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The Use of Culturally Sensitive Education on Organ Donation and Its Impact on Attitudes and Willingness to Donate Organs

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THE USE OF CULTURALLY SENSITIVE EDUCATION ON ORGAN DONATION AND ITS IMPACT ON ATTITUDES AND WILLINGNESS TO DONATE ORGANS

by

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AND ITS IMPACT ON ATTITUDES AND WILLINGNESS

TO DONATE ORGANS

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ABSTRACT

THE USE OF CULTURALLY SENSITIVE EDUCATION ON ORGAN DONATION AND ITS IMPACT ON ATTITUDES AND WILLINGNESS TO DONATE ORGANS

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In regards to transplantation, ethnic minorities are disproportionately affected by the donor shortage. The high morbidity rates and decreased willingness to donate commonplace among these demographics has created a devastating imbalance. Increasing minority donor presence will make the allocation process more favorable for minority candidates. The current study entailed the provision of a culturally sensitive educational intervention to sixty-five (n=65) students at The University of Southern Mississippi. Surveys were administered pre/post intervention to assess knowledge and attitudes towards donation. Pre-intervention data reflected findings from prior research. Post-intervention data showed that the intervention was able to mitigate these findings and that it was more effective in minorities, lamenting the need for more culturally specific approaches in the efforts to increase donor presence.

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DEDICATION

I would like to dedicate this project to all who have contributed to helping me reach this milestone. First and foremost to my late grandmother, Vernice G. Thompson, who always encouraged me to pursue my goals and be the best that I can be. Also to my other grandparents, the late William and Melizine Winters and Aaron Thompson for establishing a foundation that played an integral role in me becoming the person I am today. To my parents, James and Countess Winters, words cannot express how thankful I am for all that you have done and continue to do. To my extended family, church family, and friends for their continued encouragement and support. Thank you all.

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LIST OF ABBREVIATIONS

ASA	*The American Society of Anesthesiologists*
CSE	*Culturally Sensitive Education*
DNP	*Doctor of Nursing Practice*
ODPT	*Organ, Donation, Procurement, and Transplantation Process*

CHAPTER I - INTRODUCTION

Background

The offering of self, in any capacity, is the basic premise of sacrifice. Anecdotally, few sacrifices are held to a higher esteem than those involving one's own person. This notion explains why the subject of organ donation is such a delicate matter. As with any delicate matter, education regarding organ donation can be difficult. Often times, defense mechanisms can present in the form of disinterest, opposing views, and mistrust. These sentiments are counterintuitive in the efforts to properly inform and thereby facilitate the development of misconceptions. In no group is this more apparent than ethnic minorities (Morgan, Kenton, & Deedat, 2013).

The practice known as Organ Transplantation is a major component of modern day healthcare. Transplantation has been shown to improve quality of life, reduce costs, and decrease mortality (Williams et al., 2015). This process is comprised of three phases: donation, procurement, and transplantation (ODPT). Donation occurs when an individual or their family consents for the recovery of an organ for the purpose of transplantation (Organ Procurement and Transplantation Network [OPTN], n.d.). The surgical procedure in which these organs are removed from the donor is considered procurement (OPTN, n.d.). Lastly, the replacement of the recipient's organs by the donor's healthy organs is a process known as transplantation (Steinberg, 2012). Together these phases form a life saving measure that gives those suffering from end-organ failure a second chance at life.

The purpose of this initiative was to better understand the manner in which culturally sensitive education influences attitudes towards organ donation. Transplantation is both innovative and effective, but unfortunately the utility of this intervention is greatly limited by the less than adequate supply of viable organs (Callender & Miles, 2010). In an effort to lessen this shortage, much emphasis has been placed on the need to increase the presence of registered organ donors (RODs) (Robinson & Arriola, 2015). Although widely successful in regards to the general public, these measures have been less than effective in minority subgroups who have historically been reluctant to support or participate in the practice of organ donation (Locke et al., 2015).

Transplantation has a rate limiting factor, viable organs. These finite resources are derived from a single source, organ donors (Callender & Miles, 2010). This source has proved to be less than adequate throughout the years and as a result has placed stringent limitations on this intervention (Callender & Miles, 2010). Although a shortage exists, the number of patients who are medically suitable for donation is exponentially greater than the actual number of patients who willingly donate (Guadagnoli et al., 1999). In recent years, much emphasis has been placed on the need for more organ donors; especially great is the need for additional minority donors (U.S. Department of Health & Human Services [DHHS], n.d.).

Significance

Due to a greater preponderance of hypertension and diabetes among ethnic minorities, they are major stakeholders in the organ donation,

procurement, and transplantation (ODPT) process (DHHS, n.d.). These health conditions can potentially result in organ damage and ultimately organ failure (McDonald, Powell, Perryman, Thompson, & Jacob, 2013). In some instances, minorities were shown to have up to seven times the risk for certain morbidities (McDonald et al., 2013). Because minorities are more likely to exhibit end-organ failure, consequently, they are also more likely to be in need of a transplant (DHHS, n.d.). This inclination is clearly reflected in the national transplant waiting list, which has a disproportionate representation of ethnic minorities (Donate Life America, 2014). Ironically, this population has shown a long-standing reluctance to donate organs (Locke et al., 2015). As a result of this reluctance, one's identity as an ethnic minority is a reliable predictor of organ non-donation (DuBay et al., 2014).

Mississippi, a state that is profoundly impacted by health disparities, has the largest African American population in the U.S. (McNeill et al., 2014). In 2014, Mississippi had the highest rate of obesity and Diabetes in the country (McNeill et al., 2014). These disparities have a devastating impact on minorities who had triple the amount of diabetic-related deaths compared to Caucasians in 2013 (The Kaiser Family Foundation [KFF], 2015). Each of these dynamics cement both end-organ failure and transplant alike pertinent matters for this state. As such, it is imperative that solutions be explored.

In 2015, despite 95% of Americans being in strong support of organ donation, only 50% were designated donors (Donate Life America, 2016). Of the registered donors in 2015, only 33.3% were ethnic minorities (U.S. Department of

Health and Human Services [DHHS], n.d.). Ironically minorities had a substantial presence on the national waiting list comprising approximately 58.1% of Americans awaiting transplantation (Donate Life America, 2016). This is a disproportionate figure as minorities only accounted for 32.9% of the U.S. population in 2015 (U.S Census Bureau, n.d.). Although they accounted for the majority of demand, minorities only received 44.5% of the transplants performed in 2015 (DHHS, n.d.).

Initially, this inequity appears to be benign, but it has proven to be problematic. The issue primarily lies with genetics; tissue antigens, certain blood types, and histological compatibility markers, all of which constitute the criteria used to match organ donors and recipients (Williams et al., 2015). These markers are germane to respective ethnic groups (DHHS, n.d.). Henceforth, this commonality increases the likelihood that patients awaiting organs will match with a donor of the same ethnicity (DHHS, n.d.). This is simply an issue of supply and demand; the majority of those in need of organs (minorities) are at a disadvantage in the process used to assign organs for transplantation. As with any intervention, if the majority of those in need are at a disadvantage, outcomes will be limited.

The excess of minority transplant candidates and the deficit of minority donors creates a devastating imbalance. Although results of this inequity are seen throughout each phase of the donation process, they are particularly notable in in the allocation process, which is less than favorable towards ethnic minorities (Modlin et al., 2014). Human Leukocyte antigens used as matching

criteria in the allocation process, were 150% more likely to be mismatched in minority candidates when compared to Caucasians (Modlin et al., 2014). Type B candidates are least likely to find a match among the ABO blood groups (Williams et al., 2015). Most candidates with this blood type are ethnic minorities; thereby, further decreasing the likelihood that they will find a suitable match (Williams et al., 2015).

Minorities spend close to twice the amount of time on the national waiting list as Caucasians (McDonald et al., 2013) and are most likely to die while awaiting transplant (Moore, 2007). Minorities are less likely to be referred and/or evaluated for transplantation (Patzer et al., 2015). Even when minorities are medically fit to become donors, they are least likely to be approached about procurement (Guadagnoli et al., 1999). In the event they are able to receive transplantation, minorities have been shown to be more likely to undergo these operations at low performing transplant centers (Kilic, Higgins, & Whitson, 2015), which further increases their risk for transplant related complications such as early graft rejection (Modlin, 2015).

One of the strategies to mitigate these findings is to lessen the disparity that exists between minorities awaiting transplant and minority donors (Robinson & Arriola, 2015). With a projected savings of 200 million for kidney donors, increasing minority donor presence has tremendous economic benefits (Callender & Miles, 2010). Despite improvements in the general population, minorities as a whole are still reluctant to become organ donors (Morgan et al., 2013). They have been shown to be least supportive of organ donation (US

Department of Health and Human Services, 2012), least likely to consent to the procurement of a loved ones' organs (Moore, 2007), less likely to discuss donation with family (DuBay et al., 2014), less knowledgeable (Morgan et al., 2013), and they purport to have higher levels of distrust (McDonald et al., 2013) when compared to the majority. This reluctance adds complexity to the efforts seeking to increase the amount of minority registered organ donors. Despite this added dimension of complexity, most of the factors contributing to minority apprehension towards organ donation could seemingly be linked to a knowledge deficit or a lack of understanding about the ODPT process, making education the prime intervention to eliminate these disparities.

Review of Literature

The number of suitable donors has more than doubled since 1990 (Organ Procurement and Transplantation Network (OPTN), n.d.). Organ Donation is growing in popularity and has become widely accepted and highly revered as an autonomous measure for one's fellow man (Hagai, 2011). According to Donate Life, approximately half of US adults are registered organ donors (2014). In 2015, a record high of 30,973 transplants were performed (OPTN, n.d.).

Growth usually delineates progress, but there is still much work to be done in regards to the ODPT process. Transplantations are increasing. This trend can be seen in the national waiting list which continues to grow due to factors such as listing practices, donation rates, death rates and poorly structured allocation policies (Wolfe, Roys, & Merion, 2010). For example, a study found that within a year's time, the total amount of kidney transplantations from both living and

deceased donors decreased by 0.3%, but the number of patients awaiting kidney transplants increased by 6.3% (Wolfe, Roys, & Merion, 2010).

The Global Observatory on Donation and Transplantation, an affiliate of the World Health Organization (WHO), oversees the ODPT process from an international perspective by collecting data and outcomes pertinent to transplantation (White et al., 2014). They evaluated the trends in organ donation and found that transplantation activities were largely unrelated to the distribution of medical need (White et al., 2014). Instead, this level of activity was directly proportional to the amount of available resources (White et al., 2014). This trend indicates that the current model of care used in transplantation is ineffective (White et al., 2014). It is imperative that alternate strategies be developed to promote donor pool expansion without compromising the level of quality and safety that has established transplantation as a cornerstone in modern day medical practice (Gajarski & Bowman, 2015).

The organ shortage is the biggest issue effecting transplantation (Robinson, Gerbensky-Klammer, Perryman, Thompson, & Arriola, 2014). It reduces the quality of life and increases the economic burden for many American citizens (Abouna, 2008). According to the US Department of Health and Human Services (UHHS), of the 121,429 American citizens on the waiting list, 21 will die each day awaiting transplant (n.d.). Every hour six patients are added to the national waiting list (UHHS, n.d.). Even more disheartening is the fact that a single donor can save up to 8 lives (OPTN, n.d.), but because of the shortage of

available organs, transplantation remains severely limited (Robinson et al., 2014).

This inequity has several implications that are felt across the board, but it disproportionately affects ethnic minorities (Robinson et al., 2014). Minorities carry as much as seven times the risk for certain co-morbidities (McDonald et al., 2013). This heightened risk pre-disposes minorities to organ damage and ultimately increases the likelihood that they will need a transplant (DHHS, n.d.). Whereas they account for only 36% of the US population, minorities comprise approximately 60% of the national waiting list for organ transplantation (Donate Life America, 2014). In 2011, a total of 143 kidney transplants were performed at The University of Alabama (UAB) (DuBay et al., 2014). The majority (59.4%) of these transplantations went to African Americans, but this demographic accounted for only 16.8% of donors in these cases (DuBay et al., 2014).

This imbalance is problematic primarily because of the requisite matching process to receive an organ transplant (DHHS, n.d.). Of the many criteria used for matching donors with recipients, histological markers are among the most important (DHHS, n.d.). These markers help to predict the likelihood that the organ to be procured will be compatible with the immune system of the potential recipient (DHHS, n.d.). Unfortunately, these markers are common among respective ethnic groups (DHHS, n.d.). This commonality greatly increases the likelihood that a recipient will match with a donor of the same ethnicity and thereby places minorities at a disadvantage in the matching process (DHHS, n.d.). Minorities even account for the majority of candidates awaiting transplants

with type B blood, which is the least likely of all the blood groups to receive a match (Williams et al., 2015). Studies show that these demographics experience extended waiting times, sometimes up to twice as much as the majority, which further validates the existence of this inequity (McDonald et al., 2013).

