Transphobia Among Students Majoring in the Helping Professions

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ABSTRACT

The study was designed to further the understanding of transphobia among students majoring in the helping professions including social work, occupational therapy, and nursing. The study's hypotheses examined the effects of transgender content in education (e.g., textbooks and lectures), religiosity, contact with transgender people, and several sociodemographic variables with transphobia. Differences in transphobia levels between social work students and those in aligned professions were also explored. The sample consisted of 600 students of a public, urban university in New York City who participated in an online survey. Measures included transphobia and transgender content scales. Students reported (75%) a deficient amount of transgender content in education, and almost one half of the sample reported moderate to high levels of transphobia. Other findings showed that transgender content in education was positively correlated with transphobia, and 1-way ANOVA showed that transphobia differed significantly across the majors. The author suggestions included increasing transgender content in textbooks, lectures, and class discussions as well as developing field sites that provide students with opportunities to serve this population.

The overarching purpose of this article is to examine transphobia among students of helping professions including social work, occupational therapy, nursing, and psychology. Although there have been a significant number of empirical studies addressing homophobic attitudes of students toward clients of diverse sexual orientations, there is lack of attention regarding students' attitudes toward transgender people (Erich, Boutté-Queen, Donnelly, & Tittsworth, 2007; Logie, Bogo, & Katz, 2015; Logie, Bridge, & Bridge, 2007; Rutherford, McIntyre, Daley, & Ross, 2012; Scherrer & Woodford, 2013). There is also very little information about the exposure of students in the helping professions to transgender content during their education; some studies address social work students' knowledge, experiences, and biases toward transgender people (Fredriksen-Goldsen, Woodford, Luke, & Gutiérrez, 2011; Logie, Bogo, & Katz, 2015; Logie et al., 2007), but few studies look at those issues with students

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majoring in other helping professions (Antoszewski, Kasielska, Jędrzejczak, & Kruk-Jeromin, 2007; Bidell, 2014; Chapman, Watkins, Zappia, Nicol, & Shields, 2012; Papadaki, Plotnikof, & Papadaki, 2013; Rutherford et al., 2012; Rutledge, Siebert, Siebert, & Chonody, 2012).

Transgenderism, in its current definition, refers to people who identify themselves in a way that is different from their birth-assigned gender. Transgender people have unique and different identities as they may fall into categories such as crossdressers, transsexuals, drag queens and kings, intersex persons, and third gender people (those individuals categorized as neither man nor woman). Transgender is a problematic term because of its wide application and because it includes a variety of forms of identification and behaviors that contradict the traditional view of the two sex and gender divisions (Burdge, 2007; Callahan, 2009; Erich et al., 2007; Kenagy & Hsich, 2005; King, Winter, & Webster, 2009; Stocks, 2015).

Most societies throughout the world are predominantly heterosexual, view gender as either male or female, and are ignorant of the biological and emotional issues associated with transgender people (Erich et al., 2007; Kenagy, Moses, & Ornstein, 2006; King, Winter, & Webster, 2009; Vincent, Peterson, & Parrott, 2009). The deficiency in both knowledge and exposure of most people to transgender individuals and their issues not uncommonly leads to bias and, consequently, discrimination against members of the transgender community (Erich et al., 2007; Kenagy et al., 2006; King, Winter, & Webster, 2009; Logie et al., 2007). Transphobia is the common term to describe the fear, discomfort, and prejudicial attitudes that people have toward transgender people (Tebbe & Moradi, 2012; Warriner, Nagoshi, & Nagoshi, 2013).

Health care disparities among transgender people is a major public health issue in the United States. Transgender people experience high occurrences of mental health problems, including depression, substance abuse, and suicide attempts (Bidell, 2014; Callahan, 2009; Erich et al., 2007). They are also at a high risk for HIV and criminal victimization and are often denied basic human rights and protection in areas such as employment and housing (Callahan, 2009; Erich et al., 2007; Kenagy & Hsich, 2005).

