immunosuppressive drugs, such as 6-mercaptopurine and azathioprine, routine transplantation was limited to identical twins sharing a kidney (Cupples, 2002; Helderman, et al., 2003).The 'Azathioprine Era', launched by the discovery of azathioprine in 1962, allowed for kidney transplants to be offered by living and deceased donors with modest success.

The discovery of cyclosporine A and its implementation for clinical use in 1983 was responsible for increasing the survival of transplanted organs by 10-15% (Schnuelle & van der Woude, 2001). The 'Cyclosporine Era' resulted in a dramatic increase in long-term graft survival for kidney transplants and allowed for liver, pancreata, heart, and lung transplantation to become routine. Since 1992 the use of cyclosporine has decreased while more advanced cytotoxic agents and methods (e.g. tacrolimus, anti-IL-2R antibody therapy) have become commonplace. As a result of immunosuppression breakthroughs, transplantation became an effective treatment for both adults and children with chronic

end-stage diseases because it exponentially increased survival rates and decreased morbidity among organ recipients (Cupples, 2002; Helderman, et al., 2003). Transplantation became a viable life-saving procedure for kidney, pancreas, liver, heart, lung, intestine, and combination organ (e.g. heart-lung, kidney-pancreas) transplant recipients.

The process of transplanting organs in the United States is complex and regulated by the Federal Government. The system is composed of 59 Organ Procurement Organizations (OPO) that provide deceased donor organs to 252 transplant centers across the country. The Federal Government has designated each OPO as being responsible for recovering organs in all hospitals of a specific contiguous geographic area (see Figure A1 in Appendix A). Each OPO is required to be a member of the Organ Procurement and Transplantation Network (OPTN), which has been maintained by the United Network for Organ Sharing (UNOS) since 1987. The process by which organs are allocated is determined by OPTN/UNOS and a complex computer algorithm designed to match donor organs with recipients. All individuals waiting for a deceased donor organ are placed in the national waiting list database that contains both biologic and demographic data. Each time an organ becomes available, the algorithm generates an ordered list of matching transplant candidates that is specific to each type of organ system. The OPO sequentially offers the organ to the transplant center where the patient is waitlisted. The transplant center, acting on behalf of the candidate, may either accept or decline the organ based upon the donor's medical and social history, or factors related to the recipient such as

distal proximity to the hospital or temporary illness. The process continues to the next waitlisted candidate if the transplant center declines the organ (Nathan, et al., 2003).

The allocation system utilizes an individual distribution policy for each type of transplant. However, there are general principles that apply to all organs in order to ensure successful outcomes and to provide equal access to all patients. Recipients who are close biological matches including blood type, body size, and/or tissue type are given higher priority because these matches tend to result in better long-term survival after transplantation. Patients with more urgent health status receive priority for certain organs such as the heart, liver, and intestine. Organs are typically offered locally, then regionally, and then nationally in order to minimize organ preservation time, which is associated with better transplant survival. Waiting list time is used to differentiate between patients who are similar on all other factors. Those who have waited longer at their current medical status receive priority. Special provisions allow organs to be more available for children, highly matched candidates, and the most urgent category of liver transplant patients. In summary, the system automatically matches the donor organ to the recipients with both the greatest need and greatest likelihood for a successful transplant (Nathan, et al., 2003; UNOS, 2005).

Although the annual number of deceased donors has increased by approximately 73% since 1988, the rate of recovery and type of organ recovered across regions has not been uniform. Many regions have experienced significant differences in the number of organs recovered from deceased donors and such volatility is not uncommon. For example, a review of transplant activity by region over a 20-year period provides an

observation of these differences. By OPTN/UNOS region, the total increase in deceased donors from 1988 to 2008 ranged from 34% in Region 11 to 86% in Region 1 based on OPTN data as of April 8, 2009. In fact, more than half of all deceased donations in 2008 occurred in four Regions: Region 3 (17%), Region 5 (14%), Region 2 (13%), and Region 11 (12%). Nathan and colleagues (2003) attribute these differences to non-uniform distribution of donors across the country and to other factors known to influence the decision of family members to give consent to donation such as race, age, education, and socioeconomic status.

According to OPTN data as of April 8, 2009, there were 7,985 deceased donors in 2008 that provided 21,745 organs, of which 49% were kidneys, 28% livers, 10% hearts, 7% lungs, 5% were kidney/pancreas or pancreas, and 1% intestine. Donors, of which 59% were male, ranged in age from less than 1 year to 65+ and the majority were evenly divided between age 50-64 (28%), 35-49 (26 %), and 18-34 (26%). Caucasians, African Americans, and Hispanics composed 67%, 16%, and 14% respectively of donors. Cerebrovascular disease and stroke, head trauma, and anoxia were the three leading causes of death accounting for 40%, 35%, and 22% of deceased donors. Intracranial hemorrhage and stroke was the most common mechanism of death (41%) followed by blunt injury (23%), cardiovascular (12%) and gunshot wound (10%). Thus, the deceased donor profile has begun to shift from the young adult who died from a traumatic head injury to the older adult who died from a cerebrovascular event (Nathan, et al., 2003).

An average of 78 organ transplants take place in the United States each day and provide both short and long-term quality of life improvement for recipients (Dew, et al.,

1997; UNOS, 2005). However, the list of patients waiting for transplantation continues to increase at an exponential rate due to the rising number of patients with end-stage organ disease and the shortage of available donors. Understanding the system of organ donation and how individual attitudes and beliefs influence the decision making process are discussed next.

Attitudes Toward Organ Donation

The system of organ donation in the United States is centered upon the concept of "voluntariness", which is understood to mean that donors must agree to donate free of coercion and within the guidelines of informed consent (Caplan, 1984). Voluntariness ensures that organs are taken only from those who have consented and that the interests of the patient are protected against premature organ removal. Altruism, defined as the desire to help others, is assumed to play a significant role in organ donation and some have claimed that it is the primary factor influencing the donation decision (Batten & Prottas, 1987; Fulton, Fulton, & Simmons, 1987). In many ways, this system of altruistic donation is the product of multiple factors such as initial public apprehension over the experimental nature of transplantation, worries over bodily mutilation, surveys of health care provider attitudes, and public opinion polls (Batten & Prottas, 1987; Siminoff, Arnold, Caplan, Virnig, & Seltzer, 1995).

Public opinion surveys reveal high levels of support for organ donation, while actual rates of donation are much lower. A recent poll stated that 95% of the public supports the concept of donating organs or tissues for transplantation (The Gallup Organization, 2005). Yet, Siminoff and Arnold (1999) found in one study that at least

50% of all donation requests made to families of brain dead patients resulted in refusal. Refusal rates by potential donor families in the United Kingdom are as high as 41% and increase to 70% in minority ethnic groups (Barber, Falvey, Hamilton, Collett, & Rudge, 2006). In addition, several smaller studies have found that African Americans decline to donate organs two to three times as often as white Americans (Hartwig, Hall, Hathaway, & Gaber, 1993). This pattern of difluence may be the result of several factors such as social desirability bias in the poll results or that the surveys tap attitudes about speculative rather than actual behavior. These findings suggest that the public may not be comfortable with the idea of donation itself, but readily identifies with the lifesaving aspects of transplantation (Siminoff, et al., 1995). Sque, Long, and Payne (2008) postulate that the decision making process related to organ donation is neither consistent nor logical. Morgan and colleagues (2008) found that non-cognitive factors such as the desire to maintain bodily integrity or worries that signing a donor card may "jinx" a person were far more influential that cognitive or rational processes upon the decision to donate.

The depiction of organ donation and transplantation by the media may influence attitudes about organ donation. Conesa et al. (2004), in a survey of 1,143 adults, found that television was a greater source of information about organ donation than radio, newspapers, magazines, friends, family, or health care professionals. Morgan and colleagues (2005) found that family members believe they receive important information about organ donation from the media. In a thematic study of 78 family dyads, the authors found several myths frequently referenced by the media such as premature declaration of

brain death, a black market for organs in the United States, and corruption in the allocation system that allows celebrities to receive transplants first. Harrison, Morgan and Chewning (2008), in a sample of television clips relevant to organ donation from 2003 until 2006, found that story lines tend to reflect sensationalistic news or promote stories that highlight fears about the organ donation process. More than 90% of entertainment programs that mentioned organ donation contained false information. The authors hypothesize that sensationalized news in addition to the placement of myth propagating organ donation storylines in highly realistic medical and medical-legal television dramas (e.g. Grey's Anatomy, House M.D., Law & Order) are more influential on individual attitudes than public awareness campaigns. Viewers may conclude that while organ donation is a "good thing", the risks outweigh the benefits and cite the media as evidence in support of their beliefs. Thus, a sleeper effect may occur over time where the source (television show) and the message (organ donation myth) become disassociated from one another resulting in the recall of the source and not the credibility of the source (Priester, Wegener, Petty, & Fabrigar, 1999). In conclusion, it is clear that the factors influencing the pro-donation attitudes espoused by 95% of the public may not be strong enough to influence actual donation behavior.

A critical aspect of the donation process is the way in which it has been framed as the "gift of life" due to the scarcity of available organs and because the concept is easily perceived as being altruistic. Although an appealing public awareness message, the donor is not a knowing giver in the transaction and the family is acutely aware that their "act of charity" lacks equal reciprocity because it is sacrificial. Families rarely accept or

understand the medical concepts surrounding donation such as brain death and often believe in the continued existence and importance of the body after death (Siminoff & Chillag, 1999). Sque and colleagues (2008) found that non-donor families cite a desire to protect the body of the patient as a primary concern and that tension exists between conceptualizing an organ as a gift rather than a sacrifice. In addition, the gift metaphor may unknowingly be presented to families as an emotionally neutralizing agent to influence the donation decision. Thus, altruistic and non-altruistic motivations as well as situational factors influence the donation decision.

Numerous public policy initiatives designed to remove barriers to altruistic donation have done little to increase the availability of organs. State and federal laws that encouraged health care providers to speak with families about organ donation, tied donation request procedures to Medicare funding, and increased OPO involvement have resulted in only slight increases in organ availability (Siminoff, Mercer, Graham, & Burant, 2007). Lock and Crowley-Makota (2008) postulate that multiple familial, cultural, and political factors influence the practice of organ donation. Although altruism is viewed as the primary incentive for organ donation in the United States, additional motivations and the combination of motivations greatly influence decision making. In the following sections, the attitudes and reasons for and against organ donation are reviewed with specific emphasis placed upon the reasons identified by families who have been asked to donate a loved one's organs.

Support for Organ Donation

Siminoff and colleagues (2007) interviewed 420 family decision makers of donor-eligible patients to understand their decisions regarding organ donation. Family race and income, patient gender and age, and attitudes toward donation significantly differed between those who donated (n = 239) and those who refused to donate (n = 181). The families of white, male, and younger patients were more likely to consent to organ donation. Family decision makers who had annual incomes of less than $25,000 were more likely to refuse donation and scored lower on a measure assessing family attitude toward organ donation. Additional studies support these findings and indicate that donor families tend to have higher levels of formal education, have a positive attitude toward organ donation, and cite altruism as a significant reason for donation (Burroughs, Hong, Kappel, & Freedman, 1998; Rodrigue, Scott, & Oppenheim, 2003; Siminoff, Gordon, Hewlett, & Arnold, 2001).

Altruism was the most frequently cited reason in support of organ donation at 78%, but was rarely reported as the only reason by family members. In fact, family members cited additional reasons such as the belief that the patient had communicated a wish to donate (75%), pro-donation values held by the family (62%), the view that donation assists in helping to cope with the loss of a loved one (32%), and that the patient is gone and does not need organs (22%). The majority of families (90%) provided more than one reason in support of their decision to donate. Thus, 33% of families cited two reasons, 36% cited three reasons, and 21% cited four or more reasons in support of the donation decision. Altruism was strongly correlated with knowing or believing the patient

wished to donate, generally favorable attitudes toward donation, and using donation as a strategy to cope with the death of a loved one (Siminoff, et al., 2007).

Numerous studies have identified predictors of the decision to donate such as altruism, a hope for immortality, and empathic motivations (Fulton, et al., 1987; Morgan, Harrison, Afifi, Long, & Stephenson, 2008; Siminoff, et al., 2001). Siminoff and colleagues (2007) identified patient age, decision maker age, positive donation attitudes, and family income as predictors of the reasons to donate. Families cited altruism as a reason to donate when positive attitudes towards organ donation increased. In addition, families of younger patients were more likely to cite altruism as well. The family's knowledge of the patient's wishes regarding organ donation increased with both the patient's and decision maker's age. As family income increased, families reported that they were more likely to donate due to their positive attitudes toward donation. Families of younger patients and who reported more positive scores on the donation attitudes questionnaire were more likely to cite that they chose donation because it helped the family to cope. Also, more positive donation attitudes were predictive of family members stating that the patient did not need the organs after death. Although altruism is important, it does not appear to be the sole reason responsible for donation. Rather, altruism appears to strengthen the use of other reasons such as knowing that the patient wanted to donate and using donation as a coping strategy.

Refusal to Donate Organs

Epidemiologic data suggests that minorities, individuals with less formal education, and families from lower socioeconomic strata are less likely to donate

(Siminoff, et al., 2001). Families who refuse donation tend to cite a more diverse set of less correlated reasons than donor families. Siminoff and colleagues (2007) noted that the most frequently cited reason for donation refusal by families was the belief that the patient did not want to donate, which was reported by 37% of families as the sole reason for refusal. Family stamina, defined as the general belief that the patient and often the family have been through enough and could not tolerate the donation process, was the second most common reason for donation refusal and was cited by 44% of non-donor families.

Decision makers cited additional donation refusal reasons such as concerns over body disfigurement or preclusion of an open-casket funeral (43%), mistrust of the health care system (25%), family thought the patient was ineligible for donation (19%), family disagreement about donation (14%), and the decision to end mechanical support (12%). Fear of disfigurement was strongly correlated with three other reasons, which include family stamina, the belief that the patient did not want to donate, and mistrust of the health care system. Thus, 36% of non-donor families cited two reasons, 18% cited three reasons, and 13% cited four or more reasons to decline organ donation.

As attitudes toward organ donation became more positive, decision makers were less likely to cite mistrust of the health care system, family disagreement, or that the patient did not wish to donate as reasons for refusal. In addition, family members were more likely to cite knowledge that the patient did not wish to donate as patient age increased. Families of male patients were far less likely to cite family stamina as a reason to decline donation. Families of older patients were more likely to indicate that they

incorrectly determined the patient to be ineligible for donation. In addition, female decision makers were six times more likely to cite that the family decided to terminate mechanical support as a reason for refusal than male decision makers (Siminoff, et al., 2007).

Non-donor families tend to cite a lack of trust with health care providers and a sense of time constraint as significant reasons for donation refusal. Siminoff and colleagues (2001) noted that families were less likely to donate if they believed that one or more health care providers involved with the care of the patient were indifferent. Haddow and colleagues (2004) found that non-donor families are more likely to feel that a sense of trust was never established between themselves and the patient's health care provider. These findings may contribute to the sense of emotional exhaustion reported by non-donor families and noted by Siminoff and colleagues (2007). In summary, there appear to be several situational and interpersonal variables that may hinder the formation of provider rapport with family members and these variables negatively influence the decision to donate.

Family members can play an important and influential role in the donation decision. Rodrigue, Cornell, and Howard (2008a), in a study of 285 next of kin potential donors, found that in the majority of cases either an immediate or extended family member was with the next of kin when approached about organ donation. When the patient's donation intentions are known, family members can confirm the intention and ensure that the patient's desire is fulfilled. In most cases, family members make a decision that is consistent with the patient's stated or documented intention (Burroughs,

et al., 1998; Rodrigue, Cornell, & Howard, 2006; Siminoff, et al., 2001; Sque, Long, & Payne, 2005). Although less common, family members have refused donation despite knowing that the patient wanted to be an organ donor (Rodrigue, et al., 2006; Sque, et al., 2008).

The importance of communicating donation intention to family members becomes more pronounced in cases where this has not happened. Morgan and Miller (2002) found that it is common for individuals to not have discussed their donation intentions with family members. In cases such as this, OPOs rely on the family for the decision and this may introduce further tension to the family's bereavement. Family members provide emotional support and are usually included in discussions that require resolution such as the donation request. Rodrigue and colleagues (2006) found that not knowing the patient's donation wishes was most influential upon refusal. In fact, organ donation was less likely when the family was not in complete agreement about donation or if there was family conflict.

Disagreement among family members about donation can influence the decision making process. Rodrigue, Cornell, and Howard (2008a) found that disagreement occurred in one-third of donation requests when other family members were present and that disagreement is likely to influence refusal when the patient's intentions are unknown. Predictors of family disagreement included having more than one family member present, not knowing the patient's donation preference, and less satisfaction with the health care team. Thus, it is important to understand how family dynamics influence variables such as the tone of the discussion process or health care provider interactions because these

factors are more likely to affect the decision making process in cases where the patient's donation preference is unknown.

Minority Organ Donation

Minorities compose more than half (54%) of the candidates waiting for transplantation based on OPTN data as of April 8, 2009. Yet, of the 7,985 cadaveric donors in 2008, only 33% were minorities. African Americans, Hispanic, and Asian Americans composed 48%, 42%, and 7% of minority cadaveric donors in 2008 and the average waiting time is longer for minorities transplant candidates than for Caucasians.

Kidney donation and transplantation is one area in which the disparity between minorities and Caucasians is particularly pronounced. According to OPTN data as of April 8, 2009, 61% of kidney transplant candidates are minorities and of that 57% are African American. In fact, African Americans are over-represented on the kidney transplant waiting list by a ratio of three to one. In 2008, only 32% of cadaveric kidney and 31% of living kidney donors were of non-white ethnicity. Yet, 46% of kidney transplant recipients were minorities.

The disparities between minorities and Caucasians are due to a number of complex and multisystemic factors. First, African Americans and Hispanics are disproportionately affected by diabetes and hypertension and are more vulnerable to end-stage renal disease (Centers for Disease Control and Prevention, 2003). Second, minorities are more likely to decline organ donation when approached. Sheehy et al. (2003), in a retrospective study completed by the Association of Organ Procurement Organizations, found that minorities consented to organ donation 30-40% of the time

compared to 61% for Caucasians. Siminoff and colleagues (2003) found that African Americans are half as likely as Caucasians to agree to donate their loved one's organs when presented with the opportunity. Last, the structure of the transplant allocation system, blood type differences among races in the donation pool, poorer access to and quality of care for African Americans, and poorer health literacy limit organ availability to these populations. There simply are not enough "matchable" organs procured for African Americans and the increasing growth of the transplant waiting list exacerbates this effect (Callender & Hall, 2001; Callender, Maddox, & Miles, 2005; Kurz, Scharff, Terry, Alexander, & Waterman, 2007). In fact, African Americans are less likely than Caucasians to be referred for transplant, to receive transplant education, to be evaluated for transplant, and to get a deceased or living donor kidney transplant (Joint Commission on Accrediation of Healthcare Organizations, 2004). Due to the inclusion of African Americans in the present study, the literature on African American organ donation is reviewed to evaluate the predisposing, enabling, and need factors that influence organ donation.

In a review of the African American organ donation literature from 1980 to 2005, Kurz and colleagues (2007) organized factors influencing donation such as attitudes or socioeconomic status into three categories: predisposing, enabling, and need factors. Predisposing factors consist of demographic, social-structural, and attitudinal characteristics. Most studies found that demographic factors such as age and gender were not significant predictors of attitude or behavioral intention regarding organ donation in African American populations. However, some studies found evidence that these factors

were influential. For example, in an urban cross-sectional sample of African American adults, Minniefield and Muti (2002) found that age was negatively associated with the extent of family discussion about donation and willingness to donate. In addition, older respondents cited objections to donation that were related to religious attitudes while younger respondents cited fears that an organ would be taken prematurely or that organs would not go to those in need.

The second set of predisposing factors includes social-structural elements that influence attitudes and behaviors about organ donation. Social-structural factors include race, education level, occupation, family income, the type of death of the donor, and the location at which death occurred. African Americans remained significantly less likely to have positive attitudes about organ donation or to donate their own or a loved one's organs even after controlling for socioeconomic and all other factors. High school and early college African American students are less likely to cite religious reservations, distrust of the medical system, or indicate that the donor system was unfair as concerns against donation. Additionally, African Americans with higher incomes or who are married have more positive attitudes toward organ donation (Spigner, Weaver, Cárdenas, & Allen, 2002). However, these findings have not been consistently replicated due to the limited literature, the use of convenience-based samples, and the complexity of socioeconomic variables such as age and education that are difficult to separate without further study.

The last set of predisposing factors includes individual cognitive processes that are composed of attitudes, knowledge, and beliefs about organ donation. The mistrust of

the health care system and physicians is the most salient attitude affecting organ donation in the African American community. In fact, Siminoff, Lawrence, and Arnold (2003) found that African Americans were less likely to believe that they would be treated fairly by the health care system or that the system is equitable. The core concern appears to be a fear that donors will not receive adequate medical care or that physicians will not do all that they can to save the family member's life before donation (Kurz, et al., 2007; Siminoff & Saunders Sturm, 2000). Additional fears have also been identified that influence the donation decision such as a general fear of surgery, disfigurement concerns, a fear of pain and inconvenience, and disgust sensitivity (Rice & Tamburlin, 2004).

Cultural and religious beliefs appear to influence the donation decision. African American family members are more willing to donate the organs of their loved one if they knew of the patient's preferences or had prior knowledge of donation or transplantation. In addition, the perception that the organ allocation system is unfair negatively influences donation attitudes and beliefs (Siminoff & Saunders Sturm, 2000). Religious or spiritual beliefs significantly influence attitudes and beliefs about organ donation. Although an early finding in this growing body of literature, Callender and colleagues (1982) found that the most prominent religious belief to negatively influence donation was idea that the body must remain whole after death.

In summary, there are several prominent predisposing factors that influence organ donation among African Americans. Race appears to have a persistent and negative effect on attitudes and donation behavior regardless of all other social structural and demographic factors such as age, education, or income. Negative attitudes toward

donation appear to result from a distrust of the health care system, fears of disfigurement that may impact funeral arrangements, fears that everything was not done to save the patient's life, and general medical fears related to surgery, pain, and complications. Beliefs about religion and the desire to maintain a whole body upon entering the afterlife are influential in the perception of organ donation by African Americans. Additional beliefs include concerns about the fairness of the organ distribution system and the role of the family in the decision making process (Kurz, et al., 2007).

Enabling factors influence donation among African Americans and consist of community and personal components. Community enabling factors are related to marketing or information dissemination. Television, family, and the workplace were identified as the primary sources of information about organ donation among African Americans who have signed donor cards (Morgan & Cannon, 2003). Community based messages that use racially appropriate messengers and stakeholders as messengers significantly influence attitudes, knowledge, and behavioral intentions about organ donation among African Americans (Callender, Burston, Yeager, & Miles, 1997; Callender, Hall, & Branch, 2001).

Personal enabling factors are comprised of items related to the procurement process and communication. Donation requestors with greater education and of similar race were more effective at increasing donation and perceptions about intended donation (Gentry, Brown-Holbert, & Andrews, 1997; Siminoff, Lawrence, et al., 2003; Siminoff & Saunders Sturm, 2000). African Americans also tend to prefer either culturally sensitive donation requestors or those of the same race. The literature suggests that race and other

subtle characteristics become more salient as the individual becomes more personally involved in the decision making process (Kurz, et al., 2007).

Communication and participation in the donation process differs between Caucasians and African Americans. Family discussion about organ donation is associated with a greater willingness to donate and actual donation even though African Americans are less likely to broach this topic with family members (Callender, et al., 1997; Morgan, Miller, & Lily A. Arasaratnam, 2003; Siminoff, Lawrence, et al., 2003). African Americans are less likely to be perceived as willing to donate or to be approached for procurement. In addition, they have fewer opportunities to discuss the decision with OPO staff and have a greater likelihood of not speaking with OPO staff. African Americans tend to discuss fewer topics when conversations with donation requestors do occur (Guadagnoli, et al., 1999; Siminoff, Lawrence, et al., 2003).

Last, Kurz and colleagues (2007) identify the lack of perceived need for organ donation in the African American community as an influential factor. African Americans tend to be less aware of the shortage of organs and of the disparity in waiting list times between African Americans and Caucasians. However, Callender and colleagues (1997; 1982; 2001) have demonstrated in a number of studies that willingness to donate among African Americans increases as the perception of need becomes more salient.

In summary, there are several prominent enabling and need factors that influence organ donation among African Americans. Community enabling factors that have been associated with positive attitudes towards donation are the use of influential community leaders and same race messengers. Personal enabling factors that have been associated

with increased rates of donation include the use of culturally sensitive or same race donation requestors. In addition, family communication is influential in the decision making process and the low likelihood of discussing donation with the family is an impediment to donation. Last, the low knowledge about organ donation and the lack of perceived need for organ donation in the African American community is a significant barrier to donation.

The Complexity of Brain Death

Although a minor theme in the organ donation literature, numerous studies have identified several concerns held by the public in relation to brain death. Verble and Worth (2000a, 2000b) identified 20 fears and concerns held by families about donation and other issues at the time of the donation discussion. Fears included the feeling that they may be diagnosed as dead too soon if they agreed to donation or that they would not be dead at the time of donation. The declaration of brain death is a prerequisite for organ procurement and is defined in the United States as the individual having "sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem…" ("Uniform Determination of Death Act," 1980).

Health care providers and the public often confuse brain death with persistent vegetative state and coma. In fact, the public appears to hold multiple conceptualizations of brain death that are strongly influenced by culture, religion, and experience (Leeuwen & Kimsma, 2007). Long, Sque, and Addington-Hall (2008) postulate that family members draw upon emotional, cognitive, metaphoric, spiritual, and pragmatic

components in arriving at personal understanding of brain death when informed of the patient's status.

The dead donor rule posits that patients cannot be killed through organ retrieval (Robertson, 1999). Siminoff, Burant, and Youngner (2004), in a random sample of 1,351 Ohio residents, found that most individuals did not violate the dead donor rule when presented with opportunities in a scenario based study. However, a higher percentage of those who were confused about death were more willing to violate the dead donor rule (i.e. donate the organs of someone whom they identified as not being absolutely dead).

Some have postulated that the timing of the donation request in relation to the brain death diagnosis may influence the decision making process. The term decoupling refers to presenting the donation request after the pronouncement of brain death rather than before or concurrent with the diagnosis (Cutler, et al., 1993). Siminoff, Lawrence, and Zhang (2002) found a weak correlational effect that the donation request was most strongly associated with consent to donation if made before the pronouncement of death. However, the effect disappeared when examined in relation to other factors such as patient characteristics, attitudes, and having enough information about the patient's wishes. The literature on decoupling has been inconsistent and in part reflects the use of ambiguous decoupling definitions and temporal measurement difficulties.

Families who misunderstood or fail to equate brain death with absolute death are more likely to donate. Franz et al (1997) conducted a cross-sectional survey of 164 next-of-kin potential organ donors and found that 95% of donor and 97% of non-donor respondents stated that their relative was brain dead and that they understood the concept

of brain death. However, almost half of the donor and over 80% of the non-donor respondents answered one or more questions about brain death incorrectly. Siminoff, Mercer, and Arnold (2003) asked a larger sample of donor (n = 232) and non-donor (n = 171) family members and found that a significant number of family members were confused about the term brain death. However, 63% of donating families agreed to donation even though they believed the patient to be alive when diagnosed as brain dead. In fact, the authors concluded that is more important to understand the implications of the brain death term to the decision maker by assessing if the family thinks the patient is beyond hope and will not recover and if the family thinks the patient is actually dead. Despite being frequently misunderstood and not universally accepted, studies suggest that an understanding of brain death may not be as significant in the decision making process as other variables (Rodrigue, et al., 2006).

Phases of the Organ Donation Process

Schafer and Alexander (1992) identified 8 phases of the organ donation process, which included three interpersonal interactions between family members and health care providers. The present study focused exclusively on the interpersonal interactions surrounding the request for organ donation, which occurs in phase 4. Although these phases are presented sequentially, there is variability in the process due to health system and local OPO policies.

In phase 1, hospitals identify potential donors who enter the health care system. Potential donors are traditionally between the ages of birth to 70 years old, however some OPOs have no formal age cutoffs for donation eligibility. Typically, neurological tests

regarding brain death are performed at this stage and the physician notifies the family once testing has confirmed "irreversible cessation." The conversation between the physician and the family during the disclosure of brain death is the first critical interpersonal interaction.

Phases 2 and 3 primarily involve the health system and the OPO. In phase 2, the local OPO is contacted and a procurement coordinator is sent to the hospital to verify that the patient meets the qualifications of donation. In phase 3, the procurement coordinator examines the patient's medical information and extent of injuries. The procurement coordinator also evaluates the patient's medical and social history in order to make a decision to either recommend proceeding with the consent for donation process or to declare that the patient is unsuitable for donation.

Phase 4 contains the consent stage and was the primary focus of the present study. In this phase the procurement coordinator approaches the family about the possibility of donating their loved one's organs. Ideally, the procurement coordinator discusses organ donation with the family in a sensitive and compassionate manner. The family is told that organ donation will not change the physical outward appearance of the donor and that all costs related to the donation are covered by the OPO. The donor family and their respective insurer are not responsible to pay for any of the costs associated with donation. It is important to note that the procurement coordinator does not have a fiduciary responsibility to act on behalf of the family's needs or in the best interest of the family.

Ideally, the family identifies which organs and/or tissues are to be donated and the procurement coordinator identifies the primary decision maker. The chain of legal

custody includes: 1) spouse, 2) adult child, 3) parent, 4) sibling, 5) legal guardian, 6) any person authorized to dispose of the body, which may include the medical examiner. However, as mentioned earlier, multiple family members may be part of the decision making process and it is the role of the procurement coordinator to include them in the conversation. The family is free to bury their loved one if they do not consent to donate.

Phase 4 also contains the most important interpersonal interaction that occurs between the family and procurement coordinator. At this point the family makes the decision to allow or refuse the donation of their loved one's organs. The exact interpersonal processes (e.g. friendliness, empathy, control, information exchange, decision making) occurring both within and between the procurement coordinator and family member have not been evaluated in prior research. The present study examined this interpersonal interaction in realistic scenarios designed for training purposes.

In phase 5, the goals of the health care team shift from saving the patient's life to optimizing a body that houses organs needed by others on the waiting list. Thus, the process can last from 2 to 12 hours and requires that the organs be brought to a high level of functioning before removal. Various drugs are administered to the body in order to hydrate, oxygenate, and reduce the threat of infection to the organs. Also, the donor is tested for various infectious diseases, such as hepatitis, cytomegalovirus, or syphilis. The donation process can be terminated immediately if certain infectious diseases such as HIV are detected. Additional health care providers from the OPO assist with donation by maintaining contact with UNOS to identify potential recipients for the organs. The

transplant teams from the multiple recipient centers are alerted and travel to the donor for the recovery of the organs.

In phase 6, the donor's organs are recovered from the body by the visiting transplant recipient team, who is assisted by the hospital staff. Similar to major exploratory laparotomy, the body is cut and each organ is visually identified and removed from the donor. Prior to the removal, the organ's blood supply is cut and a cold preservation solution is flushed through in order to slow organ decomposition. Certain organs, such as the heart and lungs, can be preserved for 4-6 hours, while the kidneys can be preserved for up to 48 hours. The OPO procurement coordinator is present throughout the recovery process in order to ensure the respectful treatment and return of the body to the family.

Phases 7 and 8 consist of the transplantation of donor organs to the recipients and follow up. In phase 7, the allocation stage, the organs are distributed to the transplant recipient centers utilizing the allocation parameters or regional sharing agreements discussed earlier. In phase 8, the follow up stage, the organ donation process is complete. The OPO then provides follow up information to a few of the key donor hospital personnel about the status of the organs and the demographic characteristics of the recipient.

Phase 8 also contains the last interpersonal interaction between the family and the procurement coordinator. It is at this stage, after the donor organs have successfully been transplanted to the recipients, that the donor family, who often have already left the hospital, is told about the outcome of their gift and given a special thanks. Some OPOs

offer support or aftercare programs to the families of donors in order to help them with the grief process or any other unexpected result of the donation process. The interpersonal interaction in this stage is important because it affects how the family values the outcome of their decision to donate.

In review, the process of organ donation includes 8 phases and three critical interpersonal interactions between the family and health care providers. The first interaction occurs between the physician and family in phase 1 regarding the declaration of brain death. The second interaction occurs between the procurement coordinator and family in phase 4 regarding the request for organ donation. The last interaction occurs between the procurement coordinator and family in phase 8 regarding grief counseling (if needed) and follow up information about the recipient. The present study examined the second (phase 4) interpersonal interaction.

The Role of the Surrogate in the Decision Making Process

Physicians are bound by the principles of medical ethics, law, and medical practice to not provide medical care to competent patients without their informed consent (Faden & Beauchamp, 1986). In fact, patients must be informed about the diagnosis, treatment options, and prognoses of the varying treatment options. Patients' choices must be voluntary and by definition be free of coercion, manipulation, or any type of undue influence. Patients must have the decisional capacity or competence to give or withhold consent for treatment (Brock, 2007). However, in cases when the patient has been deemed incompetent or incapacitated to make treatment decisions, a surrogate is selected to make treatment decisions and these individuals make approximately 75% of decisions

for hospitalized patients with life-threatening illnesses (Brock, 2007; Hiltunen, Medich, Chase, Peterson, & Forrow, 1999). The process of cadaveric organ donation is by definition a situation in which the patient is incapacitated and the next of kin becomes the surrogate decision maker.

Ideally, the physician selects the patient's next of kin as the surrogate if the court has not already selected one. Available in almost every state, Health Care Decision Acts authorize physicians to allow available family members to act as surrogates without legal appointment as a surrogate or guardian by the court. Some state statutes allow for friends or individuals invested in the care of the loved one to be selected by the physician as a surrogate in the absence of an available family member (Menikoff, Sachs, & Siegler, 1992). The surrogate is responsible for making decisions with the physician and will typically seek the physician's guidance about those decisions. However, since the surrogate's decision making authority is not absolute the physician may at times have to evaluate if the decisions regarding medical care are within the proper bounds of the surrogate's authority (Brock, 2007).

Buchanan and Brock (1989) identified three ideal guidance principles for surrogate decision making that are applied in sequential order. The Advanced Directive principle directs the surrogate to follow the patient's advanced directive and is used in situations where the patient's wishes for treatment are known. The Substituted Judgment principle guides the surrogate to make a decision that the patient would have made given the circumstances. Substituted Judgment is used in situations where there is no advanced directive and the surrogate has sufficient knowledge of the patient and his or her values to

make a decision consistent with what the patient would have wanted. The Best Interests principle encourages the surrogate to make a decision consistent with the best interests of the patient and can be practically understood as the "decision that most reasonable persons would make given the circumstances." This principle is used in situations where there is no advanced directive and no surrogate with knowledge of the patient's wishes (Brock, 2007).

Although these principles should, in theory, guide the surrogate, the decision making process can be unclear and controversial when information about the patient's wishes is limited. Research indicates that most surrogates tend to rely on factors such as their own best interests or mutual interests of themselves and the patient rather than relying upon substituted judgment or the patient's best interests (Torke, Alexander, & Lantos, 2008; Vig, Taylor, Starks, Hopley, & Fryer-Edwards, 2006). Furthermore, these guiding principles rarely alleviate the moral, emotional, and cognitive demands experienced by the surrogate as a result of the decision making process (Burck, Vena, Jolicoeur, & Jolicoeur, 2007). Thus, the multiple demands placed upon surrogates greatly influence their ability to make accurate treatment decisions.

The accuracy of surrogate decision making hinges upon the assumption that the choice made is consistent with one the patient would have made. Meeker and Jezewski (2005), in a review of assessing the accuracy of surrogates' predictions in hypothetical scenarios, found low to moderate concordance between the patient's choice and the surrogate's prediction of that choice. In addition, physicians' choices are consistently more discrepant from those of the family surrogates'. Higher levels of concordance

between the surrogate and patient were associated with more invasive medical procedures and dire prognoses. Shalowitz and colleagues (2006) found that 68% of surrogates predicted patients' treatment preferences accurately in a review of 16 studies involving 151 hypothetical scenarios and 19,526 patient-surrogate paired responses. Available data suggests that patient designation of surrogates and prior discussion of patient preferences does not improve surrogate accuracy. Surrogate decision making appears to be a complex personal and interpersonal process influenced by multiple determinants that result in inaccurate decisions in approximately one third of cases.

Although surrogates realize that prognostic information provided by physicians may not be accurate, they still value the information. Evans and colleagues (2009) conducted semi-structured interviews with 179 surrogates for patients at high risk for death in a critical care setting and found that the majority of surrogates prefer physicians to disclose prognostic estimates even if they are not known to be accurate. The authors posit that this desire on the part of the surrogates may originate in the belief that "prognostic uncertainty is simultaneously unavoidable and acceptable." Zier et al. (2008) conducted a multicenter study using semi-structured interviews of surrogate decision makers in critical care settings and found that surrogates view the act of receiving prognostic information as an integral step in emotionally preparing for the possibility that the patient may not live. The authors' findings suggest that surrogates and physicians both share the belief that predicting the future is difficult and surrogates realize that prognostic information may not be accurate.

The decision making process for cadaveric organ donation by definition requires a family member to act as a surrogate for the patient. However, there are several circumstances unique to the donation process. Ideally, the physician is available for consultation about brain death, but not to necessarily provide unbiased information about organ donation. In addition, the surrogate's decision is not one of treatment since the patient is no longer alive. Rather, the surrogate's decision is one of sacrificial giving to an unknown recipient. Although these differences appear to be minor, the effects of these unique circumstances upon the surrogate's decision making process about organ donation are unknown.

Application of the Interpersonal Circumplex Model to Health Care

In order to understand the interpersonal aspects of the donation request process, this study applied Kiesler's (1983) version of the Circumplex model of interpersonal behavior. This model focuses on the interpersonal dimensions of affiliation and control and the extent to which there is a complementary match on these dimensions between interactants. Hypotheses derived from this model have been validated with some success when applied to physician-patient consultations (Kiesler & Auerbach, 2003) and health care provider-family member interactions in the critical care setting (Auerbach, et al., 2005; Wartella, 2007). This study focused on the interaction between the procurement coordinator and the family.

Originally conceptualized by Leary (1957) for personality evaluation, the Interpersonal Circumplex model provides the theoretical backbone for studies in personality, psychopathology, psychotherapy, and medicine (Kiesler, 1996; Kiesler &

Auerbach, 2003). The theory serves as a conceptual and empirical framework for integrating the body of research that supports control and affiliation as foundational aspects of human interpersonal behavior. The theory rests on two critical aspects as applied to the interactions in health care settings. The first aspect is that the mix of control or affiliation behaviors exhibited by physicians and patients during critical interpersonal interactions may affect health outcomes. The second, and most critical aspect, states that these outcomes may also be influenced by the extent to which there is an optimal match or fit between these behaviors (Kiesler & Auerbach, 2003, 2006).