Minority Reluctance

Although in greatest need, minority subgroups are less likely to consent to organ donation than any other population (DHHS, 2012). In fact, they accounted for a mere 30% of deceased organ donors in 2013 (Donate Life America, 2014). According to UHHS, higher education levels typically yield an increase in support for organ donation but in the case of African Americans and Native Americans, continued education actually caused a decrease in support for this practice (UHHS, 2012). African Americans were the least supportive when asked about organ donation with only 36.2% strongly supportive (compared to 51.8% of Caucasians) and 9.5% either opposed or strongly opposed (compared to 1.5% of Caucasians) (DHHS, 2012). Minority families are less likely to donate their loved one's organs. In one study, 52% of Caucasian families consented to the procurement of a loved one's organs, compared to only 31% of African American families (Moore, 2007).

The literature revealed several factors that contribute to the reluctance to participate in the ODPT process. Distrust for the medical community arising from historical events such as the Tuskegee Syphilis Experiments, nonconsensual sterilization, racial discrimination, and lack of representation in biomedical research were all cited as reasons for minority reluctance (DuBay et al., 2014;

Moore, 2007; Russell, Robinson, Thompson, Perryman, Robinson & Arriola, 2012). African Americans were shown to be close to five times as distrustful of physicians than the Caucasians that were surveyed (OR = 4.7) (Corbie-Smith, Thomas, & St. George, 2002). Religious beliefs were shown to factor in as well (DuBay et al., 2014; Morgan et al., 2013; Robinson et al., 2014). Fear for events such as pre-mature declaration of death, dismemberment, and receiving a less than sufficient level of care was cited often as well (DuBay et al., 2014 & Morgan et al., 2013). Of these, the most pertinent to this initiative would be both the lack of knowledge and awareness for the need of minority donors (DuBay et al., 2014, Moore, 2007, & Morgan et al., 2013). Lack of information usually presents in the form of misconceptions (Morgan et al., 2013). Common misconceptions include notions that the process is one that is for profit, matching of donors/recipients is done on the basis of socioeconomic factors, etc. (Morgan et al., 2013). A myriad of other factors has been identified as contributory to minority reluctance towards donation, but these were the most frequently reoccurring (Morgan et al., 2013).

In a systematic review of literature, Morgan et al., identified five barriers towards donation in ethnic minorities: lack of knowledge, cultural beliefs, fear, mistrust, and apprehension towards family discussions (2013). Lack of knowledge and conflicts of cultural beliefs are antagonists towards positive donor intentions and were found to be more common amongst minorities when compared to the majority (Morgan et al., 2013). Minorities were also less willing to speak with their families about donation, which has been shown to be a facilitator to positive donor intentions (Morgan et al., 2013). Minorities were found

to be more distrustful of the allocation system, even in studies that controlled for socioeconomic status (Morgan et al., 2013). Fear of disfiguration and receiving less than adequate care was more common among ethnic minorities than Caucasians (Morgan et al., 2013). Blacks often associated racism with the healthcare system; this perception significantly decreased the willingness to donate (Morgan et al., 2013).

Robinson et al., (2014) evaluated the role of religion in minority apprehension towards organ donation. Researchers employed a cross-sectional design. The study population consisted on 505 participants, all of whom were Christian. Eighty-five percent were either fairly or very religious according to the measurement scale (Robinson et al., 2014). Measurements consisted of factors such as service attendance, religiosity, spirituality, and religious norms to determine how religion influenced the decision of the participants to become organ donors (Robinson et al., 2014). While all factors were found to be influential in the decision-making process to identify as an organ donor, religious norms had the strongest association ($p < .001$, $r - 0.32$) (Robinson et al., 2014). This finding identified a disconnect within minority churches (Robinson et al., 2014). Many of the subjects were unaware of how closely aligned the practice of organ donation was with their religious doctrine (Robinson et al., 2014).

A second study by McDonald et al., examined how trust affects minority attitudes towards donation (2013). This effort included a cross-sectional design with 296 subjects from a fairly large age group (20-76 years old) (McDonald et al., 2013). The data analysis revealed that factors such as the level of trust of

doctors ($p < 0.001$, $r = 0.27$), racial equity ($p < 0.001$, $r = 0.20$), and health care institutions ($p < 0.04$, $r = 0.13$) were each associated with positive attitudes towards the ODPT process (McDonald et al., 2013). The more trustful these subjects were the more likely they were to support the practice of organ donation (McDonald et al., 2013). Minorities, who were most distrustful, were least likely to support this practice (McDonald et al., 2013).

The Theory of Planned Behavior postulates that people's intentions are the strongest determinant of their behavior (DuBay et al., 2014). DuBay et. al used this theory to evaluate the decisions of minorities to become registered organ donors from both a quantitative and qualitative perspective (2014). Six focus groups with a total of 87 participants from both urban and rural areas comprised the population of study (DuBay et al., 2014). Although religious beliefs, mistrust, and social justice were found to be obstacles to minorities becoming organ donors the two greatest barriers were found to be fear and the lack of information (DuBay et al., 2014). In regard to fear, minorities felt that becoming a registered organ donor (ROD) would be a financial burden on their family, they wouldn't receive a proper burial, and lastly that their body would be disfigured or mutilated (DuBay et al., 2014). One notable finding of this research effort was that minorities often feel that their organs are of little use because of the high prevalence of certain disease processes within their communities (DuBay et al., 2014).

Distrust was also the topic of interest in a study conducted by Russell et al (2012). This study had a sample size of 585 participants to whom a survey was

given to assess and compare distrust in healthcare and donor intentions (Russell et al., 2012). While controlling for factors such as level of education, marital status, and insurance coverage, distrust was shown to strongly correlate with intentions to donate ($OR = 1.04$; $p < 0.05$) (Russell et al., 2012). Level of trust and likelihood to donate were directly related, the more trusting an individual was toward health care, the more likely he or she would express positive donor intentions (Russell et al., 2012). This study also found that even in minorities who had a low level of distrust for the medical community, creating a written record of intentions to donate was still an issue so many of them still were not registered donors (Russell et al., 2012).

Bone marrow transplant is the treatment of choice for Sickle Cell Disease, an ailment that disproportionately affects the African American community (Moore, 2007). When compared to Caucasians, African Americans were more sensitized to tissue-typing antigens than Caucasians (Moore, 2007). This increased sensitivity further establishes the role of genetics in the matching process for transplantation. The lack of minorities within the national donor registry (7.8%) places minorities awaiting transplants at a severe disadvantage in the allocation process (Moore, 2007). This disadvantage greatly limits the capacity for minorities to effectively manage and recover from potentially fatal diseases such as Sickle Cell Anemia (Moore, 2007).

Most of the literature uses surveys to predict behavior and assess attitudes, however a study in 2010 by the Southern California Regional Organ Procurement Organization was conducted in real time, with actual patients that

were suitable for donation (Salim et al., 2010). They found that Caucasians (77%) were much more likely to consent for organ procurement in cases involving eligible donors than Hispanics (64%), Asians (51%) or African Americans (50%) (Salim et al., 2010). This study was profound as it was not hypothetical; instead it was in real time in which actual lives could have been saved (Salim et al., 2010).

Altruism and willingness to donate to charity are heavily associated with positive intentions to donate (Hagai, 2011; Moore, 2007). Ironically, minorities who are more likely to spend time volunteering or offer financial support for charitable organizations are two to three times as likely to refuse procurement (Moore, 2007). Fortunately, this high level of charity and altruism, speaks to the capacity for these demographics to be instrumental in the efforts to decrease this shortage. However, certain measures must be taken to ensure this potential is properly cultivated.

Minorities are in an earlier phase in the change process when compared to the general public, which has shown great improvement in attitudes towards donation (Morgan et al, 2012). In order to see the necessary change of attitudes within minorities that is needed to lessen the disparities in organ donation, each of the factors contributing to both minority reluctance and distrust should be addressed in a manner that is specific to the needs and concerns of these demographics.

Disparities

The shortage of available organs is a long-standing issue with a multitude of effects (Callender & Miles, 2010). However, American minorities seemingly witness these disparities at a much more drastic rate than the majority (DuBay et al., 2014). The disadvantage arising from the imbalance between minority donors and minorities awaiting transplant is far from a theoretical principle, it is a serious issue with real implications that are reflected throughout the literature.

Minorities are also the most likely to die while waiting for transplantation and are the least likely to be to be offered the option to receive a transplant (Moore, 2007). African Americans spend nearly twice the amount of time on the waiting list when compared to Caucasians (McDonald, et. al, 2013). Ethnic minorities registered median waiting times up to 2604 days (95% CI 2265, 3302) compared to a median waiting time of 536 days for Caucasians (95% CI 508, 566) (Organ Procurement and Transplantation Network [OPTN], n.d.). In 2015 Caucasians were nearly twice as likely to receive an organ while awaiting transplant when compared to African Americans (31% vs 17%). (US Department of Health and Human Services (DHHS) Office of Minority Health, 2016). Even when medically eligible, minorities are the least likely to be approached about organ donation (Guadagnoli et al., 1999). They are also less likely to acknowledge the need for transplantation and seek treatment (McDonald et al., 2013). Increased mortality and poor outcomes are a direct result of these disparities (Moore, 2007).

With different institutions come varying standards, cultures, and policies. African Americans are more likely to be transplanted at centers with higher incidences of complications and mortality when compared to other demographics (Kilic, Higgins, & Whitson, 2015). Insurance and money directly correlate with the level of access, quality, and utilization of healthcare services in the United States (Moore, 2007). Minorities are less likely to benefit from advances in health care (Moore, 2007).

In regards to the ODPT process, minorities are frequently not evaluated, referred for or placed on waiting lists for transplantation (Moore, 2007). Proactive transplantation is the most optimal treatment for End Stage Renal Disease as it effectively prevents complications (Organ Procurement and Transplantation Network Minority Affairs Committee [OPTN Minority Affairs], n.d.). Patients who are transplanted in this manner have lower mortality rates and higher graft survival rates (OPTN Minority Affairs, n.d.). The most significant barrier to proactive transplantation is timely referral for medical evaluation (OPTN Minority Affairs, n.d.). Staying true to the trend, minorities draw the short end of this stick here as well; experiencing lower referral rates (Moore, 2007; Patzer et al., 2015; OPTN Minority Affairs, n.d.) and more time awaiting evaluation for transplant (Modlin et al., 2014).

In a study reviewing data from dialysis centers in the state of Georgia, an average 28% (N=15,279) of patients were referred for kidney transplant evaluation in the first year of beginning dialysis (Patzer et al., 2015). Values ranged anywhere from 0-75%, but facilities in the lowest tertile (less than 19.2%)

were more than likely to be non-profits serving impoverished neighborhoods (Patzer et al., 2015). In the best interest of the patients, it is the responsibility of these facilities to discuss and explore all forms of treatment (Patzer et al., 2015), geographic location and profit-status should not determine if and when this duty is upheld.

Socioeconomic status was a point of bias in regards to time of referral for evaluation as well (OPTN Minority Affairs, n.d.). Individuals with higher status were referred at a much earlier and at a higher rate than those from lower socioeconomic backgrounds (OPTN Minority Affairs, n.d.). This is advantageous as an evaluation is the first step in the process to receiving transplantation and appropriate timing has been shown to optimize transplantation outcomes (OPTN Minority Affairs, n.d.).

Blood types also factor into these disparities (Williams et al., 2015). Among the ABO blood groups, type B candidates have much lower transplantation rates than any other blood type (Williams et al., 2015). Type B candidates had an 18.3% chance of receiving a transplant after two years on the waiting list compared to type A, AB, and O which were 38%, 52.6%, and 22.4% respectively (Williams et al., 2015). The median waiting times for type B candidates was 4.9 years compared to type A, AB, and O which were 2.7 years, 1.6 years, and 4.4 years respectively (Williams et al., 2015). Type A candidates had more than twice the chance of receiving an organ that was identical in respect to Human Leukocyte Antigen (HLA) type when compared to Type B candidates (Williams et al., 2015). Unfortunately, this blood type is most

commonly seen in ethnic minorities, further decreasing the likelihood that these patients will receive a transplant (Williams et al., 2015).