Social workers and other health care professionals are ethically mandated to provide culturally competent services to transgender clients. Cultural competence is defined as the developmental process and learned collection of knowledge, skills, and behaviors that enable quality care for the diverse needs of clients (Galambos, 2003; Long, 2016). The NASW code of ethics (2008), which focuses on social justice and culturally competent services, mandates that social workers should not practice or collaborate with any forms of discrimination on the basis of clients' characteristics such as race, ethnicity, sexual orientation, or gender identity (Logie et al., 2015, 2007; NASW, 2008). The APA Task Force on Gender Identity and Gender Variance also emphasizes the need to broaden the knowledge and competency of practitioners when providing care to transgender

people (American Psychological Association, 2009; Mizock & Fleming, 2011). Yet transphobia is not uncommon among health care practitioners, and the empirical literature has suggested that it is attributed to the lack of transgender content in the education of social workers and other health care professionals (Fredriksen-Goldsen et al., 2011; Logie et al., 2015, 2007; Mizock & Fleming, 2011; Rutherford et al., 2012; Swank & Raiz, 2007). Transphobia reduces the effectiveness of the treatment that practitioners provide to transgender clients. It will hinder health care providers' ability to develop an understanding of the needs of the transgender client. Practitioners are expected to have the knowledge and skills to use modalities such as a strength perspective that affirm and support the identities, experiences, and rights of transgender clients (Bidell, 2014; Crisp, 2005; Fredriksen-Goldsen et al., 2011; Swank & Raiz, 2007).

Transphobia, much as homophobia (i.e., discomfort with gay and lesbians), which has received much more attention in research (Erich et al., 2007; Logie et al., 2007; Swank & Raiz, 2007), is linked to race and ethnicity, religiosity, gender, and contact and experiences with transgender people (Chonody, Woodford, Brennan, Newman, & Wang, 2014; Norton & Herek, 2013; Swank & Raiz, 2007). Most studies that have investigated these predictors used samples of mostly White students, indicating the need to examine the correlates of transphobia with samples that represent greater racial diversity (Fredriksen-Goldsen et al., 2011; Jenkins, Lambert, & Baker, 2009; Swank & Raiz, 2007, 2008; Tebbe & Moradi, 2012). Literature on attitudes toward LGBTQ among people from different racial and ethnic groups presents contradictory results, but several studies show that Blacks and Asian people have higher levels of homophobia and transphobia than White people (Ahmed, 2007; Battle & Lemelle, 2002; King, Winter, & Webster, 2009; Polat, Yuksel, Discigil, & Meteris, 2005; Swank & Raiz, 2007; Vincent et al., 2009). According to King et al. (2009), transgender people in Hong Kong are considered to be the most marginalized group of people, often referred to as "deviant individuals" or "human monsters" (p. 19). Lamelle and Battle (2004) have stated that African Americans are less tolerant of homosexuality than Whites.

Race, ethnicity, and religion are associated with different beliefs, morals, and values that impact personal and group identity, including attitudes toward transgender people (Follins, Walker, & Lewis, 2014). The National Institutes of Health (Office of Extramural Research, NIH, 2001) uses two self-identification questions to collect an individual's data on ethnicity and race. Race includes the categories of American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. Ethnicity includes the two categories of Hispanic or Latino and Not Hispanic or Latino. Hispanic or Latino is defined as a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. Previous research has indicated that Blacks have higher levels of sexual prejudice than Whites