The Interpersonal Circumplex is organized around the human interaction dimensions of control (dominance-submission) and affiliation (friendliness-hostility) (Kiesler, 1996). The model theorizes that human behavior is a blend of these two dimensions. For example, when individuals interact, they continually balance how friendly or hostile (affiliation) they want to be and how much power (control) each individual will retain over their respective behaviors during the interaction (Kiesler & Auerbach, 2003). These two-dimensional control and affiliation interactions identified by Kiesler (1996) are evident in a variety of human behaviors, such as parent-child relationships, perceptions of social situations, mate selection, marriage, and physician-patient interactions.

The theory utilizes a model with 16 categories arranged in a circular fashion to identify the blends between the control and affiliation dimensions. The model displays the possible patterns of control and affiliation between the patient and physician during their interaction. The model can predict which behaviors in the patient will be evoked in

reaction to the physician's behavior and vice versa. The interpersonal principle of "complementarity" states that on the affiliation dimension friendly behaviors pull for friendly responses and hostile behaviors pull for hostile responses. On the control dimension dominant behaviors pull for submissive responses and vice versa (Kiesler, 1996; Kiesler & Auerbach, 2006).

Kiesler & Auerbach (2003) graphically identify the model in figures 1 through 3 of their review (Appendix B). The center of the model is composed of polar opposite terms. For example, warm actions (segment L) denote the polar opposite to cold actions (segment D) and represent two units of submission (warm pardoning, all loving-absolving) and two units of hostility (cold punitive, icy-cruel). Note that "warm pardoning" and "cold punitive" are normal levels of behavior. Extreme behaviors, such as "all loving-absolving" and "icy-cruel", reflect maladjustment, which cause adverse effects on the participant in the interpersonal interaction. Furthermore, maladjusted individuals rigidly display only a select few of the 16 segments and rarely display contrasting behaviors from other domains. In a basic sense, the model identifies how individuals react to and with each other during a behavioral transaction.

Two axes of bipolar categories measure physician-patient interaction or, in our case, procurement coordinator-family interaction. The first axis relates to physician, or in this case procurement coordinator, control and contains two categories. The Controlling-Bold category (segment A_1) includes behaviors such as taking charge of the consultation, talking the family into doing what he or she wants, quick to inform or instruct the family, and resists any of the family's opposing stances. The Docile-Timid category (segment I_1)

includes behaviors such as quickly following the family's lead, easily giving into the family's wishes, readily accepts the family's advice or answers, and yields to the family's viewpoints.

The second axis relates to physician, or in this case procurement coordinator, affiliation and contains two categories. The Cooperative-Helpful category (segment M_1) includes behaviors such as being thoughtful to the family, working to smooth over disagreements, quickly offers help, and is ready to do his or her part. The Antagonistic-Harmful category (segment E_1) includes behaviors such as ignoring the family's feelings, quickly disputes or ignores that family's statements, readily resists cooperation, and is eager to provoke the family (Kiesler, 1983). Control (i.e. take charge, dominate) and affiliation (i.e. caring, friendly) have been consistently identified as prominent communication styles by physicians (Kiesler & Auerbach, 2003). In the present study, the interpersonal behaviors of control and affiliation were assessed in a simulated procurement coordinator-family member relationship using the Impact Message Inventory-Circumplex (IMI-C) (Kiesler & Schmidt, 2006) and the Checklist of Interpersonal Transactions-Revised (CLOIT-R) (Kiesler, 1991, 2004).

Contemporary interpersonal theory emphasizes that patient outcomes can be influenced by the control and affiliation behaviors of participants as well as the extent of match between control and affiliation during a physician-patient interaction. Numerous studies have shown that health care provider low control and high affiliation interpersonal behaviors are associated with positive patient outcomes (Kiesler & Auerbach, 2003). For example, diabetic patients who interacted with nurses who used controlling and directive

communication experienced poorer metabolic control (Street, et al., 1993). Breast cancer patients who had physicians high in affiliative behavior demonstrated better psychological adjustment to their illness (Roberts, Cox, Reintgen, Baile, & Gibertini, 1994). In studies using the IMI, dental surgery patients who viewed their surgeon as either hostile or dominant were rated as less well adjusted during surgery (Auerbach, Martelli, & Mercuri, 1983); and higher patient ratings of health care provider affiliation and low ratings of provider control in a university health center were associated with better patient satisfaction with care (Campbell, Auerbach, & Kiesler, 2007).

A second set of findings bear on the question of the influence of health care provider-patient match in interpersonal behaviors on patient outcomes. This research has been reviewed most recently by Kiesler and Auerbach (2006). Consistent with the complementarity hypothesis, studies using the IMI have found that good physician-patient complementary matches (in both control and affiliation behavior or in affiliation behavior alone) were associated with better metabolic control in diabetic patients (Auerbach, et al., 2002), greater satisfaction with and adjustment to dentures (Auerbach, Penberthy, & Kiesler, 2004), and more involvement by patients in oral surgery decision making (but not greater satisfaction or adjustment) (Frantsve, 2002). Wartella (2007) found that better nurse-family representative complementarity on a critical care unit was associated with greater satisfaction by the family representative to the extent to which their needs and those of the patient were met on the unit.

The application of control and affiliation dimensions to the procurement coordinator-family member relationship is a natural extension of the physician-patient

literature. For example, upon approach by the procurement coordinator, family members are continually balancing how friendly or hostile they want to be and how much power they will retain during their interaction. The same balance of affiliation and control is occurring in the procurement coordinator. Prior to this study, no data existed on how these behaviors were exhibited in the donation request interaction or how they affected the decision to donate.

Application of the Shared Decision Making Model to Health Care

The Informed and Shared Decision Making models were developed in reaction to the traditional paternalistic model of physician-patient interaction and the changing system of health care accountability in the United States in the mid 1990s. The paternalistic model is defined as a predominately one-way interaction in which medical information, treatment deliberation, and the final treatment decision flows from the physician to the patient. The model emphasizes physician control and authoritarianism along with a nurturing attitude. The informed model is characterized by the one-way flow of medical information from the physician to the patient. The physician's only role is to provide information and the patient alone is responsible for the deliberation and treatment decision. In contrast to the paternalistic model, both informed and shared decision making models advocate the physician's role as one using scientific findings to inform patients and enhance patient choice (Charles, et al., 1999). The Shared Decision Making model is detailed below.

Identified as the most frequently cited definition of shared decision making in an extensive review of the literature by Makoul & Clayman (2006), Charles, Gafni and

Whelan's (1997) model of shared decision making consists of four components. The first component requires that shared decision making involve at least two participants- the physician and the patient. The second component requires the exchange of information and information preferences by the patient and the physician. The third component requires the exchange of treatment preferences by the patient and the physician. The final component requires an agreement by both parties on the treatment to implement.

Charles, Gafni, and Whelan (1999) revised their model by identifying the three analytical stages of information exchange, deliberation, and deciding on the treatment to implement that are common to the three most prominent models of treatment decision making (e.g. paternalistic, shared, and informed). The information exchange stage refers to the type and amount of information discussed between the physician and patient and whether the information flow is one or two-way. In the shared decision making model, the information flows bi-directionally between the physician and patient.

The deliberation stage refers to the process of expressing and discussing treatment preferences. In the shared model the patient and physician are assumed to have vested interests in the treatment decision. The patient is invested in the process due to the health outcome and the physician is invested due to the concern for the patient's welfare. More importantly, the shared model allows for both the physician and patient to take turns in leading specific discussions depending on who has more expertise or experience to contribute on a specific issue. Thus, physicians and patients may change their decision making approach to a different model as the interaction evolves.

The final stage in the decision making process is to determine the treatment to implement. It is at this stage in the shared decision making model in which the physician and patient work towards a treatment resolution. More importantly, both the patient and the physician are fully invested in the final decision at this stage.

Charles et al.'s (1999) model is supported by other findings on shared decision making. In an extensive review of the literature, Kiesler and Auerbach (2006) found that the patient's desire for information and decision making exists on a continuum from passive to highly active. Passive patients, a sizable minority, prefer paternalistic relationships and desire to leave all decisions to their doctor. Collaborative patients share the treatment decision with the doctor. Highly active patients make the final treatment decision themselves. The majority of patents fall in the collaborative and highly active categories of information and decision making.

The authors also found that most patients are dissatisfied with the amount of information they receive about their diagnosis and report a desire to know more. Patients generally exert their control in the process during the decision making portion rather than seeking more information from the physician (Kiesler & Auerbach, 2006). These findings support the shared decision making model which reflects that decision making is dynamic and may adjust to different models based upon the situation or individual (Charles, et al., 1999).

Patient participation in treatment decision making has been linked to positive medical outcomes. For instance, in a review of the literature on patient participation in medical care, Guadagnoli and Ward (1998) found that patients' involvement in care can

lead to reduced pain and anxiety, earlier recovery, and increased compliance. In a study evaluating adult primary care patients, Brody et al. (1989) found that patients who played a more active role in the medical visit self-reported less discomfort, greater alleviation of symptoms, more improvement in general medical condition, less concern with illness, a greater sense of control, and greater satisfaction with the physician than passive patients. Schulman (1979) found in outpatient hypertension clinics that more active patients had better blood pressure control, greater self-reported adherence to treatment recommendations, and greater self-reported comprehension of treatment programs.

Increased levels of physician-patient communication have been associated with positive medical outcomes. Several studies of HIV-positive patients found that better physician-patient communication promoted higher rates of medication adherence (Malcolm, Ng, Rosen, & Stone, 2003; Roberts, 2002). Johnson and colleagues posit that positive physician-patient communication may instill higher adherence self-efficacy, which results in improved adherence in HIV-positive patients (Johnson, et al., 2006). Stewart and colleagues (1999), in a review of communication in medical care, found generally positive effects of increased communication on actual patient outcomes such as pain, anxiety, functional status, and physiologic measures of blood pressure and blood glucose. In fact, Stewart (1995) found that neither physician dominance nor complete submissiveness was associated with better health outcomes. She concluded that the most important aspect associated with better health outcomes in the physician-patient relationship was the ability of patients and physicians to negotiate agreement on their approach to problem solving.

Methodological limitations and differences in "patient-centered" definitions have led to inconclusive results on the effectiveness of patient participation on health behaviors or health outcomes. Mead and Bower (2002), in a review of patient-centered consultations and outcomes in primary care, found ambiguous results due to inconsistent behavioral definitions of patient-centeredness and methodological weaknesses in the underlying studies. Lewin and colleagues (2001), in a review of 17 studies, found inconclusive evidence on the influence of patient-centered approaches upon health care behavior or health status. In a review of the patient-centered literature in chronic illness settings, Michie and colleagues suggest (2003) that the 'patient activation' style, defined as helping the patient to take control in the consultation and in the management of their illness, was more strongly associated with better physical health outcomes than the 'patient perspective' style that emphasized eliciting and discussing the patient's beliefs. It was hypothesized that the patient activation style engenders patient self-efficacy by encouraging them to set goals and to develop a plan for achieving them.

Provision of information to patients has been linked to positive medical outcomes and supports the information exchange stage of the shared decision making model (Auerbach, 2000). Devine and Cook (1983), in a meta-analysis of 49 studies, found that psychosocial educational interventions can reduce the length of hospitalization by 1.25 days. Similarly, education provided to patients before their operation has been demonstrated to accelerate recovery and reduce patient anxiety (Webber, 1990). Haynes et al. (1976) developed a targeted educational intervention for non-compliant hypertension patients. The experimental group reported decreased blood pressure (85%)

and increased compliance to medication (21%) when compared to the control. Reviews focusing on cancer patients have concluded that information provision to patients has largely positive effects including decreasing emotional distress (Siminoff, 1989) and positively affecting a range of behavioral, psychological, and medical status variables (Meyer & Mark, 1995).

The shared decision making model can be applied to the field of organ donation. Processes comparable to the information exchange, deliberation, and treatment decision stages of the physician-patient relationship may occur in the donation request interaction between the procurement coordinator and the family, but how shared decision making is exhibited and its effect upon the outcome to donate is unknown. In addition to assessing the interpersonal components of the procurement coordinator-family member interaction, this study evaluated the information exchange and shared decision making aspects of the interaction. The instrument that was used, Participatory Style of Physicians Scale (PSPS), has three subscales: providing medical information, gathering personal information, and facilitating shared decision making.

Application of the Standardized Patient Methodology to Organ Donation

A key challenge to studying the relationship between procurement coordinators and family members is adequately controlling for family member characteristics such as interpersonal style or attitudes toward donation. To address this limitation, the present study used standardized patients as family members. The idea of a standardized patient (SP) refers to an individual who has been trained to demonstrate the characteristics of a real patient in order for an examinee to learn or be directly evaluated on skills. SPs are unique in that they consistently

present the same set of characteristics to each examinee and provide actual experience in working with a patient's physical symptoms, psychological responses to illness, and attitudes toward the medical profession (Wallace, 1997). SPs can be either healthy subjects or actual patients who have received extensive training in order to accurately and consistently present case characteristics. The SP may also be asked to report or judge the behavior of the physician or student using fixed criteria (Beullens, Rethans, Goedhuys, & Buntinx, 1997). Tamblyn (1998) identified a number of scientific advantages to the use of SPs that are pertinent to the present study. Specifically, SPs allowed the present study to focus upon the exact problem (i.e. donation decision) and to prospectively collect information on the actual interaction. Also, the need to adjust for differences in the kinds of family members seen by different procurement coordinators was eliminated because the same "family members" were presented to all procurement coordinators.

Standardized patients have been used as reliable estimates of health care processes. These estimates by SPs have been found to more accurately correspond to actual physician behavior than chart audits or the use of vignettes (Dresselhaus, Peabody, Luck, & Bertenthal, 2004; Epstein, et al., 2005; Glassman, Luck, O'Gara, & Peabody, 2000). Peabody and colleagues (2000), in a comparison of vignettes, standardized patients, and chart reviews, found that standardized patients are the gold standard in providing reliable measures of health care quality. In fact, several studies have established the successful use of standardized patients as a practical gold standard because they capture variation in clinical practice and reliably show how individual physician practices change over time (Colliver & Swartz, 1997; De Champlain, Margolis, King, & Klass, 1997; Luck & Peabody, 2002; McLeod, et al., 1997). Badger and

colleagues (1995) found that standardized patient performance can remain consistent for as long as 3 months between presentations. In addition, numerous studies have found little difference in inter-actor reliability between the use of a single SP as compared to the use of multiple SPs (Glassman, et al., 2000; Swartz, Colliver, Robbs, & Cohen, 1999).

Standardized Patients provide consistent and highly authentic interactions. In a review of the literature, Buellens and colleagues (1997) found that with proper training, standardized patients can produce intra-SP and inter-SP reliability of .85 or higher as measured by independent observers. SP performance assessment demonstrates reasonable evidence of validity based on test content, construct, criterion validity, test fairness, meaningfulness, and cognitive complexity (Van Der Vleuten & Swanson, 1990; 1994). Luck and Peabody (2002), in a study of 144 randomly selected physicians in 40 encounters, found no systematic bias in SP performance across presenting medical condition, site, level of physician training, or domain of the encounter. In fact, Williams (2004) concluded that well trained SPs are difficult to differentiate from real patients and can be more than 90% accurate in portraying case details.

SPs provide reliable and accurate measures of performance in primary care and internal medicine settings. Epstein and colleagues (2001) found that the realistic interaction between SPs and physicians in primary care practices were responsible for increased assessment of HIV risk behaviors and HIV testing. Hutchison and colleagues (1998) used SPs to evaluate physician adherence to preventative care guidelines in a study of 246 encounters in family practice settings. They determined that SPs provided realistic evaluations of physician adherence. Gorter et al. (2002) found that incognito standardized patients produce highly authentic presentations and assess physician skills as well as traditional measures in rheumatology settings.

Age, race, gender, role, experience level, and background of the SP are factors that may potentially influence the outcome of the encounter. Colliver, Swartz, and Robbs (2001) examined the interaction between medical students and SPs in a 20 minute encounter and found a marginal difference in examination scores between white and black examines regardless of the SP's ethnicity. Van Zanten, Boulet, and McKinley (2004) found that satisfaction with SP assessment was highest in interactions where the SP and examinee were of the same ethnicity. However, the effect of SP ethnicity upon the interaction was rather small and was based on the smallest ethnic subset of the sample population. Thus for the most part, SPs appear to perform consistently regardless of SP or examinee ethnicity. Colliver and Williams (1993) noted that there was little evidence of an interaction between examinee gender and SP gender and no conclusive evidence for a main effect of examinee gender on the performance (e.g. facilitating or hindering) of examinees. Some evidence indicates that female examinees perform better than males on interpersonal and communication skills. In summary, SPs provide one of the most reliable and consistent measures of health care processes and do not appear to be unduly influenced by demographic characteristics such as ethnicity or gender.

The application of actors, trained in SP methodology, to the field of organ donation is a natural extension of the SP literature. Vu & Barrows (1994) advocated the expansion of SPs to educational settings and the private sector. Glassman et al. (2000) posited that the SP methodology could easily generalize to other health care systems. LifeBanc, an OPO, utilized actors trained in the SP methodology as family members in a simulated donation request interaction. The primary advantage to this method is that OPOs have access to actors who can authentically reproduce the history, emotional tone, and communicative style of family members

experiencing the death of a loved one. Furthermore, the OPO can train and evaluate the communicative and cultural competencies of its procurement coordinators in a realistic simulation.

Due to a large body of research supporting the conclusion that actors trained in the SP methodology provide a highly authentic encounter, the present study utilized video recorded simulations between procurement coordinators and family members portrayed by actors trained in the SP methodology. The actors portrayed family members utilizing scenarios based on actual donation request encounters (see Appendix C). Prior to the present study, no research had evaluated a simulated or real donation request interaction in order to understand how interpersonal and shared decision making behaviors affect the decision to donate.

Statement of the Problem

In summary, the present study evaluated the viability of relationship and interactional concepts that have been applied to the physician-patient interaction to the field of organ donation. Research indicates that the physician-patient interpersonal relationship and extent of patient participation in the decision making process are factors that influence patient satisfaction with health care, treatment compliance, and some primary medical outcomes. Though different in important respects, the procurement coordinator-family member relationship in the donation request interaction was viewed as sharing many of the elements of the physician-patient relationship.

This study evaluated the extent to which findings in the physician-patient interaction literature generalized to the organ donation situation. The Interpersonal Circumplex and Shared

Decision Making models of communication have not been previously applied to the procurement coordinator-family member relationship.

I. A set of exploratory analyses examined the relationships between interpersonal variables derived from the Circumplex measures (IMI and CLOIT) and a newly developed observational coding system (SCCAP). Whereas the Circumplex measures provided subjective appraisals of how each interactant impacted and affected each other, the SCCAP provided observer ratings of more objective and atomistic aspects of each interactants presentation style. SCCAP subscales that appeared to measure interpersonal constructs (as measured by the Dominance subscales from the Speech Ratings HCP and the Relational Communication Scale) were expected to be similarly associated with findings of the interpersonal measures (i.e. Dominance subscales of the IMI and CLOIT).

II. Demographic factors such as ethnicity have been shown to be an important variable influencing organ donation. A second set of exploratory analyses thus focused on the coders' responses on the interpersonal and SCCAP measures to the stimulus material as a function of the scenario (scenario 1 vs. scenario 2), gender of the procurement coordinator, observed ethnicity of the procurement coordinator, and interactions among these variables. In addition, we evaluated the effects of ethnicity when this variable was matched and non-matched between the procurement coordinator and family.

III. Another set of analyses examined predictors of the decision to donate as viewed by the coders. Predictors included the interactional measures and variables such as ethnicity and gender of interactants as well as a dispositional measure of attitudes and beliefs toward organ donation attained from coders. The decision to donate was measured by two items completed

by coders assessing their opinion of the likelihood of the family member to donate and the coders' own personal opinion about donation if they were a member of the family. Another measure of the decision to donate was obtained from the actors who portrayed family members and independently arrived at a donation decision. Because there was little variability in their donation decision in scenario 1, only their responses to scenario 2 were evaluated. Analyses were conducted to evaluate the following hypotheses. Procurement coordinators who:

a. Demonstrated high levels of intimacy and composure as well as low levels of dominance and task orientation (as measured by the Relational Communication Scale of the SCCAP) would be associated with higher rates of potential family members who decided to donate. In addition, procurement coordinators who established good interpersonal relationships (as measured by the Affiliation and Control subscales of the IMI and CLOIT) with the family member via presentation of high levels of affiliation and low levels of control behaviors would have higher rates of family members who decided to donate. High levels of personal information disclosure by the procurement coordinator (as measured by the Personal Information subscale of the PSPS) would be associated with higher rates of family members who decided to donate. This expectation was based on the observation that physicians who exhibit high affiliation and low control behaviors tend to have patients with positive health outcomes and increased satisfaction (Aruguete & Roberts, 2000; Kiesler & Auerbach, 2006; Roter & Hall, 2006a).

b. Facilitated higher levels of medical and personal information exchange (as measured by the Personal Information and Medical Information subscales of the PSPS) with the family member would have a higher incidence of potential family members who decided to donate. This expected finding was based on the observation that patients often desire more information than they are given and findings that enhanced information provision has positive effects on a wide range of patient outcomes (Auerbach, 2000; Kiesler & Auerbach, 2006).

c. Facilitated higher levels of family member involvement in the decision making process (as measured by the Shared Decision Making subscale of the PSPS) would have a higher rate of potential family members who decided to donate. This expected finding was based on the observation that patient participation in treatment decision making has been linked to positive psychological and medical outcomes (Auerbach, 2001; Guadagnoli & Ward, 1998).

Method

An Ohio OPO conducted the video recorded interactions between the trained actor, representing the family member, and procurement coordinator as part of a training program utilizing the Early Referral and Request Approach (ERRA) model. The ERRA model views barriers to organ donation as multisystemic. One such barrier is the ability of procurement coordinators to approach family members about donating their loved one's organs. The training program was initiated to improve the skills of the procurement coordinators in an effort to increase organ donation and was not originally designed for research purposes.

Participants

Video recorded interactions, 33 in total, were conducted over a one-year period between September 2004 and September 2005. Eighteen different procurement coordinators participated in the voluntary training, which involved three different scenarios described in Appendix C. Interactions from scenario 1 and 2 were evaluated in this study because both scenarios focused upon donation after brain death. Scenario 3 focused upon donation after cardiac death, which is defined as death declared on the basis of cardiopulmonary criteria (irreversible cessation of circulatory and respiratory function) rather than the neurologic criteria used to declare "brain death" (irreversible loss of all functions of the entire brain, including the brain stem). Although these patients are beyond the help of additional treatment and have little hope for recovery, they are not dead (Steinbrook, 2007). Thus, scenario 3 was excluded from the present study due to this difference.

The actors in the scenarios portrayed family members such as a father, mother, brother, and grandmother. The actors were provided with a script for each scenario and were allowed to deviate from the script in order to arrive at their own (i.e. independent) decision about organ donation. However, as noted earlier, there was little variability in the actors' decisions as 79% (n = 26) of the interactions concluded with family members (i.e. actors) being undecided or no clear decision about donation was made. More than half (66%; n = 12) of the procurement coordinators participated in both scenarios; 66% (n = 12) were female and 83% (n = 15) were Caucasian.

Scenario 1 consisted of 16 video recorded interactions. The procurement coordinator was female (n = 11) in 68.8% of the interactions and Caucasian (n = 13) in 81.3%. The mean conversation length was 18 min 1 sec (SD = 6 min), with length ranging from 10 min 12 sec to 31 min 8 sec. At the end of scenario 1, family members were allowed to decide if they wanted to donate their loved one's organs. In all (n = 16) of the scenario 1 cases, the family members stated that they were either undecided or no clear decision was made. Of special note, two video recordings in scenario 1 (e.g. recording 91 and 93) consisted of an interrupted break with feedback from the ERRA trainer prior to the continuation of the interaction. Prior to the interruption, family members stated that they were undecided about donation. However, the families consented to donation at the end of these two recordings. Only the first interactions of both of these tapes were coded for the present study due to the unique circumstances of the interruption and the feedback provided to the procurement coordinator by the ERRA trainer.

Scenario 2 consisted of 17 video recorded interactions. The procurement coordinator was female (n = 12) in 70.6% of the interactions and Caucasian (n = 12) in 70.6%. The mean conversation length was 26 min 35 sec (SD = 7 min 10 sec), with length ranging from 15 min to 38 min 20 sec. At the end of scenario 2 family members were allowed to decide if they wanted to donate their loved one's organs and in 58.8% (n = 10) of the cases family members were either undecided or no clear decision was made. In the remaining 41.2% (n = 7) of cases in scenario 2, family members consented to donate their loved one's organs.

Measures

Impact Message Inventory (IMI)

The Impact Message Inventory characterizes interpersonal behavior by measuring the covert reactions people evoke in each other. The measure achieves this feat through the assessment of the IMI respondent's covert reactions (feelings, action tendencies, cognitive attributions) evoked during encounters with the target. Impact messages are all internal events a family member (Person A) experiences as predominately produced or provoked by the procurement coordinator (Person B) during their interaction and vice versa. The impact experiences include direct feelings, action tendencies, perceived evoking messages, metaphors, or fantasies which symbolize the procurement coordinator's (Person B) thematic covert engagements experienced in the presence of the family member (Person A) (Kiesler & Schmidt, 2006).

Items consist of the universal stem "When I was with this person, he or she made me feel" followed by a spectrum of branches (e.g. bossed around, appreciated by him/her,

that he or she wants to put him/her on a pedestal). The IMI produces eight scales of interpersonal styles: Dominant, Hostile-Dominant, Hostile, Hostile-Submissive, Submissive, Friendly-Submissive, Friendly, and Friendly-Dominant. Scores on each of the seven-item scales may range from 7 to 28 and are used to compute the two axes of affiliation and control. Internal consistency coefficients for the IMI scales range from .69 to .89. Schmidt and colleagues (1999) detailed the scale factorial and criterion-related validity of the IMI-C in an extensive combined sample evaluation of the measure. In the present study the four major "axis" scores (Dominance, Submission, Friendliness, Hostility) were obtained for the procurement coordinator and the family as a whole. In addition, two interpersonal "complementarity" indices were calculated: for the control and affiliation dimensions separately (Kiesler, Schmidt, & Wagner, 2001).

Checklist of Interpersonal Transactions (CLOIT)

The Checklist of Interpersonal Transactions-Revised (CLOIT-R) is a 96-item measure that assesses a target's dyadic interpersonal behavior using observer ratings. The interactional rating system is composed of 16 scales of interpersonal behavior and is rooted in the Interpersonal Circumplex model of behavior (Kiesler, 1983). A four-octant, brief version of the CLOIT-R was constructed to permit direct measurement of the four octants of the 1982 Interpersonal Circumplex. The four-octant, brief version measures the four octants that anchor the two axes (Control, Affiliation) of the Interpersonal Circumplex using: Dominant (Assured and Dominant), Hostile (Cold and Hostile), Submissive (Unassured and Submissive) and Friendly (Warm and Friendly). Each of the four octants is measured using 12 items and the checklist consists of 48 items in total.

Scores for each category range from 0 to 9. The CLOIT-R 4-Octant respondent (an undergraduate observer judge) made a "yes" or "no" judgment as to whether the interpersonal action described by a particular item was enacted by the target person (e.g. family member or procurement coordinator) during their previous transaction. Examples of items include: is quick to express approval, apologizes frequently, remains aloof and distant, acts in a relaxed and nonjudgmental manner. A CLOIT-R 4-Octant was completed on the procurement coordinator and the family as a whole. The Control axis score consisted of the difference between the Dominant and Submissive octant scores. The Affiliation axis score consisted of the difference between the Friendly and Hostile octant scores.

CLOIT-R 4-Octant scores provided measures of Dominance, Submission, Friendliness, Hostility, Control, and Affiliation. Scores on the CLOIT-R 4-Octant can be combined to calculate indices of interpersonal complementarity (Kiesler, 1983). Internal consistency coefficients for the octants of the CLOIT-R range from .65 to .70. The CLOIT-R is moderately correlated with other measures of interpersonal communication (Kiesler, 1991; Kiesler, et al., 2001).

The Participatory Style of Physician Scale (PSPS)

The PSPS (Kiesler & Auerbach, 2003) was designed to measure a physician's participatory style during consultations with patients. Two versions of this scale were modified for use in this study. Form P-D asked the family member to evaluate the desired participatory behavior of the procurement coordinator. Form P-A asked the family member to evaluate the procurement coordinator's actual participatory behavior during

the donation request interaction. These forms were revised into a procurement coordinator version (PSPS-PC) and a family version (PSPS-FM). The procurement coordinator version asked the donation requestor to evaluate their actual participatory behavior during the interaction. The 15 items on each version of the modified PSPS were almost identical in content, and varied only in the wording of instructions and pronouns. The PSPS provided three subscales of procurement coordinator-family member decision making. The Providing Medical Information subscale included items such as "discussed the benefits or risks of each of the treatment alternatives." The Gathering Personal Information subscale included items such as "encouraged the family member to talk about personal concerns related to the treatment decision." The Facilitating Shared Decision Making subscale included items such as "provided the family member an equal role in the treatment decision process." The three analytic stages of Charles, Gafni, and Whelan's (1999) model of shared decision making were reflected in the PSPS subscales. Validity and reliability data on this measure was not available.

Siminoff Communication Content and Affect Program (SCCAP)

The SCCAP (Siminoff & Step, in press) was designed as a computerized interactional analysis coding system developed to assess the multiple communication processes and interactants within health transactions. The system was developed using communication theory and can be adapted to the goals and patterns of a specific context (e.g. cancer consultations, tissue donation conversations, family practice interviews). The program, designed for health care interactions, allowed for the coding of content and

relational information and can discriminate important outcomes to provider-patient communication.

The program operated from a main menu that provided multiple coder activities that reflected the three general communication functions. The first group, *content themes*, included those activities that constitute the task or information aspect of most medical transactions (e.g. providing treatment information). Content themes were broken down into general categories and then further refined into discrete communication behaviors or events. Coders clicked on each event or activity as it occurred in the interaction. The second group is the *communication type*. These are aspects of communication that formed the core relational and persuasion components. Within this group were nested the codes for recording the number and types of questions. As content was coded, the coder assigned a communication type to the behavior. Communication types can be analyzed either as discrete entities or by how they were associated with content codes. The third group of codes was the global *observer ratings*. These included observations of mostly non-verbal communication behaviors. Coders rated the global observer behaviors after listening to and coding other aspects of the conversation.

Due to the complexity of the program and time constraints, the speech and affective ratings of the global observer ratings sections of the SCCAP were modified into two paper based questionnaires (i.e. one for the procurement coordinator and one for the family member). Coders completed a procurement coordinator version of the SCCAP on each procurement coordinator and a family member version for each individual family

member. The present study only utilized data from the procurement coordinator version (SCCAP-PC).

Procedure

All study interactions between the procurement coordinator and family were video recorded. Independent coders rated all video recordings. The 9 coders were Virginia Commonwealth University students majoring in Psychology or taking an introductory Psychology course. The mean age of the coders was 26.22 years (*SD* = 10.78), with coder's ages ranging from 19 to 50. The coders were predominately female (*n* = 7; 77.8%) and were composed of Caucasian (*n* = 4; 44.4%), Asian (*n* = 3; 33.3%), and African American (*n* = 2; 22.2%) ethnicities.

Coders completed approximately 10 hours of research ethics and reliability training supervised by a Psychology graduate student in preparation for the present study. Training consisted of an overview and explanation of each measure and the appropriate ways to indicate a response using the correct anchor points. Practice coding was completed on video recorded interactions from scenario 3 that were not part of the present study. Training proceeded once the coders had a similar understanding of the scale items, scoring procedures, and the reliability between the coders reached an acceptable percentage of agreement on item responses defined as 78% for this study. Coders were not allowed to view the end of the video recordings and were blind to the eventual donation decision made by the family member (i.e. actor). All coders completed a measure assessing attitudes and beliefs toward organ donation prior to reliability training and after completion of the study.

Coders completed the IMI and PSPS as if they were either the procurement coordinator or the family member. Each coder documented their perceived reaction of the family member or procurement coordinator while viewing the recorded transactions. The CLOIT-R 4-Octant was completed on each member of the interaction as an observational assessment of the behaviors occurring in the interaction. Coders also completed a paper version of the global observer ratings section of the SCCAP program. Due to the length of time required for coding (approximately 60 hours), coders worked in pairs to evaluate each target procurement coordinator or the family as a whole in each interaction for the IMI, CLOIT, and PSPS. A second round of coding used the same coders to evaluate the procurement coordinator using the SCCAP. Coder pairs were subject to frequent change due to time constraints, the use of volunteer undergraduate students, and absenteeism throughout the 6 months of coding. Due to less than ideal conditions, different coder pairs were used to evaluate each interaction. However, certain groups of coders evaluated more interactions than others and the data from these coder pairs were used to obtain reliability estimates.

The consistency between items recorded on paper and entered in the electronic database were evaluated. All items in the database from five randomly identified video interactions representing 15% of the total data were compared to the original paper forms to ensure that the data were consistent and correct. Only 5 items out of the 1,311 items queried were coded incorrectly and this resulted .38% of error. Due to the fact that the percentage of error was less than one half of one percent, the inaccurate items were corrected and the analyses for reliability and validity were conducted.

Results

Analyses for the present study were grouped into six areas: a) Reliability data on the scales completed by coders; b) Assessment of the relationships among scales derived from the IMI, CLOIT, and SCCAP that were designed to measure similar constructs; c) Evaluation of within group and between group differences for procurement coordinators and the family on the Circumplex-based interpersonal measures (IMI, CLOIT) and the PSPS; d) Examination of coders' responses to the stimulus material on the interpersonal, PSPS, and SCCAP measures as a function of scenario (scenario 1 vs. scenario 2), gender of the procurement coordinator, observed ethnicity of the procurement coordinator, and interactions among these variables; e) Examination of these data as a function of whether or not there was a match between ethnicity of the procurement coordinator and the family; and f) Evaluation of data on the predictors of the decision to donate. All analyses were performed using SPSS.

Reliability

Siminoff Communication Content and Affect Program (SCCAP)

Factor analysis.

Prior to evaluating inter-observer reliability on the SCCAP, principle components factor analysis was conducted on the six SCCAP sections because they displayed heterogeneity of content within each section and because no subscales were delimited. Mean item scores across raters were calculated and analyzed using principle components extraction with orthogonal rotation (varimax with Kaiser Normalization) for each section of the SCCAP. Extraction was only performed once due to the small sample size (i.e. 9

coders). Items with negative loadings were reverse scored. The final scale items, means, standard deviations, factor loadings, and eigenvalues are detailed below.

The Health Care Provider (HCP) Speech Counts section of the SCCAP, detailed in Table 1, consisted of 5 questions assessing the frequency of an identified interpersonal behavior. Factor 1 (eigenvalue of 1.71) had three items, which accounted for 34.3% of the total variance, and represented the interpersonal behavior identified as Interruption. The range of possible scores on this factor was 3 to 45.5 and the mean was 16.44 (*SD* = 10.47). Factor 2 (eigenvalue of 1.64) had two items, which accounted for 32.8% of the total variance, and represented the interpersonal behavior identified as Personal Disclosure. The range of possible scores on this factor was 0 to 4.5, and the mean was .69 (*SD* = 1.10).

Table 1

HCP Speech Counts Item Loadings on Identified Factors

		Factors	
Items	Description	1	2
Interruption (Factor 1)			
HCPSpeechCounts_ 1	Number of times the PC was cut off or interrupted by a family member (e.g. any time when the family member talked over the PC and the PC stopped talking)	.739	.141
HCPSpeechCounts_ 2	Number of times the PC stopped an interruption by a family member	.801	-.204
HCPSpeechCounts_ 5	Number of times the PC interrupted the family member (e.g. any time when the PC talked over the family member and the family member stopped talking)	.713	.124
Personal Disclosure (Factor 2)			
HCPSpeechCounts_ 3	Number of times the PC used personal examples (The PC serving as an example to be imitated or compared)	-0.43	.887
HCPSpeechCounts_ 4	Number of times the PC used self disclosure (e.g. sharing information with others that they would not normally know or discover)	.127	.881

The Back Codes & Decisions section of the SCCAP consisted of 4 informational coding questions and 4 rating style questions. The informational items included questions such as "How did the PC address the family?" and were assessed using categorical responses (e.g. first name only/last name only/both/neither). The rating style items were nominal in nature, included questions such as "How clearly did the PC present the option to donate?", and were assessed using a scale that ranged from 1 (no distinction) to 7 (complete distinction). Due to the fundamental differences in the items, questions 1, 2, 3, and 4 were removed the factor analysis. Loadings for the four rating style items are detailed in Table 2. Factor 1 (eigenvalue of 1.65) had two items, which accounted for 41.19% of the total variance, and represented the construct identified as Presentation. The range of possible scores on this factor was 6.5 to 14 and the mean was 11.18 (*SD* = 2.13). Factor 2 (eigenvalue of 1.64) had two items, which accounted for 40.88% of the total variance, and represented the Comprehension construct. The range of possible scores on this factor was 5.5 to 12.5 and the mean was 9.65 (*SD* = 2.05).

Table 2

Back Codes & Decisions Rating Style Item Loadings on Identified Factors

		Factors	
Items	Description	1	2
Presentation (Factor 1)			
BCD _5	How clearly did the PC present the option to donate?	.795	.456
BCD _8	Rate how well the PC clarified confusing language and/or concepts?	.943	-.143
Comprehension (Factor 2)			
BCD _6	How well did the family understand the option to donate?	.324	.770
BCD _7	Rate how frequently confusing language and/or concepts occurred.	.148	-.902

Note: Back Codes & Decisions items 1, 2, 3, and 4 were removed from the EFA due to zero variance.

The Speech Ratings HCP section of the SCCAP, detailed in Table 3, consisted of 10 items assessing the speech of the procurement coordinator. Factor 1 (eigenvalue of 2.36) had three items, which accounted for 23.55% of the total variance, and represented the Dominance construct. The range of possible scores on this factor was 7 to 20.5 and the mean was 14.47 (*SD* = 3.43). Factor 2 (eigenvalue of 2.29) had three items, which accounted for 22.88% of the total variance, and represented the Vocal construct. The range of possible scores on this factor was 6 to 15.5, and the mean was 12.23 (*SD* = 2.38). Factor 3 (eigenvalue of 1.97) had three items, which accounted for 19.69% of the total variance, and represented the Inclusion construct. The range of possible scores on this factor was 8.5 to 18, and the mean was 13.85 (*SD* = 2.57). Item 4 loaded equally on all three factors and was identified as a single item scale.