Not only are minorities placed at a disadvantage in the matching process, they are also pre-disposed to poor outcomes as well (Modlin et al., 2014). African Americans have a higher risk for early graft rejection than any other racial group, so much so that belonging to this ethnicity is actually an independent predictor of early renal graft loss (Modlin, 2015).

A study reviewed and compared the outcomes for kidney transplants in both African Americans and Caucasian Americans over a ten-year period of time (Modlin et al., 2014). This effort revealed that short and long term outcomes for African American recipients were worse when compared to Caucasians (Modlin et al., 2014). Data was collected via a retrospective chart review including 772 transplant recipients at Cleveland Clinic (Modlin et al., 2014). One of the only similarities found in this study was donor demographics; African American and Caucasians donors were very similar in regard to gender, age, BMI, and cause of death (Modlin et al., 2014). The striking similarities between African American and Caucasians donors, in respect to virtually everything but race, further laments the role of ethnicity in the disparities seen within the ODPT process (Modlin et al., 2014).

Higher poverty rates and lower socioeconomic status were about three times as prevalent among African Americans when compared to Caucasians (24.5% vs 8.2%) (Modlin et al., 2014). Unfortunately, this pre-disposes African Americans to prolonged times between referral and evaluation, longer waiting list

times, decreased incidence of private insurance, and increased incidence of co-morbidities (Modlin et al., 2014). The allocation system for viable organs is greatly influenced by the degree of donor to recipient Human Leukocyte Antigen (HLA) match (Modlin et al., 2014). Human Leukocyte antigen mismatches were more common in African Americans compared to Caucasians (4.1 ± 1.4 vs 2.7 ± 2.1, P <.0001) (Modlin et al., 2014). Caucasians were more likely to receive both pancreatic and kidney transplants when compared to African Americans (18% vs 2.5%, P <.0001) (Modlin et al., 2014). African Americans were also more likely to have delayed graft function than Caucasians (48% vs 26%, P <.0001) (Modlin et al., 2014). Donors who have died from head trauma have better outcomes in comparison to all other causes of death (Modlin et al., 2014). African Americans were less likely to receive an organ from head trauma donors when compared to Caucasians (29% vs 39%, P = 0.05), further pre-disposing them to poor outcomes after transplantation (Modlin et al., 2014).

Disparities in Mississippi

Mississippi had the largest African American population of any state in 2013 (37 %) (McNeill, Hayes, & Harley, 2014). In fact, African Americans for nearly all of Mississippi residents awaiting kidney transplants in 2014 (Mississippi Organ Recovery Agency [MORA], n.d.). These dynamics make disparities in organ donation a topic of great interest for the state.

Although organ recovery and allocation is regulated by the U.S. Department of Health and Human Services, the Mississippi Organ Recovery Agency (MORA) bears the responsibility of facilitating the donation process in

Mississippi (MORA, n.d.). According to MORA, in 2014, more than 90% of Mississippians awaiting kidney transplants were African American (MORA, n.d.). Hypertension induced renal failure as an inheritable trait (MORA, n.d.). MORA reports that African Americans with Hypertension are 17 times more likely to develop kidney failure than Caucasians with Hypertension (n.d.).

Table 1

Disparities in Mississippi vs. Nationwide

Statistic (%)	Mississippi	Nationwide
Minority Candidates	75%	57.9%
Minority Donors	36.8%	32.5%
Minorities Candidates who received transplant?	16%	18.2%
Caucasian Candidates who received transplant?	37.8%	31%

Data retrieved from the Organ Procurement and Transplantation Network (n.d.)

As reflected in table 1, when compared to national data, disparities in organ donation were slightly more prominent in the state of Mississippi in 2015. Minority donor presence would be the exception as this figure was marginally better in Mississippi with 36.8% of donors being from ethnic backgrounds compared to the national average of 32.5% (OPTN, n.d.). However, this is offset by the increased demand for viable organs on behalf of minority subgroups; in 2015, minorities accounted for 75% of Mississippians awaiting transplant compared to 57.9% nationally (OPTN, n.d.). The differential margin of transplantation rates between Minorities and Caucasians was similar to national

data (OPTN, n.d.). According to OPTN data, Caucasian candidates in Mississippi received transplants, at 2.4 times the rate of Minority candidates (37.8% vs. 16%) compared to 1.7 times the rate Nationally (31% vs 18.2%) (n.d.).

In summary, the disparities experienced by minorities are evident throughout every phase of the ODPT process. In virtually every aspect of this process, minorities experience poor outcomes. These outcomes are pronounced within the state of Mississippi, communicating the need for an intervention seeking to address these disparities. Increasing minority donor presence could potentially add to the efficiency of the allocation process for minority transplant candidates and in turn, improve these outcomes; attitudinal change is essential to achieving these goals.

Knowledge as an intervention

"Complaining about a problem without proposing a solution is called whining", although President Theodore Roosevelt was not exactly referring to research in this quote, this concept is most certainly applicable (The Daphine Group, n.d.). Identifying a problem without proposing or testing a solution is a misuse of both time and resources. Determining the source and implications of the disparities plaguing organ donation is meaningless without a plausible solution. Thus, evidence-based interventions play a crucial role in the efforts to lessen these inequities.

Despite the growing support of organ donation, studies show that the general public is still ill informed as it pertains to organ donation (Shah, Kasper, & Miller, 2015). Authors Shah et. al, conducted a systemic review of literature

which included 18,603 participants from 43 articles (2015). They found that the general public was confused about factors such as brain death, time of procurement and the legal statutes all of which are essential to a working knowledge of the ODPT process (Shah et al., 2015). Theoretically, confusion to this degree among the general population, who shows widespread support (Shah et al., 2015), would be indicative of an even more pronounced knowledge deficit within minority subgroups whom are notorious for their reluctance to participate in this practice (DuBay et al., 2014).

Knowledge and awareness levels among minorities must be addressed to increase the willingness of these demographics to participate in the ODPT process (Morgan et al., 2013). In African Americans, awareness of the need for transplants within their own communities was strongly correlated with willingness to consider donation (Morgan et al., 2013). Knowledge levels were typically lower amongst ethnic minorities, further communicating the great need for effective education within these communities (Morgan et al., 2013). Qualitative findings included a common sense of apathy amongst minorities in regard to organ donation (Morgan et al., 2013). Many of the study participants perceived the organ shortage as an issue that did not pertain to them (Morgan et al., 2013). This clearly delineates the need for more awareness. Minorities are seemingly unaware of this devastating issue and how it affects them directly.

Anecdotally, the provision of information could remedy, or at the very least, mitigate the impact each of the barriers responsible for minority reluctance. Both knowledge and awareness of organ donation are directly associated with

positive donor intentions and willingness to discuss donation with family (Robinson & Arriola, 2015). Efforts driven by awareness, education and best practice have shown to be effective in gaining acceptance and support for the practice of organ donation (DuBay et al., 2014). Despite the significant rate of improvement in attitudes of the general public towards donation, minorities remain apprehensive to this practice (Morgan et al., 2013). Educational awareness along with the promotion of evidence-based findings has been instrumental in gaining acceptance and support for the practice of organ donation (DuBay et al., 2014).

Current educational campaigns fail to meet the needs of minorities (Locke et al., 2015). Despite the significant rate of improvement of public attitudes towards donation, minorities remain apprehensive toward this practice (Morgan et al., 2013). In order to reach minorities, education must be presented in a manner that is specific to the needs and concerns of the intended demographics (Robinson & Arriola, 2015). In addition to a culturally sensitive approach, this content must be expanded to include the risks and benefits for the recipient and donor as well (Locke et al., 2015). This holistic approach provides a sense of transparency that could be useful in addressing the high level of minority distrust (Locke et al., 2015).

One study evaluated the effects of education on the attitudes of student nurses towards organ donation. The authors postulated that the choice by the participants to pursue nursing, a profession of caring, would be indicative of a high level of altruism within the sample and result in more willingness to

participate in the ODPT process (McGlade & Pierscionek, 2016). Contrary to this predication, donor rates among these students were similar to that of the general population (McGlade & Pierscionek, 2016). Furthermore, education positively influenced the attitudes and behaviors of these participants by improving registration rates, willingness to become an organ donor, and willingness to discuss donation with family members (McGlade & Pierscionek, 2016).

One study found that culturally sensitive education mitigates the negative effects of ethnicity and personal experience on attitudes towards ODPT by positively influencing the thoughts and opinions ethnic minorities (Cardenas, Thornton, Wong, Spigner, & Allen, 2010). Pre-intervention, non-European American Ethnicity was a reliable predictor for unwillingness to donate (Cardenas et al., 2010). Compared to the control group, participants were much more likely to have a positive change in willingness to donate (OR = 7.14) (Cardenas et al., 2010). An increase in knowledge was the strongest predictor of positive opinions towards organ donation (Cardenas et al., 2010). These findings are a clear testament to the linear relationship between knowledge and attitudes pertaining to organ donation. Through this study, it is also apparent that both of these parameters strongly influence the willingness of minorities to participate in organ donation.

Health issues profoundly impact the state of Mississippi (McNeill et al., 2014). On the basis of risk factors, life expectancies, and death rates, minorities in Mississippi experience disparities in a disproportionate fashion (McNeill et al., 2014). The Jackson Heart Study was formed to examine the development of

cardiovascular disease in African Americans in Mississippi (McNeill et al., 2014). One study evaluated the outcomes of this intervention data to better understand the challenges that accompany the management of cardiovascular disease within this patient population (McNeill et al., 2014). This retrospective review included 5,249 African Americans who were residents of Jackson, MS (McNeill et al., 2014). Among the factors evaluated was minority specific education and increased awareness of health disparities (McNeill et al., 2014).

The intervention included education that specifically addressed the effects and implications heart disease has on minorities in Mississippi (McNeill et al., 2014). This education facilitated the acceptance of evidence-based findings by the participants and was associated with improved outcomes (McNeill et al., 2014). Increased awareness was also found to improve outcomes for the study participants (McNeill et al., 2014). Education was also identified as a crucial component to the effective management of care for African American Medicare beneficiaries in Mississippi (McNeill et al., 2014). The authors further recommended that education be the focus of interventions seeking to improve health outcomes in Mississippi (McNeill et al., 2014).

Callender & Miles also affirmed the need for culturally sensitive education (2010). This cross-sectional study included a pre and post intervention from a sample of 6,789 participants (Callender & Miles, 2010). Culturally sensitive education effectively changed minority attitudes and donor intentions (Callender & Miles, 2010). Immediately following the intervention, the subjects showed a change in beliefs about organ donation, illness prevention, and intentions to

donate ($p < 0.01$) (Callender & Miles, 2010). Education in certain minority groups nearly doubled the likelihood that these individuals would become registered donors (Callender & Miles, 2010).

DuBay et al, employed the use of both qualitative and quantitative designs to further understand this disparity (2014). Ironically, information was the greatest facilitator (accounted for 40% of text references), and the lack thereof was the greatest barrier in the decision for minorities to become registered organ donors (RODs) (DuBay et al., 2014). This dynamic speaks to the importance of knowledge in the efforts to increase the presence of minority donors.

Speaking with family and friends about the donation was a facilitator in the decision making process to become donors (OR = 3.1; 95% CI, P =.04) (DuBay et al., 2014). The decision to become an ROD also had the added benefit of motivating participants to take an active role in their health (DuBay et al., 2014). This motivation could potentially lessen these disparities as active involvement in one's health reduces the risk for end-organ failure (McNeill, Hayes, & Harley, 2014). Theoretically, modifying risk factors could ultimately decrease the need for transplantation amongst minorities in the long run by lessening the prevalence of end-organ disease within these communities.

Community settings optimize the outcomes of culturally sensitive interventions (Robinson & Arriola, 2015). In past interventions using culturally sensitive education to address this issue, utilizing locations such as churches, salons, and schools facilitated an increased awareness and willingness to donate (Robinson & Arriola, 2015). These outcomes ultimately resulted in higher

registration rates among the study participants (Robinson & Arriola, 2015). In fact, even in interventions that failed to change the attitudes of minorities, the use of lay health advisors within African American churches still resulted in increased registration rates (Andrews et al., 2012). Group settings were conducive to learning in minorities as well (Locke et al., 2015). The familiarity that these settings provide facilitates a level of comfort that is essential to the formation of a culturally appropriate environment (Robinson & Arriola, 2015).

When compared to mass media, community-based educational interventions proved to be more effective in increasing registration rates (Deedat, Kenten, & Morgan, 2013). Incorporating an interpersonal element that focused on the target population's concerns, using members of the community within the presentation and offering registration immediately post intervention were all facilitators in the efforts to increase minority registration rates (Deedat et al., 2013). These findings support the use of community-based settings in efforts to improve attitudes and willingness to donate within minority demographics.