(Battle & Lemelle, 2002; Buttaro & Battle, 2012; Lamelle, 2004; Lamelle & Battle, 2004). It is also suggested that Blacks are more socially conservative than Whites, and the perception of masculinity is more powerful among Black males than White males, leading to their homophobic and transphobic attitudes. Some of those interpretations also include the role of religion, which plays an important role in the daily life of Black people and which could contribute to their religious and spiritual values regarding transgender persons (Battle & Lemelle, 2002; Buttaro & Battle, 2012; Jenkins et al., 2009; Lemelle, 2004; Lemelle & Battle, 2004; Vincent et al., 2009). Religious involvement is viewed as an important aspect of life among Latino people influencing their culture and family life. Latino individuals generally practice Roman Catholicism, which views transgenderism as immoral, thus influencing the attitudes of Latino individuals toward transgender people (Fernandez & Loukas, 2014; García, Gray-Stanley, & Ramirez-Valles, 2008; Papadaki, Plotnikof, Gioumidou, Zisimou, & Papadaki, 2015; Severson, Muñoz-Laboy, & Kaufman, 2014). Asian and Middle Eastern societies also view transgender persons through legal structure such as laws, institutionalized religion, and rigid perceptions about the sexual and gendered nature of men and women. Those cultures also reinforce the negative attitudes of its individuals toward both transgender and homosexual people (Ahmed, 2007; Cao, Wang, & Gao, 2010; King et al., 2009; Polat et al., 2005; Woodford, Atteberry, Derr, & Howell, 2013).

Gender is often considered to be a predictor of homophobia and transphobia. Males, according to previous studies, express more negative attitudes than females toward LGBTQ people (King et al., 2009; Kulkin, Williams, Boykin, & Ahn, 2009; Nagoshi, Adams, Hill, Brzuzy, & Nagoshi, 2008; Warriner et al., 2013), but this relationship is not clear, and findings often show very small effect sizes (Newman, Dannenfelser, & Benishek, 2002; Swank & Raiz, 2007).

Studies focusing on transphobia pay attention to the effects of contact on attitudes toward transgender people. Contact theory explains that intergroup contact, which is defined as the interpersonal contact between different groups, facilitates learning about the people outside one's own group, reduces intergroup prejudice and anxiety, and increases empathy toward members of the outgroup (Pettigrew & Tropp, 2008). Research on transgenderism has indicated that people in general have more positive attitudes toward transgender people if they have had previous contact with transgender people and have known people who are transgender (King et al., 2009; Norton & Herek, 2013; Swank & Raiz, 2007).

No studies based on this author's investigation of the literature have compared transphobia among social work students and those majoring in allied professions. The only findings that discuss differences in attitudes among students majoring in the health professions focus on attitudes toward

gays and lesbians. Those findings have been inconclusive; some show that social work students report lower levels of homophobia compared to those in other disciplines, one suggests that homophobia is higher among social work students than psychology students, and other studies have found no significant differences among the disciplines including psychology, medicine, and nursing (Crisp, 2005; Papadaki et al., 2015; Rutledge et al., 2012).

The purpose of this study was to determine the levels of transphobia among students of color and immigrants from South America, Africa, the Caribbean islands, and Southern Asian countries who are majoring in the helping professions. That was an attempt to overcome the gap of previously using samples of mostly White students and including participants who represent greater racial and ethnic diversity (Fredriksen-Goldsen et al., 2011; Jenkins et al., 2009; Swank & Raiz, 2007, 2008; Tebbe & Moradi, 2012). The study also investigated key covariates of transphobia (i.e., transgender content in the curricula, gender, ethnicity and race, religiosity, and contact) that have not been investigated extensively in the area of transphobia compared to homophobia. An additional aim was to compare levels of transphobia among students majoring in social work, occupational therapy, nursing, and psychology, another area that has not been investigated so far in relation to transphobia.

The study addressed the following hypotheses:

(1) Students with higher levels of exposure to transgender content during their education will report lower levels of transphobia than those with lower levels of exposure to transgender content.
(2) Female students are more likely to have lower levels of transphobia than male students.
(3) Ethnic and racial backgrounds are associated with transphobia; White students are more likely to have the most positive attitudes toward transgender people than Asian and Black students; Latino students are more likely to have more negative attitudes toward transgender people than non-Latino students.
(4) Higher levels of religiosity are associated with more negative attitudes toward transgender people.
(5) Previous contact with transgender people is positively associated with positive attitudes toward this population.
(6) Social work students have lower levels of transphobia than students majoring in allied helping professions (i.e., occupational therapy, nursing, and psychology).
(7) To further understand transphobia, the researcher investigated whether exposure to transgender content explains variance in transphobia after controlling for religiosity, contact, and the demographic variables (e.g., gender, race, ethnicity, and major).

