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Improving Nursing Students' Attitudes and Beliefs About Transgender Clients Through the Use of a Simulated Clinical Experience

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Improving Nursing Students' Attitudes and Beliefs About Transgender Clients

Through the Use of a Simulated Clinical Experience

Presented to the Faculty of the School of Nursing

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Abstract

Background: Negative healthcare experiences may lead to poor health outcomes for transgender individuals, but nursing curricula give little attention to transgender healthcare. This study engaged nursing students in a simulated clinical experience (SCE) which featured a young adult transgender male in an acute care setting to determine whether participation would have a significant impact on student nurses' attitudes and beliefs about transgender individuals. **Methods:** The convergent parallel mixed-methods design used a one group pretest-posttest and a post-case debriefing interview to examine undergraduate nursing student attitudes and beliefs toward transgender individuals. Participants (N=27) reported their feelings via the Transgender Attitudes and Beliefs Survey (TABS), a 29-item inventory with three subscales: interpersonal comfort, sex/gender beliefs, and human value. **Results:** Paired-samples t-tests compared scores before and after the SCE. There were significant differences in the total pre (M=161.55, SD=19.95) and post (M=167.48, SD=23.25) SCE scores, $t(26)$=2.70, p=.01 and the sex/gender beliefs pre (M=46.40, SD=7.66) and post (M=52.33, SD=12.26) SCE subscale, $t(26)$=3.30, p<.001. There were not significant differences for the interpersonal comfort and human value subscales. Four themes (discomfort recognition, avoidance rationalization, identity dismissal, and values divergence) emerged from the post-SCE debriefing interviews. **Conclusions:** These findings suggest that participation in a SCE can have a positive impact on students' overall attitudes and beliefs about transgender individuals, particularly when examining rigid attitudes and beliefs regarding sex and gender. Additional research with larger groups of nursing students in different academic settings using other transgender SCE cases is needed to determine whether these results are generalizable.

Improving Nursing Students' Attitudes and Beliefs About Transgender Clients

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Problem Statement & Background

Transgender individuals experience significant health disparities related to inadequate provider cultural competence (U.S. Department of Health and Human Service, n.d.). The 2015 U.S. Transgender Survey revealed alarming disparities in health access and outcomes (James et al., 2016). Of the 27,715 transgender identified individuals surveyed, nearly one-third (33%) reported negative experiences with healthcare providers - including verbal harassment and denial of care. Within the previous year, 23% avoided health care altogether due to fear of mistreatment, and 31% who sought care did not disclose their transgender identity for fear of discrimination (James et al., 2016). Earlier studies elicited similar responses. In a statewide survey of 350 transgender individuals living in Virginia, 27% of respondents reported incidents of healthcare discrimination, and 43% concealed their transgender identity from their primary care provider (Bradford, Reisner, Honnold, & Xavier, 2013). A similar study collected data from 152 self-identified transgender individuals living throughout the United States. A clear majority (60.13%) of respondents had experienced incidents of provider insensivity or perceived discomfort during a previous healthcare encounter (Kosenko, Rintamaki, Raney, & Maness, 2013). A fourth study, which assessed the impact of provider behaviors upon perceived quality of care, revealed that LGBTQ identified individuals are more likely to avoid future healthcare encounters if they receive verbal or non-verbal indicators of caregiver discomfort (Rounds, McGrath, & Walsh, 2013). Non-inclusive healthcare provider attitudes, whether perceived or tangible, create barriers to care which result in poor physical and mental health indicators and outcomes for the transgender population such as delayed preventative care, and increased depression and suicidal ideation (Seelman, Colón-Diaz, LeCroix, Xavier-Brier, & Kattari, 2017).

Twenty-two percent of respondents in the U.S. Transgender Survey rated their overall health as "fair" or "poor" compared to 18% of the general population. Respondents also reported higher rates of specific health disparities compared to the general population, such as HIV infection (1.4% to 0.3%), lifetime intimate partner abuse (24% to 18%), illicit drug use within the past month (29% to 10%), current binge drinking (27% to 25%), current tobacco use (22% to 21%), current psychological distress impacting daily living (39% to 5%), and lifetime history of suicide attempt (40% to 4.6%) (James et al., 2016). These figures highlight the disparate health conditions of transgender individuals in the United States.

Given the connection between negative experiences with healthcare providers and poor health outcomes, it is incumbent upon health professional training programs to challenge students to examine their attitudes and beliefs regarding transgender clients. To date, however, efforts to improve students' cultural sensitivity when caring for transgender individuals have been inadequate. Medical schools have given limited attention to the needs of transgender clients (Braun, Garcia-Grossman, Quinones-Rivera, & Deutsch, 2017; Obedin-Maliver et al, 2011) and nursing curriculums have followed , devoting an average of only 2 hours to the needs of lesbian, gay, bisexual, and transgender (LGBT) clients throughout the entirety of baccalaureate nursing program (Carabez et al., 2015; Lim, Johnson, & Eliason, 2015).

Bauchat, Seropian, and Jeffries (2016) contend that nursing education programs must prepare graduates to provide patient-centered care, and opine that simulation, which "moves us from learning by chance to learning with intent," (p. 357), is the best available tool to both teach and assess student readiness to care for vulnerable populations. Nursing education literature concurs, citing evidence to support the use of simulation as a strategy to promote empathy among undergraduate nursing students (Levett-Jones, Cant, & Lapkin, 2019). Incorporating the perspectives of transgender clients experiencing health disparities into simulation cases provides

an opportunity for students to examine their attitudes and beliefs about transgender individuals as an initial step to providing culturally sensitive care.

Purpose & Aim

The purpose of this project was to explore the impact of a simulated clinical experience on pre-licensure nursing students' attitudes and beliefs regarding transgender clients. The specific aim was to assess the impact of a simulated clinical experience (SCE) on students' attitudes and beliefs towards transgender individuals as measured by the Transgender Attitudes and Beliefs Scale (TABS), and to examine their interpersonal comfort, sex/gender beliefs, and perceptions of human value of transgender clients elicited during the debriefing phase of the SCE.

Question & Hypothesis

The aims of this project were explored through the following research questions:

1) Is there a difference between participants' interpersonal comfort, sex/gender beliefs and perceived human value related to caring for transgender identified clients before and after participating in a SCE focused on the care of a transgender identified client?

2) Do students report improved attitudes and beliefs related to interpersonal comfort, sex/gender beliefs, and perceived human value when providing care to a transgender client after participating in a SCE incorporating transgender identity?

The researcher hypothesized that there would be an overall positive difference in the pre and post-intervention attitudes and beliefs of pre-licensure students taking part in the SCE, as well as a positive difference for each of the three TABS survey subscales. In addition, the researcher hypothesized that students who had participated in the SCE would report more positive attitudes and beliefs in the areas of interpersonal comfort, sex/gender beliefs, and perceived human value related to caring for transgender individuals.