Table 3

Speech Ratings HCP Item Loadings on Identified Factors

Items	Description	Factors 1	2	3
Dominance (Factor 1)				
SpeechRatings_HCP_6	Hesitancy… (speech of the person indicates indecision or reluctance about doing or committing to something)	-.838	-.099	.007
SpeechRatings_HCP_7	Use of Direct Communication…(speaker uses clear speech that DOES NOT blur meaning or create ambiguity in the listener's mind)	.658	.251	.295
SpeechRatings_HCP_10	Use of fillers…(sounds or words that are spoken to fill up gaps in utterances like "uh" "er" and "um")	-.758	.290	.098
Vocal (Factor 2)				
SpeechRatings_HCP_1	Monotone……(succession of words uttered in a single tone, style, or manner of voice)	-.159	.882	.127
SpeechRatings_HCP_2	Rate of Speech	.129	.839	.109
SpeechRatings_HCP_5	Control of Conversation	.506	.570	.108
Inclusion (Factor 3)				
SpeechRatings_HCP_3	Sound Scripted… (as if the person was reading from a note card or from a preplanned script)	-.059	.058	-.863
SpeechRatings_HCP_8	Encourages Talk…(or discussion)	.302	.303	.583
SpeechRatings_HCP_9	Use of Inclusive Pronouns…(pronouns like "we", "us", and "our" instead of "you", "yours", and "mine")	-.095	.181	.763
Speaks Clearly (Single Item Scale)				
SpeechRatings_HCP_4	Speaks Clearly…(the individual pronounced words very distinctly; a lay person could easily understand the words being said)	.493	.443	.407

The HCP Comfort Levels section of the SCCAP, detailed in Table 4, consisted of 5 items assessing the comfort level of the procurement coordinator. Factor 1 (eigenvalue of 3.74) had five items, which accounted for 74.87% of the total variance, and represented the Comfort construct. The range of possible scores on this factor was 13.5 to 34 and the mean was 24.12 (SD = 6.04).

Table 4

HCP Comfort Levels Item Loadings on Identified Factors

Items	Description	Factor 1
Comfort (Factor 1)		
HCPComfortLevels_ 1	Introduces topic	.869
HCPComfortLevels_ 2	Giving the brain death diagnosis information	.937
HCPComfortLevels_ 3	Answering questions	.900
HCPComfortLevels_ 4	Response to personal information	.882
HCPComfortLevels_ 5	Response to religious information	.723

The HCP Emotional Content section of the SCCAP, detailed in Table 5, consisted of 10 items assessing the affect of the procurement coordinator. Factor 1 (eigenvalue of 3.70) had six items, which accounted for 41.08% of the total variance, and represented the Positive Affect construct. The range of possible scores on this factor was 15 to 36 and the mean was 28.76 (*SD* = 5.46). Factor 2 (eigenvalue of 2.18) had three items, which accounted for 24.18% of the total variance, and represented the Active Engagement construct. The range of possible scores on this factor was 3 to 15, and the mean was 9.11 (*SD* = 3.28).

Table 5

HCP Emotional Content Item Loadings on Identified Factors

Items	Description	Factors 1	2
Positive Affect (Factor 1)			
HCPEmotionalContent_1	Irritated/Angry/Furious	-.777	.213
HCPEmotionalContent_2	Nervous/Anxious/Agitated	-.653	.317
HCPEmotionalContent_3	Aloof/Sympathetic/Compassionate	.867	.224
HCPEmotionalContent_4	Detached/Engaged/Overly Involved	.828	.210
HCPEmotionalContent_5	Insincere/Sincere/Very Sincere	.787	.150
HCPEmotionalContent_7	Unfriendly/Friendly/Overly Friendly…(favorably disposed; open and not imposing)	.617	.285
Active Engagement (Factor 2)			
HCPEmotionalContent_6	Passive/Assertive/Dominant	-.246	.764
HCPEmotionalContent_8	Less Animated/More Animated……(full of life, action, or spirit; lively; vigorous)	.161	.784
HCPEmotionalContent_9	Less Expressive/More Expressive…(conveying a thought, intention, emotion, etc., in an effective or vivid manner)	.379	.796

The Relational Communication Scale – Observer (RCS) section of the SCCAP, detailed in Table 6, consisted of 14 items. The constructs identified from the factor analysis were labeled according to Burgoon & Hale's prior work on the RCS (1987; Hale, Burgoon, & Householder, 2005). The Relational Communication Scale Factor 1 (eigenvalue of 4.34) had six items, which accounted for 30.99% of the total variance, and represented the Intimacy construct. The range of possible scores on this factor was 22 to 41.5 and the mean was 35.80 (*SD* = 4.59). Factor 2 (eigenvalue of 3.29) had four items, which accounted for 23.48% of the total variance, and represented the Composure/Emotional (Non) arousal construct. The range of possible scores on this factor was 12 to 28, and the mean was 22.3 (*SD* = 4.40). Factor 3 (eigenvalue of 2.04) had three items, which accounted for 14.55% of the total variance, and represented the Dominance construct. The range of possible scores on this factor was 9 to 19.5, and the mean was 14.26 (*SD* = 2.81). Factor 4 (eigenvalue of 1.38) had one item, which

accounted for 9.86% of the total variance, and represented the Task versus Social Orientation construct. The range of possible scores on this factor was 2 to 7, and the mean was 5.36 (*SD* = 1.3).

Table 6

Relational Communication Scale – Observer (14-item version) Item Loadings on Identified Factors

Items	Description	Factors 1	2	3	4
Intimacy (Factor 1)					
RelationalCommunication_2	The PC was sincere.	.880	-.045	.016	-.110
RelationalCommunication_4	The PC wanted the family to trust him/her.	.754	.211	.218	.203
RelationalCommunication_6	The PC was unwilling to listen to the family.	.849	.176	-.134	-.044
RelationalCommunication_7	The PC wanted to cooperate with the family.	.869	.310	-.121	.065
RelationalCommunication_8	The PC considered the family an equal (having the same quantity, measure, or value as another).	.779	.293	.075	-.067
RelationalCommunication_13	The PC was interested in talking with the family.	.717	.364	.109	.389
Composure/Emotional (Non) arousal (Factor 2)					
RelationalCommunication_9	The PC felt very relaxed talking with the family (free of or relieved from the tension or anxiety; informal).	.283	.904	.134	.039
RelationalCommunication_11	The PC was calm and poised with the family.	.130	.932	-.064	-.083
RelationalCommunication_12	The PC was honest in his/her communication.	.407	.585	.043	-.005
RelationalCommunication_14	The PC was comfortable interacting with the family.	.136	.902	.257	.117
Dominance (Factor 3)					
RelationalCommunication_1	The PC tried to control the interaction.	-.119	.096	.925	.114
RelationalCommunication_3	The PC attempted to persuade the family.	-.011	.028	.788	-.231
RelationalCommunication_10	The PC tried to gain the approval of the family.	.322	.204	.610	.347
Task vs. Social Orientation (Factor 4 – Single Item Scale)					
RelationalCommunication_5	The PC was very work-orientated… (focused on the specific tasks or practices related to obtaining the organs).	-.018	-.032	-.015	.978

Inter-rater agreement.

Calculating each rater's score on a given scale for each of the interactions that were rated and evaluating the consistency of the rater's scores on that scale across all interactions determined the inter-rater reliability of each scale. Inter-rater agreement was measured by intraclass correlation coefficients (ICC) using a two-way mixed effects model with single-measure reliability. ICC was calculated for each SCCAP subscale by evaluating the responses of the coder pairs that assessed the most interactions. As mentioned in the method section earlier, every coder did not evaluate all interactions due to absenteeism and time constraints throughout the 6 months of coding. However, certain groups of coders evaluated more interactions than others. The ICC results were averaged across coder pairs to generate the final reliability estimates and were based upon four coder pairs who evaluated a total of 16 unique interactions (i.e. 4 interactions per pair) for the SCCAP.

Detailed in Table 7, the highest levels of inter-rater agreement were found among the Interruption (HCP Speech Counts), Dominance (Speech Ratings HCP), and Personal Disclosure (HCP Speech Counts) subscales indicating that there was little variation between coders on these subscale scores. The lowest levels of inter-rater agreement were found among the Comprehension (Back Codes & Decisions), Inclusion (Speech Ratings HCP), and Dominance (Relational Communication Scale) subscales indicating that there was significant variation between coders on these subscales and suggests that either coders were less reliable on these subscales or that these subscales may not accurately measure the identified construct.

Table 7

Inter-rater Agreement for SCCAP Subscales

Content area and subscale	*ICC*
Rating of the procurement coordinator	
SCCAP-PC	
HCP Speech Counts	
Interruption	.835
Personal Disclosure	.683
Back Codes & Decisions	
Presentation	.442
Comprehension	-.119
Speech Ratings HCP	
Dominance	.748
Vocal	.463
Inclusion	-.057
Speaks Clearly	.244
HCP Comfort Levels	
Comfort	.334
Emotional Content for the HCP	
Positive Affect	.543
Active Engagement	.484
Relational Comm. Scale - Obs.	
Intimacy	.542
Composure/Emotional (Non) arousal	.301
Dominance	-.047
Task vs. Social Orientation	.565

Circumplex Measures: IMI & CLOIT

Inter-rater agreement was reported for two versions of the IMI and CLOIT (i.e. "Procurement Coordinator evaluating the Family Member" PCFM, and "Family Member evaluating the Procurement Coordinator" FMPC, CLOIT-FM and CLOIT-PC) due to the focus on a specific target individual (e.g. family member or procurement coordinator). ICCs were calculated for each IMI and CLOIT subscale by evaluating the responses of the coder pairs that assessed the most interactions. These estimates were then averaged across coder pairs to generate the final reliability analyses for each version of the IMI and CLOIT. Reliability analyses for the IMI-PCFM were generated from 6 coder pairs who

evaluated a total of 22 unique interactions. Reliability analyses for the IMI-FMPC were generated from 11 coder pairs who evaluated a total of 32 unique interactions. Reliability analyses for the CLOIT-FM were generated from three coder pairs who evaluated a total of 14 unique interactions. Reliability analyses for the CLOIT-PC were generated from 11 coder pairs who evaluated a total of 33 unique interactions.

Detailed in Table 8, the highest levels of inter-rater agreement were found among the Hostility (IMI-FMPC) and Submission (CLOIT-FM) subscales indicating that there was little variation between coders on these subscale scores. The lowest levels of inter-rater agreement were found among the Friendliness (CLOIT-PC), Hostility (COIT-PC), and Submission (IMI-FMPC) subscales indicating that there was significant variation between coders on these subscales and suggests that either coders were less reliable on these subscales or that these subscales may not accurately measure the identified construct.

Table 8

Inter-rater Agreement for Circumplex Subscales

	IMI	CLOIT
Target individual and subscale	*ICC*	*ICC*
Rating of the procurement coordinator		
IMI-FMPC & CLOIT-PC		
Dominance	.308	.428
Hostility	.529	.015
Submission	.019	.399
Friendliness	.357	-.080
Rating of the family member		
IMI-PCFM & CLOIT-FM		
Dominance	.428	.315
Hostility	.326	.202
Submission	.137	.509
Friendliness	.318	.364

The Participatory Style of Physician Scale (PSPS)

Inter-rater agreement was reported for two versions of the PSPS (i.e. PSPS-FM and PSPS-PC) due to the focus on a specific target individual (e.g. family member or procurement coordinator). ICCs were calculated for each PSPS subscale by evaluating the responses of the coder pairs that assessed the most interactions. These statistics were then averaged across coder pairs to generate the final reliability analyses for each version of the PSPS. Reliability analyses for the PSPS-FM were generated from 11 coder pairs who evaluated a total of 32 unique interactions. Reliability analyses for the PSPS-PC were generated from 7 coder pairs who evaluated a total of 23 unique interactions.

Detailed in Table 9, the highest levels of inter-rater agreement were found among the Total (PSPS-PC and PSPS-FM) subscales indicating that there was little variation between coders on these subscale scores. The lowest level of inter-rater agreement was found on the Shared Decision Making (PSPS-PC) subscale. However, the modest ICC of .233 on the Shared Decision Making (PSPS-PC) subscale indicates that there was little variation between coders on this subscale.

Table 9

Inter-rater Agreement for PSPS Subscales

Target individual and subscale	*ICC*
Rating of the procurement coordinator	
PSPS-PC	
Medical Information	.426
Personal Information	.473
Shared Decision Making	.233
Total	.575
Rating of the family member	
PSPS-FM	
Medical Information	.381
Personal Information	.456
Shared Decision Making	.358
Total	.509

Relationships Among Measures of Similar Constructs

Dominance

Measures of dominance were obtained from the Dominance subscales from the Speech Ratings HCP section of the SCCAP, the Relational Communication Scale – Observer section of the SCCAP, the IMI, and the CLOIT. All correlations were completed on mean ratings of all raters across all interactions. As detailed in Table 10, these Pearson correlations indicated a significant positive relationship between the Dominance subscale from the Speech Ratings HCP section of the SCCAP and the Dominance subscale from the CLOIT-PC, both measures of procurement coordinator dominance. There was a significant negative relationship between the Dominance subscale from the Speech Ratings HCP section of the SCCAP and the Dominance subscale from the CLOIT-FM indicating, as expected, that more dominant behavior by the procurement coordinator was associated with less dominant behavior by the family.

In addition, various measures of procurement coordinator dominance were positively related. A significant positive relationship was observed between two ratings of procurement coordinator dominance; the Dominance subscale from the Relational Communication Scale – Observer section of the SCCAP, the IMI-FMPC Dominance, and the CLOIT-PC Dominance subscales. Thus, the measures of dominant behavior by the procurement coordinator were strongly associated. The Dominance subscale from the Speech Ratings HCP section of the SCCAP was positively related to the CLOIT-PC (i.e. demonstrating convergent validity) and negatively related to the CLOIT-FM (i.e. a measure of family member dominance and thus demonstrating discriminant validity) and identifies ratings of the PC as exhibiting dominant speech associated with the perception of low dominance in family members. In addition, the Dominance subscales of the CLOIT-FM and CLOIT-PC were negatively related as expected. The Dominance subscales on the IMI and CLOIT for ratings of the procurement coordinator (i.e. IMI-FMPC and CLOIT-PC) and for ratings of the family member (i.e. IMI-PCFM and CLOIT-FM) were positively related as expected. Additional correlations between Dominance subscales on the IMI and CLOIT are presented in Table 10.

Table 10

Intercorrelations Between Measures of Dominance Behavior

Measure and subscale	1	2	3	4	5	6
SCCAP-PC						
Speech Ratings HCP						
1. Dominance	–					
Relational Comm. Scale - Obs.						
2. Dominance	.26	–				
IMI-FMPC						
3. Dominance	.06	.36*	–			
IMI-PCFM						
4. Dominance	-.27	-.17	.14	–		
CLOIT-PC						
5. Dominance	.51**	.35*	.59**	-.06	–	
CLOIT-FM						
6. Dominance	-.49**	-.13	.04	.42*	-.35*	–

Note. All $df = 33$.

* $p \leq .05$ (2-tailed). ** $p \leq .01$ (2-tailed).

Circumplex Measures: IMI & CLOIT

In addition to Dominance, the IMI and CLOIT both provide measures of Submission, Friendliness, Hostility, Control, and Affiliation. The relationships between corresponding scales on the IMI and CLOIT were generally strong. For example, on measures rating the procurement coordinator (i.e. IMI-FMPC and CLOIT-PC) detailed in Table 11, scores on the Dominance, Submission, Friendliness, Hostility, Control, and Affiliation subscales were all positively correlated with each other as expected. This finding was also identified for subscales rating the family in Table 12. In addition, expected relationships were identified such as Control (i.e. Dominance - Submission) being negatively associated with Affiliation (i.e. Friendliness - Hostility).

Siminoff Communication Content and Affect Program (SCCAP)

Overall, the SCCAP subscales that assessed varying dimensions of interpersonal warmth displayed by the procurement coordinator tended to be strongly associated with one another and are detailed in Table 13. The Presentation subscale from the Back Codes & Decisions section of the SCCAP was significantly correlated with several other scales indicating that as the perceived ability of the procurement coordinator to communicate clearly increased so did scores on other subscales assessing similar observational constructs (e.g. Comfort, Speaks Clearly, Active Engagement). In addition, the Intimacy subscale from the Relational Communication Scale of the SCCAP was significantly correlated with several other scales assessing interpersonal warmth such as Positive Affect, Speaks Clearly, and Comfort.

Table 11

Intercorrelations Between Interpersonal Measures of the Procurement Coordinator

Measure and subscale	1	2	3	4	5	6	7	8	9	10	11	12
Rating of the procurement coord.												
IMI-FMPC												
1. Dominance	–											
2. Submission	-.17	–										
3. Friendliness	-.17	.09	–									
4. Hostility	.39*	.30	-.29	–								
5. Control	.85**	-.66**	-.18	.14	–							
6. Affiliation	-.25	.02	.98**	-.49**	-.20	–						
CLOIT-PC												
7. Dominance	.59**	-.50**	.04	-.03	.71**	.05	–					
8. Submission	-.27	.45**	-.25	.43*	-.45**	-.32	-.62**	–				
9. Friendliness	-.28	-.38*	.10	-.34	-.01	.17	-.03	-.14	–			
10. Hostility	.65**	-.20	-.22	.41*	.60**	-.29	.40*	-.14	-.29	–		
11. Control	.48**	-.53**	.16	-.26	.64**	.21	.90**	-.90**	.06	.29	–	
12. Affiliation	-.47**	-.24	.16	-.43*	-.23	.25	-.17	-.07	.94**	-.60**	-.05	–

Note. All $df = 33$.

* $p \leq .05$ (2-tailed). ** $p \leq .01$ (2-tailed).

Table 12

Intercorrelations Between Interpersonal Measures of the Family

Measure and subscale	1	2	3	4	5	6	7	8	9	10	11	12
Rating of the family												
IMI-PCFM												
1. Dominance	–											
2. Submission	.17	–										
3. Friendliness	-.37*	.37*	–									
4. Hostility	.58**	.22	-.30	–								
5. Control	.85**	-.39*	-.55**	.43*	–							
6. Affiliation	-.60**	.06	.73**	-.87**	-.59**	–						
CLOIT-FM												
7. Dominance	.42*	-.10	-.56**	.24	.45**	-.43*	–					
8. Submission	-.07	.15	.25	-.42*	-.15	.43*	-.31	–				
9. Friendliness	-.34	-.04	.40*	-.54**	-.30	.57**	-.46**	.50**	–			
10. Hostility	.45**	.24	-.44**	.33	.29	-.45**	.71**	-.23	-.41*	–		
11. Control	.34	-.15	-.53**	.39*	.40*	-.53**	.87**	-.74**	-.58**	.62**	–	
12. Affiliation	-.48**	-.19	.50**	-.49**	-.35*	.58**	-.72**	.39*	.75**	-.91**	-.72**	–

Note. All $df = 33$.

* $p \leq .05$ (2-tailed). ** $p \leq .01$ (2-tailed).

Table 13

Intercorrelations Between SCCAP Measures of the Procurement Coordinator

Measure and subscale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rating of the procurement coordinator															
HCP Speech Counts															
1. Interruption	–														
2. Personal Disclosure	.16	–													
Back Codes & Decisions															
3. Presentation	.08	.002	–												
4. Comprehension	-.12	-.19	.24	–											
Speech Ratings HCP															
5. Dominance	-.23	.08	.43*	.28	–										
6. Vocal	.09	.16	.36*	.18	.18	–									
7. Inclusion	.44*	.24	.50**	-.07	.15	.31	–								
8. Speaks Clearly	.17	.004	.64**	.28	.32	.48**	.37*	–							
HCP Comfort Levels															
9. Comfort	-.09	.02	.65**	.43*	.56**	.42*	.49**	.65**	–						
Emotional Content for the HCP															
10. Positive Affect	.04	-.19	.23	.18	-.003	.23	.27	.49**	.48**	–					
11. Active Engagement	.30	.27	.55**	-.08	.35*	.45**	.52**	.61**	.40*	.23	–				
Relational Comm. Scale - Obs.															
12. Intimacy	.06	-.03	.39*	.27	.20	.13	.43*	.59**	.52**	.70**	.48**	–			
13. Composure/Emotional (Non) arousal	-.13	.07	.48**	.37*	.68**	.34	.43*	.44*	.74**	.37*	.47**	.48**	–		
14. Dominance	.17	.21	.36*	-.18	.26	.55**	.31	.18	.13	-.12	.55**	.08	.22	–	
15. Task vs. Social Orientation	.09	.24	-.31	-.19	-.12	.18	-.05	-.11	-.15	.01	.10	.08	-.01	.05	–

Note. All $df = 33$.

* $p \leq .05$ (2-tailed). ** $p \leq .01$ (2-tailed).

Perceptions of the Procurement Coordinator and Family: Interpersonal and Shared Decision Making

Detailed in Table 14 across all 33 interactions, procurement coordinators were viewed (rated) as being more submissive than dominant and family members were viewed as being more hostile than friendly as measured by the IMI. Procurement coordinators were viewed (rated) as being more friendly than hostile while family members were viewed (rated) as being more dominant and hostile than submissive or friendly as measured by the CLOIT. In addition, family members were viewed (rated) as disclosing more personal information and engaging in more shared decision making as measured by the PSPS detailed in Table 15.

A one-way ANOVA was conducted to compare the means of interpersonal and shared decision making subscales of the procurement coordinator to the means of the family across all 33 interactions. Detailed in Table 16, procurement coordinators were viewed (rated) as being more submissive and friendly than family members while family members were viewed as being more dominant (CLOIT only) and hostile than procurement coordinators as measured by the IMI and CLOIT. There were no significant between group differences on the PSPS.

Table 14

Results of a Paired Samples t-test for Interpersonal Measures of Within Group Differences

	Dominance		Submission		Friendliness		Hostility					
Measure and compared scales	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*t*	*df*	*p*	*d*
Rating of the procurement cor.												
IMI-FMPC												
DOM compared to SUB	1.55	.42	1.84	.29					-3.02	32	.01**	.76
FRI compared to HOS					2.34	2.00	1.69	.48	1.70	32	.09	.43
CLOIT-PC												
DOM compared to SUB[1]	2.78	1.91	2.91	1.95					-.22	32	.83	.06
FRI compared to HOS					3.65	1.35	.52	.58	11.17	32	.00**	2.79
Rating of the family												
IMI-PCFM												
DOM compared to SUB	1.64	.40	1.64	.23					-.05	32	.96	.01
FRI compared to HOS					1.61	.32	2.39	.50	-6.72	32	.00**	1.68
CLOIT-FM												
DOM compared to SUB	4.06	1.75	1.84	1.26					5.20	32	.00**	1.3
FRI compared to HOS[2]					1.66	1.17	2.68	1.90	-2.24	32	.03*	.56

Note. [1]$r = -.62$, $p \leq .01$. [2]$r = -.41$, $p \leq .01$.

* $p \leq .05$ (two-tailed). ** $p \leq .01$ (two-tailed).

Table 15

Results of a Paired Samples t-test for Shared Decision Making Measures of Within Group Differences

	Medical Info		Personal Info		Shared Dec.					
Measure and compared scales	*M*	*SD*	*M*	*SD*	*M*	*SD*	*t*	*df*	*p*	*d*
Rating of the procurement cor.										
PSPS-PC										
MI compared to PI[1]	3.53	.65	3.53	.63			.11	32	.91	.03
MI compared to SD[2]	3.53	.65			3.62	.75	-.95	32	.35	.24
PI compared to SD[3]			3.53	.63	3.62	.75	-1.13	32	.27	.28
Rating of the family										
PSPS-FM										
MI compared to PI[4]	3.23	.70	3.39	.68			-2.10	32	.04*	.53
MI compared to SD[5]	3.23	.70			3.48	.67	-2.20	32	.04*	.55
PI compared to SD[6]			3.39	.68	3.48	.67	-1.10	32	.28	.28

Note. [1]$r = .88, p \leq .01$. [2]$r = .71, p \leq .01$. [3]$r = .77, p \leq .01$. [4]$r = .80, p \leq .01$. [5]$r = .56, p \leq .01$. [6]$r = .77, p \leq .01$.

* $p \leq .05$ (two-tailed). ** $p \leq .01$ (two-tailed).

Table 16

One-way ANOVA Results for Interpersonal Measures of Between Group Differences

Measure and subscale	Procurement Coordinator		Family				
	M	*SD*	*M*	*SD*	*F*	*df*	*p*
IMI							
Dominance	1.55	.42	1.64	.40	.80	65	.38
Submission	1.84	.29	1.64	.23	9.00	65	.00**
Friendliness	2.34	2.00	1.61	.32	4.33	65	.04*
Hostility	1.69	.48	2.39	.50	33.39	65	.00**
CLOIT							
Dominance	2.78	1.91	4.06	1.75	8.00	65	.01**
Submission[1]	2.91	1.95	1.84	1.26	7.11	65	.01**
Friendliness	3.65	1.35	1.66	1.17	40.94	65	.00**
Hostility[1]	.52	.58	2.68	1.90	38.93	65	.00**
PSPS							
Medical Information	3.53	.65	3.23	.70	3.20	65	.08
Personal Information	3.53	.63	3.39	.68	.69	65	.41
Shared Decision Making	3.62	.75	3.48	.67	.66	65	.42

Note. [1]Significant Levene statistic; Homoscedasticity cannot be assumed.

* $p \leq .05$ (two-tailed). ** $p \leq .01$ (two-tailed).

Effects of Scenario, Gender, and Ethnicity of the Procurement Coordinator on Interactional Measures

The present study involved two scenarios (i.e. scenario 1 and 2) that differed according to the background story of the patient who was the injured family member. The patient in scenario 1 was an adult Caucasian male with severe head trauma from a motor vehicle accident. The patient in scenario 2 was a 16-year-old African American female who suffered a gunshot wound in her abdomen. Procurement coordinators differed in gender (i.e. male and female) and observed ethnicity (i.e. Caucasian and African American). Analyses assessing scenario, gender, and ethnicity main effects as well as interaction effects were conducted using an alpha of .05. Three-way ANOVAs were used to explore the influence of scenario, gender, and ethnicity on the interactional measures and other variables used in the present study. All findings below (including main effects and interactions) were based on these three-way ANOVAs.

Main Effects

Scenario.

Main effect differences between scenarios on all the interactional measures are presented in Table 17. It should be noted and will be discussed later, that scenario 2 was associated with less favorable pro-donation scores on the second outcome item. Scenario 2 was significantly longer in duration than scenario 1. Procurement coordinators evaluated in scenario 1 were viewed (rated) to have provided a more comprehensive understanding of organ donation as assessed by the Comprehension subscale of the Back Codes & Decisions section of the SCCAP than did procurement coordinators evaluated in

scenario 2. Thus, procurement coordinators were viewed (rated) to have better understood the option to donate and reported lower frequencies of confusing language and/or concepts in scenario 1. No other differences were found.

Table 17

Three-way ANOVA Scenario Main Effects and Trends

Measure and subscale	Scenario 1 (*n*=16) *M*	Scenario 1 (*n*=16) *SD*	Scenario 2 (*n*=17) *M*	Scenario 2 (*n*=17) *SD*	*F*	*df*	*p*	η_p^2
Tape Variable								
Conversation Length (mm:ss)	18:01	6:00	26:35	7:10	10.27	1	.00**	.29
SCCAP-PC								
HCP Speech Counts								
Interruption	19.31	11.46	13.74	8.94	1.12	1	.30	.04
Personal Disclosure	.56	.91	.82	1.27	.01	1	.92	.00
Back Codes & Decisions								
Presentation	11.56	1.98	10.82	2.26	1.71	1	.20	.06
Comprehension[1]	10.69	1.46	8.68	2.08	7.02	1	.01**	.22
Speech Ratings HCP								
Dominance	14.19	3.62	14.74	3.32	.05	1	.82	.00
Vocal	12.31	2.64	12.14	2.19	.00	1	.99	.00
Inclusion	14.09	2.64	13.62	2.56	.22	1	.64	.01
Speaks Clearly	6.06	.73	5.68	.95	1.17	1	.29	.05
HCP Comfort Levels								
Comfort	24.41	5.21	23.85	6.84	.24	1	.63	.01
Emotional Content for the HCP								
Positive Affect	29.16	6.08	28.38	4.95	2.49	1	.13	.09
Active Engagement	8.78	3.33	9.41	3.30	.18	1	.67	.01
Relational Comm. Scale - Obs.								
Intimacy	36.59	3.82	35.06	5.21	.00	1	.97	.00
Composure/Emotional (Non) Arousal	22.41	4.18	22.21	4.71	.20	1	.66	.01
Dominance	14.15	3.24	14.35	2.44	.00	1	.98	.00
Task vs. Social Orientation	5.47	1.10	5.26	1.49	.06	1	.81	.00

Table 17 (continued)

Measure and subscale	Scenario 1 (n=16) *M*	Scenario 1 (n=16) *SD*	Scenario 2 (n=17) *M*	Scenario 2 (n=17) *SD*	*F*	*df*	*p*	η_p^2
IMI-FMPC								
Dominance	1.55	.51	1.55	.32	.00	1	.97	.00
Submission	1.86	.33	1.82	.27	1.28	1	.27	.05
Friendliness	2.15	.62	2.51	2.75	.02	1	.91	.00
Hostility	1.57	.44	1.80	.50	1.48	1	.24	.06
Control	-.31	.64	-.27	.47	.38	1	.54	.02
Affiliation	.58	.96	.70	2.96	.13	1	.73	.01
IMI-PCFM								
Dominance	1.64	.36	1.64	.44	.29	1	.60	.01
Submission	1.69	.23	1.60	.23	2.61	1	.12	.10
Friendliness	1.62	.36	1.59	.26	.73	1	.40	.03
Hostility	2.35	.59	2.43	.43	.39	1	.54	.02
Control	-.05	.41	.04	.45	.20	1	.66	.01
Affiliation	-.76	.79	-.84	.56	.78	1	.39	.03
CLOIT-PC								
Dominance	2.79	1.97	2.77	1.90	.19	1	.67	.01
Submission	2.63	2.18	3.18	1.72	.54	1	.47	.02
Friendliness	3.42	1.49	3.86	1.19	1.63	1	.21	.06
Hostility	.45	.55	.58	.61	1.85	1	.19	.07
Control	.16	3.78	-.40	3.25	.43	1	.52	.02
Affiliation	2.97	1.78	3.28	1.48	.29	1	.60	.01
CLOIT-FM								
Dominance	3.94	1.82	4.17	1.73	.00	1	.99	.00
Submission	2.09	1.22	1.60	1.28	1.06	1	.31	.04
Friendliness[1]	1.84	1.29	1.49	1.05	.03	1	.87	.00
Hostility	2.99	2.09	2.38	1.72	1.33	1	.26	.05
Control	1.84	2.27	2.57	2.62	.26	1	.62	.01
Affiliation	-1.15	2.91	-.89	2.38	.88	1	.36	.03

Table 17 (continued)

Measure and subscale	Scenario 1 (n=16)		Scenario 2 (n=17)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
PSPS-PC								
Medical Information	3.55	.64	3.52	.67	.62	1	.44	.02
Personal Information	3.63	.65	3.43	.61	.00	1	.99	.00
Shared Decision Making[1]	3.75	.75	3.50	.74	.39	1	.54	.02
Total*	3.64	.65	3.48	.61	.00	1	.96	.00
PSPS-FM								
Medical Information	3.24	.76	3.23	.67	.12	1	.73	.01
Personal Information[1]	3.35	.69	3.43	.69	1.29	1	.27	.05
Shared Decision Making[1]	3.62	.64	3.35	.69	.64	1	.43	.03
Total[1]	3.40	.64	3.34	.63	.20	1	.66	.01

Note. [1]Error variance of the dependent variable is not equal across groups.

* $p \leq .05$. ** $p \leq .01$.

Gender.

Gender effects are summarized in Table 18. There was a trend for male procurement coordinators to be viewed (rated) as more dominant as assessed by the CLOIT-PC, IMI-FMPC, and the Relational Communication Scale from the SCCAP. There was a trend for female procurement coordinators to be viewed as providing a more comprehensive understanding of organ donation as rated by the Comprehension subscale from the Back Codes & Decisions section of the SCCAP. It should be noted and will be discussed later, that there was a trend for female procurement coordinators to be associated with less favorable pro-donation scores on the second outcome item. Last, family members were viewed (rated) to be more dominant, more controlling (Dominance minus Submission), and less affiliative (Friendliness minus Hostility) when interacting with female procurement coordinators as assessed by the IMI-PCFM. Thus overall, male procurement coordinators were viewed as displaying higher levels of dominance, female procurement coordinators were viewed as providing a more comprehensive understanding of organ donation and were associated with less favorable donation outcomes, and family members interacting with female procurement coordinators were viewed as displaying higher levels of dominance and control and lower levels of affiliation.

Table 18

Three-way ANOVA Gender Main Effects and Trends

Measure and subscale	Male (n=10) *M*	Male (n=10) *SD*	Female (n=23) *M*	Female (n=23) *SD*	*F*	*df*	*p*	η_p^2
Tape Variable								
Conversation Length (mm:ss)	23:56	8:34	21:47	7:36	.30	1	.59	.01
SCCAP-PC								
HCP Speech Counts								
Interruption	16.20	10.53	16.54	10.67	.02	1	.89	.00
Personal Disclosure	.85	1.00	.63	1.16	.88	1	.36	.03
Back Codes & Decisions								
Presentation	11.75	1.87	10.93	2.23	.71	1	.41	.03
Comprehension[1]	9.05	2.10	9.91	2.01	3.34	1	.08	.12
Speech Ratings HCP								
Dominance	15.00	3.74	14.24	3.34	2.38	1	.14	.09
Vocal	12.80	1.74	11.98	2.61	.05	1	.83	.00
Inclusion	13.60	2.08	13.96	2.79	.06	1	.80	00
Speaks Clearly	5.95	.83	5.83	.89	1.17	1	.29	.05
HCP Comfort Levels								
Comfort	24.00	5.25	24.17	6.46	.24	1	.63	.01
Emotional Content for the HCP								
Positive Affect	27.50	6.08	29.30	5.21	.78	1	.39	.03
Active Engagement	9.05	3.74	9.13	3.15	.73	1	.40	.03
Relational Comm. Scale - Obs.								
Intimacy	35.90	4.75	35.76	4.62	.78	1	.39	.03
Composure/Emotional (Non) Arousal	22.20	4.69	22.35	4.37	.12	1	.73	.01
Dominance	15.55	2.53	13.70	2.80	4.01	1	.06	.13
Task vs. Social Orientation	5.70	.95	5.22	1.42	.86	1	.36	.03

Table 18 (continued)

Measure and subscale	Male (n=10)		Female (n=23)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
IMI-FMPC								
Dominance	1.75	.38	1.46	.41	3.57	1	.07	.13
Submission	1.77	.27	1.87	.30	.10	1	.76	.00
Friendliness	1.93	.62	2.52	2.36	.12	1	.73	.01
Hostility	1.59	.48	1.74	.48	1.69	1	.21	.06
Control	-.01	.38	-.41	.58	2.41	1	.13	.09
Affiliation	.34	1.00	.77	2.55	.00	1	.95	.00
IMI-PCFM								
Dominance	1.53	.46	1.69	.37	4.39	1	.05*	.15
Submission	1.66	.19	1.64	.25	.25	1	.62	.01
Friendliness	1.66	.37	1.58	.30	2.15	1	.16	.08
Hostility	2.22	.43	2.46	.53	2.35	1	.14	.09
Control	-.13	.49	.05	.40	5.25	1	.03*	.18
Affiliation	-.56	.66	-.90	.66	4.09	1	.05*	.14
CLOIT-PC								
Dominance	3.92	2.00	2.29	1.68	3.12	1	.09	.11
Submission	2.22	1.70	3.22	2.00	1.91	1	.18	.07
Friendliness	3.23	1.09	3.82	1.43	.01	1	.91	.00
Hostility	.57	.69	.49	.54	.51	1	.48	.02
Control	1.70	3.09	-.93	3.38	3.01	1	.10	.11
Affiliation	2.67	1.43	3.33	1.67	.14	1	.72	.01
CLOIT-FM								
Dominance	3.93	2.22	4.11	1.55	.38	1	.54	.02
Submission	1.83	1.26	1.84	1.28	.11	1	.74	.01
Friendliness[1]	1.87	.77	1.58	1.31	.48	1	.49	.02
Hostility	2.78	1.82	2.63	1.98	.30	1	.59	.01
Control	2.10	2.99	2.27	2.25	.07	1	.79	.00
Affiliation	-.92	2.23	-1.06	2.80	.49	1	.49	.02

Table 18 (continued)

Measure and subscale	Male (n=10)		Female (n=23)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
PSPS-PC								
Medical Information	3.64	.79	3.47	.59	1.12	1	.30	.04
Personal Information	3.64	.72	3.48	.60	1.46	1	.24	.06
Shared Decision Making[1]	3.68	.95	3.59	.66	2.36	1	.14	.09
Total*	3.66	.79	3.52	.55	1.81	1	.19	.07
PSPS-FM								
Medical Information	3.31	.67	3.20	.73	.21	1	.65	.01
Personal Information[1]	3.33	.80	3.42	.64	.00	1	.97	.00
Shared Decision Making[1]	3.44	.75	3.50	.65	.38	1	.54	.02
Total[1]	3.31	.73	3.39	.59	.03	1	.87	.00

Note. [1]Error variance of the dependent variable was not equal across groups.

* $p \leq .05$. ** $p \leq .01$.

Ethnicity.

Ethnicity effects are presented in Table 19. Overall, African American procurement coordinators were viewed to be more hostile, dominant, and work-orientated than Caucasian procurement coordinators. African American procurement coordinators were viewed (rated) as more hostile as assessed by the CLOIT-PC. African American procurement coordinators were viewed (rated) as more dominant as assessed by the Relational Communication Scale from the SCCAP. They were also viewed as more task focused as assessed by the Relational Communication Scale from the SCCAP.

Caucasian procurement coordinators were viewed as being more affiliative, more friendly, having higher positive affect, and more frequently using personal disclosure. They were viewed (rated) as being more affiliative and friendly as measured by the CLOIT-PC than were African American procurement coordinators. In addition, there was a trend for Caucasian procurement coordinators to be viewed as having higher positive affect and more frequently using personal disclosure as assessed by the Positive Affect and Personal Disclosure subscales of the SCCAP.