Methodology

Participants

Participants were 600 undergraduate students (78% women and 22% men) attending a public, urban college. The majority of the sample was Black (47%) including African Americans and African Caribbean or West Indian (e.g., Jamaican, Haitian), 7% were White, 24% were Latino, and 17% were Asian (most of them from Southern Asian countries, including Bangladesh, Pakistan, and India). White students in this sample were more likely to be Latino identifying themselves as White or immigrants from countries that used to be a part of the former Soviet Union. The mean age was 22 (SD = 5.85). Most students were single (78%). The students' majors included social work (35%), nursing (34%), psychology (24%), and occupational therapy (10%).

Procedure

Data were collected through an anonymous online survey distributed to students participating in the research pool. The research pool provides students in specified courses such as psychology, occupational therapy, nursing, and social work an opportunity to take part in actual research studies and to go through the experience of being a research participant. Participation is voluntary since students can choose what research study they want to participate in. Response rate is not available in this type of research design. The study was approved by the institutional review board of the college.

Measures

The transphobia construct was measured using the nine-item *Transphobia Scale* developed by Nagoshi et al. (2008). The Transphobia Scale items are rated on a 5-point Likert scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). Examples of items are: "I avoid people on the street whose gender is unclear to me" and "I think there is something wrong with a person who says that they are neither a man nor a woman." Scale scores were computed by summing responses for all nine items, with lower scores indicating lower levels of transphobia and higher scores indicating higher levels of transphobia. Both reliability and validity have been demonstrated with undergraduate student samples (Nagoshi et al., 2008). Internal reliability for this study sample was calculated by using Cronbach's alpha coefficient, which was .85.

  Exposure to transgender content was measured using a scale with several questions of Erich et al. (2007) about the type and quality of transgender content in the educational curricula of health profession programs. The scale had three

items, including: "Did any of your course texts include content on the transgender community?"; "Do classroom lectures include content on the transgender community?"; and "How well did your education so far prepare you to work with the transgender community?" Each item was rated on a three point scale: 1 = *not at all*, 2 = *some*, and 3 = *a lot*. Scores were computed by summing responses for all three items. Scores could range from 3 to 9, with lower scores indicating lower levels of transgender content, and higher scores indicating higher levels of transgender content. Cronbach's alpha coefficient for this study sample was .80

The *Religiosity* scale was adapted from Wilkerson, Smolenski, Brady, and Rosser (2012) and Gottfried and Polikoff (2012). This study's scale consisted of two items; students were asked how often they had attended religious services in the past year, on a scale of 1 = *never* to 4 = *once a week* or more and how important religion was to them on a scale of 1 = *not important* to 4 = *very important*. Scores were summed to create the religiosity scale (alpha = 0.88) ranging from 2 to 8, with lower scores indicating lower levels of religiosity and higher scores indicating higher levels of religiosity.

The *contact* variable was measured by asking respondents to describe the how much contact they have with transgender people who are either friends, relatives, or acquaintances by choosing responses from 1 = *none* to 3 = *often*.

Sociodemographic variables included gender, academic major (e.g., occupational therapy, social work, nursing, and psychology), race, and ethnicity. Race included the categories of American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. Ethnicity included the two categories of Latino and Not Latino.

Data analysis

Analyses were conducted using SPSS 22.0. Descriptive statistics were generated for all variables. Bivariate correlations were used to investigate hypotheses 1, 2, 4, and 5. A 1-way analysis of variance (ANOVA) was conducted to evaluate the relationships between racial background and transphobia (hypothesis 3) and transphobia among the different majors (hypothesis 5). Multiple linear regression analysis (hypothesis 7) was developed to further explore how exposure to transgender content in education contributed to students' transphobia above and beyond religiosity, contact with transgender people, and the demographic variables. Dummy variables were created for gender (male/female), race (White/Black), ethnicity (Latino/non-Latino), and major (social work/non–social work).