Significance

This research adds to a miniscule body of knowledge by providing new evidence related to the efficacy of experiential learning in the form of a high-fidelity simulation for improving undergraduate nursing students' attitudes and beliefs as reflected by interpersonal comfort, sex/gender beliefs, and the perceived human value of transgender individuals. To the researcher's knowledge, this project was the first to examine the impact of simulation on student attitudes and beliefs regarding transgender clients outside the confines of a mental health nursing course, and will add to nurse educators' understanding of how SCE can be used to positively influence student attitudes and beliefs about transgender individuals. While the project specifically evaluated the impact of the intervention on student nurses, the results of this research may also inform educators about the use and effectiveness of SCE to train nurses already in practice to provide culturally sensitive care to transgender clients. Results of this research will be submitted to peer-reviewed journals for publication, and presented at national professional conferences.

Literature Review

CINAHL and MEDLINE databases were searched for the terms "transgender" AND "nursing" AND "attitudes OR beliefs OR comfort" in English language articles published between 2012 and 2018. Sixty articles were reviewed. Studies deemed appropriate for the literature review were sorted into two categories: curricular inclusion of transgender health topics and prior educational interventions aimed at improving student knowledge and attitudes regarding transgender health. Studies were included if they examined attitudes or beliefs of Registered Nurses or undergraduate nursing students toward transgender clients, undergraduate nursing curricula, and educational interventions to enhance student or practicing nurses' readiness to provide care for transgender clients. Studies were excluded if they focused solely on

advance practice nurses or other providers. Forty-three articles which did not meet the inclusion criteria or were duplicates were discarded.

The literature demonstrated room for improvement in the nursing curricula regarding care of transgender individuals. In locations throughout the United States, formal classroom time devoted to the larger umbrella of LGBT health is estimated to be fewer than five total hours, with an average time of between 1.63 and 2.12 hours devoted to LGBT healthcare across the curriculum (Lim, Johnson, & Eliason, 2015; Walsh & Hendrickson, 2015). When included, LGBT healthcare is relegated to an "other" category rather than integrated into curriculum concepts (Cornelius, Enweana, Alston, & Baldwin, 2017), and may omit the topic of transgender clients even when lesbian, gay, and bisexual health concerns are addressed (Echenoza-Johnson, 2017).

Literature suggests that a lack of pre-licensure educational experiences focused on providing care to transgender clients may contribute to nurses' discomfort in caring for these individuals (Brown, Keller, Brownfield, & Lee, 2017; Carabez et al, 2015). Carabez, Pellegrini, Mankovitz, Eliason, & Dariotis (2014) found that 85% of undergraduate nursing students surveyed felt their education did little to prepare them to care for LGBT clients, and 28% of their participants reported that they felt uncertain or uncomfortable about offering the most basic measure of respect - using a transgender client's preferred pronouns. Furthermore, 29% reported believing that sexual orientation and/or gender identity mattered "very little" or "not at all," to their clients, indicating a lack of understanding of the cultural significance of one's identity. A cross-discipline survey of 1,010 pre-professional students in nursing, medicine, and dentistry found that while 86% of respondents reported feeling comfortable caring for lesbian, gay, bisexual, and queer clients, comfort levels dropped dramatically to 66% when asked about caring for transgender identified patients. A large majority (79%) of respondents from all disciplines

indicated a desire for expanded inclusion of LGBTQ health needs within their training program

(Greene et al, 2018). The literature also suggests that practicing nurses fare no better than

undergraduate students in their readiness to provide care for transgender clients. A study of

registered nurses conducted by Carabez, Eliason, & Martinson (2016) revealed that over half of

their nearly three-hundred interviewees expressed discomfort with caring for transgender

patients, attributing their feelings to limited clinical encounters and insufficient formal or

informal knowledge base. Even amongst those nurses who voiced comfort and accepting

attitudes, many lacked the background necessary to even name the health disparities faced by the

transgender population (Mahdi, Jeverston, Shrader, Eliason, Dariotis, 2014). This includes

nursing faculty, who acknowledged feeling that they were not qualified to teach students about

transgender health issues (Echenoza-Johnson, 2017; Lim, Johnson, & Eliason, 2015; McDowell

& Bowen, 2016).

The literature detailing prior interventions aimed at curricular inclusion of transgender

health illuminated the need for further examination of the use of simulation as an educational

strategy to improve student attitudes about transgender clients. Strong & Folse (2015) utilized a

45-minute PowerPoint lecture "focused on relevant definitions, LGBT health disparities, cultural

competence, and transgender-specific health care," (p. 47), sandwiched between a pre and post

survey of student attitudes and knowledge as measured by a modified version of the "Attitudes

Toward Lesbians and Gay Men" (ATLG) scale as well as the LGBT Healthcare Scale and the

LGBT Knowledge Questionnaire . The authors reported a statistically significant improvement in

student attitudes regarding lesbians ($p = 0.013$), bisexuals ($p < 0.001$), and transgender

individuals ($p < 0.001$) as measured by the modified ATLG after the educational intervention.

However, a closer look at the results of the LGBT Healthcare Scale items reveals that

participants did not express improved willingness to provide care for or even speak to an LGBT

client in a "sensitive and appropriate manner," (p.46) after the intervention. McDowell & Bower

(2016) integrated transgender health topics by adding the content to existing didactic formats

throughout five courses in the baccalaureate nursing curriculum – Professional Role

Development in Nursing, Health Assessment, Pharmacology, Psychiatric-Mental Health

Nursing, and Nursing in the Childbearing Family. The authors reported that the additions were

"well received by the Baccalaureate Curriculum Committee, faculty, and students," (p. 479), but

no data was provided regarding assessment of student knowledge or attitudes regarding

transgender individuals. Similarly, Lim & Bernstein (2012) described the use of a 20-minute

documentary and debriefing discussion in a seminar course to introduce undergraduate students

to an elderly transgender woman receiving end of life care. There was no discussion of how

student learning outcomes were evaluated following this activity. Carabez et al, (2014) described

the use of a combination of didactic content with an active learning assignment to improve

nursing student knowledge and perceptions regarding LGBT individuals. The post-intervention

survey indicated increased knowledge about gender identity ($t = 19.3$, $p < 0.0001$) and the

qualitative comments indicated increased comfort discussing gender identity.

To date, only two studies published in nursing education literature have specifically

examined the use of simulation to promote nursing students' improved attitudes and beliefs

regarding transgender individuals. Stockman and Diaz (2017) described a simulated mental

health assessment of a transgender male. While student comments after the simulation reflected

increased comfort conducting a mental health assessment, the data did not reflect a focus on the

specific needs of a transgender client and any change in comfort level remains unclear. Maruca,

Diaz, Stockman, and Gonzalez (2018) assessed student attitudes with the Gay Affirmative

Practice (GAP) scale before and after a simulation wherein students provided care for a

transgender female experiencing anxiety. The authors reported a significant increase in

affirmative practice behaviors ($p = 0.003$), but no significant change in students' attitudes toward sexual minorities ($p = 0.065$). It is difficult to determine if students' attitudes about the simulated transgender client were impacted, as the GAP scale assesses clinician attitudes about and behaviors toward gay men and lesbians, rather than transgender individuals. In both simulation studies, the simulated clinical experience was situated within the confines of a mental health nursing course, which may have unintentionally reinforced the stigma that transgender individuals are mentally ill. In the Maruca et al (2018) study, the use of a tool which assessed attitudes regarding sexual orientation may further blur students' understanding of sexual orientation and gender identity as two distinct categories.