Lessening the disparities within organ donation has economic implications as well. In an effort to justify the allocation of funds toward efforts seeking to increase the amount of minority donors, Callender and Miles (2010) conducted a retrospective review of data collected by the National Minority Organ Tissue Transplant Education Program (MOTTEP). Kidney transplants were the focus of this cost-benefit analysis. Since most transplants have a graft survival of > 9 years, by avoiding the $40,000 annual expenses for hemodialysis, transplantation is cost effective to say the very least. Each donor would yield

savings of approximately $135,000. Increasing the amount of minority donors by 35% would save upwards of $200 million dollars from kidney transplants alone (Callender & Miles, 2010).

In summation, the lack of knowledge, sense of apathy, and high level of distrust that are commonplace among communities of color heavily contribute to the disparities in organ donation (McDonald et al., 2013; Morgan et al., 2013; Russell et al., 2012). Knowledge was readily identified throughout the literature as a facilitator for positive donor intentions (DuBay et al., 2014; Locke et al., 2015; Morgan et al., 2013) making it the prime target for any intervention seeking to increase donor registration rates. Education and increased awareness are proven measures in the efforts to increase donor rates, but unless these interventions are carried out in a manner that specifically addresses the needs and concerns of minorities they will continue to be ineffective in addressing this issue (Locke et al., 2015; Robinson & Arriola, 2015). Culturally sensitive education has been able to improve health outcomes for minorities in several respects throughout the nation (Locke et al., 2015; Robinson & Arriola, 2015) as well as in Mississippi (McNeill et al., 2014). The myriad of health disparities inherent to Mississippi were reflected in the literature as well (McNeill et al., 2014; OPTN, n.d.), further cementing the disparities in organ donation as a prime matter of discussion within this state.

Theoretical Framework

This project sought to provide information in a manner that addressed the needs and concerns of minorities in hopes of decreasing minority reluctance to

participate in the Organ Donation process. To do this, the author incorporated the use of two theoretical models in the framework of this intervention—the Cognitive and Behavioral Learning Theories. This approach facilitated a dynamic approach to solving the current issue.

The Cognitive Learning Theory appreciates the strong influence of social factors on the learning process (Butts & Rich, 2015). Among the many contributors to this theory is Ulric Neisser the author of Cognitive Psychology (1967). According to Neisser cognition is an integral part of human nature; as humans, we use cognition in everything that we do (1967). Learning can take place through a variety of mediums including speech, visuals, and hearing (Neisser, 1967). This theory accommodates the learner both by taking into account the different approaches to learning and by urging educators to teach based on the response of the learners involved (Butts & Rich, 2015). According to this theory, learning is an active process in which individuals perceive and interpret based on their own personal construction of reality (Butts & Rich, 2015). This theory facilitates active learning by involving the learner in the educational process (Butts & Rich, 2015). Metacognition is a central part to The Cognitive Learning Theory; this concept states that learners are very knowledgeable of how they process thought and acquire knowledge (Butts & Rich, 2015).

The Cognitive Learning Theory also charges the responsibility of enacting change to the learner, stating that the alteration of thoughts and beliefs is completely contingent upon the learner's ability to develop new insight (Butts & Rich, 2015). According to this school of thought, an educator should assess

readiness to learn and provide learning experiences that are both meaningful and appropriate (Butts & Rich, 2015). This approach also cites the relevance of the information, as it pertains to the learner, as a facilitator to the retention of the material provided (Butts & Rich, 2015).

The Behaviorist Learning Theory was incorporated into the theoretical framework for this research effort as well. According to John B. Watson, the psychologist who was responsible for developing this theory, measuring tangible factors added to the objectivity of an experimental procedure and therefore afforded these trials a sense of uniformity (Watson, 1913). Stimuli and response are major factors in this theoretical model; learning is based on the interactions between these two entities according to the Behaviorist Learning Theory (Butts & Rich, 2015). This theory postulates that the focus in education should not be on non-tangible factors rather tangible or observable factors such as environmental conditions and the associated behaviors (Butts & Rich, 2015).

Both the Behavioral and Cognitive Learning theories are applicable to the disparities in organ donation. According to the Cognitive Learning Theory, perception is key (Butts & Rich, 2015). Regardless of the numerous protocols and measures in place to ensure equity and fairness in donation, the perception of minorities that this practice is unfair and biased trumps all and continues to fuel minority reluctance (McDonald et al., 2013). Without acknowledging the perceptions and attitudes derived from the life experiences of minority demographics, efforts to increase awareness and knowledge about organ donation will continue to be unsuccessful (Robinson & Arriola, 2015).

Awareness and knowledge are meaningless without action. Unless minorities change their behavior and exhibit and actively participate in the donation process, this shortage will continue to exist. According to the Behavioral Learning Theory, interactions between stimuli and response facilitate learning that can be observed per a change in behaviors (Butts & Rich, 2015). Simply put, this theory says that talk is cheap and that actions speak louder than words; improving awareness will not answer the demand for viable organs and therefore should not be the basis of measurement for this intervention. Instead, desired outcomes should entail actual behaviors such as positive self-identification as an organ donor, a willingness to consent to procurement and affirming support for organ donation; changes that will actually be of substance in the efforts to lessen this shortage.

Theoretically, the incorporation of these two theoretical models afforded the study a dynamic approach that optimized the outcomes of the current effort. Both the Cognitive and Behavioral learning theories align closely with the intervention as they incorporate the feelings, perceptions, and experiences of the learner into the educational process. This intervention has two phases—education and evaluation. The educational phase utilized principles derived from the Cognitive Learning Theory by employing the use of culturally sensitive education. The use of the Behaviorist Learning Theory in the second or evaluation phase, allowed the investigators to effectively determine how the provision of this information effects and modifies the resultant behavior, minority reluctance towards organ donation.

By utilizing the Behavioral Learning Theory, the evaluation of this intervention clearly delineated the impact of culturally sensitive education on the disparities witnessed by these demographics. Although not directly involved in the actual educational phase, this learning model served to evaluate this intervention on the basis of its intended purpose, behavior modification. According to this theory one's environment must be changed in order to modify behaviors (Butts & Rich, 2015). This intervention addressed environmental factors such as culture, misconceptions, and religion, in hopes of modifying the associated behavior, minority reluctance.

According to the Behavioral Learning theory actual behaviors are to be measured when to evaluating learning (Butts & Rich, 2015). Survey responses and positive donor intentions each constitute actual behaviors and were used in the evaluation of this intervention. This theory acknowledges that behavior is often the result of socialized learning that is passed from generation to generation (Butts & Rich, 2015). The root of most misconceptions, in regards to organ donation, is the result of just that. Many of the barriers, especially distrust, are rooted in historical events such as discrimination, medical malpractice, etc. (DuBay et al., 2014; McDonald et al., 2013). Acknowledging the validity of these concerns and adjusting the presentation of the material accordingly, will help to correct these misconceptions. In order to modify thoughts and feelings you must first modify behavior (Butts & Rich, 2015). Through altering the perception of the study participants this intervention was able to modify the environment that has created this reluctance effectively lessen the said disparities.

Table 2

Theoretical Framework

Theory	Cognitive Learning	Behavioral Learning
Role in Framework of Intervention	- Preparation of educational materials. - Execution of Intervention.	- Evaluation of Outcomes. - Identifying sources of reluctance.
Applicability to Intervention	- Material must communicate how and why the disparities in Organ Donation are pertinent to minorities in Southern Mississippi. - Intervention must be dynamic and appeal to the different learning styles by including: videos, dialogue, and visual aids. - Perception is reality, without acknowledging the perceptions and attitudes derived from the life experiences of minorities, this intervention will not be successful.	- Improving knowledge/awareness won't answer the demand for viable organs and therefore should not be the basis of measurement for this intervention. - Desired outcomes should include objective measures such as donor registration, intentions to donate, etc. - Socialized learning must be accounted for when addressing this issue (i.e. distrust, misconceptions, life experiences, etc.). - A change in behavior is the best and most objective indicator for a change in thoughts and feelings (Butts & Rich, 2015).
Theory	- Cognitive Learning	- Behavioral Learning
Theoretical Principles.	- Social factors strongly influence the learning process (Butts & Rich, 2015).	- Behaviors should be measured in order for a learning experiment to be objective (Butts & Rich, 2015).

	- Cognition is integral to Human Nature (Neisser, 1967). - People take a variety of approaches to learning and they know what works for them (Butts & Rich, 2015). - Individuals perceive and interpret based on their own reality (Butts & Rich, 2015). - Information must be relevant to individual for he or she to learn (Butts & Rich, 2015).	- Learning is based on Stimuli and Response (Butts & Rich, 2015). - Environmental factors (i.e. culture, religion, and pre-conceptions) should be addressed when seeking to modify behaviors (Butts & Rich, 2015). - Learning is the result of experiences handed down from generation to generation (Butts & Rich, 2015). - A change in behavior is associated with a change in thoughts and feelings (Butts & Rich, 2015).

Assumptions

Several assumptions were made in the formulation of this intervention. First, it was assumed that the minorities involved are less knowledgeable about organ donation. Secondly, the author assumed that this knowledge deficit will respond positively to a culturally sensitive intervention. It is also was assumed that the subjects will not have a sufficient level of awareness about the implications of the said disparities on their communities. Lastly, it is assumed that those undergoing the intervention will be apprehensive towards organ donation and distrustful of medical practice.

Goals

This research initiative sought to better understand how education that is specific to the organ donation benefits and processes influenced the attitudes toward the ODPT process among ethnic minorities. By examining this, the study was able to appreciate the extent to which knowledge or lack thereof influenced minority decisions to become organ donors. Once proven effective this intervention could serve as proof that educational efforts more specific to minorities could effectively lessen disparities and improve outcomes. The research questions are as follows:

1. What are the attitudes of minorities toward organ donation?
2. What is the willingness of minorities to donate organs?
3. Is there actually a difference in attitudes between minorities and individuals from other ethnic backgrounds as it relates to their willingness to donate organs?
4. In regards to attitudes and willingness to donate organs, do minorities respond differently to a culturally sensitive intervention on organ donation?

The measures of education and increased awareness both have been demonstrated to be effective in increasing registration rates and improving attitudes towards donation among the general public (DuBay et al., 2014). However, minority reluctance to consent and register still persists (Morgan et al., 2013). An educational initiative tailored to address the specific concerns, misconceptions, and implications ever-present within these demographics is effective in increasing minority donor presence (Robinson & Arriola, 2015).

The literature cites five common barriers for increased minority involvement. They are: 1) lack of knowledge, 2) cultural beliefs, 3) fear, 4) mistrust, and 5) apprehension toward family discussions (Morgan et al., 2013). The majority of these factors could seemingly be linked to a knowledge deficit or a lack of understanding about the ODPT process. As with any knowledge deficit, an appropriate educational intervention is most befitting in the efforts to mitigate these findings.

Efforts utilizing culturally sensitive education to improve health outcomes for minorities in Mississippi have been successful (McNeill, Hayes, & Harley, 2014). However, no studies have been done specifically to examine how this intervention affects donor intentions among minorities in Southern Mississippi or the different manner in which respective ethnicities respond to culturally sensitive education. The author postulated that through demonstrating the impact of culturally sensitive education and by gathering additional information about factors responsible for minority reluctance, this intervention would increase the presence of minority donors and effectively lessen the disparities in organ donation.

Table 3

Key Terms and Definitions

Key Term	Definition
Culturally Sensitive Education	"the process of using the cultural knowledge, prior experiences, and

	performance styles of diverse students to make learning more appropriate and effective" (Briggs, 2014).
Attitudes of Ethnic Minorities Regarding Organ Donation	Attitude is defined by Webster as "a feeling or way of thinking that affects a person's behavior" (Attitude, n.d.). In regards to organ donation attitudes would encompass the following: - Willingness to donate one's own organs. - Willingness to consent to the procurement of a loved one's organs. - Level of trust in the process of organ donation. - Level of support for the practice of organ donation.
Minorities	Individuals whom identify themselves as any ethnicity except Caucasian on the pre-intervention survey.
Caucasians	Individuals whom identify themselves as Caucasian on the pre-intervention survey.
Southern Mississippi	Geographic Area of Mississippi including: - The City of Jackson - The "Pine Belt" Region - "Region of Southeast Mississippi...which includes the Pearl River, Hattiesburg and Laurel communities" ("Congressman Steven Palazzo," n.d)
Organ Donation	"the process of surgically removing an organ or tissue from one person and placing it into another person" (Cleveland Clinic, n.d.).