Results

The mean (average) scores for transphobia and exposure to transgender content were 26 (*SD* = 7.9) and 4.5 (*SD* = .81), respectively. Almost one

half of the sample (45%) reported moderate to high levels of transphobia, and 75% of the sample reported lower levels of exposure to transgender content. Eighty-five percent ($SD = 1.42$) of the sample reported moderate to higher levels of religiosity, and only 7% ($SD = .75$) reported having contact with transgender people.

An examination of a correlational matrix of the study's variables (transgender content, religiosity, contact, race, ethnicity, major, and gender) suggested a number of statistically significant relationships (Table 1). Exposure to transgender content in education had statistically significant moderate negative correlation with transphobia. Religiosity had low significant positive relationship with transphobia. Contact with transgender people had statistically significant moderate negative correlation with transphobia. Latinos had higher levels of transphobia than non-Latinos. Social work majors had lower levels of transphobia than those in other health professions, and males had higher levels of transphobia than females.

A 1-way ANOVA was used to test transphobia among the three racial categories of students, representing Whites, Asians, and Blacks (Table 2). Transphobia did not differ significantly across the three racial categories of students. The 1-way ANOVA that tested for exposure to transgender content in education among the four disciplines, including social work, occupational therapy, nursing, and psychology, did not differ significantly across those disciplines. The last test of 1-way ANOVA was conducted to test for transphobia among the occupational therapy, social work, nursing, and psychology majors. Table 2 illustrates the means and standard deviations for transphobia

Table 1. Intercorrelations among study variables ($N = 600$).

Variable	Transgender content 2	Religion 3	Contact 4	Race 5	Ethnicity 6	Major 7	Gender 8
1. Transphobia	−.34**	.23**	−.30**	.02	.17**	−.19**	.18**
2. Transgender content in education		−.05	.30**	.06	−.08	.15**	−.11**
3. Religiosity			.07	−.12*	.12*	.02	−.04
4. Contact				−.13**	−.06	−.01	−.10*
5. Race					−.06*	− .13*	.10
6. Ethnicity						−.02	.07
7. Major							−.14**
8. Gender							

*$p < .05$; **$p < .01$.

Table 2. Means and standard deviations for transphobia among the different majors.

Majors	M	SD
Occupational Therapy	27.77	9.540
Social Work	22.49	7.104
Nursing	25.54	6.917
Psychology	24.59	7.246

by majors. Transphobia differed significantly across the four disciplines, $F(3, 330) = 5.35$, $p = .001$. Tukey post hoc comparisons of the four groups indicated that the occupational therapy majors ($M = 27.77$, 95% CI [24.20, 31.33]) reported significantly higher levels of transphobia than the social work majors ($M = 22.49$, 95% CI [21.12, 23.88]), $p = .003$. Comparisons between the nursing major ($M = 25.54$, 95% CI [24.21, 26.87]) and the occupational therapy majors was not statistically significant at $p < .05$, but it showed statistically significant higher levels of transphobia than the social work major at $p = .014$. Comparisons between the psychology ($M = 24.59$, 95% CI [23.09, 26.09) and the other majors were not statistically significant at $p < .05$.

Table 3 provided the multiple linear regression analysis for transphobia. Religiosity was entered first into the regression equation. Then, in the second step, the contact variable was added to the regression to examine whether there was an increase in predictability above and beyond the information provided by the first variable. The third step included the sociodemographic variables (e.g.. gender, race, ethnicity, and major) to examine if they also contributed significantly to the outcome variable, and the fourth step included the variable exposure to transgender content in education. The first step, which included the religiosity variable, was statistically significant, $R^2 = .03$, [$F(1, 581) = .7.829$, $p < .006$], indicating that approximately 3% of the predictive variance could be accounted for by the religiosity variable alone. Step two, which included the contact variable, was statistically significant and provided an additional 8% of the predictive variance; it resulted

Table 3. Results from multiple linear regression analysis predicting transphobia.