The literature review revealed that student attitudes and beliefs about transgender individuals have not been previously assessed using a tool specifically designed to illicit responses about gender identity rather than sexual orientation and demonstrated that further research was warranted to investigate how intentional learning experiences may alter nurses' attitudes and beliefs about transgender clients. This convergent parallel mixed methods study was conducted to provide both depth and breadth regarding pre-licensure students' attitudes and beliefs about transgender individuals before, during, and after a SCE.

Theoretical Framework

Kolb's Theory of Experiential Learning, which posits that "knowledge is created by transforming experience into existing cognitive frameworks, thus changing the way a person thinks and behaves," (Lisko & O'Dell, 2010, p. 108) served as the theoretical framework for this project. Kolb's theory has been used extensively in simulation-based education because it acknowledges that active, hands-on learning is a catalyst for the transformation of the student's thoughts and actions. In this project, students engaged in the four stages of Kolb's experiential learning cycle to alter their attitudes and beliefs regarding transgender individuals. Stage 1 – the

concrete experience – occurred during the SCE case in which the student provided care for a transgender identified client. Stage 2 – reflective observation – occurred during the debriefing as students reflected upon their experience during the SCE case and examined how their existing attitudes and beliefs impacted the care provided to the client. Stage 3 – abstract conceptualization – occurred after the completion of the SCE and debriefing periods. During this time, students either reinforced or reconsidered their previously held attitudes and beliefs regarding transgender individuals. Stage 4 – active experimentation – will occur when the participants provide care to a transgender identified client either in the student or professional nurse role.

Variables

Participation in the SCE was the independent variable expected to positively impact the students' attitudes and beliefs regarding transgender individuals. The dependent variable for this study was students' attitudes and beliefs, comprised of three subscale variables measured using the TABS survey: 1) interpersonal comfort, 2) sex/gender beliefs, and 3) perceived human value. See Appendix A, Table 1.

Sample

The project utilized non-probability convenience sampling, and the participants were recruited from a pool of 99 second-year undergraduate students enrolled in a pre-licensure "Complex Health Concepts" nursing course. There were no specific exclusion criteria due to the cohort-based nature of the program in which the project took place. A sample size of 31, just under one-third of all eligible participants, was required for a paired t-test with an estimated effect size of .50, a power of .80, and a significance of .05.

All students participated in the simulation case regardless of whether or not they opted to complete the pretest survey, as simulated clinical experiences are fully integrated into the

curriculum of the nursing program. Only students who completed the pretest survey prior to participating in the SCE were invited to complete the posttest survey.

Setting

The project was conducted in an Associate Degree Nursing program at a five-campus community college system in the Midwest region of the United States. The simulation case was conducted consistently at one simulation center with the same high-fidelity manikin and faculty debriefer each time it was run. Although student participation in the pretest and posttest surveys was voluntary, all students in the recruitment pool participated in the simulation case and debriefing over the course of one 15-week semester.

Design

The project used a convergent parallel mixed-method design (Creswell & Creswell, 2018) to collect quantitative and qualitative data regarding the student's self-reported attitudes and beliefs toward transgender individuals. The data collection periods ran concurrently, but the data sets were each interpreted and analyzed separately prior to convergence.

Quantitative

Students enrolled in the course associated with the SCE were invited to participate in the quantitative portion of the study via their college email addresses. A link to the TABS inventory was provided via email approximately one week prior to their scheduled attendance at the SCE. Students were sent the TABS link a second time approximately one to two weeks after participating in the simulation, and the TABS inventory was completed again as a posttest survey.

Qualitative

The SCE included a post-scenario debriefing, held immediately after the completion of the case, which explored students' feelings about the encounter. The debriefing questions

(Appendix C) aligned with the TABS variables and explored students' interpersonal comfort with the client, how their beliefs and sex/gender influenced their interaction with the client, and their perceptions about the client's human value.

Intervention

The intervention consisted of a simulated clinical case in which groups of between 5 to 8 students participated as either a direct caregiver or an observer (via closed circuit television). The simulated client was a young adult transgender male in an acute care setting, and students provided nursing care for the client according to his physiological and psychosocial needs. "Cal Harrison", an 18-year old, was experiencing homelessness after being rejected by his family, and had suffered a blunt force trauma assault which resulted in an incomplete T6 spinal cord injury (SCI). In order to achieve a male appearance, Cal wore a restrictive chest binder which caused him to experience autonomic dysreflexia, a potentially life-threatening complication of a SCI caused by a noxious stimulus. Autonomic dysreflexia severely elevates blood pressure, induces bradycardia, and can cause other unpleasant symptoms such as a pounding headache, diaphoresis, facial flushing, and nausea. Symptoms of autonomic dysreflexia will frequently resolve upon removal of the stimulus, but untreated episodes may result in seizures and/or intercranial hemorrhage (Bycroft, Shergill, Chung, Arya, & Shah, 2005). Students were challenged to provide culturally sensitive care in order to implement the appropriate nursing interventions while also acknowledging the client's distress. Expected behaviors included referring to Cal by his chosen name and pronouns, locating and identifying the binder as the stimulus of the autonomic response, acknowledging the importance of the binder to his gender presentation, educating the client about the relationship of the binder to his symptoms, and removing the binder as the primary intervention aimed at resolving the autonomic dysreflexia.

Adhering to the standards of best practices as outlined by the International Nursing Association for Clinical Simulation and Learning (INASCL), the case included both a prebriefing and debriefing period (IANCSL, 2016, p. S8) which occurred immediately before and after the case was run. In the prebriefing period, students reviewed the client's electronic health record and collaboratively answered questions about the client's medical condition and transgender identity as outlined on a provided prebriefing guide. During the case, a team of up to four students provided care for Cal while the remaining team members observed in a separate room. Immediately after the case, students reflected upon their performance as well as the case concepts through a guided discussion. The case followed a specific script which outlined expected student actions and client responses as voiced and controlled by dedicated simulation faculty and technicians. The researcher was present each time the simulation case was run to ensure internal consistency. The debriefing guide was standardized, and each debriefing phase was facilitated by this investigator.