Table 19

Three-way ANOVA Ethnicity Main Effects and Trends

Measure and subscale	Caucasian (*n*=25) *M*	Caucasian (*n*=25) *SD*	African Am. (*n*=8) *M*	African Am. (*n*=8) *SD*	*F*	*df*	*p*	η_p^2
Tape Variable								
Conversation Length (mm:ss)	22:43	7:59	21:32	7:50	.17	1	.69	.01
SCCAP-PC								
HCP Speech Counts								
Interruption	16.94	11.51	14.88	6.56	.00	1	.99	.00
Personal Disclosure	.58	1.09	1.06	1.15	3.25	1	.08	.12
Back Codes & Decisions								
Presentation	11.28	2.23	10.87	1.89	.00	1	.99	.00
Comprehension[1]	9.92	1.90	8.81	2.39	2.33	1	.14	.09
Speech Ratings HCP								
Dominance	14.50	3.47	14.37	3.51	.86	1	.36	.03
Vocal	12.06	2.62	12.75	1.47	.23	1	.64	.01
Inclusion	13.78	2.71	14.06	2.21	1.10	1	.30	.04
Speaks Clearly	5.98	.85	5.50	.85	.22	1	.65	.01
HCP Comfort Levels								
Comfort	24.4	6.16	23.25	5.93	.05	1	.83	.00
Emotional Content for the HCP								
Positive Affect	29.80	4.67	25.50	6.72	3.80	1	.06	.13
Active Engagement	8.86	3.53	9.88	2.34	2.20	1	.15	.08
Relational Comm. Scale - Obs.								
Intimacy	36.32	4.72	34.19	4.0	.00	1	.97	.00
Composure/Emotional (Non) Arousal	22.12	4.82	22.88	2.86	.51	1	.48	.02
Dominance	13.58	2.57	16.38	2.62	8.28	1	.01**	.25
Task vs. Social Orientation	5.10	1.34	6.19	.75	4.21	1	.05*	.14

Table 19 (continued)

Measure and subscale	Caucasian (n=25) *M*	Caucasian (n=25) *SD*	African Am. (n=8) *M*	African Am. (n=8) *SD*	*F*	*df*	*p*	η_p^2
IMI-FMPC								
Dominance	1.51	.43	1.68	.38	2.07	1	.16	.08
Submission	1.80	.28	1.96	.33	2.92	1	.10	.10
Friendliness	2.54	2.26	1.70	.47	.40	1	.53	.02
Hostility	1.57	.44	2.07	.40	2.92	1	.10	.11
Control	-.29	.55	-.29	.59	.03	1	.87	.00
Affiliation	.97	2.41	-.37	.77	.84	1	.37	.03
IMI-PCFM								
Dominance	1.66	.39	1.58	.44	.98	1	.33	.04
Submission	1.64	.25	1.64	.17	.16	1	.69	.01
Friendliness	1.64	.32	1.49	.29	.11	1	.75	.00
Hostility	2.33	.47	2.59	.59	1.15	1	.29	.04
Control	.02	.42	-.06	.48	1.40	1	.25	.05
Affiliation	-.70	.61	-1.10	.80	.95	1	.34	.04
CLOIT-PC								
Dominance	2.74	1.97	2.92	1.81	.37	1	.55	.02
Submission	2.93	2.10	2.88	1.47	.34	1	.57	.01
Friendliness	3.97	1.25	2.63	1.17	3.39	1	.08	.12
Hostility	.41	.51	.85	.68	5.07	1	.03*	.17
Control	-.19	3.61	.04	3.22	.44	1	.52	.02
Affiliation	3.57	1.47	1.77	1.27	5.74	1	.02*	.19
CLOIT-FM								
Dominance	4.03	1.93	4.13	1.06	.00	1	.98	.00
Submission	1.94	1.25	1.52	1.31	.96	1	.34	.04
Friendliness[1]	1.69	1.13	1.58	1.35	.37	1	.55	.01
Hostility	1.99	.40	2.73	1.72	.01	1	.94	.00
Control	2.09	2.66	2.60	1.72	.22	1	.64	.01
Affiliation	-.97	2.63	-1.15	2.73	.04	1	.85	.00

Table 19 (continued)

Measure and subscale	Caucasian (n=25)		African Am. (n=8)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
PSPS-PC								
Medical Information	3.55	.70	3.46	.49	.00	1	.99	.00
Personal Information	3.53	.67	3.51	.50	.20	1	.66	.01
Shared Decision Making[1]	3.75	.70	3.23	.79	.12	1	.73	.01
Total*	3.61	.66	3.40	.51	.00	1	.98	.00
PSPS-FM								
Medical Information	3.29	.76	3.08	.47	.23	1	.64	.01
Personal Information[1]	3.50	.71	3.06	.48	1.68	1	.21	.06
Shared Decision Making[1]	3.56	.71	3.24	.47	.02	1	.88	.00
Total[1]	3.45	.67	3.12	.39	.78	1	.39	.03

Note. [1]Error variance of the dependent variable was not equal across groups.

* $p \leq .05$. ** $p \leq .01$.

Interactions

Several two-way interactions and one three-way interaction between scenario, procurement coordinator gender, and procurement coordinator ethnicity were obtained. Scenario × procurement coordinator gender interaction effects are presented first. Affiliation and Hostility were influenced by gender. There was a significant procurement coordinator gender × scenario interaction effect on Affiliation (Friendliness minus Hostility), such that male procurement coordinators were viewed (rated) as being much more affiliative in scenario 1 than scenario 2, and females slightly less affiliative in scenario 1 versus 2. This interaction is reported in Table 20 and displayed in Figure 1. In addition, there was a significant procurement coordinator gender × scenario interaction effect on Hostility, such that male procurement coordinators were viewed (rated) as being much less hostile in scenario 1 than in scenario 2, whereas females were rated as being slightly more hostile in scenario 1 versus 2. This interaction is reported in Table 20 and displayed in Figure 2.

Table 20

Two and Three-way ANOVA Interaction Effects and Trends

Measure and subscale	Source	Fig.	*F*	*df*	*p*	η_p^2
Tape Variable						
Conversation Length (mm:ss)	scenario × gender		3.97	1	.06	.14
Outcome Variables						
Item 1	gender × ethnicity		3.31	1	.08	.12
SCCAP-PC						
Speech Ratings HCP						
Dominance	gender × ethnicity		3.87	1	.06	.13
Emotional Content for the HCP						
Positive Affect	scenario × gender		3.70	1	.07	.13
Positive Affect	scenario × ethnicity	3	5.52	1	.03*	.18
IMI-PCFM						
Dominance	gender × ethnicity		3.60	1	.07	.13
Hostility	scenario × gender	2	4.66	1	.04*	.16
Control	gender × ethnicity	4	4.68	1	.04*	.16
Affiliation	scenario × gender	1	6.65	1	.02*	.21
CLOIT-PC						
Friendliness	gender × ethnicity		3.53	1	.07	.12
Hostility	scenario × gender		3.54	1	.07	.12
Hostility	scenario × gender × ethnicity	6	4.36	1	.05*	.15
PSPS-PC						
Shared Decision Making	gender × ethnicity	5	5.83	1	.02*	.19

Note. η_p^2= Partial Eta Squared.

* $p \leq .05$.

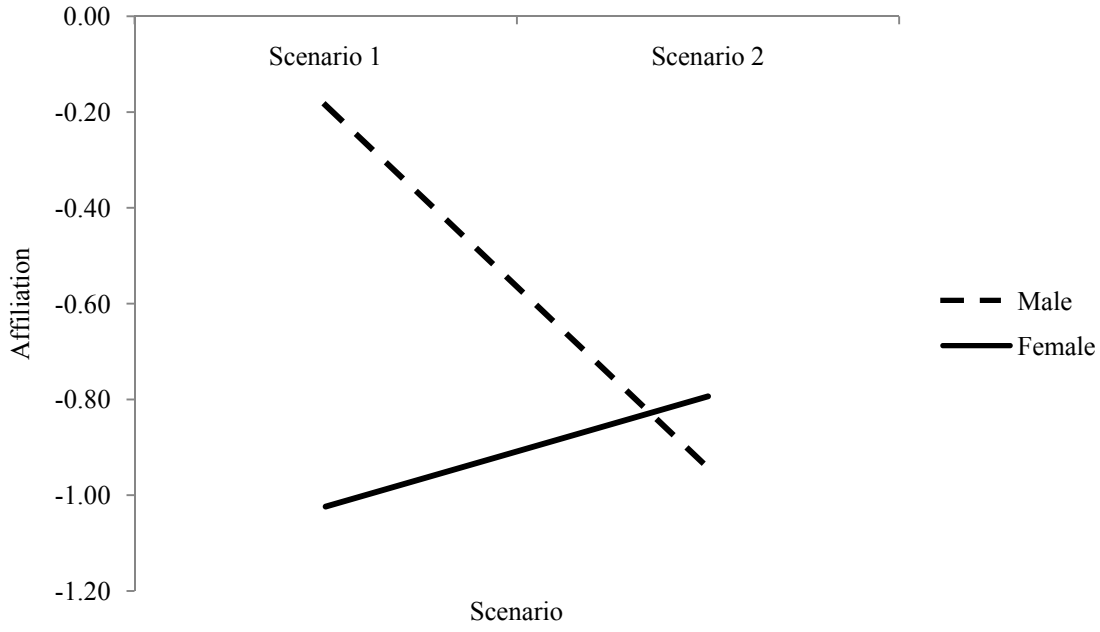


Figure 1. Affiliation measured by the IMI-PCFM as a function of scenario and gender of procurement coordinators in a sample of 33 interactions.

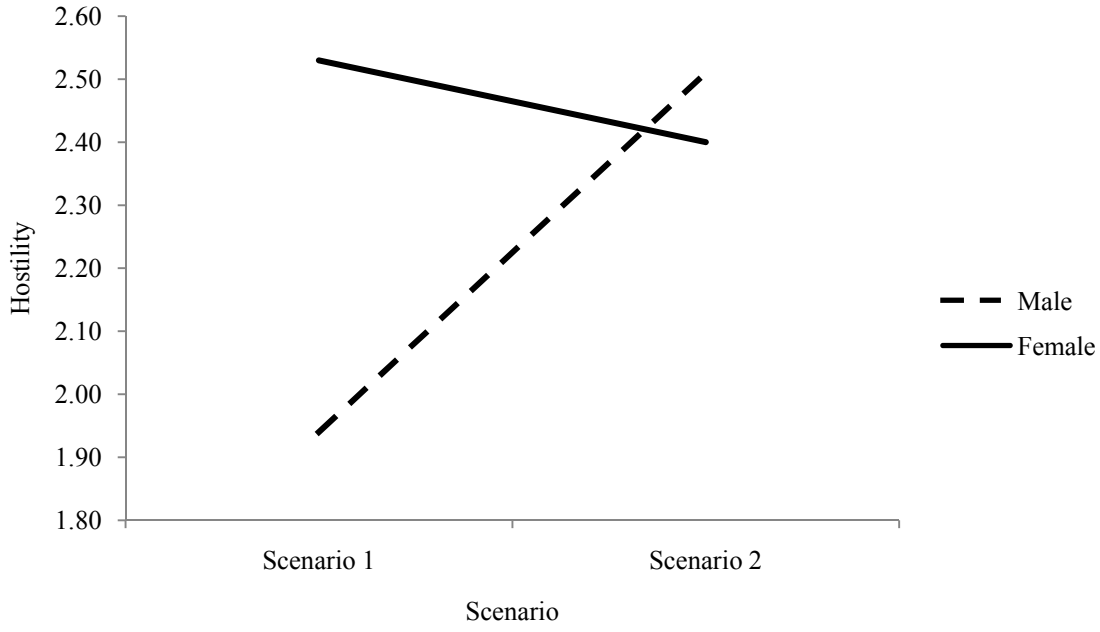


Figure 2. Hostility measured by the IMI-PCFM as a function of scenario and gender of procurement coordinators in a sample of 33 interactions.

Scenario × procurement coordinator ethnicity interaction effects are presented next. Scenario 1 involved a Caucasian patient and family whereas scenario 2 involved an African American patient and family. There was a significant procurement coordinator ethnicity × scenario interaction effect on Positive Affect, such that African American procurement coordinators were viewed as being more positive in scenario 2 versus scenario 1, whereas Caucasians were viewed as being less positive in scenario 2 versus 1. This interaction is reported in Table 20 and displayed in Figure 3. The effects of ethnicity of family and ethnicity of procurement coordinator match versus non-match are presented in detail in the next section.

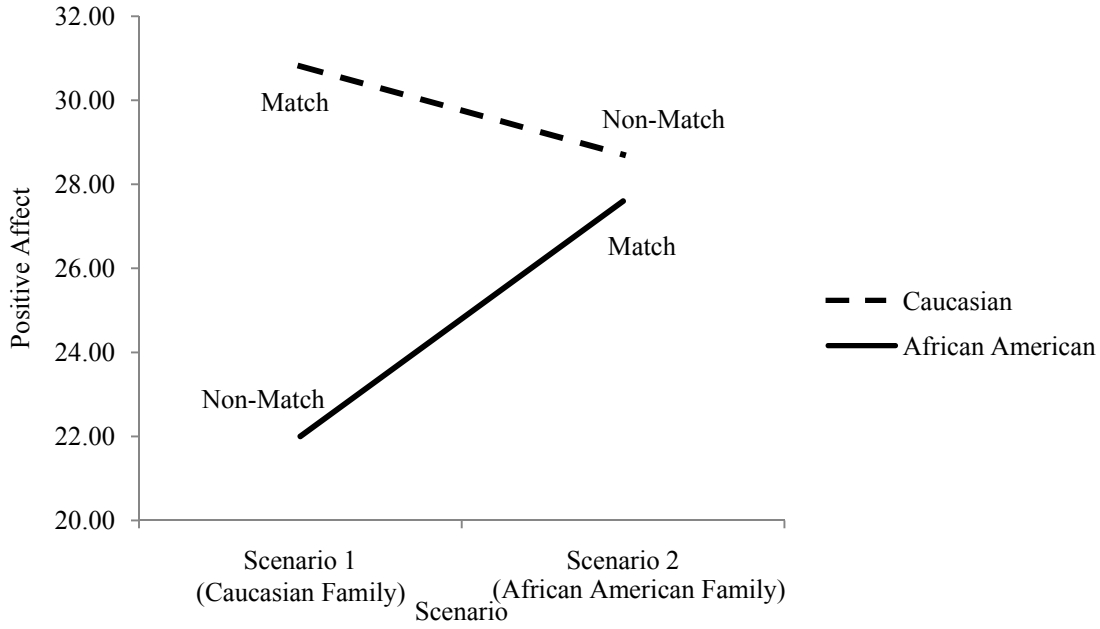


Figure 3. Positive Affect measured by the SCCAP as a function of scenario and ethnicity of procurement coordinators in a sample of 33 interactions.

Procurement coordinator gender × procurement coordinator ethnicity interaction effects are detailed next. There was a significant procurement coordinator gender ×

ethnicity interaction effect on IMI Control (Dominance minus Submission), such that African American females were viewed as far more controlling than African American males, whereas there was no difference between Caucasian males and females. This interaction is reported in Table 20 and displayed in Figure 4. There was a significant procurement coordinator gender × ethnicity interaction effect on Shared Decision Making. Across scenarios and all interactions, African American female procurement coordinators were viewed as engaging in less shared decision making than African American males, whereas Caucasian female procurement coordinators were viewed as engaging in slightly more shared decision making than African American females. This interaction is reported in Table 20 and displayed in Figure 5.

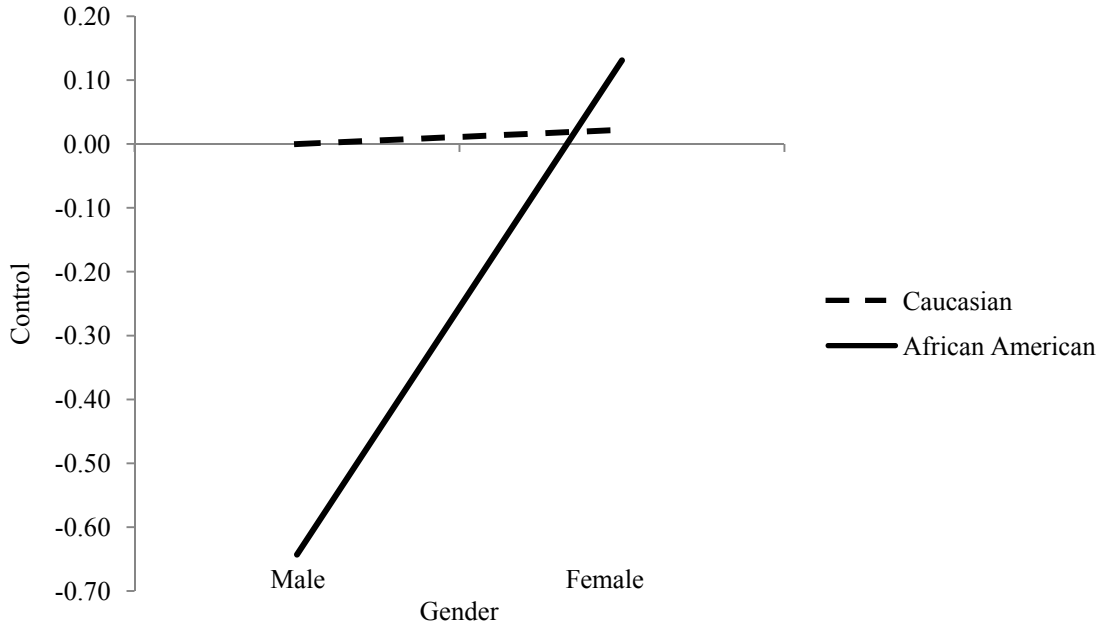


Figure 4. Control measured by the IMI-PCFM as a function of gender and ethnicity of procurement coordinators in a sample of 33 interactions.

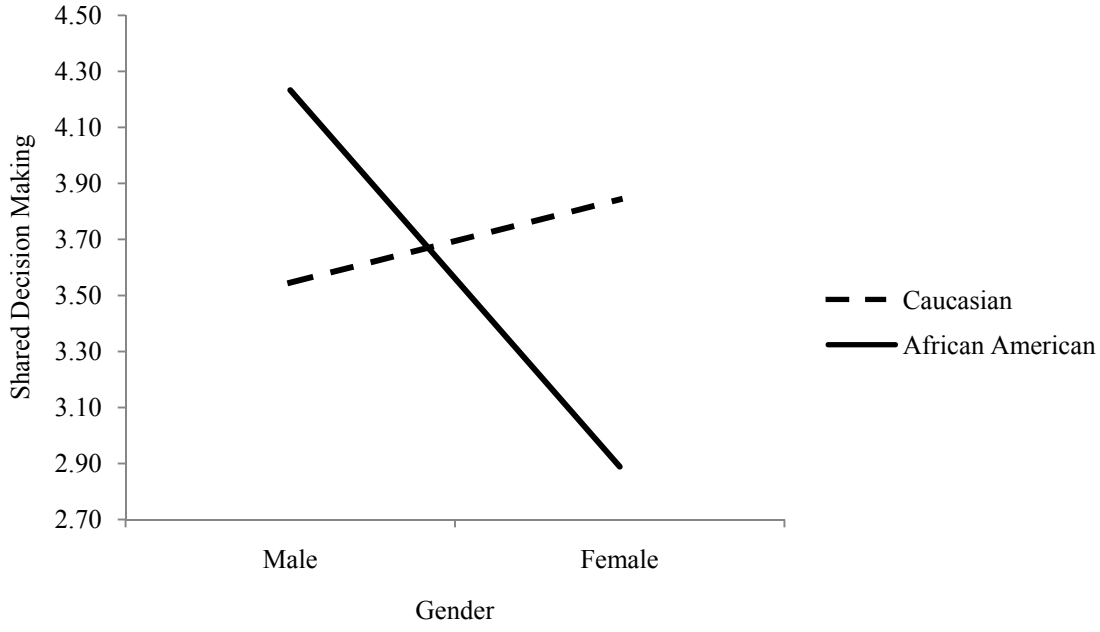


Figure 5. Shared Decision Making measured by the PSPS-PC as a function of gender and ethnicity of procurement coordinators in a sample of 33 interactions.

Last, there was a significant scenario × gender × ethnicity interaction. When the procurement coordinator was female and Caucasian she was viewed as being more hostile to the African American family (scenario 2) than the Caucasian family (scenario 1). However, when the procurement coordinator was female and African American she was viewed as slightly less hostile towards the African American (scenario 2) versus Caucasian family (scenario 1). When the procurement coordinator was African American and male he was viewed as more hostile to the African American family (scenario 2) whereas when the procurement coordinator was Caucasian and male there was no difference in hostility toward the African American (scenario 2) versus Caucasian family (scenario 1). This interaction is reported in Table 20 and displayed in Figure 6.

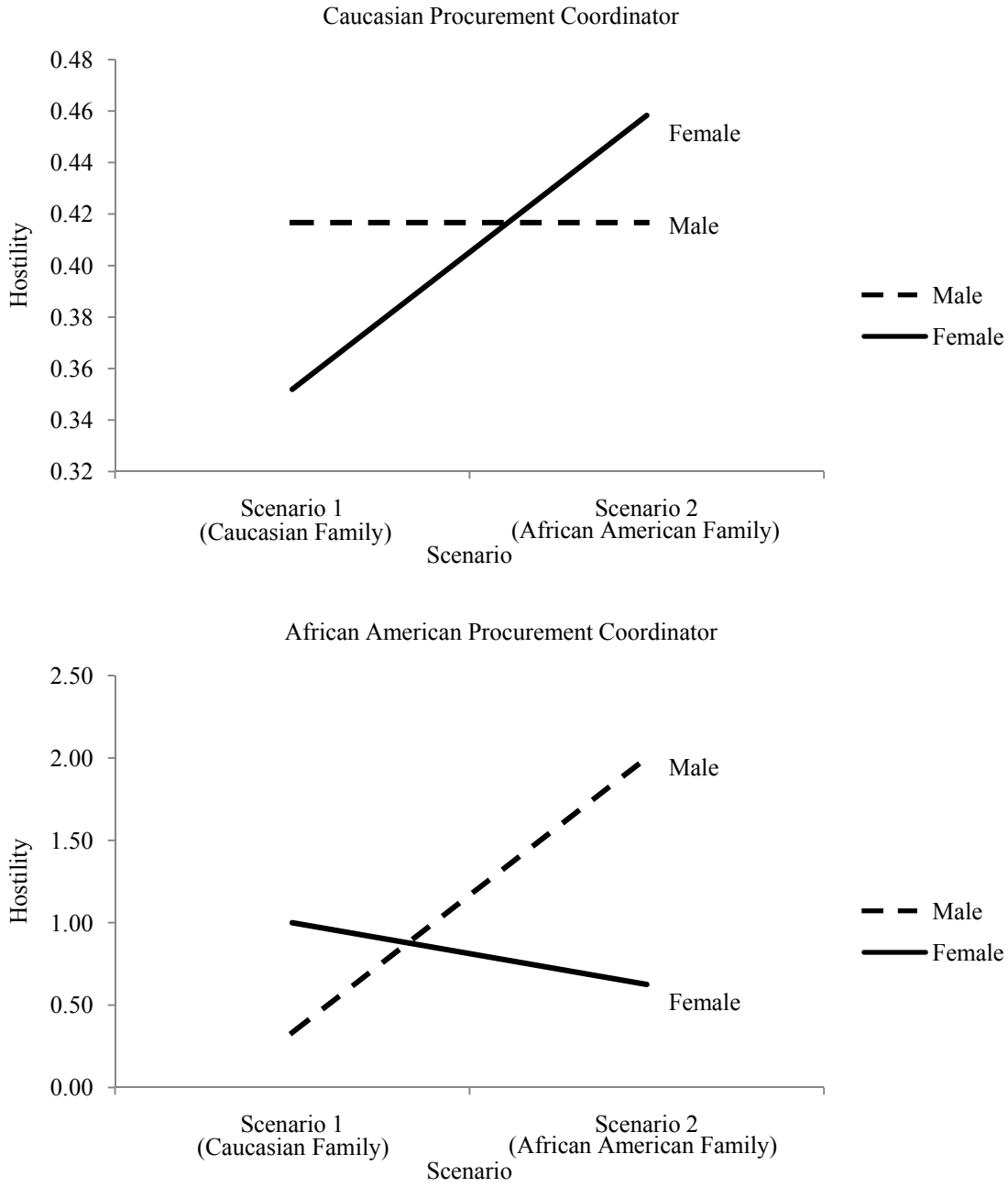


Figure 6. Hostility measured by the CLOIT-PC as a function of scenario × gender across levels of ethnicity of procurement coordinators in a sample of 33 interactions.

Main Effects for Match and Non-Match Conditions

The present study involved Caucasian family members, Caucasian procurement coordinators, African American family members, and African American procurement coordinators. Thus, the dynamics of the study allowed for the evaluation of the influence of match and non-match conditions on the interactional measures. There were two categories of matching conditions: 1) African American procurement coordinator with an African American family and 2) Caucasian procurement coordinator with a Caucasian Family. There were two categories of non-matching conditions: 3) African American procurement coordinator with a Caucasian family, and 4) Caucasian procurement coordinator with an African American family. Of the 33 interactions evaluated for the present study, 5 of the interactions were from condition 1 (15.2%) and 13 of the interactions were from condition 2 (39.4%) for a total of 18 interactions in the match condition. The non-match condition consisted of 3 interactions from condition 3 (9.1%) and 12 interactions from condition 4 (36.4%) for a total of 15 interactions in the non-match condition.

First, match and non-match conditions were compared using one-way ANOVAs. Second, the four individual conditions were compared using one-way ANOVAs. Analyses included all subscale variables and were conducted using an alpha of .05. Comparisons between match (conditions 1 and 2) and non-match (conditions 3 and 4) are presented below and detailed in Table 21. It is important to note that some of the results reported in Table 21 differ slightly from those reported earlier (e.g. Tables 17, 18, and 19) because these results are from a one-way as opposed to a three-way ANOVA.

Personal disclosure by procurement coordinators as rated by the SCCAP was significantly different between match and non-match conditions. Procurement coordinators in the interactions from the match conditions were observed to have used fewer instances of personal disclosure than procurement coordinators in interactions from the non-match conditions. Friendliness of the family member as rated by the CLOIT-FM was significantly different between match and non-match conditions. Families were viewed (rated) as being friendlier in interactions from the match conditions as opposed to non-match conditions. Last, an analysis calculated on the duration of the conversation in minutes and seconds (mm:ss) between the procurement coordinator and the family was significant. Conversation length was considerably shorter for interactions in the match conditions as opposed to interactions in the non-match conditions.

Table 21

One-way ANOVA Match and Non-Match Main Effects and Trends

Measure and subscale	Match (n=18) *M*	Match (n=18) *SD*	Non-Match (n=15) *M*	Non-Match (n=15) *SD*	*F*	*df*	*p*	η_p^2
Tape Variable								
Conversation Length (mm:ss)	19:11	6:00	26:20	8:11	8.38	1	.01**	.21
SCCAP-PC								
HCP Speech Counts								
Interruption	17.44	11.08	15.23	9.93	.36	1	.55	.01
Personal Disclosure	.36	.64	1.10	1.40	4.01	1	.05*	.12
Back Codes & Decisions								
Presentation	11.00	2.09	11.40	2.24	.28	1	.60	.01
Comprehension	9.97	2.18	9.27	1.88	.97	1	.33	.03
Speech Ratings HCP								
Dominance	13.72	3.41	15.37	3.34	1.94	1	.17	.06
Vocal	12.17	2.41	12.30	2.44	.03	1	.88	.00
Inclusion	13.56	2.64	14.20	2.53	.51	1	.48	.02
Speaks Clearly	5.78	.89	5.97	.83	.39	1	.54	.01
HCP Comfort Levels								
Comfort	22.86	5.07	25.63	6.90	1.77	1	.19	.05
Emotional Content for the HCP								
Positive Affect	29.92	5.04	27.37	5.77	1.83	1	.19	.06
Active Engagement	8.69	3.23	9.60	3.38	.62	1	.44	.02
Relational Comm. Scale - Obs.								
Intimacy	35.83	4.60	35.78	4.73	.00	1	.97	.00
Composure/Emotional (Non) Arousal	22.64	4.25	21.90	4.69	.23	1	.64	.01
Dominance	14.14	3.30	14.40	2.20	.07	1	.80	.00
Task vs. Social Orientation	5.44	1.08	5.36	1.30	.15	1	.70	.01

Table 21 (continued)

Measure and subscale	Match (n=18)		Non-Match (n=15)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
IMI-FMPC								
Dominance	1.52	.50	1.59	.31	.22	1	.65	.01
Submission	1.81	.27	1.88	.33	.44	1	.51	.01
Friendliness	2.00	.66	2.75	2.88	1.14	1	.29	.04
Hostility	1.68	.46	1.70	.52	.01	1	.92	.00
Control	-.29	.63	-.29	.45	.00	1	.99	.00
Affiliation	.32	1.04	1.03	3.06	.87	1	.36	.03
IMI-PCFM								
Dominance	1.56	.32	1.74	.47	1.73	1	.20	.05
Submission	1.64	.21	1.65	.26	.01	1	.94	.00
Friendliness	1.58	.33	1.64	.31	.29	1	.60	.01
Hostility	2.33	.50	2.46	.52	.51	1	.48	.02
Control	-.08	.33	.09	.52	1.40	1	.25	.04
Affiliation	-.78	.64	-.82	.73	.03	1	.87	.00
CLOIT-PC								
Dominance	2.41	1.91	3.23	1.87	1.56	1	.22	.05
Submission	2.92	2.07	2.91	1.86	.00	1	.99	.00
Friendliness	3.46	1.38	3.87	1.32	.73	1	.40	.02
Hostility	.52	.66	.51	.49	.00	1	.97	.00
Control	-.51	3.64	.32	3.33	.46	1	.50	.02
Affiliation	2.94	1.70	3.36	1.53	.53	1	.47	.02
CLOIT-FM								
Dominance	3.83	1.65	4.32	1.87	.63	1	.43	.02
Submission	2.02	1.35	1.62	1.14	.81	1	.38	.03
Friendliness[1]	2.10	1.25	1.13	.82	6.61	1	.02*	.18
Hostility	2.56	2.00	2.82	1.84	.16	1	.70	.01
Control	1.81	2.27	2.70	2.64	1.07	1	.31	.03
Affiliation	-.45	2.67	-1.69	2.45	1.89	1	.18	.06

Table 21 (continued)

Measure and subscale	Match (n=18)		Non-Match (n=15)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
PSPS-PC								
Medical Information	3.64	.61	3.41	.70	1.03	1	.32	.03
Personal Information	3.63	.62	3.40	.64	1.15	1	.29	.04
Shared Decision Making	3.60	.78	3.65	.73	.04	1	.85	.00
Total	3.63	.61	3.48	.65	.40	1	.53	.01
PSPS-FM								
Medical Information	3.27	.74	3.19	.68	.12	1	.73	.00
Personal Information[1]	3.46	.56	3.32	.81	.35	1	.56	.01
Shared Decision Making	3.49	.67	3.46	.69	.02	1	.89	.00
Total	3.41	.57	3.32	.70	.16	1	.70	.01

Note. [1]Significant Levene statistic; Homoscedasticity cannot be assumed.

* $p \leq .05$. ** $p \leq .01$.

Comparisons between all four conditions were evaluated next using a one-way analysis of variance (ANOVA) and are detailed in Table 22. All post-hoc tests were conducted using Tukey HSD. Cognitive understanding of the concept of organ donation as rated by the Comprehension subscale from the Back Codes & Decisions section of the SCCAP was significantly different between the four conditions, $F(3,29) = 3.83$, $p = .02$. Post-hoc Tukey's HSD tests showed that Comprehension scores in condition 2 were significantly higher than those in condition 1 at the .05 level of significance. All other comparisons were not significant at $p \leq .05$.

Hostility of the procurement coordinator as measured by the IMI-FMPC was significantly different between the four conditions, $F(3,29) = 3.16$, $p = .04$. Post-hoc Tukey's HSD tests showed that levels of procurement coordinator hostility were significantly higher in condition 1 than condition 2 at the .05 level of significance. All other comparisons were not significant at $p \leq .05$.

Friendliness of the procurement coordinator as measured by the CLOIT-PC was significantly different between the four conditions, $F(3,29) = 3.06$, $p = .04$. Post-hoc Tukey's HSD tests approached significance at $p = .068$ and showed that levels of procurement coordinator friendliness were higher in condition 4 than condition 3. All other comparisons were not significant at $p \leq .05$.

Affiliation of the procurement coordinator as measured by the CLOIT-PC was significantly different between the four conditions, $F(3,29) = 3.42$, $p = .03$. Post-hoc Tukey's HSD tests approached significance at $p = .074$ and showed that levels of

procurement coordination affiliation were higher in condition 4 than in condition 3. All other comparisons were not significant at $p \leq .05$.

An analysis calculated on the duration of the conversation between the procurement coordinator and the family was significant between the four conditions, $F(3,29) = 5.39$, $p = .005$. Conversation length was considerably longer in condition 4 than in condition 2 at the .01 level of significance. All other comparisons were not significant at $p \leq .05$.

Table 22

One-way ANOVA Main Effects and Trends of all Four Match and Non-Match Conditions

	Match				Non-Match							
	Condition 1 AA PC w/ AA FM (n=5)		Condition 2 C PC w/ C FM (n=13)		Condition 3 AA PC w/ C FM (n=3)		Condition 4 C PC w/ AA FM (n=12)					
Measure and subscale	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
Tape Variable												
Conversation Length (mm:ss)	22:55	6:54	17:45	5:12	19:14	10:19	28:07	6:58	5.39	3	.01**	.36
SCCAP-PC												
HCP Speech Counts												
Interruption	12.40	4.46	19.38	12.35	19.00	8.35	14.29	10.39	.81	3	.50	.08
Personal Disclosure	.60	.89	.27	.53	1.83	1.26	.92	1.43	2.07	3	.13	.18
Back Codes & Decisions												
Presentation	10.00	1.77	11.38	2.13	12.33	1.04	11.17	2.42	.83	3	.49	.08
Comprehension	7.90	2.46	10.77	1.49	10.33	1.53	9.00	1.92	3.83	3	.02*	.28
Speech Ratings HCP												
Dominance	13.50	3.28	13.81	3.58	15.83	4.07	15.25	3.33	.64	3	.60	.06
Vocal	12.40	1.14	12.08	2.78	13.33	2.02	12.04	2.54	.25	3	.86	.03
Inclusion	13.10	2.33	13.73	2.82	15.67	.29	13.83	2.72	.63	3	.60	.06
Speaks Clearly	5.10	.82	6.04	.80	6.17	.29	5.92	.93	1.75	3	.18	.15
HCP Comfort Levels												
Comfort	20.70	4.89	23.69	5.07	27.50	5.63	25.17	7.32	.99	3	.41	.09
Emotional Content for the HCP												
Positive Affect	27.60	5.98	30.81	4.59	22.00	7.55	28.71	4.72	2.54	3	.08	.21
Active Engagement	9.50	2.60	8.38	3.48	10.50	2.18	9.38	3.66	.42	3	.74	.04
Relational Comm. Scale - Obs.												
Intimacy	33.30	5.02	36.81	4.24	35.67	.58	35.79	5.33	.68	3	.57	.07
Comp./Emt (Non) Arousal	23.20	3.49	22.42	4.61	22.33	1.89	21.79	5.22	.12	3	.95	.01
Dominance	15.90	3.25	13.46	3.19	17.17	1.54	13.71	1.81	2.42	3	.09	.20
Task vs. Social Orientation	6.00	.94	5.23	1.09	6.50	.00	4.96	1.60	1.70	3	.19	.15

Table 22 (continued)

	Match				Non-Match							
	Condition 1 AA PC w/ AA FM (n=5)		Condition 2 C PC w/ C FM (n=13)		Condition 3 AA PC w/ C FM (n=3)		Condition 4 C PC w/ AA FM (n=12)					
Measure and subscale	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
IMI-FMPC												
Dominance	1.60	.42	1.49	.54	1.81	.33	1.53	.29	.49	3	.70	.05
Submission	1.85	.26	1.79	.28	2.15	.40	1.81	.28	1.32	3	.29	.12
Friendliness	1.52	.39	2.19	.66	2.01	.49	2.93	3.21	.66	3	.58	.06
Hostility	2.17	.26	1.49	.38	1.90	.61	1.65	.51	3.16	3	.04*	.25
Control	-.25	.62	-.30	.66	-.34	.67	-.28	.42	.02	3	.99	.00
Affiliation	-.65	.53	.69	.95	.10	1.00	1.27	3.38	.96	3	.42	.09
IMI-PCFM												
Dominance	1.44	.33	1.60	.31	1.81	.58	1.72	.47	.78	3	.52	.07
Submission	1.56	.09	1.67	.24	1.79	.19	1.61	.27	.74	3	.54	.07
Friendliness	1.44	.14	1.63	.37	1.57	.49	1.65	.28	.55	3	.65	.05
Hostility	2.51	.46	2.26	.51	2.72	.87	2.39	.43	.79	3	.51	.08
Control	-.11	.33	-.07	.34	.02	.76	.11	.48	.48	3	.70	.05
Affiliation	-1.07	.50	-.67	.66	-1.15	1.30	-.64	.57	.72	3	.55	.07
CLOIT-PC												
Dominance	2.20	1.79	2.49	2.02	4.11	1.26	3.01	1.97	.79	3	.51	.08
Submission	3.33	1.31	2.76	2.33	2.11	1.64	3.11	1.92	.30	3	.83	.03
Friendliness	2.87	1.14	3.69	1.43	2.22	1.35	4.28	.98	3.06	3	.04*	.24
Hostility	.90	.82	.37	.55	.78	.51	.44	.48	1.31	3	.29	.12
Control	-1.13	3.06	-.27	3.93	2.00	2.89	-.10	3.41	.50	3	.69	.05
Affiliation	1.97	1.34	3.32	1.71	1.44	1.35	3.83	1.18	3.42	3	.03*	.26

Table 22 (continued)

	Match				Non-Match							
	Condition 1 AA PC w/ AA FM (*n*=5)		Condition 2 C PC w/ C FM (*n*=13)		Condition 3 AA PC w/ C FM (*n*=3)		Condition 4 C PC w/ AA FM (*n*=12)					
Measure and subscale	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
CLOIT-FM												
Dominance	3.90	.82	3.81	1.91	4.50	1.50	4.28	2.01	.21	3	.89	.02
Submission	1.50	1.58	2.22	1.27	1.56	1.00	1.64	1.21	.64	3	.59	.06
Friendliness[1]	2.10	1.39	2.10	1.25	.72	.86	1.24	.82	2.27	3	.10	.19
Hostility	2.00	1.46	2.77	2.19	3.94	1.58	2.54	1.85	.66	3	.54	.06
Control	2.40	2.01	1.59	2.40	2.94	1.42	2.64	2.92	.48	3	.70	.05
Affiliation	.10	2.22	-.67	2.87	-3.22	2.43	-1.31	2.41	1.17	3	.34	.11
PSPS-PC												
Medical Information	3.64	.47	3.64	.67	3.17	.41	3.47	.75	.49	3	.69	.05
Personal Information	3.54	.51	3.67	.68	3.47	.59	3.38	.67	.42	3	.74	.04
Shared Decision Making	3.06	.72	3.81	.72	3.50	.98	3.69	.70	1.30	3	.29	.12
Total	3.41	.49	3.70	.66	3.38	.65	3.51	.67	.41	3	.75	.04
PSPS-FM												
Medical Information	3.17	.56	3.31	.82	2.91	.30	3.26	.73	.26	3	.85	.03
Personal Information[1]	3.31	.30	3.51	.63	2.64	.47	3.48	.81	1.52	3	.23	.14
Shared Decision Making	3.09	.46	3.65	.69	3.49	.44	3.46	.75	.83	3	.49	.08
Total	3.19	.30	3.49	.64	3.01	.57	3.40	.73	.62	3	.61	.06

Note. [1]Significant Levene statistic; Homoscedasticity cannot be assumed.