Variable	β	t	p
Step 1:			
Religiosity	.17	2.798	.006
R^2	**.03**		
F	**7.829**		
Step 2:			
Contact	−.28	−4.834	**
R^2	**.11****		
F	**23.370**		
Step 3:			
Demographics			
Gender	.32	5.760	**
Race	−.02	−.279	.781
Ethnicity	.09	1.352	.178
Major	−.15	−2.909	.007
R^2	**.25****		
F	**12.416**		
Step 4			
Transgender content In education	−.23	−3.879	**
R^2	**.29****		
F	**15.047**		

$*p < .005$; $**p < .001$.

in a multiple R^2 of .11, [$F(1,580) = 23.370, p < .000$]. The third step with the sociodemographic variables was also statistically significant and resulted in a multiple R^2 of .25, [$F(4,579) = .12.416, p < .000$], indicating that an additional 14% of the predictive variance could be accounted for by the sociodemographic variables alone; however, the only sociodemographic variable that contributed significantly to the outcome variable was gender. The fourth step with exposure to transgender content in education was also statistically significant, $R^2 = .29$, [$F(1,575) = .15.047, p < .000$], indicating that an additional 4% of the predictive variance could be accounted for by the exposure to transgender content alone. Thus the results of the multiple regression analysis clearly indicated that religiosity, contact with transgender people, sociodemographic characteristics, and exposure to transgender content all had a statistically significant influence on transphobia.

Discussion

The aim of this study was to gain further insight into students' transphobia, conceptualized as their fears, discomfort, and prejudice toward transgender people and the extent that transphobia was linked to students' exposure to transgender content in their education. The study focused on students majoring in the helping professions, thus also investigating the differences in the levels of transphobia among students majoring in social work, occupational therapy, nursing, and psychology. In addition, the study focused on transphobia among students of color and immigrants from South America, Africa, the Caribbean islands, and Southern Asian countries to see how their culture, including their race, ethnicity, and level of religiosity, also influenced transphobia.

The findings indicated that 45% of the respondents reported moderate to high levels of transphobia and that 75% of the respondents reported lower levels of exposure to transgender content in their education. These findings are congruent with previous studies that show moderate to high levels of negative attitudes toward transgender people and also suggest that transgender people are perceived as threatening to norms and morals of our society (Logie et al., 2007; Norton & Herek, 2013). Although professional organizations such as the American Psychological Association (2009) and the Council on Social Work Education (2008) have defined specific competencies to ensure that students receive effective education regarding the transgender population, findings from this current study showed that the majority of the respondents reported lower levels of exposure to transgender content in their education. These findings are also in accordance with previous studies that suggest that social work education as well as other related disciplines are deficient in preparing students to work with transgender clients; however, there is a very limited number of studies that have investigated this issue (Erich et al., 2007; Rutledge et al., 2012).

Males had higher levels of transphobia than females. This finding is consistent with previous studies and literature that claim that males put a greater effort than females into adhering to gender rules as a way to reaffirm their own masculinity and heterosexuality. Thus men are likely to feel more threatened by the idea of transgender people, who challenge the binary concept of sex and gender (Carrera-Fernández, Lameiras-Fernández, Rodríguez-Castro, & Vallejo-Medina, 2014; Norton & Herek, 2013; Tebbe & Moradi, 2012).