Instrument

The Transgender Attitudes and Beliefs Scale (TABS) is a 29-item, seven-point Likert scale survey which tests participant attitudes and beliefs toward transgender individuals in three categories, which the developers call "factors": interpersonal comfort, sex/gender beliefs, and human value (Kanamori, Cornelius-White, Pegors, Daniel, & Hulgus, 2017). The TABS has been demonstrated to be both valid and reliable. Construct validity was established by performing Pearson's coefficients against two previously validated transgender attitude measures – the Attitudes Toward Transgender Individuals (ATTI) Scale and the Genderism and Transphobia Scale (GTS). TABS was found to have a strong correlation to the direction of both the ATTI and GTS. Cronbach's alpha for the TABS scale was $\alpha=.98$, demonstrating reliability. The individual subscales also demonstrated high internal consistency, with $\alpha=.97$ for factor 1,

α=.95 for factor 2, and α=.93 for factor 3 (Kanamori et al, 2017). The TABS was previously administered in a study of 243 healthcare professionals, which included 83 nurses, 60 providers, and 100 other healthcare workers of various disciplines (Kanamori & Cornelius-White, 2016). The TABS has not previously been administered to healthcare professional students. Permission to use the TABS survey for this study was granted by the authors on April 27th, 2018. A copy of the instrument can be found in Appendix B. Demographic data collected along with the TABS responses was coded according to the operational definitions outlined in Appendix A, Table 2.

The qualitative data collection tool consisted of five open-ended questions (Appendix C). The items were constructed by the researcher to both reflect the elements of the SCE and align with the three factors of the TABS survey. The items were embedded into the SCE debriefing guide, which posed additional performance and nursing concept related reflection questions pertinent to the aims of this study.

Data Collection

The primary author, a transgender male of Caucasian non-Hispanic ethnicity, and faculty member at the institution, administered the surveys and conducted the post-simulation interviews.

Data was collected over a twelve-week period between August 29th and November 22nd, 2018. A link to the TABS pretest survey, administered via PsychData, was included in the recruitment email, and participants were asked to complete the pretest survey prior to their attendance at the SCE. The consent document (Appendix D) was attached to the recruitment email. The posttest survey link was sent within two weeks after the SCE, and a follow-up email was sent to students who had not yet completed the posttest survey within seven days of receiving the invitation. The pre-and posttest surveys were estimated to each take 10 minutes to complete.

PsychData maintained a respondent ID which was linked to the participants' email address to pair their pretest and posttest data. Anonymous demographic and quantitative responses were stored within PsychData for the duration of the data collection period. Once the collection period ended, data from the TABS survey was directly exported from PsychData into SPSS version 25 software for analysis, eliminating the need for a second researcher to review data for accuracy.

Each debriefing session was video recorded in order to ensure that the qualitative data analysis included only those students who completed the pretest and posttest surveys and had given informed consent. The video recording of each debriefing session was transcribed verbatim by the researcher. Upon completion of each debriefing session transcript, non-participant comments were redacted. The final transcript used for data analysis contained only the comments made by those students who had specifically opted in to the study.

The GANTT Chart timeline for the project is outlined in Appendix E.

Ethical Considerations

The study protocols were approved by both The George Washington University Office of Human Research Institutional Review Board and the Office of Institutional Effectiveness at the community college system where the data collection occurred.

Although all students enrolled in the associated course were expected to participate in the prebriefing, simulation, and debriefing as part of the normal educational process, completion of the pretest and posttest surveys and consenting to the use of debriefing comments for data analysis was voluntary. The consent document was provided with the recruitment email and was embedded into the PsychData survey. Completion of the TABS survey indicated consent to participate in the quantitative portion of the study. Participants were assured that their information would be kept confidential, that no identifiers would be placed with the data, and

that their academic standing would not be affected by participation or non-participation in this study.

In order to protect the privacy of the subjects, the TABS survey responses were collected exclusively via PsychData. PsychData generated a unique code for each participant and maintained a link between the students' email addresses and identifiers to allow for matching of pre-and post-SCE survey responses. This link was maintained only within the secure, password-protected PsychData system. When the survey data was transferred to SPSS, participants were organized exclusively by their PsychData identifier code. To protect the confidentiality of the data, the PsychData account, SPSS account, the video recording device and recordings, and transcribed comments were password protected and only accessible to the researcher.

Students were informed that the debriefing was being videotaped for research purposes. However, if a student did not consent to have his or her comments included in the data analysis, as indicated by answering "no" to the final question on the pre-or-post survey, the student's comments were omitted from the transcript and not included in the coding or data analysis. Likewise, students who did not participate in the quantitative portion of the study did not have their debriefing comments included in the final transcript. The video recordings of the qualitative data were saved and catalogued by date of simulation only, and the digital files were deleted once transcription was completed.

The researcher did not have any teaching or evaluative responsibilities in the course which was connected to the simulation. The simulation case was facilitated by designated simulation faculty and technicians, and there were no grades assigned for student performance within the pre-briefing, simulation, or debriefing phase of the SCE.

Results

A total of 33 students completed the TABS pretest; however, pre-SCE responses and debriefing comments were omitted for 18.2% (*n*=6) because they did not complete the posttest by the end of the data collection period. The reasons for non-completion are unknown.

Sample Characteristics

Gender identity. Of the 27 pre-licensure nursing students who completed both the pre and post TABS survey, 92.6% (*n*=25) self-reported as female, 3.7% (*n*=1) as male and 3.7% (*n*=1) preferred not to disclose. No respondents reported identifying as transgender.

Sexual orientation. A large majority (85.2%, *n*=23) identified as being attracted exclusively to the opposite sex/gender, while 11.1% (*n*=3) identified as being attracted to the opposite and same sex/gender, and 3.7% (*n*=1) preferred not to disclose their sexual orientation. No respondents reported being exclusively attracted to the same sex/gender.

Prior interactions. Slightly more than half of the respondents (55.6%, *n*=15) reported having prior interactions with transgender individuals outside of a professional setting. The nature of these relationships were categorized as an acquaintance (51.9%, *n*=14), a friend (29.6%, *n*=8), or family member (7.4%, *n*=2). Nearly half (44.4%, *n*=12) reported having never encountered a person known to them to be transgender identified. In contrast, only 30.0% (*n*=9) reported having previously provided nursing care to a transgender client, with 22.2% (*n*=6) classifying the encounter as "direct care" versus 11.1% (*n*=3) deeming the experience to be "indirect care."

Quantitative Results

Paired-sample t-tests were conducted to compare participants' total and subscale TABS mean scores before and after participation in the SCE. There were significant differences in the total pre (*M*=161.55, *SD*=19.95) and post (*M*=167.48, *SD*=23.25) SCE scores, $t(26)=2.76$, $p=.01$ and the sex/gender beliefs pre (*M*=46.41, *SD*=7.66) and post (*M*=52.33, *SD*=12.26) SCE

subscale, $t(26)=4.64$, $p<.001$. There were not significant differences for the pre and post SCE subscales for interpersonal comfort ($M=82.48$, $SD=13.46$; $M=82.04$, $SD=12.54$), $t(26)=.34$, $p=.74$ and human value ($M=32.67$, $SD=3.00$; $M=33.11$, $SD=2.26$), $t(26)=.88$, $p=.39$.

The quantitative data analysis suggests a positive difference in the pre and post-intervention attitudes and beliefs of pre-licensure students taking part in the simulated clinical experience. However, the improvement was limited only to sex/gender beliefs and the overall mean score. There was no improvement in the participants' interpersonal comfort or their perceptions regarding the human value of transgender clients.