* $p \leq .05$. ** $p \leq .01$.

Predictors of the Decision to Donate

At the end of each interaction, 8 of the 9 coders completed an outcome measure consisting of two items. The first dichotomous item (i.e. yes/no) queried coders "If you were a member of this family would you have donated your loved one's organs?" The second 5 point Likert-style item stated "In your personal opinion, how likely was the family member to decide to donate his/her loved one's organs?" Lower scores on both items indicated pro-donation outcomes. Since multiple coders completed an outcome measure on each interaction, all coder responses for a given interaction were averaged. Thus, the mean score for each item represented the mean of all of the coders' responses who evaluated a given interaction. Responses to items 1 and 2 were highly correlated, $r(33) = .751$, $p < .001$ (two-tailed). Correlations were computed to examine the relationship between the outcome item scores and the process measures. The results are presented below according to measure.

Siminoff Communication Content and Affect Program (SCCAP)

Correlations between SCCAP subscales and the two outcome items are presented in Table 23. Overall, the relationship between the SCCAP subscales and the first outcome item were in the expected direction indicating that higher subscale scores were associated with pro-donation outcome scores (i.e. low scores on item 1). A significant negative relationship between the Intimacy subscale from the Relational Communication Scale - Observer section of the SCCAP and willingness of coders to donate the organs of a family member (first outcome item) $r(33) = -.477$, $p = .005$ (two-tailed), indicated that as Intimacy increased, willingness to donate increased. This pattern was consistent in other

subscales such as the Comfort subscale from the HCP Comfort Levels section, Positive Affect subscale from the Emotional Content for the HCP section, Composure/Emotional (Non) arousal subscale from the Relational Communication Scale, and the Dominance subscale from the Speech Ratings HCP section of the SCCAP.

Overall, the relationship between the SCCAP subscales and the second outcome item were also in the expected direction with higher subscale scores associated with pro-donation outcome scores (i.e. low scores on item 2). The Presentation and Comprehension subscales from the Back Codes & Decision section of the SCCAP were both more strongly associated with the second outcome item than the first outcome item. The Intimacy subscale from the Relational Communication Scale was the only subscale to be significantly correlated with pro-donation scores on both outcome items.

Table 23

Intercorrelations Between SCCAP Subscales and the Decision to Donate

Measure and subscale	Outcome item 1[1] *r*	Outcome item 2[1] *r*
Rating of the procurement coordinator		
HCP Speech Counts		
Interruption	.09	-.03
Personal Disclosure	.06	.15
Back Codes & Decisions		
Presentation	-.18	-.39*
Comprehension	-.31	-.38*
Speech Ratings HCP		
Dominance	-.36*	-.31
Vocal	-.04	-.07
Inclusion	-.15	-.22
Speaks Clearly	-.26	-.33
HCP Comfort Levels		
Comfort	-.40*	-.34
Emotional Content for the HCP		
Positive Affect	-.38*	-.29
Active Engagement	-.04	-.08
Relational Comm. Scale - Obs.		
Intimacy	-.48**	-.40*
Composure/Emotional (Non) arousal	-.37*	-.34
Dominance	-.01	.03
Task vs. Social Orientation	-.14	-.01

Note. All $df = 33$.

[1]Lower scores indicate pro-donation responses.

* $p \leq .05$ (2-tailed). ** $p \leq .01$ (2-tailed).

Circumplex Measures: IMI & CLOIT

Correlations, detailed in Table 24, were conducted on all the interpersonal measures and the outcome items. Hostility (IMI-FMPC), Affiliation (IMI-FMPC), and Submission (CLOIT-PC) displayed by the procurement coordinators were the subscales most consistently associated with pro-donation outcome scores on both outcome items. High levels of hostility and submission by the procurement coordinators were associated with high outcome scores indicating low pro-donation outcomes. High levels of affiliation by the procurement coordinators were associated with low outcome scores

indicating high pro-donation outcomes. Affiliation (IMI-PCFM), Hostility (IMI-PCFM), and Friendliness (IMI-PCFM) displayed by the family were the most significant subscales consistently associated with both outcome items. High levels of hostility by the family were associated with high outcome scores indicating low pro-donation outcomes. High levels of affiliation and friendliness by the family were associated with low outcome scores indicating high pro-donation outcomes. In addition, high Dominance (IMI-PCFM) and Control (CLOIT-FM) and low Friendliness (CLOIT-FM) by the family was significantly associated with low pro-donation outcomes.

Table 24

Intercorrelations Between Circumplex Measures and the Decision to Donate

Measure and subscale	Outcome item 1[1] *r*	Outcome item 2[1] *r*
Rating of the procurement coordinator		
IMI-FMPC		
Dominance	.19	.34
Hostility	.54**	.74**
Submission	.14	.06
Friendliness	-.30	-.32
Control	.07	.23
Affiliation	-.40*	-.46**
CLOIT-PC		
Dominance	-.02	.04
Hostility	.11	.31
Submission	.52**	.37*
Friendliness	-.21	-.07
Control	-.30	-.18
Affiliation	-.21	-.17
Rating of the family member		
IMI-PCFM		
Dominance	.22	.37*
Hostility	.34*	.57**
Submission	-.002	-.11
Friendliness	-.38*	-.54**
Control	.21	.40*
Affiliation	-.43*	-.67**
CLOIT-FM		
Dominance	.08	.31
Hostility	.14	.21
Submission	-.01	-.34
Friendliness	-.20	-.39*
Control	.06	.39*
Affiliation	-.19	-.33

Note. All $df = 33$.

[1]Lower scores indicate pro-donation responses.

* $p \leq .05$ (2-tailed). ** $p \leq .01$ (2-tailed).

The Participatory Style of Physician Scale (PSPS)

Pearson correlations detailed in Table 25 were conducted on the PSPS and the outcome items. Overall, the relationship between the PSPS subscales and outcome measures were significant and in the expected direction indicating that high scores on the

PSPS subscales were strongly associated with pro-donation outcome scores for both outcome items. High levels of providing medical information and personal information by the procurement coordinator and family and high levels of shared decision making by the procurement coordinator were associated with pro-donation outcomes (i.e. low outcome item scores). The Shared Decision Making subscale of the PSPS-FM was the only exception to this finding indicating that the shared decision making by the family was not significantly correlated with outcome item scores.

Table 25

Intercorrelations Between PSPS Measures and the Decision to Donate

	Outcome item 1[1]	Outcome item 2[1]
Measure and Subscale	*r*	*r*
Rating of the procurement coordinator		
PSPS-PC		
Medical Information	-.63**	-.52**
Personal Information	-.70**	-.59**
Shared Decision Making	-.74**	-.74**
Total	-.75**	-.67**
Rating of the family member		
PSPS-FM		
Medical Information	-.63**	-.47**
Personal Information	-.65**	-.51**
Shared Decision Making	.10	.09
Total	-.72**	-.58**

Note. All $df = 33$.

[1]Lower scores indicate pro-donation responses.

* $p \leq .05$ (2-tailed). ** $p \leq .01$ (2-tailed).

General Attitudes and Beliefs about Organ Donation (GABOD)

Coders completed a General Attitudes and Beliefs about Organ Donation (GABOD) questionnaire prior to starting the study and at the completion of the study. A higher score indicated the coder was more favorable toward organ donation. A paired samples t-test found no change in scores over time (pretest $M = 46.75$, $SD = 6.63$; posttest

M = 48.5, *SD* = 5.95) on the GABOD, *t*(8) = -.638, *p* = .52 (two-tailed). Detailed in Table 26, pre and posttest coder scores on the GABOD were positively correlated. Since the intention with this set of analyses was to assess the influence of coder demographic variables upon the outcome measure and because coders completed multiple outcome measures on different interactions, the coder responses on each outcome item were averaged according to individual coder. Thus, the mean score for outcome item 1 or 2 represented the mean response of each individual coder across all evaluated interactions. There was a strong positive relationship between the GABOD pretest score and the coder's estimation of the likelihood of the family member to donate (second outcome item) *r*(8) = .718, *p* = .045 (two-tailed). The correlation indicated that high pretest scores were associated with high scores on item 2 indicating that the coder's estimation of the likelihood of the family member to donate decreased (i.e. high scores on item 2 indicate a less favorable donation outcome) with high pretest GABOD scores. In contrast, the relationship between both the pre and posttest GABOD scores and the first outcome item were in the expected direction indicating that higher GABOD scores (i.e. pro-donation) were associated with lower scores on item 1 (i.e. yes to donation). In addition, Non-Caucasian coder status was associated with lower scores (i.e. pro-donation) on items 1 and 2.

Table 26

Intercorrelations Between GABOD, Demographic Variables, and the Decision to Donate

Items	1	2	3	4	5	6	7
Outcome measure							
1. Mean on item 1 for the individual coder	-						
2. Mean on item 2 for the individual coder	-.05	-					
GABOD							
3. Pretest score	-.09	.72*	-				
4. Posttest score	-.41	.38	.34	-			
Coder demographic variables							
5. Age	-.25	.38	.21	.18	-		
6. Gender	-.04	.20	-.07	.16	.22	-	
7. Caucasian vs. Non-Caucasian	-.59	-.41	-.61	.05	-.35	.00	-

Note. All $df = 8$.

* $p \leq .05$ (2-tailed). ** $p \leq .01$ (2-tailed).

Exploratory Multiple Regression Analysis on the Relationship between Coder Demographic Variables and the Decision to Donate

A multiple regression was performed to assess the degree of linear relationship between the predictor variables (i.e. coder age, gender, ethnicity, and GABOD pretest score) and the criterion variables (i.e. outcome items 1 and 2). Detailed in Table 27, Outcome item 1 mean scores across interactions for a given coder were regressed on coder age, gender, and ethnicity in the first model and the GABOD pretest score in the second model. Coder age, gender, and ethnicity accounted for just under one-third of the variance in item 1 scores (adjusted R^2 = .28), but was not significant, $F(3, 7) = 1.91$, p = .269. Coder age, gender, ethnicity, and the GABOD pretest score accounted for more than three-fourths of the variance in item 1 scores (adjusted R^2= .76), but was not significant, $F(4, 7) = 6.52$, p = .078. Coder gender (b = .03, p = .905) did not demonstrate any significant effects on outcome item 1 scores, while both coder age (b = -.52, p = .083) and GABOD pretest score (b = -.70, p = .058) approached significance as predictors. Coder ethnicity (b = -1.20, p = .016) was the only predictor variable to demonstrate significant effects on the outcome item 1 scores. Thus, non-Caucasian coder status was predictive of pro-donation scores on the first outcome item.

Outcome item 2 mean scores across interactions for a given coder were regressed on coder age, gender, and ethnicity in the first model and the GABOD pretest score in the second model. Detailed in Table 28, coder age, gender, and ethnicity accounted for one-third of the variance in item 2 scores (adjusted R^2 = -.31), but was not significant, $F(3, 7)$ = .45, p = .731. Coder age, gender, ethnicity, and the GABOD pretest score accounted for

just over one-tenth of the variance in item 2 scores (adjusted R^2= .11), but was not significant, $F(4, 7) = 1.21$, $p = .457$. Coder age (b = .22, $p = .618$), gender (b = .20, $p = .622$), ethnicity (b = .13, $p = .806$), and GABOD pretest score (b = .76, $p = .190$) did not demonstrate any significant effects on outcome item 2 scores.

Table 27

Summary of Exploratory Multiple Regression Analysis for the Coder Variables Predicting Outcome Item 1 (N = 8)

	Model/Step 1					Model/Step 2				
Variable	*B*	*SE B*	*β*	*t*	*p*	*B*	*SE B*	*β*	*t*	*p*
Coder demographic variables										
Age	-.01	.01	-.54	-1.52	.20	-.01	.00	-.52	-2.56	.08
Gender	.03	.11	.08	.23	.83	.01	.07	.03	.13	.91
Caucasian vs. Non-Caucasian	-.23	.10	-.78	-2.27	.09	-.35	.07	-1.20	-4.93	.02*
GABOD pretest score						-.02	.01	-.70	-2.99	.06

Note. R^2 = .28 for Model 1, R^2 = .76 for Model 2, ΔR^2=.31 for Model 2. *F* for ΔR^2=1.91 for Model 1, *F* for ΔR^2=8.95, *p* = .06, for Model 2.

* $p \leq .05$ ** $p \leq .01$

Table 28

Summary of Exploratory Multiple Regression Analysis for the Coder Variables Predicting Outcome Item 2 (N = 8)

	Model/Step 1					Model/Step 2				
Variable	*B*	*SE B*	*β*	*t*	*p*	*B*	*SE B*	*β*	*t*	*p*
Coder demographic variables										
Age	.01	.02	.23	.49	.65	.01	.01	.22	.55	.62
Gender	.12	.36	.15	.33	.76	.16	.30	.20	.55	.62
Caucasian vs. Non-Caucasian	-.23	.32	-.33	-.71	.52	.09	.33	.13	.27	.81
GABOD pretest score						.04	.03	.76	1.69	.19

Note. R^2 = .28 for Model 1, R^2 = .76 for Model 2, ΔR^2=.31 for Model 2. *F* for ΔR^2=1.91 for Model 1, *F* for ΔR^2=8.95, *p* = .06, for Model 2.

* $p \leq .05$ ** $p \leq .01$

Main Effects for Match and Non-Match Conditions

Comparisons between the outcome items on match and non-match conditions as well as all four match/non-match conditions were evaluated using a one-way analysis of variance (ANOVA) and are detailed in Tables 29 and 30. No significant differences were found between match and non-match conditions for outcome items 1 and 2. However, the second item of the outcome measure was significantly different between the four conditions, $F(3,29) = 5.82$, $p = .003$, $\eta_p^2 = .38$. Post-hoc Tukey's HSD tests showed that outcome item 2 scores in condition 1 were significantly higher than those in condition 2 at the .01 level of significance indicating that pro-donation scores (i.e. low scores on item 2) were associated with condition 2. In addition, outcome item 2 scores in condition 4 were significantly higher than those in condition 2 at the .05 level of significance. All other comparisons were not significant at $p \leq .05$.

Table 29

One-way ANOVA Match and Non-Match Main Effects and Trends

Measure	Match (n=18)		Non-Match (n=15)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
Outcome variables								
Item 1	1.46	.35	1.56	.34	.60	1	.44	.02
Item 2	3.08	.95	3.53	.87	1.98	1	.17	.06

Note. * $p \leq .05$. ** $p \leq .01$.

Table 30

One-way ANOVA Main Effects and Trends of all Four Match and Non-Match Conditions

Measure	Match				Non-Match							
	Condition 1 AA PC w/ AA FM (n=5)		Condition 2 C PC w/ C FM (n=13)		Condition 3 AA PC w/ C FM (n=3)		Condition 4 C PC w/ AA FM (n=12)					
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
Outcome variables												
Item 1	1.71	.28	1.37	.33	1.46	.25	1.58	.36	1.60	3	.21	.14
Item 2	4.18	.43	2.66	.73	3.20	1.06	3.62	.85	5.82	3	.00**	.38

Note. * $p \leq .05$. ** $p \leq .01$.

Exploratory Multiple Regression Analysis on the Relationship between Interactional Measures and the Decision to Donate

Exploratory multiple regression was performed using the enter method to characterize the degree of linear relationship between the predictor variables (i.e. scenario, procurement coordinator gender, procurement coordinator ethnicity, and subscales well correlated with the outcome items identified in Tables 17, 18, and 19) and the criterion variables (i.e. outcome items 1 and 2). The mean score of outcome item 1 for all coders that evaluated the target interaction ($N = 33$) were regressed on scenario, procurement coordinator gender, and procurement coordinator ethnicity in the first model and the subscales detailed in Table 31 that were well correlated with outcome item 1 in the second model. The scenario variable acts as a proxy for the ethnicity of the family (i.e. scenario 1 has a Caucasian family and scenario 2 has an African American family) that can be regressed on procurement coordinator ethnicity and gender. Scenario, procurement coordinator gender, and procurement coordinator ethnicity accounted for less than one-tenth of the variance in item 1 scores (adjusted $R^2 = .06$) and was not significant, $F(3, 32) = 1.69$, $p = .192$. Scenario, procurement coordinator gender, procurement coordinator ethnicity, and the subscales well correlated with outcome item 1 accounted for more than two-thirds of the variance in item 1 scores (adjusted $R^2 = .69$) and was significant, $F(21, 32) = 4.46$, $p = .007$. Scenario was the only predictor to approach significance in the first model/step and is detailed in Table 31.

Table 31

Summary of Exploratory Multiple Regression Analysis for the Variables Predicting Outcome Item 1 (N = 33)

	Model/Step 1					Model/Step 2				
Variable	*B*	*SE B*	*β*	*t*	*p*	*B*	*SE B*	*β*	*t*	*p*
Other Predictors										
Scenario	.22	.12	.33	1.91	.07	.10	.13	.15	.80	.44
PC gender	.06	.13	.08	.49	.63	-.04	.13	-.05	-.28	.78
PC ethnicity	.11	.14	.14	.79	.44	.09	.18	.11	.47	.65
SCCAP-PC										
Speech Ratings HCP										
Dominance						-.02	.03	-.21	-.76	.47
HCP Comfort Levels										
Comfort						.01	.01	.12	.60	.56
Emotional Content for the HCP										
Positive Affect						.01	.02	.20	.69	.50
Relational Comm. Scale – Obs.										
Intimacy						-.02	.01	-.23	-1.21	.25
Composure/Emotional arousal						.02	.02	.23	.87	.41
IMI-FMPC										
Hostility						.02	.25	.02	.07	.95
Affiliation						.03	.03	.21	1.09	.30
IMI-PCFM										
Friendliness						.43	.73	.40	.59	.57
Hostility						-.05	.59	-.08	-.09	.93
Affiliation						-.01	.61	-.03	-.02	.98
CLOIT-PC										
Submission						.01	.04	.06	.24	.82
PSPS-PC										
Medical Information						-.06	.21	-.12	-.29	.78
Personal Information						-.15	.21	-.28	-.72	.49
Shared Decision Making						-.12	.17	-.26	-.67	.51

Table 31 (continued)

	Model/Step 1					Model/Step 2				
Variable	*B*	*SE B*	*β*	*t*	*p*	*B*	*SE B*	*β*	*t*	*p*
PSPS-FM										
Medical Information						-.31	.24	-.63	-1.27	.23
Personal Information						.05	.32	.10	.16	.87
Shared Decision Making						-.24	.27	-.47	-.90	.39
Total						.07	.52	.14	.14	.89

Note. R^2 = .06 for Model 1, R^2 = .69 for Model 2, ΔR^2=.75 for Model 2. *F* for ΔR^2=1.69 for Model 1, *F* for ΔR^2=4.34** for Model 2.

* $p \leq .05$. ** $p \leq .01$.

The mean score of Outcome item 2 across all coders for a given interaction (n = 33) were regressed on scenario, procurement coordinator gender, and procurement coordinator ethnicity in the first model and the subscales detailed in Table 32 that were well correlated with outcome item 1 in the second model/step. The scenario variable acts as a proxy for the ethnicity of the family (i.e. scenario 1 has a Caucasian family and scenario 2 has an African American family). Scenario, procurement coordinator gender, and procurement coordinator ethnicity accounted for more than one-third of the variance in item 2 scores (adjusted R^2 = .34) and was significant, $F(3, 32) = 6.57$, p = .002. Scenario, procurement coordinator gender, procurement coordinator ethnicity, and the subscales well correlated with outcome item 2 accounted for three-fourths of the variance in item 2 scores (adjusted R^2 = .75) and was significant, $F(23, 32) = 5.08$, p = .008. Scenario was the only predictor to remain significant in both models.

Table 32

Summary of Exploratory Multiple Regression Analysis for the Variables Predicting Outcome Item 2 (N = 33)

	Model/Step 1					Model/Step 2				
Variable	*B*	*SE B*	*β*	*t*	*p*	*B*	*SE B*	*β*	*t*	*p*
Other Predictors										
Scenario	.96	.27	.52	3.62	.001**	.82	.29	.45	2.77	.02*
PC gender	.34	.29	.17	1.19	.25	.23	.29	.11	.78	.46
PC ethnicity	.53	.31	.25	1.71	.098	-.37	.38	-.18	-.98	.35
SCCAP-PC										
Back Codes & Decisions										
Presentation						-.05	.06	-.13	-.90	.39
Comprehension						.02	.07	.03	.22	.83
Relational Comm. Scale - Obs.										
Intimacy						.01	.03	.04	.26	.80
IMI-FMPC										
Hostility						.94	.60	.48	1.57	.15
Affiliation						-.03	.08	-.06	-.32	.75
IMI-PCFM										
Dominance						-.44	.83	-.19	-.54	.61
Friendliness						1.31	1.74	.44	.75	.47
Hostility						-.62	1.42	-.33	-.43	.68
Control						.24	.68	.11	.36	.73
Affiliation						-.77	1.50	-.55	-.51	.62
CLOIT-PC										
Submission						-.17	.11	-.36	-1.62	.14
CLOIT-FM										
Friendliness						.06	.14	.07	.40	.70
Control						.08	.07	.22	1.27	.24

Table 32 (continued)

	Model/Step 1					Model/Step 2				
Variable	*B*	*SE B*	*β*	*t*	*p*	*B*	*SE B*	*β*	*t*	*p*
PSPS-PC										
Medical Information						.55	.46	.39	1.21	.26
Personal Information						-.47	.52	-.32	-.91	.39
Shared Decision Making						-.77	.42	-.62	-1.86	.10
PSPS-FM										
Medical Information						-.84	.60	-.64	-1.41	.19
Personal Information						-.54	.63	-.40	-.86	.41
Shared Decision Making						.38	.77	.27	.50	.63
Total						.70	1.14	.47	.61	.56

Note. R^2 = .34 for Model 1, R^2 = .75 for Model 2, ΔR^2=.52 for Model 2. *F* for ΔR^2=6.57** for Model 1, *F* for ΔR^2=3.30* for Model 2.

* $p \leq .05$. ** $p \leq .01$.

Family (Actor) Decision to Donate in Scenario 2

Although the family members in the scenarios were allowed to arrive at their own independent donation decision, there was little variability in responses except for scenario 2 interactions. As mentioned earlier, scenario 2 was composed of 17 interactions and family members made a decision to donate the organs of their loved one in 7 of those interactions. The family's responses in the remaining 10 interactions were classified as Undecided/No clear decision and indicated that the interaction ended before the family provided a clear donation decision. All Undecided/No clear decision interactions are subsequently referred to as non-yes responses. The results from the one-way ANVOA comparing yes and non-yes groups are presented below and detailed in Table 33. Overall in scenario 2, procurement coordinators were viewed (rated) as being more vocal and intimate in interactions where the family (i.e. actors) decided to donate as measured by the Vocal and Intimacy subscales of the SCCAP. In addition, there was a trend in scenario 2 for procurement coordinators to be viewed (rated) as having higher positive affect and being more dominant in interactions where the family (i.e. actors) decided to donate as measured by the Positive Affect and Dominance subscales of the SCCAP. Last, conversation length was considerably longer in interactions where the family (i.e. actors) decided to donate.

Table 33

One-way ANOVA Family (Actor) Donation Decision Main Effects and Trends for Scenario 2

Measure and subscale	Yes (*n*=7) *M*	Yes (*n*=7) *SD*	Non-Yes (*n*=10) *M*	Non-Yes (*n*=10) *SD*	*F*	*df*	*p*	η_p^2
Tape Variable								
Conversation Length (mm:ss)	31:51	4:59	22:54	6:10	10.03	1	.01**	.40
Outcome Measure								
Item 1	1.53	.31	1.68	.36	.77	1	.39	.05
Item 2	3.72	.64	3.83	.90	.07	1	.79	.01
SCCAP-PC								
HCP Speech Counts								
Interruption	16.07	7.93	12.10	9.64	.80	1	.39	.05
Personal Disclosure	.93	1.74	.75	.92	.08	1	.79	.01
Back Codes & Decisions								
Presentation	11.14	1.63	10.60	2.69	.23	1	.64	.02
Comprehension	8.64	2.30	8.70	2.03	.00	1	.96	.00
Speech Ratings HCP								
Dominance	15.29	3.34	14.35	3.42	.31	1	.58	.02
Vocal	13.43	.79	11.25	2.44	5.11	1	.04*	.25
Inclusion	14.71	2.36	12.85	2.52	2.37	1	.14	.14
Speaks Clearly	5.93	.73	5.50	1.08	.83	1	.38	.05
HCP Comfort Levels								
Comfort[1]	26.57	4.11	21.95	7.93	1.98	1	.18	.12
Emotional Content for the HCP								
Positive Affect	30.86	3.12	26.65	5.39	3.42	1	.08	.19
Active Engagement	10.64	3.40	8.55	3.10	1.73	1	.21	.10
Relational Comm. Scale - Obs.								
Intimacy	38.14	3.12	32.90	5.41	5.28	1	.04*	.26
Composure/Emotional (Non) Arousal	23.57	5.23	21.25	4.33	1.00	1	.33	.06
Dominance	15.64	2.41	13.45	2.13	3.93	1	.07	.21
Task vs. Social Orientation	5.50	1.38	5.10	1.61	.28	1	.60	.02

Table 33 (continued)

Measure and subscale	Yes (n=7) *M*	Yes (n=7) *SD*	Non-Yes (n=10) *M*	Non-Yes (n=10) *SD*	*F*	*df*	*p*	η_p^2
IMI-FMPC								
Dominance	1.60	.37	1.52	.30	.26	1	.62	.02
Submission	1.95	.28	1.74	.24	2.56	1	.13	.15
Friendliness[1]	3.49	4.25	1.83	.40	1.55	1	.23	.09
Hostility	1.65	.42	1.91	.55	1.09	1	.31	.07
Control	-.34	.61	-.22	.38	.26	1	.62	.02
Affiliation	1.85	4.41	-.10	.92	1.88	1	.19	.11
IMI-PCFM								
Dominance	1.63	.45	1.65	.45	.01	1	.92	.00
Submission	1.54	.23	1.64	.23	.77	1	.40	.05
Friendliness	1.56	.23	1.61	.29	.16	1	.69	.01
Hostility	2.35	.50	2.49	.39	.43	1	.52	.03
Control	.09	.42	.01	.48	.12	1	.74	.01
Affiliation	-.79	.57	-.87	.57	.10	1	.76	.01
CLOIT-PC								
Dominance	3.00	2.17	2.62	1.80	.16	1	.70	.01
Submission	2.43	1.23	3.70	1.88	2.44	1	.14	.14
Friendliness	3.52	1.18	4.10	1.21	.96	1	.34	.06
Hostility	.50	.71	.63	.56	.19	1	.67	.01
Control	.57	3.17	-1.08	3.29	1.07	1	.32	.07
Affiliation	3.02	1.49	3.47	1.52	.36	1	.56	.02
CLOIT-FM								
Dominance	3.81	1.84	1.41	1.69	.49	1	.49	.03
Submission	1.90	1.46	1.38	1.18	.67	1	.43	.04
Friendliness	1.33	.97	1.60	1.14	.25	1	.62	.02
Hostility	2.52	1.31	2.28	2.02	.08	1	.79	.01
Control	1.90	3.02	3.03	2.36	.75	1	.40	.05
Affiliation	-1.19	1.86	-.68	2.76	.18	1	.68	.01

Table 33 (continued)

Measure and subscale	Yes (n=7)		Non-Yes (n=10)					
	M	*SD*	*M*	*SD*	*F*	*df*	*p*	η_p^2
PSPS-PC								
Medical Information	3.83	.43	3.30	.74	2.84	1	.11	.16
Personal Information	3.61	.54	3.30	.66	1.11	1	.31	.07
Shared Decision Making	3.66	.64	3.39	.83	.50	1	.49	.03
Total	3.70	.51	3.33	.66	1.57	1	.23	.10
PSPS-FM								
Medical Information	3.34	.73	3.15	.66	.31	1	.58	.02
Personal Information	3.64	.54	3.29	.77	1.07	1	.32	.07
Shared Decision Making	3.59	.58	3.18	.73	1.52	1	.24	.09
Total	3.52	.58	3.21	.67	1.03	1	.33	.06

Note. [1]Significant Levene statistic; Homoscedasticity cannot be assumed.

* $p \leq .05$. ** $p \leq .01$.

A discriminant analysis was performed using Conversation Length and the Vocal, Intimacy, Positive Affect, and Dominance (RCS) subscales as predictors of membership in the two groups: yes and non-yes donation status as reported by the family. These items were identified as predictor variables based upon the ANOVA detailed in Table 33. Discriminant analysis was chosen over logistic regression because several underlying assumptions were met (e.g. normally distributed independent variables, linearity, and homogeneity of variances) and because the discriminant function has more statistical power than logistic regression. The discriminant function significantly improved the prediction model from chance, as the Wilks' Lambda (a goodness of fit statistic) was equal to .415, $p = .05$. As there were two groups, only one function was extracted which had an eigenvalue of 1.41 and accounted for 100% of the explained between-group variance. From Table 34, it is observed that yes group members were predicted with the greatest accuracy (100%).

Table 34

Group Classification Matrix using Conversation Length and Vocal, Intimacy, Positive Affect, and Dominance (RCS) Subscales as Predictors of Yes and Non-Yes Group Membership

	Predicted Group Membership		
Group	Yes	Non-Yes	Total
Yes	7 (100%)	0 (0%)	7 (100%)
Non-Yes	2 (20%)	8 (80%)	10 (100%)

Note. Percentage of original grouped cases correctly classified: 88.2%.

The structure matrix (Table 35) presents the degree to which the predictor variables are correlated to the discriminant function. It is observed that increased conversation length was the predictor most strongly associated with the function that best predicts donation outcome. Table 36 provides the mean value of the function for each

group (e.g. the average function score for yes group status was 1.334). Widely varying means indicate that the function contributes largely to the separation of the groups. Furthermore, Table 36 indicates that individuals with the lowest Function 1 scores are likely to be of non-yes group status.

Table 35

Structure Matrix: Pooled Within-Groups Correlations between Discriminating Variables and the Standardized Canonical Discriminant Function

	Function
Predictor Variable	1
Tape Variable	
Conversation Length (mm:ss)	.688
SCCAP-PC	
Speech Ratings HCP	
Vocal	.491
Emotional Content for the HCP	
Positive Affect	.402
Relational Comm. Scale - Obs.	
Intimacy	.499
Dominance	.431

Table 36

Discriminant Functions at Group Centroids

	Function
Group	1
Yes	1.334
Non-Yes	-.934

Note. Unstandardized canonical discriminant functions evaluated at group means.

Discussion

The present study focused on evaluating one crucial component of the organ donation process: the phase during which procurement coordinators interact with the family in an attempt to secure their agreement to donate their loved one's organs. Standardized Patient actors were used to attempt to reproduce the history, emotional tone, and communicative style of family members experiencing the death of a loved one. The interpersonal processes (e.g. friendliness, empathy, control, information exchange, decision making) occurring both within and between the procurement coordinator and family member were assessed using behavioral ratings by independent observers. Exploratory data analyses were conducted to characterize the interpersonal dynamics between the procurement coordinator and family. In addition, situational, interpersonal, and dispositional predictors of the decision to donate were examined.

Perceptions of the Procurement Coordinator and Family: Interpersonal and Shared Decision Making

Procurement coordinators were viewed (rated) as being more submissive than dominant (IMI) and more friendly than hostile (CLOIT) while family members were viewed (rated) as being more hostile than friendly (IMI) and more dominant and hostile than submissive or friendly (CLOIT). In addition, family members were viewed (rated) as disclosing slightly more personal information than medical information and engaging in slightly more shared decision making than providing medical information (PSPS-FM). Overall, the interpersonal dynamics identified in the study characterized both parties as residing on opposite continuums of the Circumplex model. Kiesler (1983) identified this

interpersonal pattern as anticomplementarity, which suggested that the procurement coordinator may have been reacting to the dominant and hostile behavior of the family by providing the opposite or anticomplementary response (i.e. submission and friendliness). It should be noted that the hypotheses of the present study will be discussed later in the section on the predictors of the decision to donate.

Scenario, Gender, and Ethnicity Main Effects

Scenario

Scenario 2 was associated with less favorable pro-donation scores on the second outcome item. Scenario 2 (which involved the African American family and multiple family members) was significantly longer in duration than scenario 1 (which involved the Caucasian family). In addition, procurement coordinators in scenario 1 were viewed (rated) to have better understood the option to donate and to have used lower frequencies of confusing language and/or concepts (SCCAP-Comprehension) as compared to scenario 2.

Findings from the organ donation literature suggest that there may be multiple variables influencing scenario 2 that were not present in scenario 1. First, the presence of multiple family members has been associated with higher levels of disagreement among members, lower levels of family satisfaction with the health care team, and an increased likelihood of donation refusal when the patient's donation preference is unknown (Rodrigue, et al., 2008a; Rodrigue, Cornell, & Howard, 2008b).

Second, the organ donation literature indicates far lower rates of donation by minority families for several reasons such as distrust of the health care system resulting

from historical victimization and exploitation, fears of disfigurement that may impact funeral arrangements, fears that everything was not done to save the patient's life, and general medical fears related to surgery, pain, and complications (Barber, et al., 2006; Kurz, et al., 2007; Siminoff, Lawrence, et al., 2003). Surprisingly, a large proportion of African Americans endorse genocidal theories about HIV/AIDS and birth control (Klonoff & Landrine, 1999; Ross, Essien, & Torres, 2006; Thorburn & Bogart, 2005). Rajakumar and colleagues (2009) found that African American parents had significantly greater distrust of medicine and research than white parents. Even after controlling for parental education level, African American race remained a significant predictor of distrust. In addition, several reviews of the physician-patient literature have found that Caucasian patients tend to receive more information, more positive talk, and care of a higher interpersonal quality from physicians than Black or Hispanic patients (Hooper, Comstock, Goodwin, & Goodwin, 1982; van Ryn, 2002). Given the historical context of being exploited, having lower quality interpersonal interactions with physicians, and the present health disparities of African Americans, it should not be surprising that these individuals are cautious in the medical setting.

Last, several patient demographics differed between the two scenarios. Scenario 2 depicted an inner-city female minor who was the victim of a gunshot wound. In addition, the family in scenario 2 was suspicious that the patient may have died as a result of being transported across town to a non-local hospital. Overall, there were too many characteristics that differed between the two scenarios to isolate the influence of any specific causative variable. It appears logical to conclude that the increased conversation

length of scenario 2 as compared to scenario 1 may be a result of the complex factors mentioned above.

Gender

Procurement coordinator gender influenced the interaction with family members. There was a trend for male procurement coordinators to be viewed as more dominant than females (CLOIT-PC, IMI-FMPC, and the Relational Communication Scale from the SCCAP). This finding of male procurement coordinator dominance is similar to findings on male physician dominance. Male physicians are often viewed by patients as using less verbal empathy, being less democratic as a leader, and engaging in fewer partnership-building behaviors (Hall & Roter, 2007). There was a trend for female procurement coordinators to be viewed as providing a more comprehensive understanding of organ donation (SCCAP-Comprehension). However, the difference between male and female procurement coordinator scores on the Comprehension subscale was less than half of one standard deviation.

Family members were viewed (rated) to be more dominant, more controlling, and less affiliative (IMI-PCFM) when interacting with female versus male procurement coordinators. The high levels of dominance and control by family members interacting with female procurement coordinators are consistent with the behavior of patients interacting with female physicians. Some studies have found that patients of female physicians tend to be behave more assertively perhaps in response to the more "participatory and status-leveling style" of female physicians (Roter, Hall, & Aoki, 2002). Hall and Roter (2002), in a meta-analytic review of patient communication in

primary care, found that patients communicate differently with male versus female physicians in several important ways. Overall, patients tend to speak more to female physicians than male physicians, disclose more biomedical and psychosocial information, and tend to make more positive statements to female physicians. Of particular relevance to the present findings, patients are often rated as being more assertive toward female physicians and tend to interrupt them more than when interacting with male physicians.

Ethnicity

Procurement coordinator ethnicity influenced the interaction with family members. African American procurement coordinators were viewed (rated) to be relatively more hostile (CLOIT-PC), dominant (SCCAP-RCS), and work-orientated (SCCAP-Task) than Caucasian procurement coordinators. Caucasian procurement coordinators were viewed as being more affiliative and friendly (CLOIT-PC). In addition, there was a trend for Caucasian procurement coordinators to be viewed (rated) as having higher positive affect (SCCAP-Positive Affect) and to have more frequently used personal disclosure (SCCAP-Personal Disclosure) than African American procurement coordinators. Unfortunately, there continues to be a large and consistent discrepancy between the percentage of the population that is African American and the number of African American physicians. As of 2006, black physicians composed only 3.5% of the 921,904 physicians in the United States. Approximately 2.6% of male and 5.9% of female physicians were black (American Medical Association, 2008). Due to the paucity of research on minority health care providers, there are no comparable findings on the interpersonal impact of physicians differing in race.