Religion is arguably an important factor in understanding transphobia (Chonody et al., 2014; Follins et al., 2014; Jenkins et al., 2009; Vincent et al., 2009). In the current study, where most respondents identified themselves as moderately to highly religious, religiosity was found to be a predictor of transphobia, although the effect size was small. Race did not have a statistically significant correlation with transphobia, showing no differences between Black students and White students. However, the White students in this study's sample could be either Latinos who identified themselves as Whites as well as immigrants from countries that used to be a part of the former Soviet Union; thus the White students in this sample were more likely to be similar to the Black students in their level of religiosity and in having more prejudicial views about transgender people. Latino students had higher levels of transphobia than non-Latino students. Religious involvement is important to many Latino people from early childhood as it also influences their family life and culture. Latino individuals generally practice Roman Catholicism, a religion that views transgender people as immoral, and that may be playing a role in attitudes of Latino people toward transgender individuals (Fernandez & Loukas, 2014; García et al., 2008; Papadaki et al., 2015; Severson et al., 2014).

Contact with transgender people had a statistically significant moderate negative correlation with transphobia. This finding is consistent with previous research that shows that contact with transgender people may promote less prejudicial attitudes toward transgender people. Previous contact with transgender people may bring awareness to the rights of gender minorities and may increase comfort when interacting with transgender people. (Chapman et al., 2012; Norton & Herek, 2013; Pettigrew & Tropp, 2008). Contact between different groups of people also facilitates learning about the people outside one's own group, reduces intergroup prejudice and anxiety, and increases empathy toward members of the outgroup (Pettigrew & Tropp, 2008). According to Swart, Hewstone, Christ, and Voci (2011), contact has a stress-buffering role in relationships and is associated with a reduction in social anxiety and prejudice and with an increase in empathy and the ability to form friendships among individuals from different groups. In this kind of research design, where contact is not manipulated but measured at the same time with the other variables, it is unclear whether the lack of contact leads to higher levels of transphobia or whether those individuals with higher levels of transphobia are less likely to have contact with transgender people (King et al., 2009).

The results of the 1-way ANOVA revealed no significant differences among the four majors in regard to exposure to transgender content in education. However, statistically significant differences in the level of transphobia were found among the different majors. Social work students reported lower levels of transphobia than the nursing and the occupational therapy majors. The psychology majors did not differ significantly in their transphobia levels from the other majors. Previous research comparing attitudes of students in different majors is very limited and focuses on homophobia rather than transphobia, and its findings are inconclusive (Crisp, 2005; Papadaki et al., 2015; Rutledge et al., 2012); however, the literature supports the theory that social work education (both undergraduate and graduate) provides an environment that helps students think critically on moral issues and generates greater levels of empathy, tolerance, and respect toward diverse populations (Swank & Raiz, 2007, 2008), but there is limited literature discussing the content of transgender material in the curricula of the helping professions.

The results of the multiple linear regression analysis showed that religiosity, contact with transgender people, sociodemographic characteristics, and exposure to transgender content in education all contributed to transphobia. As indicated above, gender had the only statistically significant contribution to transphobia compared to the other sociodemographic characteristics—thus reaffirming the theory that males have higher levels of transphobia than females. The study findings clearly suggested that contact added much explanation to the transphobia variable and needed to be considered as a possible buffer in reducing intergroup prejudice and anxiety. A transgender curriculum that addressed transgender issues and health disparities was clearly another explanation in reducing transphobia among students. (Bidell, 2014; Follins et al., 2014).

Previous literature has called for the inclusion of transgender material across the curriculum of social work, psychology, and other health-related majors. Such material may include terminology that reduces biased language, terminology that describes transgender terms appropriately, textbooks and supplemental reading that is inclusive of transgender content, and literature and films that give voices and experiences of transgender people (Case, Stewart, & Tittsworth, 2009; Hancock & Haskin, 2015; Meyette, 2014). Bidell (2014) suggested that offering multicultural counseling courses that include only transgender content was essential in promoting transgender-affirmative competency among students in helping profession disciplines. Multicultural counseling courses include the components of awareness, skills, and knowledge, and they involve training methods and practicum experience (APA, 2012; Bidell, 2014; Fredriksen-Goldsen et al., 2011; Papadaki et al., 2015). The professional research also supports the idea that colleges and universities need to have a more holistic approach that addresses complex issues relevant to transgenderism such as