Qualitative Results

The three primary codes associated with the TABS survey categories guided the deductive content analysis process. Transcripts were read numerous times and text strands were organized according to how well they fit with the definition of the primary codes. Once responses were assigned to a primary code, an iterative inductive process was then conducted by the researcher to identity and define sub-codes. Data were further analyzed and organized again according to how they fit with the sub-codes. Transcripts, codes, and definitions were reviewed by the primary project advisor. The primary codes, sub-codes, and definitions are outlined in Table 1.

Table 1. *Code Book*

Primary code	Sub-code	Definition
Interpersonal Comfort		Degree of ease with care encounter
	Transference	Reassigning feelings of discomfort to the patient
	Identity Blindness	Minimization of impact of patient's gender identity to overall care encounter
	Experiential Knowledge Deficit	Lack of prior encounters with transgender individuals

Sex/Gender Beliefs		Perceptions regarding gender/sex
	Essentialism	Reliance upon strict definitions of sex
Human Value		Degree of worth ascribed to client
	Incongruence	Opposing professional and personal values
	Universal Human Dignity	Regard for personhood of all people
	Nonmaleficence	Reducing or eliminating harm as a component of nursing care

Finally, coded responses were examined for overarching themes which gave context and

meaning to the quantitative results. Four themes were emerged from the data: (a) discomfort

recognition, (b) avoidance rationalization, (c) identity dismissal, and (d) values divergence.

Discomfort recognition. Discomfort recognition describes participants' emerging

awareness of their distress during the SCE. Immediately after the SCE, participants expressed

that they did not initially expect to feel discomfort during the simulation but conceded

uncertainty with the challenges of the care encounter as the debriefing progressed. The genesis of

the discomfort stemmed from uncertainty about how to sensitively address and assess the patient,

and how to discuss the presence of the chest binder. Only one participant attributed their

discomfort with limited knowledge of spinal cord injuries or technical nursing interventions.

When discussing their comfort level during the SCE, one participant offered, "I didn't

think I'd be uncomfortable going in, but then when we saw the binder, I wasn't sure what to do

anymore," (#17). Another expounded:

It was different for me personally, um, to need to um, ask his preferred name as soon as I

went in. I mean, I don't usually do that with patients. I was definitely glad it was already

in the notes in the chart. Otherwise (chuckles) I'm not sure how comfortable I would be

navigating that without upsetting him. Also, if I'm really being honest, I was

uncomfortable doing a physical assessment of his chest. If I had been more thorough

though I would have found the binder that was causing the problem. (#3).

A third participant volunteered, "We did a radial pulse instead of an apical pulse because it let us

get around dealing with that [chest binder] and having to do anything with it," (#5). Another

participant, who was in an observer role, concurred:

I can see where I'd be uncomfortable with that too. I mean, I think if he were really a

man I wouldn't be uncomfortable taking something off their chest because, you know,

it's just a chest… But in this case, I'd be uncomfortable trying to keep his dignity and

things about him private if I needed to take that [chest binder] off, even if it was for

his own good. (#7).

Despite approaching the case with good intentions, discomfort caring for a transgender patient

was prolific, affecting both the care team and the observers.

Avoidance rationalization. Participants struggled to provide safe and effective care for

the client during the SCE. During debriefing, nearly half of the participants rationalized not

meeting the objectives of the simulation – such as performing critical physical assessments of the

client, acknowledging and discussing the purpose of the binder with the client, and removing the

binder to resolve complications – by voicing concern that the patient would feel uncomfortable

with the student nurse's actions. Failure to address the chest binder persisted among 13 of 15

groups (86.7%), even when students conceded to visualizing the binder, and when the symptoms

of autonomic dysreflexia were not resolved by other interventions, such as administering anti-

hypertensive medications. Although participants ultimately acknowledged their own discomfort

with the SCE, initial explanations for care avoidance reflected a desire to preserve the dignity of,

and avoid embarrassment for, the patient. One participant, who acknowledged feeling the binder

under the client's gown but not examining it as a possible stimulus for the symptoms of

autonomic dysreflexia, defended her failure to fully assess the client, "I just didn't want him to have to, like, explain things to us, and make him uncomfortable," (#13). Another added, "That's his private business and I don't want to make him feel uncomfortable by having to talk about it," (#5). When discussing the failure to remove the binder despite the futility of other attempted interventions, a participant observed:

> It was like [the binder] was there, but it wasn't there, you know? Like, we saw it, and knew that might be what was causing his symptoms, but we just decided to ignore it. Maybe subconsciously, but we decided to ignore it because we weren't sure how to handle it. (#18).

In response to the statements about not wanting to acknowledge the client's transgender identity, participants were asked about strategies they would employ to avoid unintentionally harming this client with their care. Here the interviews took a surprising turn. Several participants offered that a hypothetical nurse who did not feel they could provide unbiased care should request a different patient assignment. Seeking to arrange a switch with a nurse who was more comfortable caring for a transgender client was seen as a benevolent act and deemed as being in the best interest of the patient. Discussion of this solution did not specifically consider whether the nurse has a responsibility to examine their own biases and work to display more cultural sensitivity toward the client.

Identity dismissal. Identity dismissal describes participants' rejection of the significance of client's identity to the SCE. Over half of the participants opined that Cal's transgender identity was not relevant to their nursing care even after recognizing that the binder, which he wears to achieve a masculine appearance, was the stimulus for the autonomic response. For example, one participant stated:

I think nursing school has done a good job of teaching us to recognize culture, but in this

case, I don't think it mattered as much because his physical problems were much more

pertinent to his health at the time. It doesn't matter that he's transgender because he's got

a medical emergency we need to focus on. (#2).

Another concurred, "We need to, you know, kind of keep [the client's identity] in the back of our

mind, but we've got all these other things to treat," (#1). While yet another explained that she

would consider only the client's anatomy if an invasive procedure was needed, "But like if we're

having to straight cath him I'm going to refer to the anatomy he has and be straightforward about

it. So, I would treat it like nothing. Like I didn't notice the difference." (#10).

Furthermore, participants dismissed the influence of the client's identity on the quality of

care they would be able to provide. For example, one stated, "I mean, however they see

themselves, it doesn't really affect how I work with them as a nurse." (#4). The outcomes of the

simulation stand in opposition to the participants' beliefs that their attitudes and beliefs do not

negatively impact nursing care.

Values divergence. Values divergence describes participants' separation of professional

nursing values from personal beliefs. When discussing how their identity as a nurse influenced

their feelings about the client, participants consistently articulated an explicit commitment to the

provision of high-quality care for all individuals, while also voicing a need to extract the

personal from the professional when providing care to transgender clients. One participant stated,

"You are supposed to keep your beliefs separate from your work and treat everybody equally. I

mean, like, you can believe one thing, but at work you have to keep that to yourself and treat

everybody equally," (#10). Another offered,

Yeah, I mean, I don't personally agree with his situation at all, but I'm not gonna refuse

to care for him. I'm not gonna provide him crappy care. I'm gonna give him the same

kind of care that I would for any of you guys. (#11).