Interactions

Several two-way interactions and one three-way interaction between scenario, procurement coordinator gender, and procurement coordinator ethnicity were obtained. Again, for the purposes of the present study, scenario acted as a proxy variable for family ethnicity with scenario 1 representing the Caucasian family and scenario 2 representing the African American family. There was a significant procurement coordinator gender × scenario interaction effect on Affiliation, such that male procurement coordinators were viewed (rated) as being much more affiliative in scenario 1 (Caucasian family) than scenario 2 (African American family), and females as slightly less affiliative in scenario 1 versus 2. In addition, there was a significant procurement coordinator gender × scenario interaction effect on Hostility, such that male procurement coordinators were viewed (rated) as being much less hostile in scenario 1 than in scenario 2, whereas females were rated as being slightly more hostile in scenario 1 versus 2. In summary, males appeared to be more affiliative and much less hostile toward Caucasian versus African American families (i.e. scenario 1 vs. 2), whereas females tended to be less affiliative and slightly more hostile towards Caucasian versus African American families (i.e. scenario 1 vs. 2). Consistent with findings from the physician-patient literature mentioned earlier, physicians (who as a group are 72% male) tend to consistently deliver care of a lower interpersonal quality, less information, less supportive talk, and less proficient clinical performance to Black and Hispanic patients (American Medical Association, 2008; Bartlett, et al., 1984; Hooper, et al., 1982; Ross, Mirowsky, & Duff, 1982; van Ryn, 2002; Waitzkin, 1985). In addition, Johnson and colleagues (2004) found that physicians

were more verbally dominant and tended to be less patient-centered when interacting with African American patients than with Caucasian patients.

There was a significant procurement coordinator ethnicity × scenario interaction effect on Positive Affect (SCCAP), such that African American procurement coordinators were viewed as being more positive in scenario 2 (African American family) versus scenario 1 (Caucasian family), whereas Caucasians were viewed as being less positive in scenario 2 versus 1. Cooper et al. (2003) investigated how race concordance affected physician-patient communication in a study of 16 urban primary care practices and found that race concordant pairs (for example, an African American patient who visits an African American physician) had higher mean ratings of patient positive affect as rated by coders than did race discordant pairs. Similar to Cooper et al.'s findings, procurement coordinators were viewed (rated) to have higher positive affect in match (race concordant) than non-match (race discordant) interactions. However, it is not clear why the range of Positive Affect scores were greater for African American procurement coordinators and why the level of Positive Affect in African American match conditions was below that of even Caucasians in non-match conditions.

There was a significant procurement coordinator gender × ethnicity interaction effect on Control (IMI-PCFM), such that African American females were viewed as far more controlling than African American males, whereas there was no difference between Caucasian males and females. In addition, there was a significant procurement coordinator gender × ethnicity interaction effect on Shared Decision Making (PSPS-PC). African American female procurement coordinators were viewed as engaging in less

shared decision making than African American males, whereas Caucasian female procurement coordinators were viewed as engaging in slightly more shared decision making than African American females. Overall, it appeared that levels of control and shared decision making differed between African American males and females (with females displaying higher levels of control and lower levels of shared decision making). In addition, African American females appeared to be slightly more controlling than Caucasian females.

There are little or no available socio-behavioral data on African American physicians or other African American health care providers. However, what is known is that black women are often stereotyped in medical and health settings due to several prevailing myths that act to limit any improvement in health status. Taylor (1999) identified several negative images and labels of black women such as the mammy, the matriarch, the welfare mother, the Jezebel, and the black lady overachiever. The difficulty is that medical care can be compromised because the larger cultural images of African American women in the social environment can be transferred to the health care interaction. It is important to note that most procurement coordinators have not experienced the socialization process of medical school and residency training. Thus, procurement coordinators may more closely resemble patients in their social interactions than health care providers. Further research is needed to better understand how female African American health care providers interact with patients and future organ donation studies should attempt to replicate these findings on female African American procurement coordinators.

Although there is considerable debate over the existence of a matriarchal culture in African American society, several characteristics have been reported to be representative of African American women such as their status as largely single parents and head of households responsible for the care of small children (Hill, 2003). In a qualitative study of female African American cancer patients' experience of pain, Im and colleagues (2008) found that all of the women agreed with the perception that African American women are raised to be strong and not to be "whiners" or "complainers". Thus, the findings from the present study suggest that female African American procurement coordinators may interact with family members from a more interpersonally controlling stance that utilizes less shared decision making and that this may be due to cultural expectations that they should be strong and by tradition take responsibility and assume leadership.

Last, there was a significant scenario × gender × ethnicity interaction. Caucasian female procurement coordinators were viewed as being more hostile (CLOIT-PC) to African American families while African American female procurement coordinators who were viewed as being slightly less hostile towards African American families. African American male procurement coordinators were viewed as being more hostile to African American families, while Caucasian male procurement coordinators were consistently low in their level of hostility towards both families. Overall, African American procurement coordinators were viewed as displaying higher levels of hostility than Caucasian procurement coordinators regardless of gender or family ethnicity. Thus, there are three types of interpersonal dyads that appear to be at increased risk for being

perceived as hostile: African American female procurement coordinators interacting with Caucasian families, African American male procurement coordinators interacting with African American families, and Caucasian female procurement coordinators interacting with African American families. Training programs that utilize role played interactions between the dyads mentioned above may be able to reduce the perceived level of procurement coordinator hostility by soliciting feedback from the family. Also, it is important to note that the differences in level of hostility displayed by African American and Caucasian procurement coordinators in the present study may have been influenced by individual differences other than ethnicity since there were only 3 African American (in contrast to 15 Caucasian) procurement coordinators.

Main Effects for Match and Non-Match Conditions

Major findings from the match and non-match analyses indicated that in the match condition conversation length was considerably shorter, families were viewed as being friendlier, and procurement coordinators used fewer instances of personal disclosure. In addition, comprehension was significantly higher in match conditions where Caucasian procurement coordinators interacted with Caucasian families, while hostility was significantly higher in match conditions where African American procurement coordinators interacted with African American families. Friendliness and affiliation were significantly higher in the non-match condition where Caucasian procurement coordinators interacted with African American families than when African American procurement coordinators interacted with Caucasian families. Last, conversation length was significantly longer when Caucasian procurement coordinators

interacted with the African American family than with the Caucasian family. Overall, the match condition was associated with shorter conversation length, families being viewed as friendlier, and fewer instances of personal disclosure by procurement coordinators. Cooper and colleagues (2003) found that ethnically matched patient and physician encounters were associated with a 10% increase in visit length and higher levels of positive affect. Furthermore, several other studies have found race-discordant interactions to be associated with shorter visits with African American patients (Gross, Zyzanski, Borawski, Cebul, & Stange, 1998; Rosenheck, Fontana, & Cottrol, 1995). It is important to note that the donation request interaction differs significantly from the physician-patient interaction in that the length of the encounter is not bound by the traditional 15-minute medical visit. In fact, it would be reasonable to assume that donation interactions that are either too short or too long would be associated with less favorable donation outcomes, however further study is needed. In addition, Roter and Hall (2006b) found that patients and physicians in race concordant interactions, much like the family members in the match conditions, were viewed by observers as having higher positive affect that may serve to enhance racial group affiliation, trustworthiness, respect, or positive expectations.

A comparison of all four match/non-match conditions found that procurement coordinator hostility was higher when African American procurement coordinators interacted with African American families while friendliness and affiliation were higher when Caucasian procurement coordinators interacted with African American families. The physician-patient literature suggests the opposite for African American patients, in

that patient satisfaction is higher in race-concordant interactions (Roter & Hall, 2006b). However, this finding may be the result of the small number of African American procurement coordinators since there was only one male and two female African American procurement coordinators in the present study.

Predictors of the Decision to Donate

Overall, most of the measures of procurement coordinator-family member interactions were correlated with the outcome items (i.e. decision to donate) in the expected direction, with high levels of observed positive behaviors (e.g. intimacy, affiliation, medical information, etc.) and low levels of negative behaviors (e.g. control, hostility, etc.) associated with more pro-donation scores on the outcome items. For example, several of the SCCAP subscales such as Intimacy or Comfort were correlated with low outcome scores indicating high pro-donation outcomes.

Siminoff Communication Content and Affect Program (SCCAP)

Several SCCAP subscales such as Intimacy, Comfort, Positive Affect, Composure/Emotional (Non) arousal, and Dominance (Speech Ratings HCP) were significantly correlated with the first outcome item in the expected direction. In addition, the Presentation and Comprehension subscales were both more strongly associated with the second outcome item than the first outcome item. Intimacy was the only subscale to be significantly correlated with pro-donation scores on both outcome items. It was hypothesized that procurement coordinators who demonstrate high levels of intimacy and composure as well as low levels of dominance and task orientation (as measured by the Relational Communication Scale of the SCCAP) would be associated with higher rates of

potential family members who decide to donate. High levels of Intimacy (on both outcome items) and Composure/Emotional (Non) arousal (on the first outcome item) were in fact associated with pro-donation outcome scores (i.e. low scores). However, there was no significant relationship between the outcome items and the Dominance and Task orientation subscales.

Circumplex Measures: IMI & CLOIT

Hostility (IMI-FMPC), Affiliation (IMI-FMPC), and Submission (CLOIT-PC) displayed by the procurement coordinators were the subscales most consistently associated with pro-donation outcome scores on both outcome items. It was hypothesized that high procurement coordinator affiliation and low procurement coordinator control as measured by the IMI and CLOIT would be associated with better donation outcomes. Procurement coordinator affiliation (IMI-FMPC) was negatively correlated with both outcome items. Thus, high levels of procurement coordinator affiliation were correlated with pro-donation outcome scores (i.e. low scores). Though not significant, this same negative correlation between procurement coordinator affiliation and pro-donation scores was supported by the CLOIT-PC. High procurement coordinator affiliation appears to be similar to high physician affiliation. Several findings in the physician-patient literature support the notion that physicians who exhibit high affiliation behaviors toward patients tend to have patients with increased satisfaction and positive health outcomes (Aruguete & Roberts, 2000; Kiesler & Auerbach, 2006; Roter & Hall, 2006b). However, it should be noted that patient satisfaction and positive health outcomes are constructs that may not map onto the donation request interaction.

Procurement coordinator control was not significantly associated with the outcome items. In fact, the direction of the relationship was inconsistent, with the IMI indicating a positive correlation and the CLOIT reporting a negative correlation (Table 24). Thus, the role of control in the interaction between procurement coordinators and family members appears to be a less prominent interpersonal behavior than findings in patients with diabetes and their endocrinologists or dental patients and their maxillofacial surgeons would suggest (Auerbach, et al., 2002; Auerbach, et al., 2008). The organ donation interaction is different from physician-patient interactions in that the procurement coordinator is not a health care provider and decision making resides with the family rather than the patient. Furthermore, the donation interaction is the culmination of a number of health care interactions experienced by the family that were unsuccessful in attempting to save the life of the patient. Thus, the family may be less inclined to trust the procurement coordinator due to the preceding health care interactions that have been associated with the patient's death.

Affiliation (IMI-PCFM), Hostility (IMI-PCFM), and Friendliness (IMI-PCFM) displayed by the family were the subscales most consistently associated with both outcome items. High levels of hostility by the family were associated with high outcome scores indicating low pro-donation outcomes. High levels of affiliation and friendliness by the family were associated with low outcome scores indicating high pro-donation outcomes. In addition, high Dominance (IMI-PCFM) and Control (CLOIT-FM) and low Friendliness (CLOIT-FM) by the family was significantly associated with low pro-donation outcomes.

The Participatory Style of Physician Scale (PSPS)

High levels of providing medical information and personal information by the procurement coordinator and family and high levels of shared decision making by the procurement coordinator were associated with pro-donation outcomes. It was hypothesized that high information exchange by the procurement coordinator as measured by high scores on the Personal Information and Medical Information subscales of the PSPS would be associated with better donation outcomes. This hypothesis was supported by the present study and is consistent with physician-patient studies of shared decision making in that high levels of these behaviors have been associated with patient satisfaction (Campbell, et al., 2007). Thus, procurement coordinators who are able to provide high levels of medical and personal information combined with the use of shared decision making may be more likely to influence the family's attitudes towards organ donation.

In addition, it was hypothesized that high family member involvement as measured by the Shared Decision Making subscale of the PSPS would be associated with better donation outcomes. However, it was found that only high levels of shared decision making exhibited by the procurement coordinator were associated with high pro-donation outcomes. In contrast to the physician-patient interaction, high family member involvement in the donation interaction has been associated with increased opportunity for family disagreement especially in cases when the patient's donation intentions are unknown (Rodrigue, Cornell, & Howard, 2006; 2008). Thus, the presence and interaction of multiple family members may be less advantageous in donation request interactions.

It is not surprising that the family members chose to interact with the procurement coordinator by providing more personal information and shared decision making than discussing medical information. The emotional distress of having a loved one pass away may limit the ability of family members to communicate using unfamiliar medical language. However, low levels of medical information disclosure by the family members may also be the result of an unknown training criterion where the actors provided less medical information in an effort to appear more authentic as family members experiencing emotional distress.

General Attitudes and Beliefs about Organ Donation (GABOD)

Several coder characteristics were correlated with the decision to donate. High pretest scores on the donation attitudes and beliefs measure (GABOD) were associated with high scores on the second outcome item indicating that the coders' estimation of the likelihood of the family member to donate decreased. This relationship is contrary to what would be expected and may be the result of coder misunderstanding of the pretest since posttest scores demonstrated a decrease in the strength of this correlation. Furthermore, the relationship between both the pre and posttest GABOD scores and the first outcome item were in the expected direction, but were not significant. However, this finding may also signify differences in coder interpretation of the first and second outcome item questions especially since the second outcome item assessed the coder's personal opinion while the first item was related to the video recorded interaction.

Exploratory Multiple Regression Analysis on the Relationship between Coder Demographic Variables and the Decision to Donate

Non-Caucasian coder status was associated with pro-donation scores on outcome items 1 and 2. A multiple regression was performed to assess the degree of linear relationship between predictor variables (of the coder) and the decision to donate items and found that non-Caucasian coder status was predictive of pro-donation scores on the first outcome item. These findings may be the result of self-selection bias on the part of the non-Caucasian coders who chose to participate in the study since Caucasian adolescents and college students are traditionally more favorable towards organ donation than their non-white peers (Baughn, Rodrigue, & Cornell, 2006; Feeley, 2007).

Main Effects for Match and Non-Match Conditions

No significant differences were found between match and non-match conditions for outcome items 1 and 2. However, the second item of the outcome measure was significantly different between the four conditions with outcome item 2 scores in condition 1 (African American procurement coordinator with an African American family) being higher than those in condition 2 (Caucasian procurement coordinator with a Caucasian family). Thus, pro-donation scores (i.e. low scores on item 2) were associated with condition 2. In addition, outcome item 2 scores in condition 4 (Caucasian procurement coordinator with an African American family) were significantly higher than those in condition 2. Although no consistent findings were obtained in the present study, data attained from actual or potential donors suggest that the race of the procurement coordinator may have a significant influence on increasing African

American donation rates. Hong and colleagues (1994) more than doubled the consent rate of African American families in urban St. Louis by specifically using black procurement coordinators. Gentry, Brown-Holbert, and Andrews (1997) had similar findings in North Texas after using same race procurement coordinators with African American families. Siminoff and colleagues (2003) found that black families were more likely than whites to state that they would prefer to have someone of similar race or ethnicity discuss donation with them. The lack of confirmatory findings in the present study may in part have been a function of the small number of African American procurement coordinators. Future studies should aim to include sufficient numbers of racially diverse procurement coordinators to evaluate the influence of racial matching on the donation decision.

Exploratory Multiple Regression Analysis on the Relationship between Interactional Measures and the Decision to Donate

Exploratory multiple regression was performed to characterize the degree of linear relationship between the predictor variables (i.e. scenario, procurement coordinator gender, procurement coordinator ethnicity, and subscales well correlated with the outcome items) and the outcome items. Scenario, which also acted as a proxy variable for family ethnicity, was the only variable to approach significance as a predictor of the first outcome item and was the only significant variable to predict the second outcome item in both models/steps of the regression analysis. Family ethnicity, though confounded by scenario characteristics, was a significant predictor of donation outcome with Caucasian families being more likely to donate. The difference between the likelihood of Caucasian and African American families to donate identified by this study is consistent with the

low rates of organ donation by minorities identified in the literature (Kurz, et al., 2007; Siminoff, et al., 2007).

Family (Actor) Decision to Donate in Scenario 2

Scenario 2 differed from scenario 1 in that there was some variance in the decision to donate by family members. Family members (i.e. actors) decided to donate the organs of their loved one in 7 of the 17 interactions while the remaining 10 interactions were classified as undecided/no clear decision and referred to as non-yes responses. An ANOVA comparing the yes and non-yes groups found that procurement coordinators in the yes condition were viewed (rated) as being more vocal and intimate and there was a trend for them to be viewed as being more dominant and as having higher positive affect. Also, conversation length was considerably longer in interactions where the family (i.e. actors) decided to donate. A discriminant analysis was performed using these variables as predictors of membership in the yes or non-yes groups. The model accurately predicted yes group membership and was 80% accurate for non-yes membership. Although all of the predictor variables contributed to the success of the discriminant analysis function, conversation length was the variable contributing most of the variance. High levels of intimacy and positive affect combined with vocal and dominance behaviors by procurement coordinators is similar to findings in the physician-patient literature linking this type of provider behavior to better patient outcomes (Bertakis, et al., 1998; Hall & Roter, 2007). These findings, which were based on the actual family member (i.e. actor) decision, may be more meaningful than those provided by raters because the coders were removed from the situation by an additional layer of

abstraction. The strongest predictor variable, conversation length, is consistent with physician-patient findings that longer patient visit is a predictor of patient satisfaction (Hall & Roter, 2007).

Limitations

The main study limitation was that all measures were based on coder ratings of a simulated situation. Complete reliance on one type of measure is seldom the most reliable method of data collection, but in this study the ability to collect data in an actual donation discussion would have been difficult for several practical and ethical reasons. Given these constraints, this is the first study to provide any type of information about the actual interpersonal processes taking place during the organ donation discussion.

It should be noted that data provided by coders for the present study were removed from the actual interaction by two layers of abstraction. The first layer involved the use of simulated patients as actors portraying the family members. The second layer of abstraction resulted from the post-hoc use of coders to provide their perceptions of how the interactants were responding to the situation instead of obtaining self-report data from the original participants. These layers of abstraction present considerable barriers to generalizing from the findings of the present study to actual donation request interactions.

The reliability of the data provided by coders in the present study was limited due to the constraints of using volunteer undergraduate coders. Ideally, one coder would have evaluated the same individual for all of the interactions. In reality, coders were frequently late, absent, or needed to leave the coding session early and this resulted in coders evaluating numerous target individuals in the video recordings. In addition, coders

evaluated interactions that ranged in length from 10 min 12 sec to 38 min 20 sec with an average length of 22 min 26 sec. Thus, the amount of focused attention required by the coders was longer than most studies utilizing raters and may have decreased the sensitivity of coders to behaviors contained in the interactions.

Equally important, we did not address other possible determinants of the decision to donate such as analyzing data on the level of each individual coder. As mentioned earlier, the limitations of using volunteer undergraduate students as coders diminished the author's ability to have coders consistently rate the same target individual. Due to the complexity of the data, we treated the family as one interpersonal target rather than evaluating each member individually. Interpersonal and SCCAP data are available on each individual family member and will be evaluated at a later date.

The role of the health care team responsible for treating the patient was another variable likely to influence the donation decision and it was not addressed in the present analogue study. Siminoff and colleagues (2001) noted that families were less likely to donate if they believed that one or more health care providers involved with the care of the patient were indifferent. Haddow and colleagues (2004) found that non-donor families were more likely to feel that a sense of trust was never established between themselves and the patient's health care provider. These findings suggest that the entire sequence of interactions the family experiences with the health care team and the procurement coordinator may influence the donation decision.

Finally, several characteristics of the donation discussion are distinct from the physician-patient interaction. It is important to note that the procurement coordinator

does not have a fiduciary responsibility to act on behalf of the family's needs or in the best interest of the family. Unlike physicians who are bound by the Hippocratic Oath, procurement coordinators have no ethical responsibility to the psychological well-being of the family. It is unclear if family members are aware of this difference. Furthermore, procurement coordinators have not experienced the socialization and training process of medical school or residency. The procurement coordinator is not a health care provider, the interaction with the family is not limited by the traditional 15 minute medical visit, and the decision making resides with the family rather than the patient. In addition, outcomes from the physician-patient interaction such as patient satisfaction or improved health functioning do not appear to have equivalent domains in the donation interaction.

Implications for Future Research

Hall and Roter (2007) express the need for future physician-patient research to move into areas evaluating high stress interactions. The present study is a natural extension of the physician-patient literature into the high stress and emotionally laden donation request interaction between procurement coordinators and families. However, as noted above, this study was analogue in format with several significant limitations. In addition, the data analyses were largely exploratory because there was no prior research on the procurement coordinator-family interaction to draw from. Future research should reevaluate and attempt to cross-validate the present findings using procurement coordinators and actual family members. However, the reality of the unpredictable nature of organ donation limits the feasibility of conducting a study like the present one in an

urgent care environment. Thus, analogue format studies appear to be one way to enhance our understanding of the interpersonal dynamics of the donation request interaction.

Future studies may want to assess the influence of several factors upon the donation interaction. Findings from the physician-patient literature suggest that patient gender is associated with communication differences. Hall and Roter (2002) suggest that physicians provide more information and are more affectively engaged with female rather than male patients. Understanding the influence family member gender may have upon the donation interaction is a logical next step. In addition, future analogue studies may want to assess the level of cultural mistrust between procurement coordinators and families of ethnic minorities as this construct has been identified several times in the literature as the basis of negative attitudes toward organ donation by minorities (Kurz, et al., 2007; Siminoff & Saunders Sturm, 2000). Finally, understanding the interpersonal dynamics of the donation interaction may become even more pertinent as the deceased donor profile has started to shift from the young adult who died from a traumatic head injury to the older adult who died from a cerebrovascular event (Nathan, et al., 2003).

References

American Medical Association (2008). *Physician characteristics and distribution in the U.S.* (2008 ed.). Chicago: American Medical Association Press.

Aruguete, M. S., & Roberts, C. A. (2000). Gender, affiliation, and control in physician-patient encounters. *Sex Roles, 42*(1-2), 107-117.

Auerbach, S. M. (2000). Should patients have control over their own health care?: Empirical evidence and research issues. *Annals of Behavioral Medicine, 22*(3), 246-259.

Auerbach, S. M. (2001). Do patients want control over their own health care? A review of measures, findings, and research issues. *Journal of Health Psychology, 6*(2), 191-203.

Auerbach, S. M., Clore, J. N., Kiesler, D. J., Orr, T., Pegg, P. O., & Wagner, C. C. (2002). Relation of diabetic patients' health-related control appraisals and physician-patient interpersonal impacts to patients' metabolic control and satisfaction with treatment. *Journal of Behavioral Medicine, 25*(1), 17-31.

Auerbach, S. M., Kiesler, D. J., Wartella, J., Rausch, S. M., Ward, K. R., & Ivatury, R. (2005). Optimism, satisfaction with needs met, interpersonal perceptions of healthcare team, and emotional distress in patients' family members during critical care hospitalization. *American Journal of Critical Care, 14*(3), 202-210.

Auerbach, S. M., Laskin, D. M., Kiesler, D. J., Wilson, M., Rajab, B., & Campbell, T. A. (2008). Psychological factors associated with response to maxillofacial injury and its treatment. *Journal of Oral and Maxillofacial Surgery, 66*(4), 755-761.

Auerbach, S. M., Martelli, M. F., & Mercuri, L. G. (1983). Anxiety, information, interpersonal impacts, and adjustment to a stressful health care situation. *Journal of Personality and Social Psychology, 44*(6), 1284-1296.

Auerbach, S. M., Penberthy, A. R., & Kiesler, D. J. (2004). Opportunity for control, interpersonal impacts, and adjustment to a long-term invasive health care procedure. *Journal of Behavioral Medicine, 27*(1), 11-29.

Badger, L. W., deGruy, F., Hartman, J., Plant, M. A., Leeper, J., Ficken, R., et al. (1995). Stability of standardized patients' performance in a study of clinical decision making. *Family Medicine, 27*(2), 126-131.

Barber, K., Falvey, S., Hamilton, C., Collett, D., & Rudge, C. (2006). Potential for organ donation in the United Kingdom: Audit of intensive care records. *BMJ, 332*(7550), 1124-1127.

Bartlett, E. E., Grayson, M., Barker, R., Levine, D. M., Golden, A., & Libber, S. (1984). The effects of physician communication skills on patient satisfaction, recall, and adherence. *Journal of Chronic Diseases, 37*(9-10), 755-764.

Batten, H. L., & Prottas, J. M. (1987). Kind strangers: The families of organ donors. *Health Affairs, 6*(2), 35-47.

Baughn, D., Rodrigue, J. R., & Cornell, D. L. (2006). Intention to register as organ donors: A survey of adolescents. *Progress in Transplantation, 16*(3), 260-267.

Bertakis, K. D., Callahan, E. J., Helms, L. J., Azari, R., Robbins, J. A., & Miller, J. (1998). Physician practice styles and patient outcomes: Differences between family practice and general internal medicine. *Medical Care, 36*(6), 879-891.

Beullens, J., Rethans, J. J., Goedhuys, J., & Buntinx, F. (1997). The use of standardized patients in research in general practice. *Family Practice, 14*(1), 58-62.

Brock, D. W. (2007). Patient competence and surrogate decision-making. In R. Rhodes, L. P. Francis & A. Silvers (Eds.), *The Blackwell guide to medical ethics*. Malden, MA: Blackwell Publishing Ltd.

Brody, D. S., Miller, S. M., Lerman, C. E., Smith, D. G., & Caputo, G. C. (1989). Patient perception of involvement in medical care: Relationship to illness attitudes and outcomes. *Journal of General Internal Medicine, 4*, 506-511.

Buchanan, A. E., & Brock, D. W. (1989). *Deciding for others: The ethics of surrogate decision making*. Cambridge: Cambridge University Press.

Burck, J. R., Vena, M., Jolicoeur, M., & Jolicoeur, L. E. (2007). At a threshold: Making decisions when you don't have all the answers. *Physical Medicine and Rehabilitation Clinics of North America, 18*(1), 1-25.

Burgoon, J. K., & Hale, J. L. (1987). Validation and measurement of the fundamental themes of relational communication. *Communication Monographs, 54*, 19-41.

Burroughs, T. E., Hong, B. A., Kappel, D. F., & Freedman, B. K. (1998). The stability of family decisions to consent or refuse organ donation: Would you do it again? *Psychosomatic Medicine, 60*, 156-162.

Callender, C., Burston, B., Yeager, C., & Miles, P. (1997). A national minority transplant program for increasing donation rates. *Transplantation Proceedings, 29*(1-2), 1482-1483.

Callender, C. O., Bayton, J. A., Yeager, C., & Clark, J. E. (1982). Attitudes among blacks toward donating kidneys for transplantation: A pilot project. *Journal of the National Medical Association, 74*(8), 807-809.

Callender, C. O., & Hall, M. B. (2001). The dilemma of organ and tissue transplantation. In R. L. Braithwaite & S. E. Taylor (Eds.), *Health issues in the black community* (pp. 167-185). San Francisco: Jossey-Bass Publishers.

Callender, C. O., Hall, M. B., & Branch, D. (2001). An assessment of the effectiveness of the MOTTEP model for increasing donation rates and preventing the need for transplantation-adult findings: Program years 1998 and 1999. *Seminars in Nephrology, 21*(4), 419-428.

Callender, C. O., Maddox, G. D., & Miles, P. (2005). Transplantation and organ donation. In D. Satcher & R. J. Pamies (Eds.), *Multicultural medicine and health disparities* (pp. 217-232). New York: McGraw-Hill.

Campbell, T. A., Auerbach, S. M., & Kiesler, D. J. (2007). Relationship of interpersonal behaviors and health-related control appraisals to patient satisfaction and compliance in a university health center. *Journal of American College Health, 55*(6), 333-340.

Caplan, A. L. (1984). Ethical and policy issues in the procurement of cadaver organs for transplantation. *New England Journal of Medicine, 311*(15), 981-983.

Centers for Disease Control and Prevention (2003). *National diabetes fact sheet: General information and national estimates on diabetes in the United States, Rev ed*. Atlanta, GA: Department of Health and Human Services, Centers for Disease Control and Prevention, 2004.

Charles, C., Gafni, A., & Whelan, T. (1997). Shared decision-making in the medical encounter: What does it mean? (or it takes at least two to tango). *Social Science & Medicine, 44*, 681-692.

Charles, C., Gafni, A., & Whelan, T. (1999). Decision-making in the physician-patient encounter: Revisiting the shared treatment decision-making model. *Social Science & Medicine, 49*, 651-661.

Colliver, J. A., & Swartz, M. H. (1997). Assessing clinical performance with standardized patients. *Journal of the American Medical Association, 278*(9), 790-791.

Colliver, J. A., Swartz, M. H., & Robbs, R. S. (2001). The effect of examinee and patient ethnicity in clinical-skills assessment with standardized patients. *Advances in Health Sciences Education, 6*, 5-13.

Colliver, J. A., & Williams, R. G. (1993). Technical issues: Test application. *Academic Medicine, 68*(6), 454-460.

Conesa, C., Rìos Zambudio, A., Ramìrez, P., Canteras, M., Rodrìguez, M. M., & Parrilla, P. (2004). Influence of different sources of information on attitude toward organ donation: A factor analysis. *Transplantation Proceedings, 36*(5), 1245-1248.

Cooper, L. A., Roter, D. L., Johnson, R. L., Ford, D. E., Steinwachs, D. M., & Powe, N. R. (2003). Patient-centered communication, ratings of care, and concordance of patient and physician race. *Annals of Internal Medicine, 139*(11), 907-915.

Cupples, S. A. (2002). Overview of solid organ transplantation. In S. A. Cupples & L. Ohler (Eds.), *Solid organ transplantation: A handbook for primary health care providers* (pp. 1-15). New York: Springer Publishing Company, Inc.

Cutler, J. A., David, S. D., Kress, C. J., Stocks, L. M., Lewino, D. M., Fellows, G. L., et al. (1993). Increasing the availability of cadaveric organs for transplantation: Maximizing the consent rate. *Transplantation, 56*(1), 225-228.

De Champlain, A. F., Margolis, M. J., King, A., & Klass, D. J. (1997). Standardized patients' accuracy in recording examinees' behaviors using checklists. *Academic Medicine, 72*(10 Suppl 1), S85-87.

Devine, E. C., & Cook, T. D. (1983). A meta-analytic analysis of the effects of psycho educational interventions on length of postsurgical hospital stay. *Nursing Research, 32*, 267-274.

Dew, M. A., Switzer, G. E., Goycoolea, J. M., Allen, A. S., DiMartini, A., Kormos, R. L., et al. (1997). Does transplantation produce quality of life benefits?: A quantitative analysis of the literature. *Transplantation, 64*(9), 1261-1273.

Dresselhaus, T. R., Peabody, J. W., Luck, J., & Bertenthal, D. (2004). An evaluation of vignettes for predicting variation in the quality of preventive care. *Journal of General Internal Medicine, 19*(10), 1013-1018.

Epstein, R. M., Franks, P., Shields, C. G., Meldrum, S. C., Miller, K. N., Campbell, T. L., et al. (2005). Patient-centered communication and diagnostic testing. *Annals of Family Medicine, 3*(5), 415-421.

Epstein, R. M., Levenkron, J. C., Frarey, L., Thompson, J., Anderson, K., & Franks, P. (2001). Improving physicians' HIV risk-assessment skills using announced and unannounced standardized patients. *Journal of General Internal Medicine, 16*(3), 176.

Evans, L. R., Boyd, E. A., Malvar, G., Apatira, L., Luce, J. M., Lo, B., et al. (2009). Surrogate decision makers' perspectives on discussing prognosis in the face of uncertainty. *American Journal of Respiratory and Critical Care Medicine, 179*, 48-53.

Faden, R. R., & Beauchamp, T. L. (1986). *A history and theory of informed consent*. New York: Oxford University Press.

Feeley, T. H. (2007). College students' knowledge, attitudes, and behaviors regarding organ donation: An integrated review of the literature. *Journal of Applied Social Psychology, 37*(2), 243-271.

Frantsve, L. M. E. (2002). Effects of enhanced decisional control on patients' adjustment to and recovery from oral surgery (Doctoral dissertation, Virginia Commonwealth University, 2002). *Dissertation Abstracts International, 63*, 2055.

Franz, H. G., DeJong, W., Wolfe, S. M., Nathan, H., Payne, D., Reitsma, W., et al. (1997). Explaining brain death: A critical feature of the donation process. *Journal of Transplant Coordination, 7*(1), 14-21.

Fulton, J., Fulton, R., & Simmons, R. G. (1987). The cadaver donor and the gift of life. In R. G. Simmons, S. K. Marine & R. L. Simmons (Eds.), *The gift of life: The effect of organ transplantation on individual, family, and social dynamics* (pp. 338-376). New Brunswick: Transaction Books.

Gentry, D., Brown-Holbert, J., & Andrews, C. (1997). Racial impact: Increasing minority consent rate by altering the racial mix of an organ procurement organization. *Transplantation Proceedings, 29*(8), 3758-3759.

Glassman, P. A., Luck, J., O'Gara, E. M., & Peabody, J. W. (2000). Using standardized patients to measure quality: Evidence from the literature and a prospective study. *Joint Commission Journal on Quality Improvement, 26*(11), 644-653.

Gorter, S., Rethans, J. J., van der Heijde, D., Scherpbier, A., Houben, H., van der Vleuten, C., et al. (2002). Reproducibility of clinical performance assessment in practice using incognito standardized patients. *Medical Education, 36*(9), 827-832.

Gross, D. A., Zyzanski, S. J., Borawski, E. A., Cebul, R. D., & Stange, K. C. (1998). Patient satisfaction with time spent with their physician. *The Journal of Family Practice, 47*(2), 133-137.

Guadagnoli, E., McNamara, P., Evanisko, M. J., Beasley, C., Callender, C. O., & Poretsky, A. (1999). The Influence of race on approaching families for organ

donation and their decision to donate. *American Journal of Public Health, 89*(2), 244-247.

Guadagnoli, E., & Ward, P. (1998). Patient participation in decision-making. *Social Science & Medicine, 47*(3), 329-339.

Haddow, G. (2004). Donor and nondonor families' accounts of communication and relations with healthcare professionals. *Progress in Transplantation, 14*(1), 41-48.

Hale, J. L., Burgoon, J. K., & Householder, B. (2005). The Relational Communication Scale. In V. Manusov (Ed.), *The sourcebook of nonverbal measures: Going beyond words* (pp. 127-139). Mahwah, N.J.: Lawrence Erlbaum Associates.

Hall, J. A., & Roter, D. L. (2002). Do patients talk differently to male and female physicians?: A meta-analytic review. *Patient Education and Counseling, 48*(3), 217-224.

Hall, J. A., & Roter, D. L. (2007). Physician-patient communication. In H. S. Friedman & R. C. Silver (Eds.), *Foundations of health psychology* (pp. 325-357). Oxford: Oxford University Press.

Harrison, T. R., Morgan, S. E., & Chewning, L. V. (2008). The challenges of social marketing of organ donation: News and entertainment coverage of donation and transplantation. *Health Marketing Quarterly, 25*(1-2), 33-65.

Hartwig, M. S., Hall, G., Hathaway, D., & Gaber, A. O. (1993). Effect of organ donor race on health team procurement efforts. *Archives of Surgery, 128*(2), 1331-1335.

Haynes, R. B., Sackett, D. L., Gibson, E. S., Taylor, D. W., Hackett, B. C., Roberts, R. S., et al. (1976). Improvement of medication compliance in uncontrolled hypertension. *The Lancet, 1*, 1265-1268.

Helderman, J. H., Bennett, W. M., Cibrik, D. M., Kaufman, D. B., Klein, A., & Steven K. Takemoto (2003). Immunosuppression: Practice and trends. *American Journal of Transplantation, 3*(s4), 41-52.

Hill, P. (2003). African Americans. In P. Hill, J. Lipson & A. I. Meleis (Eds.), *Caring for women cross-culturally* (First ed.). Philadelphia: F. A. Davis Company.

Hiltunen, E. F., Medich, C., Chase, S., Peterson, L., & Forrow, L. (1999). Family decision making for end-of-life treatment: The SUPPORT nurse narratives. *Journal of Clinical Ethics, 10*(2), 126-134.

Hong, B. A., Kappel, D. F., Whitlock, M. J., Parks-Thomas, T., & Freedman, B. (1994). Using race-specific community programs to increase organ donation among blacks. *American Journal of Public Health, 84*(2), 314-315.

Hong, J. C., & Kahan, B. D. (2001). The history of immunosupression for organ transplantation. In M. H. Sayegh & G. Remuzzi (Eds.), *Current and future immunosuppressive therapies following transplantation* (pp. 3-17). Boston: Kluwer Academic Publishers.

Hooper, E. M., Comstock, L. M., Goodwin, J. M., & Goodwin, J. S. (1982). Patient characteristics that influence physician behavior. *Medical Care, 20*(6), 630-638.

Howard, R. J. (2001). Organ donation: Social policy, ethical, and legislative Issues. In J. R. Rodrigue (Ed.), *Biopsychosocial perspectives on transplantation* (pp. 39-58). New York: Kluwer Academic / Plenum Publishers.

Hutchison, B., Woodward, C. A., Norman, G. R., Abelson, J., & Brown, J. A. (1998). Provision of preventive care to unannounced standardized patients. *Canadian Medical Association Journal, 158*(2), 185-193.

Im, E. O., Lim, H. J., Clark, M., & Chee, W. (2008). African American cancer patients' pain experience. *Cancer Nursing, 31*(1), 38-46; quiz 47-38.

Johnson, M. O., Chesney, M. A., Goldstein, R. B., Remien, R. H., Catz, S., Gore-Felton, C., et al. (2006). Positive provider interactions, adherence self-efficacy, and adherence to antiretroviral medications among HIV-infected adults: A mediation model. *AIDS Patient Care & STDs, 20*(4), 258-268.

Johnson, R. L., Roter, D., Powe, N. R., & Cooper, L. A. (2004). Patient race/ethnicity and quality of patient-physician communication during medical visits. *American Journal of Public Health, 94*(12), 2084-2090.

Joint Commission on Accrediation of Healthcare Organizations (2004). *Health care at the crossroads: Strategies for narrowing the organ donation gap and protecting patients*. Chicago, IL.

Jones, P. (2003). *Homer's Iliad: A commentary on three translations: E.V. Rieu, revised by Peter Jones & D.C.H. Rieu, Homer: The Iliad; Martin Hammond, Homer: The Iliad; Richmond Lattimore, The Iliad of Homer.* London: Bristol Classical Press.

Kahan, B. D. (1981). Editorial: Cosmas and Damian in the 20th century? *New England Journal of Medicine, 305*(5), 280-281.