Evidence-based Practice employs the use of knowledge from both a clinical and research perspective in a synergistic approach that has proven to improve patient outcomes, quality of care, and reduce costs (Hanrahan et al., 2015). It is defined as the act of “taking the best available knowledge and evidence from the literature and combining it with clinical knowledge to care for an individual patient” (Long & Matthews, 2016) This practice is comprised of a systematic search and critical appraisal of evidence both of which seek to answer a question (Schaffer, Sandau, & Diedrick, 2013). Despite the immense research showing the benefits of implementing evidence into clinical practice, many clinicians are resistant to change and remain firm in their resolve to use traditional methods of practice (Hanrahan et al., 2015).

Although billions of U.S. Dollars are invested into research annually, very little of it is translated into real world settings (Barroso, Knestrick, & Anderson, 2014). The DNP-prepared nurse can improve outcomes by leading multidisciplinary teams to embrace evidence-based practice (Moore, 2014). According to the Institute of Medicine (IOM), it takes an average of 17 years to implement new research findings into practice (2001). The DNP can be instrumental in reducing this period of time.

The DNP project serves as a foundation for practicum experience and future innovations (Frontier Nursing University, n.d.). The purpose of a project is to guide the application of evidence based knowledge in an effort to promote health, enhance leadership skills and form solutions to problems in health care (Frontier Nursing University, n.d.). The project represents the culmination of

doctoral studies and allows for the translation of acquired knowledge into clinical practice (DNP, n.d.). Essential to integrative practice, the project employs the use of critical thinking to translate research into practice using the measures of problem recognition, proposal development, implementation, and evaluation (DNP., n.d.).

In alignment with these principles, the goal of the current initiative was to translate research into the context of real world practice settings. To do this, recommendations, tools, and findings from prior studies were synthesized to form an evidence based culturally sensitive teaching protocol that is specific to organ donation. This intervention sought to lessen disparities in organ donation by increasing the willingness of minorities to identify themselves as organ donors. To evaluate the impact of this intervention, knowledge and attitudes were assessed prior to and following the intervention using survey responses of the participants. Comparing the responses pre-intervention and post-intervention showed the manner in which the donor intentions and level of knowledge of study participants was affected by this intervention.

Implications for Nurse Anesthesia

Although this project is seemingly unrelated to Nurse Anesthesia, it stands to generate some information that can be of great use to this discipline. Anecdotally the fast pace of today's perioperative environment places stringent demands on the practice Nurse Anesthetists. These demands only afford

Anesthetists a small window of time to establish rapport, gain trust and obtain consent necessary to provide anesthesia (Taube, 2014). Many procedures are high risk and all anesthetic consents encompass risks up to and including death.

The American Society of Anesthesiologists (ASA) describe a general anesthetic as sedative state in which one is not able to be aroused with noxious stimuli; it is also associated with impaired respiratory, cardiovascular, and neuromuscular function (American Society of Anesthesiologists [ASA], 2014). Vulnerability seems to be the recurring theme with this definition. Simply put, Anesthesia could be considered the act of rendering a patient helpless and from the standpoint of many Anesthetists doing so occurs after meeting a patient 5-15 minutes prior to administering their anesthetic (Taube, 2014). Medical distrust can be a major obstacle in these already less than favorable conditions. Minorities add an additional dimension of complexity as they are at an increased risk for health complications (McDonald et al., 2013; Mississippi Organ Recovery Agency, n.d.) and are typically distrustful of medical practice (Corbie-Smith et al., 2002).

The topic of organ donation is a paragon of the negative impact that minority distrust has on medical practice and outcomes. This is chiefly because of the irony that is the high propensity for minorities to both require transplantation (McDonald et al., 2013) and refuse procurement and donation (DHHS, n.d.). This dynamic delineates the vicious cycle that involves minority distrust and poor health outcomes. Minority pre-disposition to diseases such as hypertension and diabetes increases the likelihood that these individuals will

require healthcare services such as transplantation and surgery. However, distrust stemming from events such as the Tuskegee experiments, non-consensual sterilizations, and racial discrimination decreases the willingness of minorities to actively participate in and adhere to plans of care (DuBay et al., 2014; Moore, 2007; Russell, Robinson, Thompson, Perryman, Robinson & Arriola, 2012). In regards to donation this distrust places minorities at a disadvantage during the allocation process for organs, ultimately resulting in extended waiting periods and increased risks for complications. Whether in the realm of anesthesia or organ donation this apprehension could seemingly contribute to poor outcomes.

As an advanced practice registered nurse, the nurse anesthetist should optimize patient outcomes in every way possible. Understanding the manner in which culturally sensitive education affects distrust can be useful, especially during the pre-operative and post-operative phases of care. During the pre-operative phase, a culturally sensitive approach would seemingly be conducive to less anxiety and better understanding in respect to the minority patients and their families. Anxiety in anesthesia has been show to increase intraoperative movement and anesthetic dose requirements (Osborn & Sandler, 2004). Anecdotally adherence to post-operative instructions can prevent hospitalizations, improve pain management, and reduce anesthetic complications.

In summation, understanding how culturally sensitive education impacts minority attitudes and feelings in regards to organ donation is pertinent to nurse

anesthesia practice due to the widespread distrust among minority subgroups for medical practice. Minority pre-disposition for health related issues increases the likelihood that these individuals will require healthcare services such as anesthesia and transplantation. This distrust can present issues for the Anesthetist particularly within the pre and post-operative phases of care. Understanding the best way to mitigate this distrust can help to optimize outcomes in all phases of care provided by Nurse Anesthetists.

Meeting DNP Essentials

Functioning at the point of care, nurses are primed to be great leaders in complex care models. Operating in this capacity nurses must have a functional knowledge about each component of the healthcare system. Along with this understanding nurses must have the ability to collaborate with each of the respective disciplines and coordinate patient care in a manner that efficiently utilizes resources and optimizes outcomes. With this background nurses can lead in an inclusive manner that effectively uses the skillset and input of each member of the healthcare team. By acquiring the DNP, nurses will gain additional leadership skills to supplement this background.

This degree gives nurses the ability to better recognize/solve problems, conduct research, implement evidence-based practice, and measure outcomes. Each of which are pivotal in the effort to improve the quality of outcomes in any system of healthcare. The DNP is a catalyst of change in the transformation of healthcare.

CHAPTER II – METHODS

Needs Assessment

Of its 2,253,775 residents, only 698,509 of Mississippians are designated organ donors (DHHS, n.d.). This yields a designated donor rate among the lowest in the nation (31.1%), second only to New York in 2015 (DHHS, n.d.). This has profound implications on minorities as they accounted for approximately 90% of the state's kidney transplant waiting list in 2014 (Mississippi Organ Recovery Agency, n.d.).

Many of the inequities inherent to the State of Mississippi have been shown to actively contribute to the poor outcomes exhibited by ethnic minorities in regards to donation. The Centers for Disease Control and Prevention listed Mississippi as having the highest rates of both obesity and diabetes of any state in the U.S. in 2014, both of which increase the incidence for end-organ disease (McNeill, Hayes, & Harley, 2014). In 2013, African Americans in Mississippi had close to triple the amount of diabetes-related deaths when compared to Caucasians (60.2 vs 22.2 per 100,000 respectively) (The Kaiser Family Foundation [KFF], 2015). The poverty rate was nearly double in African Americans when compared to Caucasians in 2015 (27% vs. 14%) (The Kaiser Family Foundation [KFF], 2016). This also contributes to the disparity as the literature indicates that socioeconomic status affects these outcomes in relation to transplant center performance, timely evaluations, and referrals (Kilic et al., 2015; Morgan et al., 2013; White et al., 2014).

When compared to national data, Mississippi lags behind in several respects (OPTN, n.d.). With such a large population of stakeholders and such a high prevalence of poor outcomes, organ failure and in turn organ donation is a major issue for this state. The implications of these disparities in addition to how they respond to certain interventions should be further evaluated. The findings listed above clearly delineate the excessive need for an intervention of this nature in Southern Mississippi.

Population of Study

American minorities constituted the population of interest. However, the study sample only included students actively enrolled at the University of Southern Mississippi. Although minorities were the focus of this study, students from all ethnic backgrounds will be included to gain a comprehensive understanding of the current issue. Observing all students helped to determine the validity of author's assumptions as well as the presence of the disparities within Southern Mississippi (i.e. lower donor presence, levels of trust, knowledge, awareness, etc.). To generate results at a 90% confidence interval, with a 10% margin of error the target sample size was sixty-eight (N = 68) participants.

Setting

Collaboration with community-based organizations was strongly encouraged in the literature (Robinson & Arriola, 2014). Using this guidance, The University of Southern Mississippi's college of nursing was used as the setting for this study. This intervention was held during regularly class time to facilitate

convenience and familiarity, which was proven to facilitate success in past studies seeking to address these disparities (Robinson & Arriola, 2015).

Hypothesis and Variables

It was hypothesized that culturally sensitive education would increase the willingness of minority students to identify themselves as organ donors. The independent variable of this study was attendance of the educational workshop. This was defined as being present at the workshop from start to finish as well as full completion of the pre and post-test surveys.

The willingness of Southern Mississippi minorities to identify themselves as organ donors was the dependent variable of this study. The pre intervention survey and discussion were used to establish a baseline for the knowledge, attitudes, and perceptions within the sample. Upon completion of the intervention, a second survey was administered to reassess these factors and determine how or if they changed from pre to post intervention

Intervention

This initiative sought to determine the manner in which a culturally sensitive educational intervention influenced minority willingness to identify themselves as organ donors. The said disparities are direct result of an imbalance between the surplus of minority transplant candidates and the lack of minority donors. The strategic aim of this effort was to mitigate these findings by increasing donor presence amongst those most affected, minorities.

Culturally sensitive education was readily cited throughout the literature as an effective means to increase minority donor presence (Arriola, Robinson, Thompson, & Perryman, 2010; Callender & Miles, 2010; Cardenas et al., 2010; Deedat et al., 2013; Morgan et al., 2013; Robinson & Arriola, 2015). Following the recommendations of several authors, community settings, more specifically a school, was used as the location for this intervention, as they allow for a sense of comfort and familiarity (Andrews et al., 2012; Robinson & Arriola, 2015). The subjects received intervention in the setting of a group, a setting which has been shown to facilitate learning in minorities in past research (Locke et al., 2015).

Culturally sensitive education employs the use of both cultural and life experiences in an effort to make learning more effective and appropriate (Briggs, 2014). Using the theoretical principles of the Cognitive Learning Theory, this intervention acknowledged the attitudes and feelings that result from the cultural perceptions and life experiences of ethnic minorities. To accommodate the different types of learners identified by this theory, such as visual, auditory, and speech (Butts & Rich, 2015), the information was presented material in a variety of ways such as graphs, charts, etc. As previously stated, the Cognitive Learning Theory was used in the preparation and execution of this intervention. Principles from this school of thought were incorporated into the intervention to ensure that the material was meaningful and relevant to the minority demographics. Culturally sensitive education is a paragon of this model as it takes into account the experiences and perceptions inherent to minority demographics (Robinson &

Arriola, 2015). Essentially, the plan of action was to present an abbreviated and simplified version of the review of literature in a manner that was conducive to learning within the population of study. As with the review of literature, facts and figures depicting the presence and implications of the problem along with attributing factors and resultant inequities were central to this intervention.

Relatability is seemingly the underlying theme to culturally sensitive education. In order to ensure the relatability of the information presented, the intervention was executed in a manner that clearly communicated the impact of these disparities on the study participants from both an individual and community perspective. Anecdotally, it is impossible to overcome barriers without first encountering them; abiding by this principle each of the barriers cited within the literature were identified and addressed in the intervention. Addressing and speaking to the validity of each of these barriers helped to establish relatability and to foster the development of trust and buy-in from added transparency

Data Collection

An instrument formulated from a prior study (Arriola, Robinson, Perryman, & Thompson, 2008) was used to construct the questionnaire used in the study design. This tool served to assess the attitudes and knowledge levels of the participants as well as their beliefs and understanding of both transplantation and donation in a previous study (Arriola, et al., 2008). Other parameters such as donor intentions, demographics, and personal experiences with transplantation

were assessed as well (Arriola et al., 2008). This tool had a variety of question formats ranging from true/false, multiple choice, and yes/no answers.