While an additional participant concluded,

I think it's okay for a nurse not necessarily to agree with those things or have beliefs

against it and I don't think that means that she shouldn't be a nurse. But I think they have

to just agree to disagree about it. I mean maybe I don't support it and we aren't going to

see eye-to-eye about it but that doesn't mean that I don't have to care for you.

(#24).

Discussion

Using both quantitative and qualitative measures, this study sought to examine the impact

of a simulated clinical experience upon the attitudes and beliefs of pre-licensure nursing

students' regarding transgender clients. The results reflect the efficacy of experiential learning

for transforming student thoughts and actions and add to a small body of knowledge about how

to prepare nurses to display cultural sensitivity for transgender individuals.

Key findings revealed that participation in a SCE can positively impact students' attitudes

and beliefs regarding transgender individuals while also providing a critical opportunity for

students to recognize and examine their biases, expand their understanding of sex and gender,

and discuss the influence of their personal beliefs upon the performance of their professional

duties in a psychologically safe environment. Participation in the SCE provides opportunities for

students to challenge their previously held beliefs by moving them from a hypothetical concept

to an actual care encounter.

Perhaps the most surprising finding of this study is that, in contrast to previously

published studies regarding empathy development for stigmatized groups (Bunn & Terpstra,

2009; Henry, Ozier, and Johnson, 2011), participants did not become more comfortable caring

for the target group after the intervention, and instead expressed decreased levels of comfort.

Although the paired t-test revealed no significant differences amongst the pre and post-

intervention means for the interpersonal comfort subscale, it is noteworthy that it is the only

subscale mean which decreased after the intervention (M=82.48, SD=13.46; M=82.04,

SD=12.54). One possible explanation for this result is that, given the somewhat limited exposure

of the participants to transgender individuals prior to the SCE, the pretest scores reflect a more

abstract appraisal of interpersonal comfort prior to the intervention, while the posttest scores

reflect the discomfort participants experienced during the simulation. The 14 TABS survey items

within the Interpersonal Comfort subscale each assess a feelings or actions based upon a

hypothetical situation, rather than an actual one. When taking the pretest, participants were likely

envisioning an imagined response to a scenario. Likewise, when taking the posttest, they were

reporting about how they truly responded when faced with the challenge. Several participants in

this study also attributed their uneasiness during the SCE as a function of limited previous

experiences with and opportunities for learning about transgender individuals, meaning that they

responded to the pre-SCE TABS survey with inadequate context for estimating their level of

discomfort. These interpretations align with the work of Richardson, Ondracek, and Anderson

(2016), who found that while nursing students expressed comfort with the idea of caring for LGB

adolescents generally, they voiced distress at the prospect of discussing any elements of the

adolescents' sexual orientation or sexual health needs specifically. These interpretations also

echo previously conducted studies regarding the absence of gender identity and sexual

orientation in the nursing curriculum (Brown, Keller, Brownfield, & Lee, 2017; Carabez et al,

2015; Carabez, Pellegrini, Mankovitz, Eliason, & Dariotis, 2014; and Greene, 2018), and support

the need for intentionally inclusive clinical learning opportunities which may be instrumental in developing interpersonal comfort and culturally sensitive practice.

Another major finding of the study was that sex/gender beliefs was the only one of the three TABS subscale means which significantly improved after the SCE. A likely explanation for this positive change is also rooted in the lack of prior opportunities for developing a nuanced understanding of sex and gender. The language used during the debriefing interviews offers a glimpse into the strict interpretations of sex evident at the beginning of the session, the evolution of participant thinking over the course of the debriefing, and a possible explanation for the significant improvement in this subscale. When discussing Cal's care, several responses included biased language and rigid interpretations of sex and gender roles. Comments such as "if he were really a man," which indicate that Cal's male identity was something perceived by the participants as in authentic, and references to treating Cal as if he were "normal," were prevalent throughout the interviews. Multiple respondents also initially expressed difficulty with reconciling the client's anatomy and presumed genetic makeup with his declared identity. It is possible that this was the prevailing mindset during the pretest, and it is also likely that the interaction with Cal and the discussion of his identity during the post-SCE debriefing led students to adopt more flexible attitudes regarding the intersection of sex and gender. This interpretation aligns with the work of Carabez et al, (2014) who noted that students were more prepared to understand the needs of sexual and gender minority clients simply by "breaking the silence" in nursing education regarding LGBT individuals. A study by Phelan et al, (2017) echoes the premise that increased opportunities to interact with or care for lesbian and gay individuals leads to a reduction in implicit and explicit bias toward those groups. Prior to participation in the SCE, it is conceivable that participants had never wrestled with their

understanding of sex and gender, and that the simulation and debriefing provided an introductory opportunity to critically examine their attitudes and beliefs.

The third major finding of the study is the most difficult to explain because it represents a conflict between the participants' personal and professional values, as well as their behaviors in pursuit of their stated goals. The human value subscale means did not show significant post-intervention changes, but it is important to note that there was limited opportunity for improvement between the pretest and posttest scores. The possible range of human value subscale scores on the TABS instrument is 5-35. The respondent pretest scores were already near the top with a range of 25-35, and the posttest range narrowed even more to 29-35. These scores and their corresponding means indicate a high regard for human value both before and after the intervention. However, participants conceivably responded to the human value TABS subscale items through the lens of professional rather than personal beliefs, and the qualitative theme of values divergence indicated a separation between the two. Furthermore, participant actions during the case belied their stated commitment to the well-being of the client. Participant concern for the protection of Cal's privacy may have produced unintended consequences during the care encounter. Participant comments which reflected a high regard for the client's dignity underlie the avoidance rationalization and identity dismissal themes which emerged during the debriefing interviews. A concern for the patient's psychosocial welfare was invoked repeatedly as a reason for not engaging in any nursing care which might acknowledge the client as a transgender individual. One plausible reason for this is that the participants, fearing the prospect of being perceived as biased or transphobic, opted to avoid the topic altogether as a means of not saying or doing anything which could be interpreted as insensitive. This explanation is consistent with previous work (Burgess, Warren, Phelan, Dovidio, & van Ryn, 2010; Teal, Gill, Green, & Crandall, 2012) regarding the impact of implicit bias and stereotype threat upon the patient-

provider relationship. The quantitative human value results also appear to reflect the participants' understanding of their nursing identity as separate from their personal identity. The qualitative theme of values divergence illustrates an understanding of personal bias as something that can be set aside during the course of administering care to clients whom the nurse would otherwise prefer to avoid. The remarks offered by students regarding a separation between professional and personal values parallel the findings of Maruca et al (2018), whose results indicated in improvement in culturally sensitive professional practice techniques, but no improvement in personal attitudes toward the client. The qualitative data regarding avoidance rationalization, identity dismissal, and values divergence confirms the TABS human value subscale results which indicate a pre-existing level of high regard for the dignity of all individuals receiving nursing care. This espoused respect for human dignity was unaffected by participation in the SCE as participants held steadfast in their commitment to their professional obligations and attempted to avoid actions which could harm the client. However, the participants' strategies for avoiding client harm, which include avoiding a discussion of the client's identity, failing to perform needed nursing care, and arranging for an alternate patient assignment would likely create a detrimental healthcare environment for the patient.