Kiesler, D. J. (1983). The 1982 Interpersonal Circle: A taxonomy for complementarity in human transactions. *Psychological Review, 90*(3), 185-214.

Kiesler, D. J. (1991). *Manual for the Checklist of Interpersonal Transactions-Revised (CLOIT-R) and Checklist of Psychotherapy Transactions-Revised (CLOPT-R)*. Richmond, VA: Retrieved from http://www.vcu.edu/sitar/CLOITManual.pdf.

Kiesler, D. J. (1996). *Contemporary interpersonal theory and research: Personality, psychopathology, and psychotherapy.* New York: Wiley.

Kiesler, D. J. (2004). *Manual for the Checklist of Interpersonal Transactions-Revised (CLOIT-R) and Checklist of Psychotherapy Transactions-Revised (CLOPT-R): A 2004 update*. Richmond, VA: Retrieved from http://www.vcu.edu/sitar/CLOITManualUpdate2004.pdf.

Kiesler, D. J., & Auerbach, S. M. (2003). Integrating measurement of control and affiliation in studies of physician-patient interaction: The Interpersonal Circumplex. *Social Science & Medicine, 57*, 1707-1722.

Kiesler, D. J., & Auerbach, S. M. (2006). Optimal matches of patient preferences for information, decision making and interpersonal behavior: Evidence, models and interventions. *Patient Education and Counseling, 61*, 319-341.

Kiesler, D. J., & Schmidt, J. A. (2006). *Manual for the Impact Message Inventory-Circumplex (IMI-C)*. Menlo Park, CA: Mind Garden.

Kiesler, D. J., Schmidt, J. A., & Wagner, C. C. (2001). *Formulas for calculating axis, hemisphere, and quadrant scores and for calculating dyadic complementarity using the sixteen scales of the CLOIT-R/CLOPT-R*. Richmond, VA: Unpublished manuscript, Virginia Commonwealth University.

Klonoff, E. A., & Landrine, H. (1999). Do blacks believe that HIV/AIDS is a government conspiracy against them? *Preventive Medicine, 28*(5), 451-457.

Kurz, R. S., Scharff, D. P., Terry, T., Alexander, S., & Waterman, A. (2007). Factors influencing organ donation decisions by African Americans: A review of the literature. *Medical Care Research and Review, 64*(5), 475-517.

Leary, T. F. (1957). *Interpersonal diagnosis of personality: A functional theory and methodology for personality evaluation*. New York: Ronald Press Company.

Leeuwen, E. v., & Kimsma, G. (2007). Public policy and ending lives. In R. Rhodes, L. P. Francis & A. Silver (Eds.), *The Blackwell guide to medical ethics* (pp. 220-237). Malden, MA: Blackwell Publishing.

Lewin, S., Skea, Z., Entwistle, V., Zwarenstein, M., & Dick, J. (2001). Interventions for providers to promote a patient-centred approach in clinical consultations. *Cochrane Database of Systematic Reviews, Reviews 2001*(4).

Lock, M., & Crowley-Makota, M. (2008). Situating the practice of organ donation in familial, cultural, and political context. *Transplantation Reviews, 22*(3), 154-157.

Long, T., Sque, M., & Addington-Hall, J. (2008). What does a diagnosis of brain death mean to family members approached about organ donation? A review of the literature. *Progress in Transplantation, 18*(2), 118-126.

Luck, J., & Peabody, J. W. (2002). Using standardised patients to measure physicians' practice: Validation study using audio recordings. *BMJ, 325*, 1-5.

Makoul, G., & Clayman, M. L. (2006). An integrative model of shared decision making in medical encounters. *Patient Education and Counseling, 60*, 301-312.

Malcolm, S. E., Ng, J. J., Rosen, R. K., & Stone, V. E. (2003). An examination of HIV/AIDS patients who have excellent adherence to HAART. *AIDS Care, 15*(2), 251-261.

McLeod, P. J., Tamblyn, R. M., Gayton, D., Grad, R., Snell, L., Berkson, L., et al. (1997). Use of standardized patients to assess between-physician variations in resource utilization. *Journal of the American Medical Association, 278*(14), 1164-1168.

Mead, N., & Bower, P. (2002). Patient-centred consultations and outcomes in primary care: A review of the literature. *Patient Education and Counseling, 48*(1), 51-61.

Meeker, M. A., & Jezewski, M. A. (2005). Family decision making at end of life. *Palliative and Supportive Care, 3*(2), 131-142.

Menikoff, J. A., Sachs, G. A., & Siegler, M. (1992). Beyond advance directives-health care surrogate laws. *New England Journal of Medicine, 327*(16), 1165-1169.

Meyer, T. J., & Mark, M. M. (1995). Effects of psychosocial interventions with adult cancer patients: A meta-analysis of randomized experiments. *Health Psychology, 14*(2), 101-108.

Michie, S., Miles, J., & Weinman, J. (2003). Patient-centeredness in chronic illness: What is it and does it matter? *Patient Education and Counseling, 51*(3), 197-206.

Minniefield, W. J., & Muti, P. (2002). Organ donation survey results of a Buffalo, New York, African-American community. *Journal of The National Medical Association, 94*(11), 979-986.

Morgan, S. E., & Cannon, T. (2003). African Americans' knowledge about organ donation: Closing the gap with more effective persuasive message strategies. *Journal of The National Medical Association, 95*(11), 1066-1071.

Morgan, S. E., Harrison, T. R., Afifi, W. A., Long, S. D., & Stephenson, M. T. (2008). In their own words: The reasons why people will (not) sign an organ donor card. *Health Communication, 23*(1), 23-33.

Morgan, S. E., Harrison, T. R., Long, S. D., Afifi, W. A., Stephenson, M. S., & Reichert, T. (2005). Family discussions about organ donation: How the media influences opinions about donation decisions. *Clinical Transplantation, 19*(5), 674-682.

Morgan, S. E., & Miller, J. K. (2002). Beyond the organ donor card: The effect of knowledge, attitudes, and values on willingness to communicate about organ donation to family members. *Health Communication, 14*(1), 121-134.

Morgan, S. E., Miller, J. K., & Lily A. Arasaratnam (2003). Similarities and differences between African Americans' and European Americans' attitudes, knowledge, and willingness to communicate about organ donation. *Journal of Applied Social Psychology, 33*(4), 693-715.

Morgan, S. E., Stephenson, M. T., Harrison, T. R., Afifi, W. A., & Long, S. D. (2008). Facts versus 'feelings': How rational is the decision to become an organ donor? *Journal of Health Psychology, 13*(5), 644-658.

Nathan, H. M., Conrad, S. L., Held, P. J., McCullough, K. P., Pietroski, R. E., Siminoff, L. A., et al. (2003). Organ donation in the United States. *American Journal of Transplantation, 3*(s4), 29-40.

Peabody, J. W., Luck, J., Glassman, P., Dresselhaus, T. R., & Lee, M. (2000). Comparison of vignettes, standardized patients, and chart abstraction: A prospective validation study of 3 methods for measuring quality. *Journal of the American Medical Association, 283*(13), 1715-1722.

Priester, J., Wegener, D., Petty, R., & Fabrigar, L. (1999). Examining the psychological process underlying the sleeper effect: The elaboration likelihood. *Media Psychology, 1*(1), 27.

Rajakumar, K., Thomas, S. B., Musa, D., Almario, D., & Garza, M. A. (2009). Racial differences in parents' distrust of medicine and research. *Archives of Pediatrics & Adolescent Medicine, 163*(2), 108-114.

Rice, C., & Tamburlin, J. (2004). A confirmatory analysis of the Organ Donation Readiness Index: Measuring the potential for organ donations among African Americans. *Research on Social Work Practice, 14*(4), 295-303.

Roberts, C. S., Cox, C. E., Reintgen, D. S., Baile, W. F., & Gibertini, M. (1994). Influence of physician communication on newly diagnosed breast patients'

psychological adjustment and decision making. *Cancer: Diagnosis, Treatment, and Research, 74*, 336-341.

Roberts, K. J. (2002). Physician-patient relationships, patient satisfaction, and antiretroviral medication adherence among HIV-infected adults attending a public health clinic. *AIDS Patient Care & STDs, 16*(1), 43-50.

Robertson, J. A. (1999). Delimiting the donor. The dead donor rule. *Hastings Center Report, 29*(6), 6-14.

Rodrigue, J. R., Cornell, D. L., & Howard, R. J. (2006). Organ donation decision: Comparison of donor and nondonor families. *American Journal of Transplantation, 6*(1), 190-198.

Rodrigue, J. R., Cornell, D. L., & Howard, R. J. (2008a). Does family disagreement affect donation decisions by next of kin? *Progress in Transplantation, 18*(3), 179-184.

Rodrigue, J. R., Cornell, D. L., & Howard, R. J. (2008b). The instability of organ donation decisions by next-of-kin and factors that predict it. *American Journal of Transplantation, 8*, 1-7.

Rodrigue, J. R., Scott, M. P., & Oppenheim, A. R. (2003). The tissue donation experience: A comparison of donor and nondonor families. *Progress in Transplantation, 13*(4), 1-7.

Rosenheck, R., Fontana, A., & Cottrol, C. (1995). Effect of clinician-veteran racial pairing in the treatment of posttraumatic stress disorder. *American Journal of Psychiatry, 152*(4), 555-563.

Ross, C. E., Mirowsky, J., & Duff, R. S. (1982). Physician status characteristics and client satisfaction in two types of medical practice. *Journal of Health and Social Behavior, 23*(4), 317-329.

Ross, M. W., Essien, E. J., & Torres, I. (2006). Conspiracy beliefs about the origin of HIV/AIDS in four racial/ethnic groups. *Journal of Acquired Immune Deficiency Syndromes, 41*(3), 342-344.

Roter, D. L., & Hall, J. A. (2006a). Consequences of talk: The relationship between talk and outcomes. In D. L. Roter & J. A. Hall (Eds.), *Doctors talking with patients / Patients talking with doctors: Improving communication in medical visits* (Second ed., pp. 143-164). Westport, CT: Praeger Publishers.

Roter, D. L., & Hall, J. A. (2006b). The influence of physician characteristics on communication between the doctor and the patient. In D. L. Roter & J. A. Hall

(Eds.), *Doctors talking with patients / Patients talking with doctors: Improving communication in medical visits* (Second ed.). Westport, CT: Praeger Publishers.

Roter, D. L., Hall, J. A., & Aoki, Y. (2002). Physician gender effects in medical communication: A meta-analytic review. *Journal of the American Medical Association, 288*(6), 756-764.

Schaeffer, M. J., & Alexander, D. C. (1992). U.S. system for organ procurement and transplantation. *American Journal of Hospital Pharmacy, 49*, 1733-1740.

Schmidt, J. A., Wagner, C. C., & Kiesler, D. J. (1999). Psychometric and Circumplex properties of the octant scale Impact Message Inventory (IMI-C): A structural evaluation. *Journal of Counseling Psychology, 46*(3), 325-334.

Schnuelle, P., & van der Woude, F. J. (2001). Clinical trials in transplant immunosupression: What have we learned? In M. H. Sayegh & G. Remuzzi (Eds.), *Current and future immunosuppressive therapies following transplantation* (pp. 19-40). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Schulman, B. A. (1979). Active patient orientation and outcomes in hypertensive treatment. *Medical Care, 17*, 267-280.

Shalowitz, D. I., Garrett-Mayer, E., & Wendler, D. (2006). The accuracy of surrogate decision makers: A systematic review. *Archives of Internal Medicine, 166*(5), 493-497.

Sheehy, E., Conrad, S. L., Brigham, L. E., Luskin, R., Weber, P., Eakin, M., et al. (2003). Estimating the number of potential organ donors in the United States. *New England Journal of Medicine, 349*(7), 667-674.

Silk, M. S. (2004). *Homer: The Iliad* (2nd ed.). Cambridge: Cambridge University Press.

Siminoff, L., Mercer, M. B., Graham, G., & Burant, C. (2007). The reasons families donate organs for transplantation: Implications for policy and practice. *Journal of Trauma Injury Infection and Critical Care, 62*(4), 969-978.

Siminoff, L. A. (1989). Cancer patient and physician communication: Progress and continuing problems. *Annals of Behavioral Medicine, 11*(3), 108-112.

Siminoff, L. A., & Arnold, R. (1999). Increasing organ donation in the African-American community: Altruism in the face of an untrustworthy system. *Annals of Internal Medicine, 130*(7), 607-609.

Siminoff, L. A., Arnold, R. M., Caplan, A. L., Virnig, B. A., & Seltzer, D. L. (1995). Public policy governing organ and tissue procurement in the United States. Results from the national organ and tissue procurement study. *Annals of Internal Medicine, 123*(1), 10-17.

Siminoff, L. A., Burant, C., & Youngner, S. J. (2004). Death and organ procurement: Public beliefs and attitudes. *Social Science & Medicine, 59*(11), 2325-2334.

Siminoff, L. A., & Chillag, K. (1999). The fallacy of the "gift of life". *The Hastings Center Report, 29*(6), 34-41.

Siminoff, L. A., Gordon, N., Hewlett, J., & Arnold, R. M. (2001). Factors influencing families' consent for donation of solid organs for transplantation. *Journal of the American Medical Association, 286*(1), 71-77.

Siminoff, L. A., Lawrence, R. H., & Arnold, R. M. (2003). Comparison of black and white families' experiences and perceptions regarding organ donation requests. *Critical Care Medicine, 31*(1), 146-151.

Siminoff, L. A., Lawrence, R. H., & Zhang, A. (2002). Decoupling: What is it and does it really help increase consent to organ donation? *Progress in Transplantation, 12*(1), 52-60.

Siminoff, L. A., Mercer, M. B., & Arnold, R. (2003). Families' understanding of brain death. *Progress in Transplantation, 13*(3), 218-224.

Siminoff, L. A., & Saunders Sturm, C. M. (2000). African-American reluctance to donate: Beliefs and attitudes about organ donation and implications for policy. *Kennedy Institute of Ethics Journal, 10*(1), 59-74.

Siminoff, L. A., & Step, M. M. (in press). Development of a theory-based comprehensive observational measurement system for coding and analyzing communication interactions. *Patient Education and Counseling*.

Spigner, C., Weaver, M., Cárdenas, V., & Allen, M. D. (2002). Organ donation and transplantation: Ethnic differences in knowledge and opinions among urban high school students. *Ethnicity & Health, 7*(2), 87-101.

Sque, M., Long, T., & Payne, S. (2005). Organ donation: Key factors influencing families' decision-making. *Transplantation Proceedings, 37*, 543-546.

Sque, M., Long, T., Payne, S., & Allardyce, D. (2008). Why relatives do not donate organs for transplants: 'Sacrifice' or 'gift of life'? *Journal of Advanced Nursing, 61*(2), 134-144.

Steinbrook, R. (2007). Organ donation after cardiac death. *New England Journal of Medicine, 357*(3), 209-213.

Stewart, M., Brown, J. B., Boon, H., Galajda, J., Meredith, L., & Sangster, M. (1999). Evidence on patient-doctor communication. *Cancer Prevention & Control, 3*(1), 25-30.

Stewart, M. A. (1995). Effective physician-patient communication and health outcomes: A review. *Canadian Medical Association Journal, 152*, 1423-1433.

Street, R. L., Piziak, V. K., Carpentier, W. S., Herzog, J., Hejl, J., Skinner, G., et al. (1993). Provider-patient communication and metabolic control. *Diabetes Care, 16*, 714-721.

Swartz, M. H., Colliver, J. A., Robbs, R. S., & Cohen, D. S. (1999). Effect of multiple standardized patients on case and examination means and passing rates. *Academic Medicine, 74*(10 Suppl), S131-134.

Tamblyn, R. M. (1998). Use of standardized patients in the assessment of medical practice. *Canadian Medical Association Journal, 158*(2), 205-207.

Taylor, J. Y. (1999). Colonizing images and diagnostic labels: Oppressive mechanisms for African American women's health. *Advances in Nursing Science, 21*(3), 32-45.

The Gallup Organization (2005). *National survey of organ and tissue donation attitudes and behaviors*. Washington, D.C.

Thorburn, S., & Bogart, L. M. (2005). Conspiracy beliefs about birth control: Barriers to pregnancy prevention among African Americans of reproductive age. *Health Education & Behavior, 32*(4), 474-487.

Torke, A. M., Alexander, G. C., & Lantos, J. (2008). Substituted judgment: The limitations of autonomy in surrogate decision making. *Journal of General Internal Medicine, 23*(9), 1514-1517.

Uniform Determination of Death Act (1980).

UNOS (2005). *United Network for Organ Sharing: Organ Donation and Transplantation*. Richmond, VA: Retrieved from http://www.unos.org/inTheNews/factSheets.asp.

Van Der Vleuten, C. P. M., & Swanson, D. B. (1990). Assessment of clinical skills with standardized patients: State of the art. *Teaching and Learning in Medicine, 2*(2), 58-76.

van Ryn, M. (2002). Research on the provider contribution to race/ethnicity disparities in medical care. *Medical Care, 40*(1 Suppl), I140-151.

van Zanten, M., Boulet, J. R., & McKinley, D. W. (2004). The influence of ethnicity on patient satisfaction in a standardized patient assessment. *Academic Medicine, 79*(10 Suppl), S15-17.

Verble, M., & Worth, J. (2000a). Fears and concerns expressed by families in the donation discussion. *Progress in Transplantation, 10*(1), 48-55.

Verble, M., & Worth, J. (2000b). Overcoming families' fears and concerns in the donation discussion. *Progress in Transplantation, 10*(3), 155-160.

Vig, E. K., Taylor, J. S., Starks, H., Hopley, E. K., & Fryer-Edwards, K. (2006). Beyond substituted judgment: How surrogates navigate end-of-life decision-making. *Journal of the American Geriatrics Society, 54*(11), 1688-1693.

Vu, N. V., & Barrows, H. S. (1994). Use of standardized patients in clinical assessments: Recent developments and measurement findings. *Educational Researcher, 23*(3), 23-30.

Waitzkin, H. (1985). Information giving in medical care. *Journal of Health and Social Behavior, 26*(2), 81-101.

Wallace, P. (1997). Following the threads of an innovation: The history of standardized patients in medical education. *Caduceus, 13*(2), 5-28.

Wartella, J. E. (2007). *Family needs, coping, and the nurse-family relationship in the neuroscience intensive care unit.* Unpublished doctoral dissertation, Virginia Commonwealth University, Richmond.

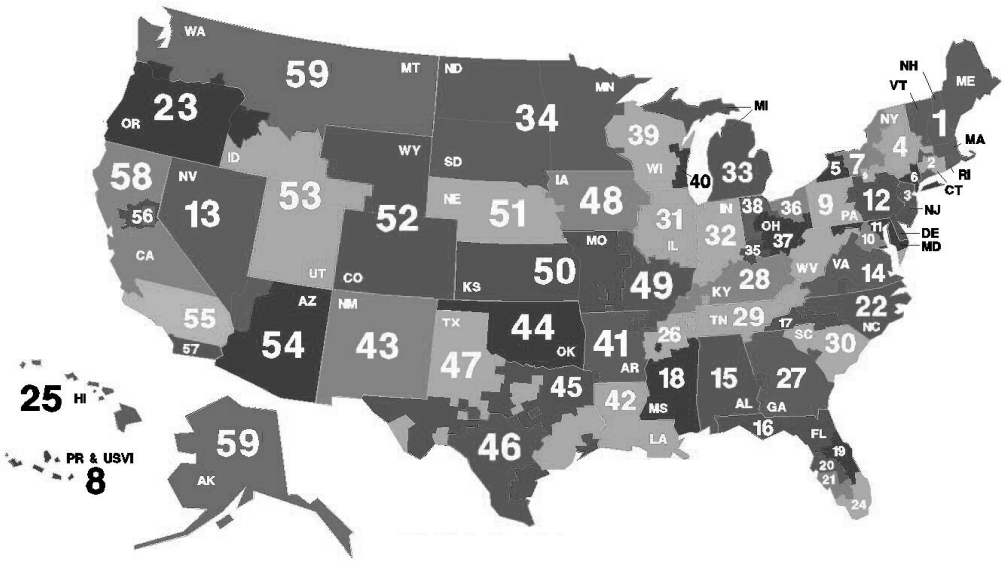
Webber, G. C. (1990). Patient education: A review of the issues. *Medical Care, 28*(11), 1089-1103.

Williams, R. G. (2004). Have standardized patient examinations stood the test of time and experience? *Teaching and Learning in Medicine, 16*(2), 215-222.

Zier, L. S., Burack, J. H., Micco, G., Chipman, A. K., Frank, J. A., Luce, J. M., et al. (2008). Doubt and belief in physicians' ability to prognosticate during critical illness: The perspective of surrogate decision makers. *Critical Care Medicine, 36*(8), 2341-2347.

Appendix A

Organ Procurement Organization & UNOS Service Areas



1. New England Organ Bank
2. LifeChoice OPO and Tissue Bank
3. NJ Organ and Tissue Sharing Network
4. Center for Donation and Transplant
5. Upstate New York Transplant Services
6. New York Organ Donor Network
7. Finger Lakes Donor Recovery Network
8. Lifelink of Puerto Rico
9. Center for Organ Recovery and Education
10. Washington Regional Transplant Consortium
11. Transplant Resource Center of Maryland
12. Gift of Life Donor Program
13. Nevada Donor Network
14. LifeNet
15. Alabama Organ Center
16. The OPO at the University of Florida
17. Life Share of the Carolinas
18. Mississippi Organ Recovery Agency
19. Translife/Florida Hospital
20. Lifelink of Florida
21. Lifelink of Southwest Florida
22. Carolina Donor Services
23. Pacific Northwest Transplant Bank
24. University of Miami OPO
25. Organ Donor Center of Hawaii
26. Mid-South Transplant Foundation
27. Lifelink of Georgia
28. Kentucky Organ Donor Affiliates
29. Tennessee Donor Services
30. SC Organ Procurement Agency
31. Gift of Hope Organ and Tissue Donor Network
32. Indiana OPO
33. Transplantation Society of Michigan
34. Lifesource Upper Midwest OPO
35. Ohio Valley Life Center
36. Lifebanc
37. Lifeline of Ohio Organ Procurement
38. Life Connection of Ohio
39. University of Wisconsin Hospital and Clinic
40. Wisconsin Donor Network
41. Arkansas Regional Organ Recovery Agency
42. Louisiana Organ Procurement Agency
43. New Mexico Donor Services
44. Oklahoma Organ Sharing Network
45. Southwest Transplant Alliance
46. Texas Organ Sharing Alliance
47. Life Gift Organ Donation Center
48. Iowa Donor Network
49. Mid-America Transplant Services
50. Midwest Transplant Network
51. Nebraska Organ Retrieval Service
52. Donor Alliance
53. Intermountain Organ Recovery Systems
54. Donor Network of Arizona
55. One Legacy OPO
56. Golden State Transplant Services
57. Life Sharing Community OPO & Tissue Bank
58. California Transplant Donor Network
59. LifeCenter Northwest

Figure A1. Organ Procurement Organization Service Areas.[1]

[1]From "Organ donation in the United States," by H. M. Nathan, S. L. Conrad, P. J. Held, K. P. McCullough, R. E. Pietroski, L. A. Siminoff, et al., 2003, *American Journal of Transplantation, 3*(s4), p. 30. This is a U.S. Government-sponsored work. There are no restrictions on its use.

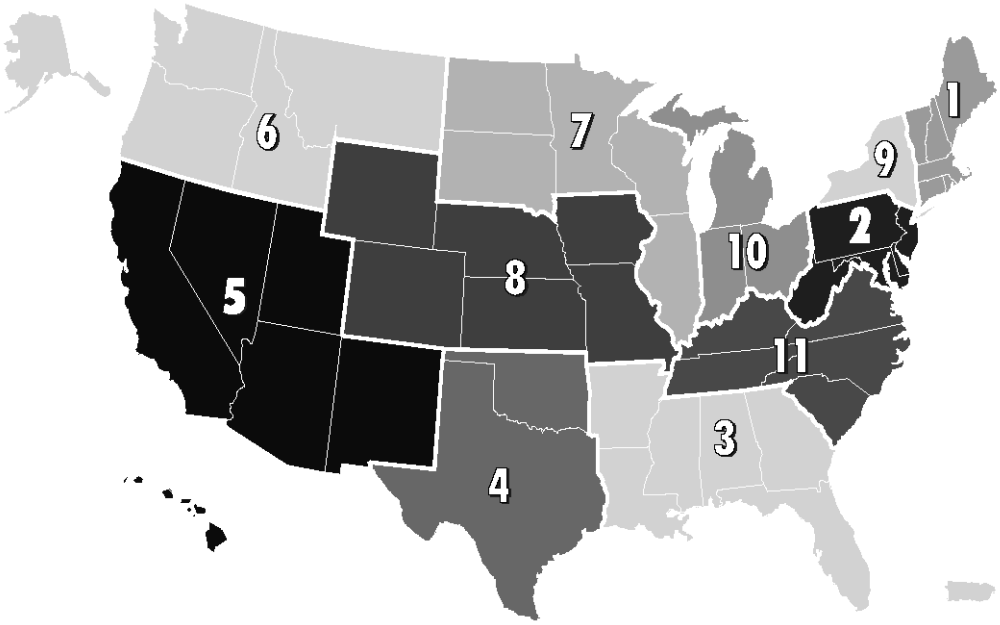


Figure A2. OPTN/UNOS Regional Map. [1]

[1]From "Organ donation in the United States," by H. M. Nathan, S. L. Conrad, P. J. Held, K. P. McCullough, R. E. Pietroski, L. A. Siminoff, et al., 2003, *American Journal of Transplantation, 3*(s4), p. 31. This is a U.S. Government-sponsored work. There are no restrictions on its use.

Appendix B

Interpersonal Circumplex Figures

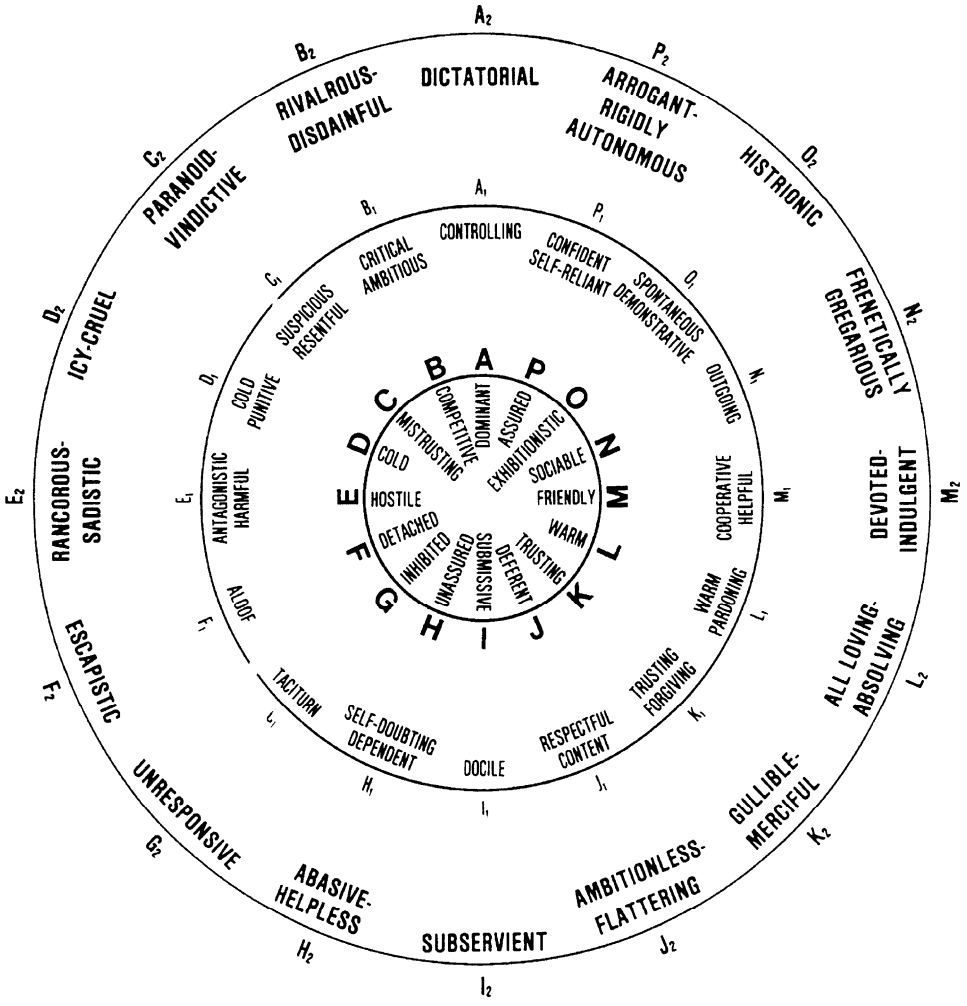


Figure B1. The 1982 Interpersonal Circle.[1]

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[1]From "Integrating measurement of control and affiliation in studies of physician-patient interaction: The Interpersonal Circumplex," by D. J. Kiesler and S. M. Auerbach, 2003, *Social Science & Medicine, 57*, p. 1713. Copyright 2003 by Elsevier Science Ltd. All rights reserved. Reprinted with permission.

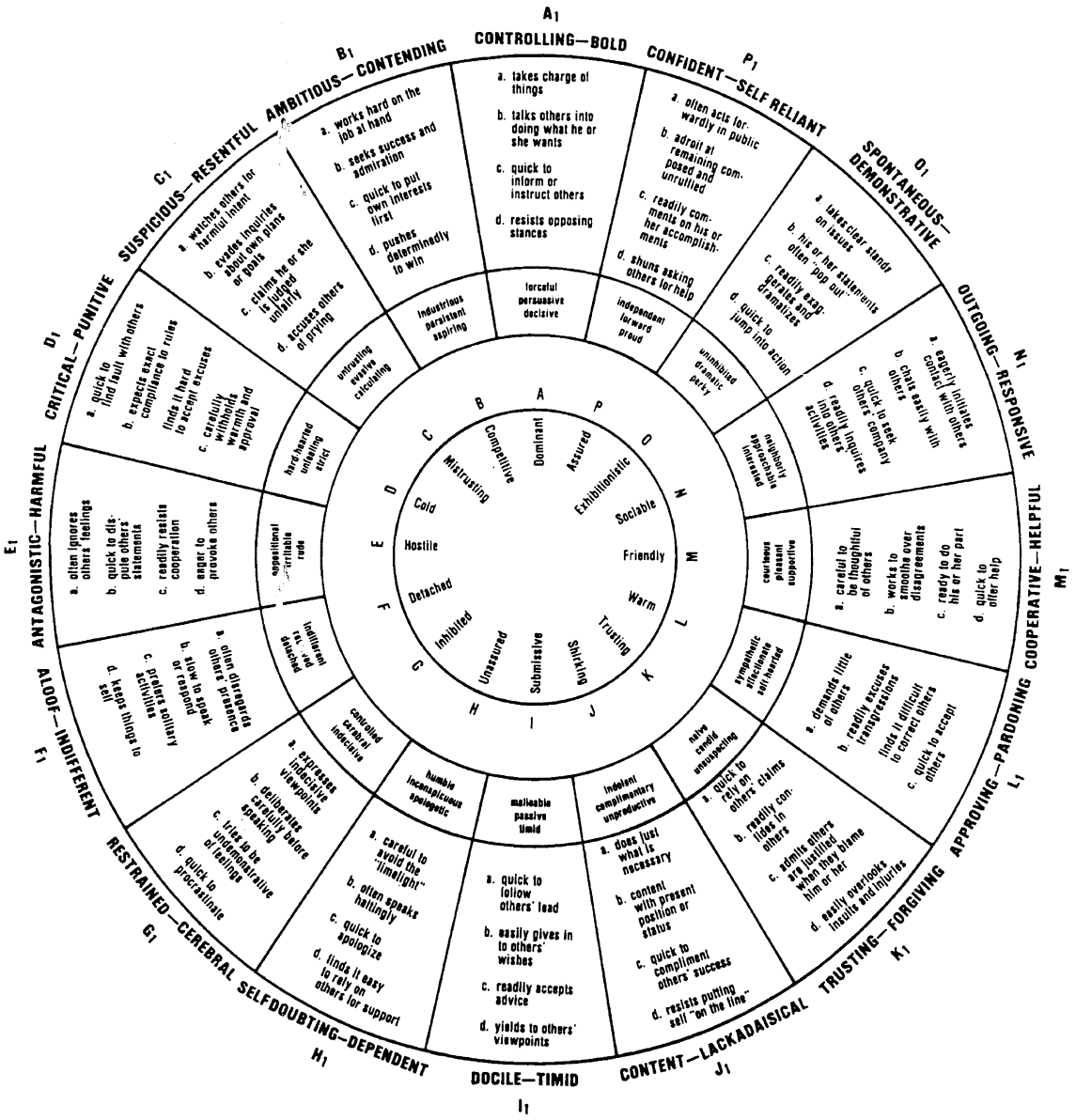

Figure B2. The 1982 Interpersonal Circle, Acts Version: Level 1 (mild-moderate) act descriptors for each of the 16 interpersonal categories (3 prototypical adjective descriptors for each category are listed in the middle concentric ring).[1]

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[1]From "Integrating measurement of control and affiliation in studies of physician-patient interaction: The Interpersonal Circumplex," by D. J. Kiesler and S. M. Auerbach, 2003, *Social Science & Medicine, 57*, p. 1714. Copyright 2003 by Elsevier Science Ltd. All rights reserved. Reprinted with permission.

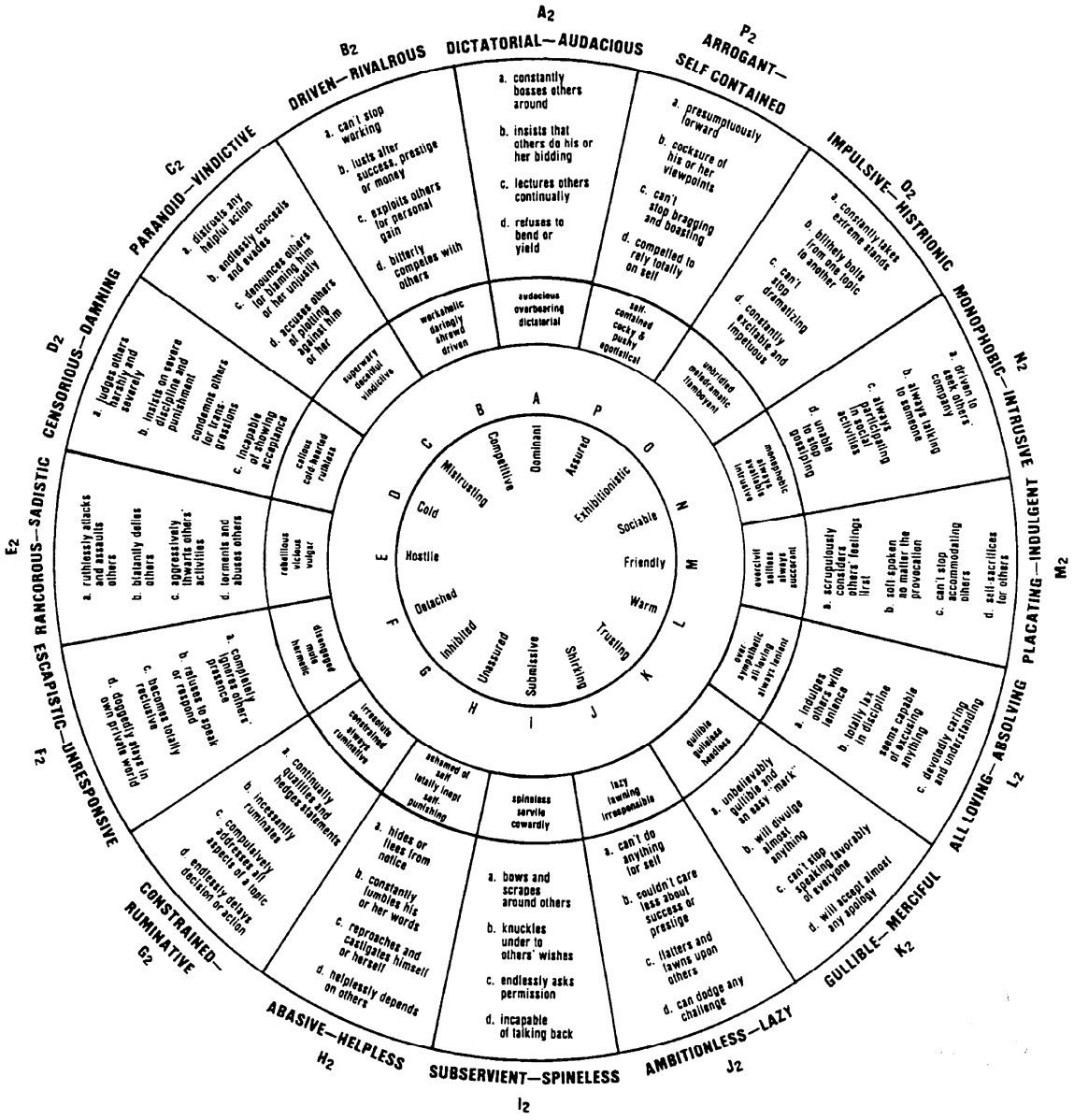

Figure B3. The 1982 Interpersonal Circle, Acts Version: Level 2 (extreme) act descriptors for each of the 16 interpersonal categories (3 prototypical adjective descriptors for each category are listed in the middle concentric ring). [1]

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[1]From "Integrating measurement of control and affiliation in studies of physician-patient interaction: The Interpersonal Circumplex," by D. J. Kiesler and S. M. Auerbach, 2003, *Social Science & Medicine, 57*, p. 1715. Copyright 2003 by Elsevier Science Ltd. All rights reserved. Reprinted with permission.

Appendix C

Summarized Scenario Descriptions

Scenario 1 (September 2004/2005)

The patient, John, is an adult Caucasian male with a severe head trauma from a motor vehicle accident. He was recently widowed and left with two young children. Family members present in the hospital are his mother and father. The father is angry at the death of his son. He is protective of the mother, and does not want to upset her any more. His major concern about donation is fear of mutilation. Neither he nor the mother have ever considered donation nor known anyone who has donated organs. The mother is quiet and overwhelmed. If given the appropriate emotional support and information, the mother could be swayed to consider donation. The father will go along with what makes the mother happiest. Brain death testing is underway. Prior to LifeBanc's arrival, the physician spoke with the family and explained brain death. The physician is cold and impatient with LifeBanc staff. He regards them as vultures, their presence punctuating his failure as a physician.