Seven subscales, each capturing different dimensions of knowledge such as that of general statistics, minority statistics, the process of donation, the allocation system, and medical suitability, were incorporated in the knowledge scale of this tool with scores ranging from (Arriola et al., 2008). To gauge the personal experiences of the participants with donation, three subscales pertaining to knowing a donor, transplant candidate or organ recipient (Arriola et al., 2008). A 24-item scale was used to assess the attitudes and beliefs about donation and transplantation on the basis of support for donation, willingness to donate, religious objections, and level of trust in the transplantation system (Arriola et al., 2008). The Transtheoretical Model and Stages of Change were used to measure donation intentions using a continuum of pre-contemplation (no intentions to donate), contemplation (considering donation), and preparation (plans to express donation intentions), action (recent expression of donation intentions), and maintenance (expressed donation intentions for at least 6 months) (Arriola et al., 2008). In an effort to accommodate different lifestyles and preferences, three forms of donor intentions were recognized by the authors (Arriola et al., 2008). Carrying a donor card, having a donor designation on one's driver's license, and speaking with family about intentions were each means of expressing positive donor intentions (Arriola et al., 2008).

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Outcomes

To evaluate the use of this intervention several outcomes were developed. First, study participants will exhibit an increased level of knowledge and

awareness. This increase was defined as a minimum increase of a 20% in the scores on the pre and post intervention surveys. This outcome incorporated the theological principles set forth by the Cognitive Learning theory as it measures intangible and discrete processes such as thought to appreciate the validity learning process (Butts & Rich, 2015). Ultimately, this outcome served to delineate the ability of culturally sensitive education to address the central theme of this long-standing reluctance, a lack of knowledge.

The Behavioral Learning Theory was used in the evaluation of the remaining outcomes. This school of thought contends that tangibility is necessary in order appreciate the learning process, and therefore only a change of behavior is indicative of learning (Watson, 1913). Keeping true to this theorem, actual behaviors will be used to evaluate some of the outcomes in this study.

Data gathered from the pre and post intervention survey was used to observe compare the baseline and resulting behaviors within the study group as well. A change in attitudes is indicative of a change of behavior according to the Behaviorist School of Thought (Butts & Rich, 2015). This was defined on the basis of two survey responses in particular; those in which the participants are asked to rate their willingness to consent to organ procurement and their level of trust on a scale from 1-10 (1 being extremely unlikely for the former and extremely distrustful for the latter, 10 being extremely likely and trustful respectfully). The author postulated that both of these variables would improve by a margin of 20% according to this scale. The ability of this intervention to meet

this outcome spoke to its ability to modify attitudes and change the resulting behavior (minority reluctance). This ultimately delineated how useful culturally sensitive education is in the efforts to lessen the said disparities.

The last of the outcomes is that the intervention would effectively decrease minority apprehension towards organ donation. A 20% increase in donor designation among the participants post intervention as compared to pre intervention constituted the decreased reluctance. Donor designation was defined as positive donor intentions based on the survey responses. Positive self-identification as an organ donor was used as the criteria for positive donor intentions and the lack thereof constituted negative donor intentions. Less apprehension theoretically would result in more organ donors and in turn address the shortage that contributes to these disparities and effectively eliminate them.

Table 4

Projected Outcomes and Definitions

"Intervention will…"	***"Increase knowledge and understanding of the ODPT process."***	***"Foster more positive attitudes towards the ODPT process."***	***"Decrease minority apprehension towards Organ Donation."***
Defined as:	Minimum increase of a 20% in the scores on the pre and post intervention surveys	Minimum increase of 20% in the rating of willingness to consent to organ procurement of a loved one and their level of trust on a scale from 1-10 (1 being extremely unlikely for the former and extremely distrustful for the latter, 10 being extremely likely and	A 20% increase in donor designation. Donor designation will be defined as a response of yes to the survey item inquiring about donor status. Also decreased apprehension will be considered an increased willingness to consent to the procurement of a loved one's organs from pre to post intervention.

		trustful respectfully) from pre to post intervention.	
"Intervention will…"	*"Increase knowledge and understanding of the ODPT process."*	*"Foster more positive attitudes towards the ODPT process."*	*"Decrease minority apprehension towards Organ Donation."*
Significance	Speaks to the ability of culturally sensitive education to address the central theme of this long-standing reluctance, a lack of knowledge.	Speaks to the ability of the intervention to modify associated attitudes with and the actual behavior of reluctance towards the ODPT process.	Speaks to the ability of the intervention to address minority reluctance and ultimately increase donor presence among these demographics
Data Source	Pre/Post intervention Surveys.	Pre/Post Intervention Surveys.	Pre/Post Intervention Surveys.

Data Analysis

This initiative had a quantitative construct. Quantitative methods were used to explore the known phenomena as well as determine cause and effect, establish both comparisons and relationships among certain variables (Creswell, Klassen, Plano Clark, & Smith, 2013). More specifically, this initiative employed the use of a repeated cross-sectional survey design. This approach was optimal, as it allowed for the collection of data from the same sample at two or more points in time and therefore assess the impact of this intervention (Visser, Krosnick, & Lavrakas, 2000). The surveys inherent to this design have been shown to provide an abundance of information and will be particularly useful in determining causality (Visser, Krosnick, & Lavrakas, 2000). A pretest was given to establish a baseline in regards to knowledge, awareness and attitudes. Once

the intervention was given a posttest was then administered to determine how these parameters were affected by this intervention.

The repeated cross-sectional design also has the added benefit of generalizable results which can be easily reproduced in studies to come (Visser, Krosnick, & Lavrakas, 2000). This trait ultimately adds to the validity of the generated findings (Visser, Krosnick, & Lavrakas, 2000). This design is the best approach as it allows for comparison of the sample pre and post intervention and thereby objectively evaluates the effects of this intervention. Validity and reliability are essential to meaningful research. In order to demonstrate content validity, it is recommended that a wide range of content be included so the measurements will accurately represent the information in all areas (Key, 1997). In an effort to establish this type of validity, the questionnaire addressed each of the factors found to contribute to this disparity in the literature review.

Several analytic methods were used in the evaluation of the findings. Descriptive statistics were used to delineate donor presence, donor support and the life experience items in the survey. Secondly an independent t-test was used to compare the sample means in the difference seen between consent, knowledge and trust levels in the conditions of pre and post intervention. Race or ethnicity was the independent variable and survey responses were used as the dependent variables for this analysis. Next, in an effort to better appreciate the impact of the intervention on the two respective ethnic groups, the analysis included a series of paired t-tests, one for each demographic. This analysis

served to evaluate the actual values of consent, trust and knowledge from pre to post intervention. The findings of this series of paired t-tests were compared to determine the manner in which the two demographics were impacted by the intervention.

Evaluating the cognitive domain through data such as the knowledge assessment scores in addition to the behavioral domain in regards to findings such as consent, trust, and donor intentions was useful in gaining a full understanding of how this intervention influences attitudes and willingness to donate organs. The author postulated that if this intervention could increase knowledge, decrease apprehension, foster more positive attitudes, and identify specific barriers to donor designation in sample it can be the key to eliminating the disparities at hand.

Ethics

IRB, Timeline, and Budget

Since no healthcare institution is involved, the only Institutional Review Board (IRB) approval (Protocol No. 17031703) necessary was that of The University of Southern Mississippi. In total, this intervention consisted of 6 meetings conducted throughout a three-week period of time. The budget was of $100, which was allocated towards printing registration materials, presentation materials, and other visual aids.

Certain ethical considerations were taken into account as well. Everyone has the right to refuse any form of treatment, but the decision to do so never be ill

informed. The intent of this workshop was not to persuade these students to become organ donors, rather it was to properly inform these individuals and evaluate the power of this information when it is provided in a culturally sensitive manner. Therefore, efforts were made to ensure that the presentation was given in a non-biased manner and that it does not minimize the feelings and perceptions harbored by these.

Accounting for intangible factors such as ethics allowed for a well-balanced study. Obtaining IRB approval and presenting the material in a non-biased manner were integral to the moral compass of this project. Ensuring that the methods employed helped to establish the validity of the findings.

CHAPTER III – RESULTS

Data

Once granted approval from the Institutional review board of The University of Southern Mississippi, several instructors were contacted in regards to using their normal class time to conduct the intervention. Each participant was given a consent form and a brief explanation of the study prior to the intervention; at the conclusion of the intervention, a pre-test was administered. The assessment was a modified version of the tool used in a prior study (Arriola et al., 2008). The pre-survey was a 29-item questionnaire with 16 knowledge assessment questions (1 multiple choice and 15 true or false), 7 questions to assess prior experiences with organ donation, 1 demographic question and 4 items addressing attitudes and willingness to donate. Once the pre-intervention survey was completed, the participants received a 15-minute culturally specific presentation on organ donation and asked for input and questions. A post-intervention survey was then administered, which contained the same items as the pre-intervention survey with the exception of the 7 items addressing prior experiences with organ donation.

Data analysis was done majorly in part via SPSS software. Each of the surveys was entered into a data sheet to examine knowledge levels, donor intentions, and prior experiences with organ donation. The data generated by SPSS is listed below in tables 5, 6, 7, 8 and 9. Descriptive statistics from the findings were generated using Microsoft excel and can be found in tables 10, 11 and 12.

Table 5

Results of t-tests and Descriptive Statistics Change in Variables from Pre to Post Intervention between the two demographics

Outcome (Change in..)	Group						95% CI for Mean Difference		
	Minority			Caucasian					
	M	SD	n	M	SD	n		t	df
Consent	1.297	1.191	37	0.5357	1.071	28	0.188, 1.335	2.654*	63
Trust	1.297	1.266	37	0.4286	0.634	28	0.387, 1.349	3.616*	56
Knowledge %	0.180	0.098	37	0.125	0.065	44	0.014, 0.097	2.728*	62

* = p <.05

Table 6

Descriptive Statistics Minority Survey Responses Pre and Post Intervention

	N	Mean	SD	SE
Consent (Pre)	37	5.676	2.000	0.3289
Consent (Post)	37	6.973	2.061	0.3389
Trust (Pre)	37	6.405	2.127	0.3497
Trust (Post)	37	7.703	1.714	0.2817
Knowledge (Pre)	37	10.757	2.203	0.3623

Table 7

Descriptive Statistics and t-test Results for Knowledge, Trust, and Consent Levels in Minority Participants

	Pretest		Posttest			Difference		95% CI for Mean Difference			
Outcome	M	SD	M	SD	n	M	SD		r	t	df
Consent	5.68	2.00	6.97	2.06	37	1.29	1.19	0.89,1.69	.83*	6.58*	36
Trust	6.41	2.13	7.70	1.71	37	1.29	1.27	0.88, 1.72	.80*	1.98*	36
Knowledge Raw Score	10.75	2.20	13.7	1.71	37	2.89	1.57	2.36, 3.42	.70*	4.89*	36

* = p < .05.

Table 8

Descriptive Statistics of Caucasian Survey Responses Pre and Post Intervention

	N	Mean	SD	SE
Consent (Pre)	28	7.679	2.091	0.3952
Consent (Post)	28	8.214	2.007	0.3792
Trust (Pre)	28	8.714	1.356	0.2564
Trust (Post)	28	9.143	1.079	0.2039
Knowledge (Pre)	28	11.964	1.643	0.3107
Knowledge (Post)	28	13.964	1.527	0.2886

Table 9

Descriptive Statistics and t-test Results for Knowledge, Trust, and Consent Levels in Caucasian Participants

	Pretest		Posttest			Difference					
Outcome	M	SD	M	SD	n	M	SD	95% CI for Mean Difference	r	t	df
Consent	5.68	2.00	6.97	2.06	28	0.54	1.19	0.12, 0.95	.86*	2.65*	27
Trust	6.41	2.13	7.70	1.71	28	0.43	1.27	0.18, 0.67	.89*	3.58*	27
Knowledge Raw Score	11.96	1.64	13.9	1.53	28	2.00	1.05	1.59, 2.41	.78*	10.04*	27

* = p < .05

The study included a total of sixty-five (N=65) students from The University of Southern Mississippi. Of these, thirty-five (n=35) students identified themselves as African American, two (n=2) identified themselves as Hispanic, totaling thirty-seven (n=37) minority participants. The remaining twenty-eight (n=28) identified themselves as Caucasian. Together this constitutes a sample size of sixty-five (N=65) participants. Many of the current findings supported those generated from prior research such as lower levels of support, knowledge, and trust amongst minority subgroups.

As reflected in table 10, donor designation rates within the sample were similar to those reported in the literature. The current study used self-identification as a measure of donor status. In regards to the sample as a whole 41% of the participants identified themselves as organ donors prior to the intervention. Donor presence was significantly lower amongst minority participants when compared to Caucasian participants pre intervention (16% vs. 70%). The intervention was effective in increasing donor presence among the sample as a whole, yielding a post intervention donor designation rate of 64.6% amongst all participants. However, the effects were much more drastic in the minority portion of the sample with a post intervention donor designation rate of 51% compared to the pre intervention rate of 16%. Caucasian donor presence increased as well, but by much less of a margin with 76% of participants identifying as organ donors post intervention compared to 70% pre intervention.