Study Limitations

This study had several limitations. First, the sample size (N=27) did not reach the intended number of 31 participants, thus increasing the possibility that the improvement in participant attitudes and beliefs is not attributable to the intervention. A larger sample would be necessary to confirm the findings of this study. Second, this study utilized a non-probability convenience sample of students enrolled at a single institution, which limits the generalizability of the findings. Further research would be warranted to determine the replicability of the results at other types of institutions outside of the Midwestern United States. Third, the researcher was

not able to draw any conclusions in regard to the influence of the participant's gender identity or

sexual orientation upon their interpersonal comfort, beliefs about sex and gender, and perceived

human value of the client due to the overrepresentation of heterosexual females in the sample.

Additional demographic data such as race and ethnicity was intentionally not collected from

participants over concerns that some participants would be identifiable due to the homogeneity

of the recruitment pool, which is largely Caucasian and non-Hispanic.

In addition to the sample limitations, the influence of bias on the participants and the

researcher must also be acknowledged. The authenticity of the self-reported qualitative data may

have been threatened by social desirability bias. Participants may have been reluctant to voice

negative attitudes or beliefs or ask clarifying questions about transgender individuals in the

presence of their peers or the researcher. Anonymous post-SCE reflective essays may be a

valuable tool to capture a more diverse range of responses in future research.

Finally, the perspectives of the researcher, which cannot be wholly dismissed despite

mindful awareness of their potential influence, surely informed the design of the project and

interpretation of the findings. A more comprehensive data analysis process with a larger research

team is needed to fully construct meaning from the results.

Implications/Recommendations for Practice and Research

The results of this study suggest that, absent intentional learning opportunities, nursing

students are not equipped to provide care for transgender identified individuals despite their best

intentions. Nurse educators must create intentionally inclusive experiences which challenge

students to examine their preconceived notions and prepare to sensitively engage with

transgender clients in practice. Participation in a simulated clinical experience can have a

positive impact on students' overall attitudes and beliefs about transgender individuals,

particularly when examining rigid attitudes and beliefs regarding sex and gender.

The representation of a transgender identified individual in a simulated clinical setting may provide a rare opportunity for pre-licensure students and practicing nurses to recognize and explore their discomfort in a safe environment, which would be an initial step in developing cultural sensitivity to the psychosocial needs of transgender clients. Educators in any setting could achieve this objective by situating a transgender identified client into a variety of simulated clinical experiences. However, the entire learning experience – the prebrief, simulation case, and the debrief – should be intentionally designed to acknowledge the barriers to care reflected in this study. To reduce fear which may be associated with a lack of knowledge, simulation participants should have access to a primer regarding appropriate terminology and concepts of sex and gender during the prebrief, and some prebriefing questions should specifically address the client's gender identity. This will create an opportunity for learners to discuss points of confusion with their peers prior to engaging with the client, and limit the participants' worries about inadvertently upsetting the client by using incorrect terminology. In addition, it is critical that learners be charged with explicitly acknowledging the client's identity as a part of the care encounter in order to combat the likelihood of avoidance rationalization and identity dismissal. If avoidance or dismissal persists during simulation regardless, this should be addressed during the debriefing discussion. A candid discussion of potential health consequences for the patient should also be discussed if avoidance or dismissal resulted in a failure to meet simulation objectives. Because nursing students and practicing nurses may contend that their avoidance of the client's identity is a well-intentioned and beneficent strategy for reducing the patient's assumed discomfort, it should be acknowledged that admitting and examining our own implicit bias is an important component of developing cultural sensitivity. Finally, it should be recognized that transgender individuals could interpret instances of avoidance or identity

dismissal as an explicit indicator of the caregiver's discomfort, thus creating a chilling effect on the development of a therapeutic relationship (Rounds, McGrath, & Walsh, 2013).

As mentioned previously, future research should be conducted with larger groups, across different types of institutions, and using different SCE cases in order to increase the generalizability of the findings to a broader population of students and practicing nurses. In addition, future research should investigate the divergence of personal convictions and professional identity amongst nurses regarding gender minorities.

Conclusions

For transgender clients, negative encounters with the healthcare system can result in avoidance of future care and an increase in health disparities. Nursing education programs must provide opportunities for students to engage in experiential learning in order to prepare graduates to care for vulnerable populations. The results of this study indicate that participation in a simulated clinical experience can improve nursing students' overall attitudes and beliefs about transgender clients and can provide a safe environment in which students can recognize and explore their interpersonal discomfort, understanding of sex and gender, and the intersection of personal and professional values.

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Appendix A

Table 1: Variables Impacting Student Attitudes and Beliefs Regarding Transgender Clients

Variable	Variable Type	Theoretical Definition	Operational Definition
SCE participation	Independent Categorical	Participation in a simulated clinical experience (SCE) focused on the health needs of a transgender client.	0 = Pretest 1 = Posttest
Attitudes and Beliefs Regarding Transgender Individuals	Dependent Interval/Ratio	Regard for transgender individuals as determined by score on the TABS survey administered prior to and after completion of SCE. The TABS survey measures three factors – interpersonal comfort, sex/gender beliefs, and human value.	Pretest TABS scores and posttest TABS scores (total and by each factor).

Table 2: Demographic Data of Participants

Gender Identity	Categorical	Reported self-identification of gender identity	1 = Male 2 = Female 3 = Transgender 4 = Other 5 = Prefer Not to Disclose
Sexual Orientation	Categorical	Reported self-identification of sexual orientation/attraction	1 = Attracted to opposite sex/gender 2 = Attracted to same sex/gender 3 = Attracted to same and opposite sex/gender 4 = Other 5 = Prefer Not to Disclose
Prior exposure to transgender persons	Categorical	Reported prior personal interactions with transgender person(s) in a non-healthcare setting. This does not include awareness of transgender individuals in popular culture.	1 = No known prior interactions 2 = Known prior interaction with transgender acquaintance 3 = Known prior interaction with transgender friend 4 = Known prior interaction with transgender family member
Prior exposure to transgender clients	Categorical	Reported prior interactions with	1 = No known prior interactions

		transgender person(s) in a professional healthcare setting.	2 = Known prior interactions in healthcare setting. No direct care provided. 3 = Known prior interactions in healthcare setting. Direct care provided.