Scenario 2 (January 2005)

The patient is a 16-year-old African American female who suffered a gunshot wound in her abdomen. Caught in crossfire during a convenience store robbery, she was in the wrong place at the wrong time. Family members present at the hospital include her mother, grandmother, and 23-year-old brother. The mother is in shock. She cannot believe her baby was shot. She is concerned about her son's anger, and does not want to do anything to divide the family, they need to stick together at a time like this. The

grandmother too is in shock. She cannot grasp the idea of brain death. She is in denial, and believes that if she keeps praying, her granddaughter will wake up. The opportunity to speak to a Reverend would help to convince the grandmother. The brother is angry and frustrated. He is mistrustful of the health care system, and does not believe the hospital staff did everything they could to save his sister. EMS did not respond quickly enough, they never do to their neighborhood. The family feels frustrated that no one in the hospital would answer their questions or give them any information about how she was doing. The physician just came by to explain that she is brain dead. He was quickly called away to the OR for another case. The family went into see the patient. They are having difficulty processing the disconnect between their concept of death and seeing that she is still breathing and warm to the touch.

Scenario 3 (May 2005)

The patient, David, is an adult Caucasian male who was in a car accident. David was an only child and has no children of his own. Family members present in the hospital are his mother and father. The parents have been advised to remove life support and thus, David will be a Donation after Cardiac Death (DCD) case. The patient does not meet criteria for brain death. The family members will have two or three concerns that need to be addressed before they will consent to donation. The family's anger and irrationality will increase in response to missed cues and opportunities for the Coordinator to respond to the family's concerns. If the concerns are heard and addressed, the family members will calm down. If the concerns are ignored or glazed over, the family members will get angrier and angrier.

Appendix D

Measures

Please note that pronouns in the male versions of these measures were modified when used to evaluate female procurement coordinators and family members.

Measures of the Procurement Coordinator

- SCCAP-PC
- IMI-FMPC
- CLOIT-PC
- PSPS-PC

Measures of the Family

- IMI-PCFM
- CLOIT-FM
- PSPS-FM

Coder Measures

- GABOD
- Outcome Measure

SCCAP-PC (Procurement Coordinator)

Interpersonal circumplex… [Family member evaluating the PC]

Baughn, D.

Tape ID: ☐☐ Coder ID: ☐☐
PC ID: ☐☐ FM ID: ☐
Date: ☐☐/☐☐/☐☐

HCP SPEECH COUNTS (Procurement Coordinator)

1. Number of times the PC was cut off or interrupted by a family member (e.g. any time when the family member talked over the PC and the PC stopped talking)
   1. TOTAL ☐
   Record your tick marks here:

2. Number of times the PC stopped an interruption by a family member
   2. TOTAL ☐
   Record your tick marks here:

3. Number of times the PC used personal examples (The PC serving as an example to be imitated or compared)
   3. TOTAL ☐
   Record your tick marks here:

4. Number of times the PC used self disclosure (e.g. sharing information with others that they would not normally know or discover)
   4. TOTAL ☐
   Record your tick marks here:

5. Number of times the PC interrupted the family member (e.g. any time when the PC talked over the family member and the family member stopped talking)
   5. TOTAL ☐
   Record your tick marks here:

BACK CODES & DECISIONS

1. How did the PC address the family……
   1. First Name Only ☐ 2. Last Name Only ☐ 3. Both ☐ 4. Neither ☐

2. Did the PC use any pet names? (e.g. honey, sweetheart, baby, other less formal names)….
   1. Yes ☐ 2. No ☐

3. Was there a balanced discussion of organ donation?……
   1. Yes Completely ☐ 2. Somewhat favored one option ☐ 3. Not balanced ☐

4. Was a decision made?……
   1. Decision Made ☐ 2. Decision Delayed ☐

SCCAP-PC (Procurement Coordinator)

Tape ID: ☐☐ Coder ID: ☐☐

PC ID: ☐☐ FM ID: ☐

Date: ☐☐/☐☐/☐☐

Interpersonal circumplex… [Family member evaluating the PC]

Baughn, D.

5. How clearly did the PC present the option to donate?……

1. No Distinction	2.	3.	4.	5.	6.	7. Complete Distinction	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

6. How well did the family understand the option to donate?……

1. Not at all	2.	3.	4.	5.	6.	7. Very well	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

7. Rate how frequently confusing language and/or concepts occurred……

1. Not at all	2.	3.	4.	5.	6.	7. All the time	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

8. Rate how well the PC clarified confusing language and/or concepts?……

1. Not at all	2.	3.	4.	5.	6.	7. All the time	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

SPEECH RATINGS HCP (Procurement Coordinator)

1. Monotone……(succession of words uttered in a single tone, style, or manner of voice)

1. Monotone	2.	3.	4. Average	5.	6.	7. Highly Varied	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

2. Rate of Speech……

1. Slow Speed	2.	3.	4. Average	5.	6.	7. High Speed	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

3. Sound Scripted… (as if the person was reading from a note card or from a preplanned script)

1. NONE	2.	3.	4.	5.	6.	7. LOT	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

4. Speaks Clearly…(the individual pronounced words very distinctly; a lay person could easily understand the words being said)

1. NONE	2.	3.	4.	5.	6.	7. LOT	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

SCCAP-PC (Procurement Coordinator)

Tape ID: ☐☐ Coder ID: ☐☐

PC ID: ☐☐ FM ID: ☐

Date: ☐☐/☐☐/☐☐

Interpersonal circumplex… [Family member evaluating the PC]

Baughn, D.

5. Control of Conversation……

1. NONE	2.	3.	4.	5.	6.	7. LOT	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

6. Hesitancy… (speech of the person indicates indecision or reluctance about doing or committing to something)

1. NONE	2.	3.	4.	5.	6.	7. LOT	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

7. Use of Direct Communication…(speaker uses clear speech that **DOES NOT** blur meaning or create ambiguity in the listener's mind)

1. NONE	2.	3.	4.	5.	6.	7. LOT	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

8. Encourages Talk…(or discussion)……

1. NONE	2.	3.	4.	5.	6.	7. LOT	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

9. Use of Inclusive Pronouns…(pronouns like "we", "us", and "our" instead of "you", "yours", and "mine")

1. NONE	2.	3.	4.	5.	6.	7. LOT	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

10. Use of fillers…(sounds or words that are spoken to fill up gaps in utterances like "uh" "er" and "um")

1. NONE	2.	3.	4.	5.	6.	7. LOT	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

HCP COMFORT LEVELS (Procurement Coordinator)

1. Introduces Topic……

1. VERY UNCOMFORTABLE	2.	3.	4.	5.	6.	7. VERY COMFORTABLE	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

2. Giving the brain death diagnosis information……

1. VERY UNCOMFORTABLE	2.	3.	4.	5.	6.	7. VERY COMFORTABLE	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

3. Answering Questions……

1. VERY UNCOMFORTABLE	2.	3.	4.	5.	6.	7. VERY COMFORTABLE	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

4. Response to Personal Information……

1. VERY UNCOMFORTABLE	2.	3.	4.	5.	6.	7. VERY COMFORTABLE	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

SCCAP-PC (Procurement Coordinator)

Interpersonal circumplex… [Family member evaluating the PC]

Baughn, D.

Tape ID: ☐☐ Coder ID: ☐☐
PC ID: ☐☐ FM ID: ☐
Date: ☐☐/☐☐/☐☐

5. Response to Religious Information……

1. VERY UNCOMFORTABLE	2.	3.	4.	5.	6.	7. VERY COMFORTABLE	77. N/A
☐	☐	☐	☐	☐	☐	☐	☐

RATE THE EMOTIONAL CONTENT FOR THE HCP (Procurement Coordinator)

Affect is an expressed or observed emotional response

1. Irritated/Angry/Furious……

0. No Affect	1. Irritated	2.	3.	4. Angry	5.	6.	7. Furious
☐	☐	☐	☐	☐	☐	☐	☐

2. Nervous/Anxious/Agitated……

0. No Affect	1. Nervous	2.	3.	4. Anxious	5.	6.	7. Agitated
☐	☐	☐	☐	☐	☐	☐	☐

3. Aloof/Sympathetic/Compassionate……

0. No Affect	1. Aloof	2.	3.	4. Sympathetic	5.	6.	7. Compassionate
☐	☐	☐	☐	☐	☐	☐	☐

4. Detached/Engaged/Overly Involved……

0. No Affect	1. Detached	2.	3.	4. Engaged	5.	6.	7. Overly Involved
☐	☐	☐	☐	☐	☐	☐	☐

5. Insincere/Sincere/Very Sincere……

0. No Affect	1. Insincere	2.	3.	4. Sincere	5.	6.	7. Very Sincere
☐	☐	☐	☐	☐	☐	☐	☐

6. Passive/Assertive/Dominant……

0. No Affect	1. Passive	2.	3.	4. Assertive	5.	6.	7. Dominant
☐	☐	☐	☐	☐	☐	☐	☐

7. Unfriendly/Friendly/Overly Friendly…(favorably disposed; open and not imposing)

0. No Affect	1. Unfriendly	2.	3.	4. Friendly	5.	6.	7. Overly Friendly
☐	☐	☐	☐	☐	☐	☐	☐

SCCAP-PC (Procurement Coordinator)

Interpersonal circumplex… [Family member evaluating the PC]

Baughn, D.

Tape ID: ☐☐ Coder ID: ☐☐
PC ID: ☐☐ FM ID: ☐
Date: ☐☐/☐☐/☐☐

8. Less Animated/More Animated……(full of life, action, or spirit; lively; vigorous)

0. No Affect	1. Less Animated	2.	3.	4. Average	5.	6.	7. More Animated
☐	☐	☐	☐	☐	☐	☐	☐

9. Less Expressive/More Expressive…(conveying a thought, intention, emotion, etc., in an effective or vivid manner)

0. No Affect	1. Less Expressive	2.	3.	4. Average	5.	6.	7. More Expressive
☐	☐	☐	☐	☐	☐	☐	☐

RELATIONAL COMMUNICATION SCALE - OBSERVER

1. The PC tried to control the interaction……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

2. The PC was sincere……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

3. The PC attempted to persuade the family……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

4. The PC wanted the family to trust him/her……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

5. The PC was very work-orientated…(focused on specific tasks or practices related to obtaining the organs)

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

6. The PC was willing to listen to the family……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

SCCAP-PC (Procurement Coordinator)

Interpersonal circumplex… [Family member evaluating the PC]

Baughn, D.

Tape ID: ☐☐ Coder ID: ☐☐
PC ID: ☐☐ FM ID: ☐
Date: ☐☐/☐☐/☐☐

7. The PC wanted to cooperate with the family……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

8. The PC considered the family an equal…(having the same quantity, measure, or value as another)

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

9. The PC felt very relaxed talking with the family…(free of or relieved from tension or anxiety; informal)

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

10. The PC tried to gain the approval of the family……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

11. The PC was calm and poised with the family……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

12. The PC was honest in his/her communication……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

13. The PC was interested in talking with the family……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

14. The PC was comfortable interacting with the family……

1. Strongly Disagree	2.	3.	4. Un-decided	5.	6.	7. Strongly Agree	88. N/A
☐	☐	☐	☐	☐	☐	☐	☐

6786148763

Interpersonal Circumplex
Baughn, D.
IMI-28 FM on Male Procurement Coordinator
(FMPC)

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Respond to each of the following items by filling in the bubble on each 4-point scale that best captures your feelings while you were with the procurement coordinator.

WHEN I WAS WITH THE PROCUREMENT COORDINATOR HE MADE ME FEEL.....

1. bossed around.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

2. distant from him.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

3. like an intruder.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

4. in charge.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

5. appreciated by him.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

6. part of the group when he's around.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

7. forced to shoulder all the responsibility.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

8. complimented.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

Please continue on the next page

1515148768

Interpersonal Circumplex
Baughn, D.
IMI-28 FM on Male Procurement Coordinator (FMPC)

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Respond to each of the following items by filling in the bubble on each 4-point scale that best captures your feelings while you were with the procurement coordinator.

WHEN I WAS WITH THE PROCUREMENT COORDINATOR HE MADE ME FEEL.....

9. dominant.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

10. welcome with him.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

11. as important to him as others in the group.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

12. taken charge of.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

13. that I want to tell him to give someone else a chance to make a decision.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

14. that I want him to disagree with me sometimes.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

15. that I could lean on him for support.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

16. that I'm going to intrude.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

Please continue on the next page

9097148761

Interpersonal Circumplex
Baughn, D.
IMI-28 FM on Male Procurement Coordinator (FMPC)

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Respond to each of the following items by filling in the bubble on each 4-point scale that best captures your feelings while you were with the procurement coordinator.

WHEN I WAS WITH THE PROCUREMENT COORDINATOR HE MADE ME FEEL.....

17. that I should tell him to stand up for herself.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

18. that I can ask him to carry his share of the load.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

19. that I wamt to point out his good qualities to him.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

20. that he wants to be the center of attention.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

21. that he doesn't want to get involved with me.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

22. that he wants me to put him on a pedestal.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

23. that he'd rather be alone.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

24. that he thinks he's always in control of things.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

Please continue on the next page

8384148769

Interpersonal Circumplex
Baughn, D.
IMI-28 FM on Male Procurement Coordinator
(FMPC)

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Respond to each of the following items by filling in the bubble on each 4-point scale that best captures your feelings while you were with the procurement coordinator.

WHEN I WAS WITH THE PROCUREMENT COORDINATOR HE MADE ME FEEL.....

25. that he thinks I have most of the answers.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

26. that he weighs situations in terms of what he can get out of them.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

27. that he'd rather be left alone.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

28. that he sees me as superior.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

3242317349

Interpersonal Circumplex
Baughn, D.
CLOIT-R Procurement Coordinator Rating Form

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: The following pages contain lists of actions that can occur in interactions between family members and procurement coordinators. Your task is fill in each item (bubble) which accurately describes an action exhibited by the procurement coordinator whom you have just watched.

Make your judgments about occurrence of procurement coordinator actions solely on the basis of the recording you just viewed. Fill in only those items (bubbles) which describe procurement coordinator actions that occurred "live" in the interaction with the family.

In order to be filled in, the action described by a particular item must have occurred at least once during the sample you viewed, but it need not occur more than once. If an item describes an action that did not occur in the sample you viewed, leave that item blank.

WHEN WITH THE FAMILY, THE PROCUREMENT COORDINATOR.....

- ○ 1. is quick to take charge of the conversation or discussion, or to offer suggestions about what needs to be done.
- ○ 2. is receptive and cooperative to the family's requests, directions, appeals, or wishes; or is quick to assist or work together with the family member.
- ○ 3. waits for or follows the family members' lead regarding topics or issues to discuss, directions or actions to pursue.
- ○ 4. is quick to resist, not cooperate, or refuse to comply with the family's requests, directions, appeals, or wishes..
- ○ 5. dominates the flow of conversation or changes the topic, or interrupts and "talks down" to the family.
- ○ 6. inconveniences self or sacrifices to contribute, help, assist, or work cooperatively with the family.
- ○ 7. finds it almost impossible to take the lead, or to initiate or change the topic of discussion.
- ○ 8. is openly antagonistic, oppositional, or obstructive to the family members' statements, suggestions, or purposes.
- ○ 9. expresses firm, strong personal preferences; or stands up for own opinions or positions.
- ○ 10. expresses appreciation, delight, or satisfaction about the family member, their situation, or their task.
- ○ 11. claims s/he doesn't have an opinion, preference, or position, or that "it doesn't matter," "whatever you want," "I don't know," etc.
- ○ 12. grumbles, gripes, nags, or complains about the family, their situation, or their task.

Please continue on the next page

3014317346

Interpersonal Circumplex
Baughn, D.
CLOIT-R Procurement Coordinator Rating Form

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: The following pages contain lists of actions that can occur in interactions between family members and procurement coordinators. Your task is to fill in each item (bubble) which accurately describes an action exhibited by the procurement coordinator whom you have just watched.

Make your judgments about occurrence of procurement coordinator actions solely on the basis of the recording your just viewed. Fill in only those items (bubbles) which describe procurement coordinator actions that occurred "live" in the interaction with the family.

In order to be filled in, the action described by a particular item must have occurred at least once during the sample you viewed, but it need not occur more than once. If an item describes an action that did not occur in the sample you viewed, leave that item blank.

WHEN WITH THE FAMILY, THE PROCUREMENT COORDINATOR.....

○ 13. states preferences, opinions, or positions in a dogmatic or unyielding manner.

○ 14. seems always to agree with or accommodate the family; or seems impossible to rile.

○ 15. expresses own preferences hesitantly or weakly; or yields easily to the family's viewpoints; or backs down quickly when the family member questions or disagrees.

○ 16. argumentatively challenges or refutes the family's statements or suggestions; or "tells the family off," "lets the family have it" when disagrees.

○ 17. seizes opportunities to instruct or explain things, or to give advice.

○ 18. is attentive to, considerate or solicitous of the family's feelings, or sensitive to pressures or stresses in the family's life.

○ 19. is quick to agree with the family's opinions or to comply with the family's directions or preferences.

○ 20. ignores, overlooks, or is inconsiderate of the family's feeling; or disregards pressures or stresses in the family.

○ 21. overwhelms or "steamrolls" the family by his/her arguments, positions, preferences, or actions.

○ 22. makes unconditionally supportive, encouraging, endorsing, comforting, or bolstering comments to the family.

○ 23. seems unable to assert what s/he wants, or to stand up to the family, or to take any opposing position.

○ 24. swears at the family; or makes abusing, disparaging, damaging, or crude comments to the family.

8854525399

Interpersonal Circumplex
Baughn, D.
PSPS--Procurement Coordinator Form A

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: We want to know what you did during your visit with this family member. Respond to the following items by filling in the bubble on each 5-point scale that best represents your view of what happened during your interaction.

WHEN I MET WITH THIS FAMILY MEMBER.....

1. I discussed his/her loved one's diagnosis and the nature of any decisions to be made.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
O 1	O 2	O 3	O 4	O 5

2. I encouraged the family member to voice any personal concerns regarding aspects of his/her loved one's care.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
O 1	O 2	O 3	O 4	O 5

3. I made him/her feel comfortable enough to ask questions and seek explanations.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
O 1	O 2	O 3	O 4	O 5

4. I discussed with the family member his/her loved one's available treatment alternatives.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
O 1	O 2	O 3	O 4	O 5

5. I took the family member's preferences into account when deciding the best way to handle his/her loved one's condition.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
O 1	O 2	O 3	O 4	O 5

6. I made him/her feel comfortable enough to question my recommendations.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
O 1	O 2	O 3	O 4	O 5

7. I discussed the benefits and risks of the loved one's available courses of action.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
O 1	O 2	O 3	O 4	O 5

8. I considered the family member's personal goals and feelings in arriving at decisions about his/her loved one's care.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
O 1	O 2	O 3	O 4	O 5

Please continue on the next page

2718525392

Interpersonal Circumplex
Baughn, D.
PSPS--Procurement Coordinator Form A

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: We want to know what you did during your visit with this family member. Respond to the following items by filling in the bubble on each 5-point scale that best represents your view of what happened during your interaction.

WHEN I MET WITH THIS FAMILY MEMBER.....

9. I did not pressure the family member to accept a treatment alternative I preferred.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

10. I discussed the short-term and long-term consequences of available treatments for the family member's loved one.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

11. I made sure the family member understood his/her loved one's condition, treatment alternatives, and their risks.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

12. I supported the family member's treatment choice even though he/she didn't follow my recommendation.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

13. I discussed any uncertainties associated with alternative courses of action.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

14. I got the family member to state which course of treatment he/she preferred.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

15. I provided the family member an equal role in arriving at decisions about his/her loved one's care.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

0919502691

Interpersonal Circumplex
Baughn, D.
IMI-28 PC on Male Family Member
(PC FM)

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Respond to each of the following items by filling in the bubble on each 4-point scale that best captures your feelings while you were with the family member.

WHEN I WAS WITH THE FAMILY MEMBER DURING THE INTERACTION HE MADE ME FEEL.....

1. bossed around.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

2. distant from him.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

3. like an intruder.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

4. in charge.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

5. appreciated by him.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

6. part of the group when he's around.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

7. forced to shoulder all the responsibility.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

8. complimented.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

Please continue on the next page

6631502698

Interpersonal Circumplex
Baughn, D.
IMI-28 PC on Male Family Member
(PC FM)

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Respond to each of the following items by filling in the bubble on each 4-point scale that best captures your feelings while you were with the family member.

WHEN I WAS WITH THE FAMILY MEMBER DURING THE INTERACTION HE MADE ME FEEL.....

9. dominant.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

10. welcome with him.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

11. as important to him as others in the group.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

12. taken charge of.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

13. that I want to tell him to give someone else a chance to make a decision.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

14. that I want him to disagree with me sometimes.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

15. that I could lean on him for support.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

16. that I'm going to intrude.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

Please continue on the next page

9887502694

Interpersonal Circumplex
Baughn, D.
IMI-28 PC on Male Family Member
(PC FM)

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Respond to each of the following items by filling in the bubble on each 4-point scale that best captures your feelings while you were with the family member.

WHEN I WAS WITH THE FAMILY MEMBER DURING THE INTERACTION HE MADE ME FEEL.....

17. that I should tell him to stand up for herself.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

18. that I can ask him to carry his share of the load.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

19. that I wamt to point out his good qualities to him.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

20. that he wants to be the center of attention.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

21. that he doesn't want to get involved with me.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

22. that he wants me to put him on a pedestal.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

23. that he'd rather be alone.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

24. that he thinks he's always in control of things.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

Please continue on the next page

9619502697

Interpersonal Circumplex
Baughn, D.
IMI-28 PC on Male Family Member
(PC FM)

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Respond to each of the following items by filling in the bubble on each 4-point scale that best captures your feelings while you were with the family member.

WHEN I WAS WITH THE FAMILY MEMBER DURING THE INTERACTION HE MADE ME FEEL.....

25. that he thinks I have most of the answers.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

26. that he weighs situations in terms of what he can get out of them.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

27. that he'd rather be left alone.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

28. that he sees me as superior.....

Not at all	Somewhat	Moderately so	Very much so
○ 1	○ 2	○ 3	○ 4

1308377740

Interpersonal Circumplex
Baughn, D.
CLOIT-R Family Member Rating Form

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: The following pages contain lists of actions that can occur in interactions between family members and procurement coordinators. Your task is to fill in each item (bubble) which accurately describes an action exhibited by the family member whom you have just observed.

Make your judgments about occurrence of family member actions solely on the basis of the sample of video recording you just observed. Fill in only those items (bubbles) which describe family member actions that occurred "live" in the interaction with the procurement coordinator.

In order to be filled in, the action described by a particular item must have occurred at least once during the sample you observed, but it need not occur more than once. If an item describes an action that did not occur in the sample you viewed, leave that item blank.

WHEN WITH THE PROCUREMENT COORDINATOR, THE FAMILY MEMBER.....

- ○ 1. is quick to take charge of the conversation or discussion, or to offer suggestions about what needs to be done.
- ○ 2. is receptive and cooperative to the procurement coordinator's requests, directions, appeals, or wishes; or is quick to assist or work together with the procurement coordinator.
- ○ 3. waits for or follows the procurement coordinator's lead regarding topics or issues to discuss, directions or actions to pursue.
- ○ 4. is quick to resist, not cooperate, or refuse to comply with the procurement coordinator's requests, directions, appeals, or wishes..
- ○ 5. dominates the flow of conversation or changes the topic, or interrupts and "talks down" to the procurement coordinator.
- ○ 6. inconveniences self or sacrifices to contribute, help, assist, or work cooperatively with the procurement coordinator.
- ○ 7. finds it almost impossible to take the lead, or to initiate or change the topic of discussion.
- ○ 8. is openly antagonistic, oppositional, or obstructive to the procurement coordinator's statements, suggestions, or purposes.
- ○ 9. expresses firm, strong personal preferences; or stands up for own opinions or positions.
- ○ 10. expresses appreciation, delight, or satisfaction about the procurement coordinator, their situation, or their task.
- ○ 11. claims s/he doesn't have an opinion, preference, or position, or that "it doesn't matter," "whatever you want," "I don't know," etc.
- ○ 12. grumbles, gripes, nags, or complains about the procurement coordinator, their situation, or their task.

Please continue on the next page

3196377747

Interpersonal Circumplex
Baughn, D.
CLOIT-R Family Member Rating Form

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: The following pages contain lists of actions that can occur in interactions between family members and procurement coordinators. Your task is to fill in each item (bubble) which accurately describes an action exhibited by the family member whom you have just observed.

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In order to be filled in, the action described by a particular item must have occurred at least once during the sample you observed, but it need not occur more than once. If an item describes an action that did not occur in the sample you viewed, leave that item blank.

WHEN WITH THE PROCUREMENT COORDINATOR, THE FAMILY MEMBER.....

- ○ 13. states preferences, opinions, or positions in a dogmatic or unyielding manner.
- ○ 14. seems always to agree with or accommodate the procurement coordinator; or seems impossible to rile.
- ○ 15. expresses own preferences hesitantly or weakly; or yields easily to the procurement coordinator's viewpoints; or backs down quickly when the procurement coordinator questions or disagrees.
- ○ 16. argumentatively challenges or refutes the procurement coordinator's statements or suggestions; or "tells the procurement coordinator off," "lets the procurement coordinator have it" when disagrees.
- ○ 17. seizes opportunities to instruct or explain things, or to give advice.
- ○ 18. is attentive to, considerate or solicitous of the procurement coordinator's feelings, or sensitive to pressures or stresses in the procurement coordinator's life.
- ○ 19. is quick to agree with the procurement coordinator's opinions or to comply with the procurement coordinator's directions or preferences.
- ○ 20. ignores, overlooks, or is inconsiderate of the procurement coordinator's feeling; or disregards pressures or stresses in the procurement coordinator's life.
- ○ 21. overwhelms or "steamrolls" the procurement coordinator by his/her arguments, positions, preferences, or actions.
- ○ 22. makes unconditionally supportive, encouraging, endorsing, comforting, or bolstering comments to the procurement coordinator.
- ○ 23. seems unable to assert what s/he wants, or to stand up to the procurement coordinator, or to take any opposing position.
- ○ 24. swears at the procurement coordinator; or makes abusing, disparaging, damaging, or crude comments to the procurement coordinator.

8300608331

Interpersonal Circumplex
Baughn, D.
PSPS--Family Member Form A

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: We want to know how you feel about the visit you had with your procurement coordinator. Respond to the following items by filling in the bubble on each 5-point scale that best represents your view of what happened during your interaction.

DURING OUR INTERACTION, MY PROCUREMENT COORDINATOR.....

1. discussed my loved one's diagnosis and the nature of any decisions to be made.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

2. encouraged me to talk about any personal concerns I had regarding aspects of my loved one's care.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

3. made me feel comfortable enough to ask questions and seek explanations.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

4. discussed my loved one's available treatment alternatives.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

5. took my perferences into account when deciding the best way to treat my loved one's condition.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

6. made me feel comfortable enough to question his/her recommendations.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

7. discussed the benefits and risks of my available courses of action.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

8. considered my personal goals and feelings in arriving at decisions about my loved one's care.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

Please continue on the next page

1259608337

Interpersonal Circumplex
Baughn, D.
PSPS--Family Member Form A

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: We want to know how you feel about the visit you had with your procurement coordinator. Respond to the following items by filling in the bubble on each 5-point scale that best represents your view of what happened during your interaction.

DURING OUR INTERACTION, MY PROCUREMENT COORDINATOR.....

9. did not pressure me to accept a treatment alternative for my loved one that he/she preferred.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

10. discussed the short-term and long-term consequences of available treatments for my loved one.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

11. made sure I understood my loved one's condition, treatment alternatives, and their risks.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

12. supported my choice even though I didn't follow his/her recommendation.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

13. discussed any uncertainties associated with alternative courses of action.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

14. got me to state which course of treatment for my loved one I preferred.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

15. provided me an equal role in arriving at decisions about my loved one's care.....

Strongly disagree	Disagree somewhat	Am uncertain	Agree somewhat	Stongly agree
○ 1	○ 2	○ 3	○ 4	○ 5

9577263863

Interpersonal Circumplex
Baughn, D.
GABOD

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Fill in the bubble on each 5-point scale corresponding to the extent that you agree with the following statements.

1. We should have a law that says that everyone will be an organ donor unless someone specifically says no.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

2. Families who agree to donate organs should receive some payment for donating the organs.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

3. Families who agree to donate organs should be given money to pay for funeral expenses.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

4. If someone has a donor card, then hospitals should *not* have to ask the family's permission to take the organs.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

5. I think that when families donate, they should be able to ask that the organs go to a particular person.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

6. I think that rich or famous people who need a transplant are more likely to get a transplant before others do.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

7. When patients are eligible to donate organs, doctors can be trusted to pronounce death correctly.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

8. If asked, most families will agree to donate their loved ones organs.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

9. Organ donation makes something positive come out of death.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

Please continue on the next page

0146263866

Interpersonal Circumplex
Baughn, D.
GABOD

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Fill in the bubble on each 5-point scale corresponding to the extent that you agree with the following statements.

10. If my doctor told me that I needed a transplant, I would want one.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

11. People who have organ transplants are able to live full, productive lives.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

12. I would be willing to pay higher health insurance premiums to be sure that everyone who needs a transplant can get one.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

13. Someone who receives an organ transplant that doesn't work should have the same chance of getting another organ as someone who is waiting for their first transplant.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

14. If someone in my family needed one of my kidneys and the doctors said it was possible, then I would do it.

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

8430381131

Interpersonal Circumplex
Baughn, D.
Outcome Measure

Tape ID ☐☐ **Coder ID** ☐☐
PC ID ☐☐ **FM ID** ☐
Date ☐☐ / ☐☐ / ☐☐☐☐

DIRECTIONS: Keeping in mind the video recording you have just seen, please answer the following questions by filling in the bubble that best fits your response.

1. Please think about the recording you have just seen. If you were a member of this family would you have donated your loved one's organs?

   ○ Yes ○ No

2. In your personal opinion, how likely was the family member to decide to donate his/her loved one's organs?

Stongly agree	Somewhat agree	No opinion	Somewhat disagree	Strongly disagree
○ 1	○ 2	○ 3	○ 4	○ 5

Appendix E

Institutional Review Board Approval and Coder Recruitment Materials

VCU Memo

Virginia Commonwealth University

Office of Research Subjects Protection
BioTechnology Research Park
BioTech One, 800 E. Leigh Street, #111
P.O. Box 980568
Richmond, Virginia 23298-0568
(804) 828-3992 phone, (804) 827-1448 fax

DATE: August 20, 2007

TO: Stephen Auerbach, PhD
Psychology
Box 842018

FROM: Lloyd Byrd, MS
Chairperson, VCU IRB Panel E
Box 980568

RE: **VCU IRB #: HM11083**
Title: Interpersonal circumplex and shared decision-making models of communication applied to simulated requests for organ donation

On August 9, 2007 the following research study ***qualified for exemption*** according to 45 CFR 46.101(b) Category 2.This approval reflects the revisions received in the Office of Research Subjects Protection on August 9, 2007. This approval includes the following items reviewed by this Panel:

RESEARCH APPLICATION/PROPOSAL: NONE

PROTOCOL: Interpersonal circumplex and shared decision-making models of communication applied to simulated requests for organ donation, version 8/5/07, received 8/9/07

CONSENT/ASSENT:

- Because the project is exempt from federal regulations, the procedures described in § 46.116 (Consent) and 46.117 (Documentation of Consent) are not applicable to your research study. Nevertheless, the Common Law of the Commonwealth of Virginia, as well as the canons of sound ethics require you to inform potential subjects of foreseeable risks and possible benefits (if any) associated with participation in your research study. Therefore potential subjects should be informed of foreseeable risks and possible benefits of participation in your research study. They should also be informed that they may refuse to participate in your research and they should understand that they might withdraw at any time without penalty. **This process of informed decision-making should be documented along with other information associated with the study.**
- Participant Information Sheet, received 8/9/07

ADDITIONAL DOCUMENTS:

- Flyer-"Psychology Students"- received 8/9/07

The Primary Reviewer assigned to your research study is Lloyd Byrd, MS. If you have any questions, please contact Mr. Byrd at lhbyrd@vcu.org; or you may contact Donna Gross, IRB Coordinator, VCU Office of Research Subjects Protection, at dsgross@vcu.edu or (804) 827-2261.

Attachment – Conditions of Approval

Conditions of Approval:

In order to comply with federal regulations, industry standards, and the terms of this approval, the investigator must *(as applicable):*

1. Conduct the research as described in and required by the Protocol.
2. Obtain informed consent from all subjects without coercion or undue influence, and provide the potential subject sufficient opportunity to consider whether or not to participate (unless Waiver of Consent is specifically approved or research is exempt).
3. Document informed consent using only the most recently dated consent form bearing the VCU IRB "APPROVED" stamp (unless Waiver of Consent is specifically approved).
4. Provide non-English speaking patients with a translation of the approved Consent Form in the research participant's first language. The Panel must approve the translated version.
5. Obtain prior approval from VCU IRB before implementing any changes whatsoever in the approved protocol or consent form, unless such changes are necessary to protect the safety of human research participants (e.g., permanent/temporary change of PI, addition of performance/collaborative sites, request to include newly incarcerated participants or participants that are wards of the state, addition/deletion of participant groups, etc.). Any departure from these approved documents must be reported to the VCU IRB immediately as an Unanticipated Problem (see #7).
6. Monitor all problems (anticipated and unanticipated) associated with risk to research participants or others.
7. Report Unanticipated Problems (UPs), including protocol deviations, following the VCU IRB requirements and timelines detailed in VCU IRB WPP VIII-7):
8. Obtain prior approval from the VCU IRB before use of any advertisement or other material for recruitment of research participants.
9. Promptly report and/or respond to all inquiries by the VCU IRB concerning the conduct of the approved research when so requested.
10. All protocols that administer acute medical treatment to human research participants must have an emergency preparedness plan. Please refer to VCU guidance on http:/www.research.vcu.edu/irb/guidance.htm.
11. The VCU IRBs operate under the regulatory authorities as described within:
    a) U.S. Department of Health and Human Services Title 45 CFR 46, Subparts A, B, C, and D (for all research, regardless of source of funding) and related guidance documents.
    b) U.S. Food and Drug Administration Chapter I of Title 21 CFR 50 and 56 (for FDA regulated research only) and related guidance documents.
    c) Commonwealth of Virginia Code of Virginia 32.1 Chapter 5.1 Human Research (for all research).

Participant Information

INFORMATION ABOUT YOUR PARTICIPATION IN THIS RESEARCH

PURPOSE OF THE STUDY

This study will focus on evaluating the extent to which findings in the patient-physician interaction literature generalize to the organ donation situation. The interpersonal circumplex and shared decision-making models of communication have not been previously applied to the procurement coordinator-family member relationship. We think this study will help us to better understand how communication is used in requests for organ donation and to develop strategies to improve communication between family members and procurement coordinators.

DESCRIPTION OF YOUR INVOLVEMENT

Your participation in this study is voluntary and anonymous. You may choose to discontinue your participation at any time. As part of this study you will first be asked to complete online research ethics training. Second, you will be trained by the investigators to identify patterns of communication in video recorded simulations. Last, you will be asked to **anonymously** complete questionnaires about the video recorded simulations, complete a questionnaire about your attitudes and beliefs towards organ donation, and complete a questionnaire about the outcome. It is anticipated that total time commitment will be 15-20 hours over the course of the semester.

BENEFITS TO YOU

You will receive valuable experience in health psychology research. You may also receive research course credit for your participation.

CONFIDENTIALITY AND PRIVACY

Confidentiality will be maintained by using a code number on all forms, thus maintaining anonymity of all coders. Video recordings and all research forms will be kept in a locked file cabinet. All undergraduate coders will be assigned a random and anonymous two digit number for use on all research forms. The video recordings will be used for research purposes only.

QUESTIONS

In the future, you may have questions about your participation in this study. If you have any questions, complaints, or concerns about the research, contact:

Stephen M. Auerbach, Ph.D.
Virginia Commonwealth University
Department of Psychology, Box 842018
Richmond, VA 23284-2018
Telephone: (804) 828-1172

Office for Research
Virginia Commonwealth University
800 East Leigh Street, Suite 113
P.O. Box 980568
Richmond, VA 23298
Telephone: (804) 827-2157

APPROVED
5/9/07 / LB / DC

Psychology Students

NEW RESEARCH EVALUATING ORGAN DONATION COMMUNICATION

YOUR PARTICIPATION IS NEEDED

OFFICE OF RESEARCH SUBJECT PROTECTION 9 2007

Virginia Commonwealth University VCU

There is a tremendous need for more people, upon their death, to be willing to donate organs to others in need. We are seeking undergraduate volunteers for a research study evaluating how people talk to each other in requests for organ donation. The study will help us develop strategies to improve communication between family members and procurement coordinators and hopefully increase the rate of organ donation.

HAVE QUESTIONS? Email Daniel at: BaughnD@vcu.edu

What Will I Do?

You will receive brief training in research ethics. Then, you will be trained to evaluate communications between donation requestors and family members which are depicted on video recordings. Last, you will be asked to anonymously give your opinions and complete questionnaires about the video recordings.

What Will I Gain by Participating?

You will gain valuable Health Psychology research experience. You may also be able to receive research course credit.

Who Can Participate?

Undergraduate students who are at least 18 years of age.

APPROVED

8/9/07 LB / DG

Who is Conducting this Research?

Stephen M. Auerbach, PhD, (Professor of Psychology) and Daniel Baughn, B.S. (Graduate Student) are researchers in the Department of Psychology.

WE NEED STUDENTS WHO:

+ **Are at least 18 years old**
+ **Have an interest in Health Psychology Research**
+ **Willing to watch video and answer questions**

STUDENTS RECEIVE:

+ **Health Psychology research experience**
+ **You may receive research course credit at VCU**

Daniel Baughn BaughnD@vcu.edu

Vita

Daniel Baughn was born October 9th, 1981, in Gainesville, Florida, and is an American citizen. He graduated as valedictorian from Bronson High School, Bronson, Florida in 2000. He received his Bachelor of Science in Psychology from the University of Florida, Gainesville, Florida in 2005. As an undergraduate, Daniel was mentored in Health Psychology research related to organ transplantation and donation by Dr. James Rodrigue. Daniel was selected as a University Scholar in 2004 and was awarded $3,000 by the University of Florida to evaluate the factors influencing adolescents' willingness to register as organ donors when obtaining their driver's permit/license or enrolled in driver's education. Daniel began his graduate training in Clinical Psychology at Virginia Commonwealth University in Richmond, Virginia in 2005. He will earn a Master of Science in Clinical Psychology with a specialization in Behavioral Medicine from Virginia Commonwealth University in May 2009. Mr. Baughn is currently a doctoral candidate in the Clinical Psychology Ph.D. program at Virginia Commonwealth University.