Table 10

Donor Presence Pre & Post Intervention

	Pre-Intervention	Post-Intervention
Total	41%	64.6%
Minorities	16%	51%
Caucasians	70%	76%

Minority participants were less supportive of organ donation when compared to Caucasians, as shown in table 11. A mere 3.4% of Caucasian participants did not support organ donation pre intervention compared to 11.1% of minority participants. The intervention effectively increased levels of support amongst both groups as absolutely none of the Caucasian participants and only one of the minority participants (2.8%) reported none support of organ donation.

Table 11

Support Pre & Post Intervention

	Pre-Intervention	Post-Intervention
Total	92%	98.5%
Minorities	88.9%	97.2%
Caucasians	96.6%	100%

The inclination of minorities to refuse procurement is evident in the data listed in table 6 when compared to table 8. When asked to rate the likelihood that they would consent to the procurement of a loved one's organs if unaware of their wishes on a scale from 1-10 (1 being extremely unlikely and 10 being likely)

minorities were much less likely to do so (M = 5.68, SD = 2.00) pre intervention as compared to Caucasians (M=7.68, SD = 2.09). Post intervention values were still lower in minorities (M = 6.97, SD = 2.06) when compared to Caucasians (M = 8.21, SD = 2.01). However the difference in minority consent ratings (M=1.30, SD = 1.20) from pre to post intervention was much larger than that of Caucasian participants (M = 0.54, SD 1.07); t(63) = 2.65, p = 0.01.

Survey findings affirmed the notion that minorities harbored higher levels of distrust compared to Caucasians. This dynamic is clearly reflected in tables 6-8. When asked to rate their level of trust in medicinal practice and the organ donation process (1 being extremely distrustful and 10 being highly trustful) the sample as a whole reported a level of 7.4 pre intervention and 8.32 post intervention. As with consent, minority participants (M = 6.4, SD = 2.13) showed lower levels of trust when compared to Caucasians (M=8.71, SD=1.36) pre intervention. Post intervention findings were still lower in minorities (M=7.7, SD=1.71) when compared to Caucasians (M=9.14, SD = 1.08), but both groups improved. Also as seen with likelihood to consent, the margin of improvement in trust levels was much greater in minorities with average increase of 1.3 (SD =1.27) compared to a mean increase of 0.43 (0.63) in Caucasians t(56) = 3.6, p = 0.01.

The findings of this study also reflect lower knowledge levels amongst minorities. As shown in tables 6 and 8 respectively, pre intervention survey scores were lower amongst minorities who registered a mean score of 67.2% (M=10.76, SD=2.20) compared to 74.8% (M=11.96, SD=1.64) in Caucasians.

The intervention effectively improved scores for minorities (M=13.64, SD=1.58) and Caucasians (M=13.96, SD=1.53). There was a significant difference in the ability of the intervention to improve minority knowledge levels (M=18%, SD = 9.8%) and its ability to improve Caucasian knowledge levels (M = 12%, SD = 6.6%).

Prior experience survey questions reflected certain disparities as well. As shown in table 12, close to 67.9% of Caucasian participants knew an organ donor compared to only 54% of minorities participants. Ironically, Caucasians were more likely to know organ recipients (57.1% vs. 48.6% in minorities) but still less likely to know someone who was in need of in need of a functional kidney (39% vs. 67% in minorities). Although minorities were less likely to know recipients and donors, they were more likely to know a transplant candidate who died awaiting an organ (21.6% vs 10.7% in Caucasians).

Table 12

Personal Experience Survey Items

	Minorities	Caucasians
Knew an Organ Donor	54%	67.9%
Knew an Organ Recipient	48.6%	57.1%
Knew someone on Dialysis	67%	39%
Knew someone who died awaiting an organ	21.6%	10.7%

CHAPTER IV – DISCUSSION

Interpretation

The current study sought to determine the impact of culturally sensitive education on the feelings and attitudes of minorities in Southern Mississippi towards organ donation. The pre intervention data strongly affirms the presence of these disparities in Southern Mississippi. The generated findings also suggest that many of findings throughout the literature are accurate and applicable to this region as well. Minority participants exhibited lower knowledge and trust levels when compared to the majority. Minorities were also less likely to consent to the procurement of a loved one's organs and less supportive of this practice as well.

Current literature states that widespread educational efforts are less effective in minorities (Locke et al., 2015). The findings of the current study support this notion as culturally specific education was much more effective in the minority portion of the sample in nearly all respects when compared to the Caucasian portion. As previously stated, the responses of the participants in the pre intervention condition affirms several of the assumptions of the current study including lower levels of support, knowledge, and trust amongst minority participants. However, those found post intervention delineate the efficacy of a culturally sensitive approach in an effort to mitigate these discrepancies. Minorities witnessed a much more drastic rate of improvement in nearly all aspects of this study, this further laments the role of suitability in the efforts to effectively improve support and awareness of organ donation.

The current study sought to answer four research questions. First, to determine the type of attitudes harbored by minorities in relation to organ donation. The lower levels of support, higher levels of distrust, and decreased likelihood to consent to procurement each speak to the commonality of less than favorable attitudes about organ donation among these demographics. Next, this effort set to determine the willingness of minorities to donate organs and whether or not there was a difference between minorities and other ethnic backgrounds. The current findings affirmed the latter as both Caucasian donor presence and likelihood to consent to procurement were significantly higher when compared to minority participants. This dynamic also delineated the less than adequate level of willingness to donate among minorities. Lastly, the current study sought to determine whether or not there was a difference in the response of the two demographics to the intervention. Although both groups witnessed improvement overall, the rate of improvement was exponentially greater in Minority participants. Despite many of the findings and variables being much lower prior to the intervention, post intervention findings were remarkably similar. This delineates a more favorable and more pronounced response to culturally sensitive education within minority demographics.

Table 13

Expected vs. Observed Outcomes

Outcome **"*This intervention will…"***	**Definition**	**Observed Outcome** **(* = Outcome Met)**
"…increase the participants knowledge and understanding of the ODPT Process"	20% increase in scores from pre to post Intervention	*26.79% increase from pre to post intervention
"…foster more positive attitudes among the participants towards the ODPT process"	20% increase in ratings of trust for medical practice and ODPT process	*20% increase in ratings from pre to post intervention.
	Increase in support for organ donation within the sample.	*Post intervention 97.2% of minority participants affirmed their support for organ donation compared to a pre intervention finding of 88.9%
"…decrease minority apprehension towards Organ Donation."	30% increase in donor designation rates	*31.8% increase in designated donors
	20% increase in ratings of likelihood to consent for procurement	*23.2% increase in average ratings from pre to post intervention.

The impact of the intervention on consent ratings, trust ratings and knowledge levels was significantly different between the two groups. As shown in table 7 and 9 respectively, pre intervention minority participants were much less likely to consent to the procurement of a loved ones organs (M = 5.68, SD =

2.00) in comparison to Caucasian participants (M=7.68, SD = 2.09). The likelihood of minorities (M = 6.97, SD = 2.06) to consent was still lower in comparison to Caucasians (M = 8.21, SD = 2.01) post intervention. However, the analysis, as seen in table 5, revealed that the intervention was much more effective in the minority participants who realized an average increase of (M =1.3, SD=1.20) that was substantially greater than that of the Caucasian participants (M = 0.54, SD=1.07) ($t(63) = 2.65$, $p = 0.01$).

This trend was also observed in levels of trust as well. As seen in tables 5 and 7, prior to the intervention minorities were much less trustful of the medical establishment and the organ donation process reporting an average trust rating of 6.4 (SD=2.12) compared to the average of 8.7 (SD=1.36) seen in Caucasian participants. As with each of the prior findings the intervention was much more effective in improving minority levels of trust, the ratings increased by a margin of 20% (M=7.7, SD=1.71) post- intervention compared to only a 4.8% (M=9.14, SD=1.08) increase in Caucasian participants. Once again, the discrepancies in the margins of improvement between the two groups lament the importance of suitability in the efforts to improve feelings and attitudes toward donation.

The intervention was most effective in improving knowledge levels for minorities. This can be seen in the data listed in tables 6 and 8. When compared to the Caucasian participants (M=11.96, SD=1.64), minority participants (M=10.76, SD=2.20) were less knowledgeable about organ donation prior to receiving this intervention. As with the other variables minority participants (M=13.64, SD=1.58) witnessed a much more drastic rate of improvement (26.8%

vs. 12.9% in Caucasians) in knowledge levels, so much so that their scores were nearly identical to Caucasian scores (M=13.93, SD=1.53).

An item analysis revealed that misconceptions were similar between the two groups. Minorities most commonly responded incorrectly to questions pertaining to religion, the role of next of kin in the donation process and African American presence on the kidney transplant waiting list. These were points of confusion for Caucasian participants as well; however, the extended waiting period seen in minority transplants was the most commonly missed question among this portion of the sample.

Survey items examining prior experience with organ donation confirmed the presence of disparities among the sample. While minorities were more likely to know someone, who was on dialysis and who died awaiting an organ, they were less likely to know someone who donated or received an organ. This dynamic is interesting as it points to the type of experiences with organ donation differs between the two groups. Minorities are more likely to experience this practice in a negative light, which could possibly be the cause of the lower levels of support and trust exhibited in this portion of sample. Caucasians on the other hand are more likely to experience the positive aspects of donation such as someone receiving and/or donating organs both of which could foster positive attitudes and high levels of support, both of which were observed in this portion of the sample prior to the intervention. Through presenting the material in a way that acknowledge the validity of these experiences and provided information in a

way that was specific to the concerns of minority demographics, this intervention was able to eliminate the negative implications of these experiences.

The disparities suggested by prior research were observed in the sample and are therefore applicable to Southern Mississippi. Anecdotally, the higher donor rates, knowledge, and trust levels among Caucasian participants prior to the intervention could be attributed to their ability to relate to and understand many of the widespread campaigns seeking to improve donation; the absence of the barriers seen in minority demographics is also helpful in this regard. Contrarily, the lower donor rates, knowledge and trust levels observed in the minority portion of the sample could be the result of their inability to relate to and understand these campaigns in addition to the presence of barriers identified in prior research.

The beauty of this intervention lies in its ability to level the playing field and mitigate these less than favorable findings. Ultimately, this lessened the disparities observed pre intervention within the sample and meet each of the projected outcomes of the current study. This speaks to the ability of culturally sensitive education to improve the willingness of minorities to identify as organ donors which will ultimately improve outcomes in organ donation. The current study shows that a culturally sensitive approach that addresses the needs and concerns of minorities is effective in improving knowledge levels, fostering more positive attitudes, and decreasing apprehension of these individuals towards organ donation. These findings are evident not only through the improvement of these findings of minority participants from pre to post intervention but the

exponential rate of growth witnessed by this portion of the sample when compared Caucasian participants. Causality is hard to determine, but these findings cannot be completely attributed to chance as both portions of the sample received the same intervention, under the same conditions, but two very different rates of growth were observed.

Through improving levels of knowledge, awareness and trust within the sample, culturally sensitive education decreased minority apprehension towards organ donation by increasing donor presence the minority portion of the sample. The stark differences between rates of improvement between the two groups speaks to the necessity of a more tailored approach improve outcomes in organ donation. Generalized approaches have been shown to be relatively ineffective in minority demographics in prior research (Locke et al., 2015). The current study demonstrates that culturally specific methods are not as effective in the majority of the population. Both of these notions have a commonality in that they lament the need for approaches specific to the target population. Education can lessen the disparities when delivered in a culturally specific manner.

Limitations

There were several limitations of the current project. Due to time constraints and conflicts an inadequate sample size was observed. Secondly, the findings may not be applicable to all residents of Southern Mississippi as each of the participants were presumably similar in age and education level and the demographic breakdown of the sample differed from that of the population of Southern Mississippi. Also, due to the overwhelming majority of African American

participants in the minority portion of the sample other ethnic minorities were not adequately represented in the current study. Time constraints also prevented follow-ups, so although the participants were given registration materials it is unknown how many actually completed the registration process.

Recommendations

Future studies should focus on the role of religion and next of kin in organ donation, as these were the most commonly missed items by minority participants on the knowledge assessment portion of the survey. More time should be allotted for data collection to allow for follow up with the participants to ensure completion of the registration process and to observe the lasting effects of the intervention. Visual aids and personal testimonies should also be considered. The current study relied far too much on the convenience of the setting to generate an adequate sample size; more effort and emphasis should be placed on the use of incentives and promotional efforts to facilitate buy-in. Lastly, the current effort was biased towards African Americans due to the demographic breakdown of the sample, future efforts should seek ways to form interventions specific to other ethnic minorities.