Appendix B: TABS Survey

Transgender Attitudes and Beliefs Scale (TABS)

This questionnaire is designed to measure your beliefs and attitudes toward transgender persons. It is not a test, so there are no right or wrong answers. Please answer each question as carefully and honestly as you can, using the 7-point scale described below. For this questionnaire, a transgender person is defined as a person whose biological sex at birth does not match their felt sense of self as male or female.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

FACTOR 1 (Interpersonal Comfort)
Q1.1 I would feel comfortable having a transgender person into my home for a meal.
Q1.2 I would be comfortable being in a group of transgender individuals.
Q1.3 I would be uncomfortable if my boss was transgender.
Q1.4 I would feel uncomfortable working closely with a transgender person in my workplace.
Q1.5 If I knew someone was transgender, I would still be open to forming a friendship with that person.
Q1.6 I would feel comfortable if my next-door neighbor was transgender.
Q1.7 If my child brought home a transgender friend, I would be comfortable having that person into my home.
Q1.8 I would be upset if someone I'd known for a long time revealed that they used to be another gender.
Q1.9 If I knew someone was transgender, I would tend to avoid that person.
Q1.10 If a transgender person asked to be my housemate, I would want to decline.
Q1.11 I would feel uncomfortable finding out that I was alone with a transgender person.
Q1.12 I would be comfortable working for a company that welcomes transgender individuals.
Q1.13 If someone I knew revealed to me that they were transgender, I would probably no longer be as close to that person.
Q1.14 If I found out my doctor was transgender, I would want to seek another doctor.

FACTOR 2 (Sex/Gender Beliefs)
Q2.1 A person who is not sure about being male or female is mentally ill.
Q2.2 Whether a person is male or female depends upon whether they feel male or female.
Q2.3 If you are born male, nothing you do will change that.

Q2.4 Whether a person is male or female depends strictly on their external sex-parts.

Q2.5 Humanity is only male or female; there is nothing in between.

Q2.6 If a transgender person identifies as female, she should have the right to marry a man.

Q2.7 Although most of humanity is male or female, there are also identities in between.

Q2.8 All adults should identify as either male or female.

Q2.9 A child born with ambiguous sex-parts should be assigned to be either male or female.

Q2.10 A person does not have to be clearly male or female to be normal and healthy.

FACTOR 3 (Human Value)

Q3.1 Transgender individuals are valuable human beings regardless of how I feel about transgenderism.

Q3.2 Transgender individuals should be treated with the same respect and dignity as any other person.

Q3.3 I would find it highly objectionable to see a transgender person being teased or mistreated.

Q3.4 Transgender individuals are human beings with their own struggles, just like the rest of us.

Q3.5 Transgender individuals should have the same access to housing as any other person.

Scoring:

Total Score

. Sum of all items on the three factors (Q1.1-Q3.5)

. Raw range: 29-203

Factor 1: Interpersonal Comfort

. Sum of all items on factor 1 (Q1.1-Q1.14)

. Raw range: 14-98

Factor 2: Sex/Gender Beliefs

. Sum of all items on factor 2 (Q2.1-Q2.10)

. Raw range: 10-70

Factor 3: Human Value

1. Sum of all items on factor 3 (Q3.1-Q3.5)

2. Raw range: 5-35

Note: Q1.3, Q1.4, Q1.8, Q1.9, Q1.10, Q1.11, Q1.13, Q1.14, Q2.1, Q2.3, Q2.4, Q2.5, Q2.8, Q2.9 are reverse coded

Appendix C: Debriefing Questions

FACTOR 1 (Interpersonal Comfort)

1. How comfortable did you feel during your interactions with this client?

2. What made you feel comfortable/uncomfortable?

FACTOR 2 (Sex/Gender Beliefs)

1. The client identified as transgender. How does this align or conflict with your beliefs about biological sex?

FACTOR 3 (Human Value)

1. How does your identity as a nurse impact your feelings about this client's rights?

2. Should healthcare institutions (such as clinics and hospitals) accommodate transgender client requests to be called by a preferred name or preferred pronouns?

Appendix D: Informed Consent Document

INFORMED CONSENT
IRB # <u>180392</u>

Principal Investigator:
Laurie Posey, Ed.D.
Additional Investigator:
J. Alex Thompson, MSN, M.Ed., RN-BC

INTRODUCTION
You are invited to take part in a research study being conducted by Dr. Laurie Posey of the School of Nursing, and J. Alex Thompson, a student in the Doctor of Nursing Practice program at the George Washington University in Washington, D.C. You are being asked to take part in this study because you are a Term 4 student enrolled in "ADN 420 - Complex Health Concepts IIa" at Des Moines Area Community College. You are one of approximately 120 students being asked to participate in this study. Participation in the study is completely voluntary, and your academic standing will not be affected in any way should you choose not to take part or to withdraw at any time.

PURPOSE
The purpose of this project will be to examine nursing students' psychosocial factors which may impact patient care.

PROCEDURES
If you choose to participate, you will be asked to complete a demographic survey as well as an online attitudes and beliefs survey prior to your first simulated clinical day in "ADN 420 - Complex Health Concepts IIa." Within one to two weeks after your first simulation day in ADN 420, you will be asked to complete the online survey a second time. This survey will take approximately 10 minutes to complete. This survey will not be graded as part of your course, and no course instructors will be involved in the scoring. The scoring will be completed for research purposes only.

During the first simulation day for the course, you will engage in a simulation case and debriefing which are also associated with this study. Debriefing sessions will be video recorded for transcription and analysis of themes related to the simulated case. However, if you do not consent to have your comments included in the data analysis they will be omitted. Direct quotes will be used in the paper and presentations associated with the study, but they will not be attributed to any individual student.

RISKS AND CONFIDENTIALITY
The risks of participating in this study are considered minimal. There may be a risk of loss of confidentiality. Every effort will be made to keep your information confidential, however, this cannot be guaranteed. All identifying information will be removed from the study data. The study investigators will be the only people who have access to your data. If results of this study are reported in journals or at scientific meetings, the people who participated in this study will not be named or identified.

BENEFITS
Taking part in this research will not help you directly beyond the usual educational outcomes associated with any simulated clinical experience. However, your participation will benefit nursing educators who will gain insight from your responses.

QUESTIONS
You can contact the Principal Investigator listed on the top of this form at 202-994-9313 or at posey@gwu.edu. You can contact the Additional Investigator listed on the front of this form at 641-275-7710 or jalexthompson@gwu.edu.

The Office of Human Research of George Washington University, at telephone number (202) 994-2715, can provide further information about your rights as a research participant. You may also contact this office if you have questions, concerns, or complaints about the research, or wish to speak with someone independent of the research team.

DECLARATION OF CONSENT
Completion of the survey indicates your consent to participate in the study. If you wish to have your debriefing comments omitted from the study analysis, you may indicate that at the end of the survey.

Appendix E: GANTT Chart for Project Completion

	5/18	6/18	7/18	8/18	9/18	10/18	11/18	12/18	1/19	2/19	3/19	4/19	5/19
IRB Approval	▓												
SCE Case Development		▓	▓	▓									
SurveyMonkey Creation													
Intervention					▓	▓	▓						
Data Collection													
Data Cleaning								▓					
Data Analysis								▓	▓				
Writing									▓				
First Draft Submitted										▓			
Editing										▓			
Final Draft Submitted											▓		
Abstract Submitted											▓	▓	
Presented at GWU													▓