Conclusion

Culturally sensitive education was found to positively influence the willingness of students in Southern Mississippi to self-identify as organ donors. This is a direct result of the ability of this intervention to facilitate the improvement of knowledge and trust levels while fostering more positive attitudes among the sample as it pertains to organ donation. Generalized approaches have been

shown to be relatively ineffective in minority demographics in prior research (Locke et al., 2015). The current study demonstrates that culturally specific methods are not as effective in Caucasian demographics either. The stark differences in rates of improvement observed between the two groups, speaks to the necessity of a more tailored approach improve outcomes in organ donation. Of the projected outcomes, this intervention was most effective in decreasing minority apprehension towards donation with a net improvement of 31.8% observed from pre to post intervention. The effect of the intervention on knowledge was very significant as well, minority scores were much lower pre intervention when compared to Caucasians, but the scores were almost identical between groups post intervention.

APPENDIX A – Literature Matrix and Meeting DNP Essentials

Table A1.

Literature Matrix

Author/Title/ Year	Level/ Grade	Design	Sample/ Data	Findings	Recom-mendations
Callender, C., & Miles, P. (2010). Minority organ donation: the power of an educated community	Level IA Grade A	Retrospective Cohort study of the National Minority Organ Tissue Transplant Education program	Pre and Post intervention data from 6,789 participants	Culturally appropriate health education programs designed for targeted population groups can change attitudes, beliefs and behavioral intentions.	Efforts seeking to improve minority donor rates should be culturally sensitive and employ the use of the tool formulated by this study.
DuBay, D., Ivankova, N., Herby, I., Wynn, T., Kohler, C., Berry, B., ... Redden, D. (2014).	Level IIA Grade B	Mixed Methods design guided by the theory of planned behavior to analyze	22 Registered donors and 65 unregistered participants from 6	African Americans perceive their organs to be unusable. Religious	Efforts targeting minority awareness pertaining to organ donation should

African American Organ Donor Registration: A Mixed Methods Design using the Theory of Planned Behavior.	African American's decisions to become organ donors.	focus groups in both urban and rural areas.	beliefs, morals, mistrust, and social justice are common barriers to organ. Information Is the most common facilitator and the lack thereof is the greatest antagonist in the decision for African Americans to become organ donors.	account for the new barriers found within this study

Author/Title/ Year	Level/ Grade	Design	Sample/ Data	Findings	Recom-mendations
McDonald, E., Powell, L., Perryman, J., Thompson, N., & Jacob, K. (2013). Understanding the relationship between trust in health care and attitudes toward living donor transplant among African Americans with end-stage renal disease	Level IB Grade A	Cross Sectional design evaluating the relationship between trust in healthcare and attitudes toward Living Donor Transplant.	Sample size of 296 subjects. Multivariate analysis of trust of doctors, racial equity of treatment, and hospital and how these factors influence attitudes towards Living donor transplants.	Trust in doctors and racial equity of treatment variables are significantly associated with attitudes toward Living donor transplant.	Expand the methodology used in this study to multiple transplant centers so results can be generalized.

Author/Title/ Year	Level/Grade	Design	Sample/Data	Findings

Morgan, M., Kenten, C., & Deedat, S. (2013). Attitudes to deceased organ donation and registration as a donor among minority ethnic groups in North America and the UK: A synthesis of quantitative and qualitative research	Level IA Grade A	Systematic literature review coupled with parallel syntheses from qualitative and quantitative studies to evaluate attitudes towards organ donation among ethnic minorities.	A total of 26 papers were included, 14 quantitative and 12 qualitative. The authors assessed both the relevance and quality of these articles prior to integrating them into their research.	Five barriers towards donation in ethnic minorities were identified: lack of knowledge, cultural beliefs, fear, mistrust, and apprehension towards family discussions.	More attention should be given to the variations in attitudes and religious practices within respective ethnic groups. In an effort to increase donation rates, the model of care must be revised. Efforts must be taken to increase knowledge levels among ethnic minorities

Shah, S., Kasper, K., & Miller, F. (2015). A narrative review of the empirical evidence on public attitudes on brain death and vital organ transplantation: the need for better data to inform policy	Level IA Grade B	Systematic Literature review seeking to better understand public perception and attitudes on brain death and vital organ transplantation.	A total of 43 articles were reviewed in this study with a total of 18,603 study participants	Facts about brain death, legal status of brain death and the procurement process are three key issues that are generally misunderstood by participants. Although much literature shows widespread support of the practice of organ donation, the public	The consent process for organ transplantation should be further evaluated for validity. Further research should focus on the construction of effective policies for transplantation.

				remains ill informed.	
Author/Title/ Year	Level/Grade	Design	Sample/Data	Findings	
McNeill, T. P., Hayes, S. C., & Harley, J. (2014). Addressing Health Disparities Through Recommendations from the Jackson Heart Study	Level IA Grade A	Retrospective Cohort study of the Jackson Heart Study Program that evaluated the effects of education, increased awareness and set protocols on health outcomes among African Americans in	A sample of 5,249 participants of the Jackson Heart Study.	Education and increased awareness improved health outcomes for African Americans in Mississippi.	Public health education should be focused on the education of at-risk populations. Providers should also be educated on evidence-based strategies to properly manage these diseases.

		Mississippi			
Author/Title/ Year	Level/Grade	Design	Sample/Data	Findings	Author/Title /Year
Kilic, A., Higgins, R., & Whitson, B. (2015). Racial disparities in outcomes of adult heart transplantation.	Level IA Grade A	Retrospective cohort study evaluating the level of performance in transplant to determine if the race of the population served correlates with the level of performance.	Orthotropic Heart Transplant recipients from 2000-2010. A total of 102 centers including 18,805 patients were evaluated.	African Americans are more likely to be transplanted at lower performing transplant centers and have increased mortality.	Evaluate protocols and standards for low performing centers. Referral to better performing centers would have short-lived and limited effects
Patzer, R., Plantinga, L., Sudeshna, P., Gander, J., Krisher,	Level IA Grade A	Retrospective cohort review to examine the degree	Data retrieved from United States	Facilities with a non-profit status and those	Develop standardized guidelines for patient

J., Sauls, L., ... Mulloy, L. (2015). Variation in Dialysis Facility Referral for Kidney Transplantation Among Patients With End-Stage Renal Disease in Georgia.		of variation between dialysis facilities in regards to transfer referral rate	Renal Data System. Sample included 15,729 end-stage renal disease patients from 308 dialysis facilities in the state of Georgia	within impoverished neighborhoods refer patients for dialysis at a much lower rate than those from higher socioeconomic backgrounds or for-profit status.	education regarding treatment options at the start of dialysis treatment. Push for Medicaid expansion as this could lessen the impact of socioeconomic status on referral rates.
Author/Title/ Year	Level/Grade	Design	Sample/Data	Findings	
Modlin, C., Alster, J., Saad, I., Tiong, H., Mastoianni, B., Savas, K., & Flechner, S. (2014).	Level IA Grade A	Retrospective cohort study that reviewed and compared the outcomes for kidney	772 transplant recipients at Cleveland Clinic over a ten-year span of time.	When compared to Caucasians, African Americans were similar in regards to	African Americans should be educated about disease prevention, donor registration,

Renal transplantations in African Americans: a single-center experience of outcomes and innovations to improve access and results	transplants in both African Americans and Caucasian Americans over a ten-year period of time.	donor demographics (age, gender, BMI, and COD), but AAs exhibited higher poverty rates, prolonged waiting list times, longer times between referral and evaluation, less likely to receive a transplant, receive an organ from a head trauma victim, and more likely	and encouraged to seek out live donor options.

				to have an HLA Mismatch or graft failure	
Author/Title/ Year	Level/Grade	Design	Sample/Data	Findings	Author/Title /Year
Williams, W., Cherikh, W., Young, C., Fan, P., Cheng, Y., Distant, D., & Bryan, C. (2015). First Report on the OPTN National Variance: Allocation of A2/A2B Deceased Donor Kidneys to Blood Group B Increases Minority Transplantation	Level IA Grade B	Retrospective study evaluating the outcomes of ABO incompatible transplants.	101 transplants within eight of the donation service areas participating in ABO incompatible Transplantation.	ABO incompatible transplants increase the access of Type B & minority candidates to viable organs.	ABO incompatible transplants should be implemented as they improve access to care for ethnic minorities who account for the majority of Type B Candidates.

White, S., Hirth, R., Mahillo, B., Dominguez-Gil, B., Noel, F., Chapman, J., ... Carmona, M. (2014). The global diffusion of organ transplantation: trends, drivers and policy implications.	Level IA Grade b	Retrospective cohort review of the Global Observatory data to evaluate the global distribution and trends of solid organ transplantation.	Each of the Member States of the WHO	Transplantation activities were largely unrelated to the distribution of medical need; instead this level of activity was directly proportional to the amount of available resources.	The current model is ineffective, alternate strategies must be used to promote donor pool expansion without compromising quality.
Author/Title/ Year	Level/Grade	Design	Sample/Data	Findings	Author/Title /Year
Robinson, D., Gerbensky-Klammer, S., Perryman, J., Thompson,	Level IA Grade A	Cross-sectional study that evaluated the relationship between	505 African American participants, data was collected	Religious Norms strongly influence the decision making	Religious leaders should directly address organ donation

N., & Arriola, K. (2014, February 20). Understanding African American's Religious Beliefs and Organ Donation Intentions.		religion and donor intentions.	from intervention and control group using surveys.	process to become an ROD. Distrust in healthcare greatly influences this decision as well. Discomfort with organ donation is the driving force for people to alter their religious views.	and provide a stance to cut down on the level of confusion seen within this study. Discomfort should be a target for future interventions.
Russell, E., Robinson, D., Thompson, N., Perryman, J., & Arriola, K. (2012). Distrust in the Healthcare	Level 1A Grade A	Cross-Sectional design combining pre-intervention data from both intervention and	Sample size of 585 participants to whom a survey was given evaluate the relationship between, distrust in	Level of trust and likelihood to donate strongly correlated. Creating a written record of intentions to donate	Healthcare facilities should make an effort to address the distrust level of the patients they serve. Distrust

System and Organ Donation Intentions Among African Americans.	control groups.	healthcare and donor intentions. A 98 item survey including scales of distrust and donor intentions was used.	was a problem even in minorities with low levels of distrust. Great Variation existed in between	should be considered in intervention s seeking to increase awareness of organ donation. Future efforts should determine how distrust effects different types of donor intentions.

Table A2.

Plan to Meet DNP Essentials

DNP Essential	Plan To Meet
Scientific Underpinnings for Practice	Incorporated Behavioral and Cognitive Learning Theories

Organizational and Systems Leadership for QI	Translated findings from ROL into an Intervention, Evaluated outcomes, and Will disseminate findings.

DNP Essential	Plan To Meet
Clinical Scholarship and Analytical Methods for EBP	Developed an approach to solve a clinical problem. Analyzed the use of the intervention in the appropriate population and setting.
Informational Systems and Technology in Patient Care for the Improvement and Transformation of Health Care.	Incorporated technology in every phase of this effort: gathering information, evaluating and disseminating findings.
Health Care Policy for Advocacy in Health Care	Advocated for social justice by seeking to eliminate disparities affecting ethnic minorities.
Inter-Professional Collaboration for Improving Patient and Population Health Outcomes	Collaborated with disciplines in the formulation of the research tool and the evaluation of collected data.
Clinical Prevention and Population Health for Improving the Nation's Health	Addressed the psychosocial and cultural influences that contribute to the said disparities in an effort to improve ODPT outcomes.

Advanced Nursing Practice	Conducted thorough needs assessment and tailored intervention to the specific needs of the target population.

APPENDIX B - IRB Approval Letter

THE UNIVERSITY OF
SOUTHERN MISSISSIPPI.

INSTITUTIONAL REVIEW BOARD
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NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
  Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 17031703
PROJECT TITLE: The Use of Culturally Sensitive Education to Influence Attitudes of Ethnic Minorities in Southern Mississippi towards Organ Donation
PROJECT TYPE: New Project
RESEARCHER(S): James A. Winters II
COLLEGE/DIVISION: College of Nursing
DEPARTMENT: Advance Practice
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Exempt Review Approval
PERIOD OF APPROVAL: 03/20/2017 to 03/19/2018
Lawrence A. Hosman, Ph.D.
Institutional Review Board

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