legislation, violence, obstacles to health care and mental health care, personal wellbeing, and quality of life (AIDS.gov, 2012). Colleges and universities also need to adopt an institutionalized approach that fosters an open and accepting environment that recruits, enrolls, and supports transgender faculty, staff, and students. Sponsoring transgender students clubs and support groups, bringing transgender lecturers and ensuring that the instructors themselves are not transphobic are all suggested practices that can reinforce positive attitudes among students toward transgender persons (Amodeo, Vitelli, Scandurra, Picariello, & Valerio, 2015; Swank & Raiz, 2007). Practice courses, research methods, and policy courses can focus on transgender issues such as case studies, role-play, field agencies that provide services to the transgender community, research methodologies and designs that are inclusive of the transgender community, and advocacy and policies that take into account the needs of transgender people (Case et al., 2009; Meyette, 2014).

Study limitations

The cross-sectional nature of this study is a limitation regarding the inference of causality. The convenience sample is a limitation that reduces the generalizability of the study's findings. The student population from which the sample was drawn does not necessarily represent typical American college students; their diverse and traditional background could influence their transphobia levels and could be reflected in the findings that showed high levels of transphobia—thus limiting the generalizability of the findings. Measurement error is always a concern, especially when the researcher creates items; however, the researcher was very careful to use items from standardized measures to address this issue. Another limitation specific to this study was that participants were not asked about their gender identity and whether they identified themselves as queer or straight; this information could add to further understanding of predictors of transphobia as those demographic identities influence participants' experiences and attitudes (Scherrer & Woodford, 2013). Other limitations that are inclusive to this type of research design are the response set of subjects when completing self-report measures. The social desirability bias and the possible concern of answering "unfavorably" within the college context could interfere in students answering honestly about such sensitive topics. Students may also be aware that the expectations are that they show tolerance and understanding toward a diverse population such as transgender people; thus the picture represented by the findings of this study could be even more negative if such bias was not a consideration. Thus with this type of research design, a cautious interpretation of the findings is suggested.

Conclusions

This study findings support previous claims that curriculum content in social work and other helping profession disciplines needs to address cultural competence with transgender persons and prepare students to become competent practitioners who are knowledgeable and skilled in providing effective services to meet the needs of gender minority persons (Bidell, 2014; Rutherford, McIntyre, Daley, & Ross, 2012; Swank & Raiz, 2007). Eliminating transphobia is the first step in addressing this issue, and that calls for certain curriculum changes. Those may include revising or adding sufficient content of cultural competence, knowledge, and skills relevant to transgender clients in textbooks, lectures, and class discussions.

Curricula with culturally competent content relevant to transgender clients need to include topics such as the coming-out process, victimization as a risk factor for mental health of transgender people, practice issues of transgender older adults, and law and policies concerning marriage, families with children, adoption, and health insurance benefits (Erich et al., 2007; Logie et al., 2007; Van Den Bergh & Crisp, 2004). Students have to be encouraged to recognize how their attitudes and knowledge about transgender persons may affect their future clinical practice. Small-group discussions and multimethod teaching such as role playing can be beneficial in dealing with students' religious beliefs; and for male students to discuss issues of masculinity and heterosexuality as possible components of their phobic attitudes toward transgender persons. Policy courses need to focus on issues of discrimination, systemic oppression, and the violation of fairness and equality regarding the transgender population. Students need to be empowered in those courses so they can engage effectively with transgender persons and communities and can learn advocacy strategies such as campaigns and social media platforms to influence policies that can help alleviate discrimination against transgender people (Woodford et al., 2013)

Adding experiential content such as speakers from the transgender community and service providers who specialize in the provision of services to transgender people and developing field placements for students in agencies that serve the transgender community are all recommendations for enhancing knowledge, skills, and comfort when working with transgender clients (Erich et al., 2007; Logie et al., 2007; Van Den Bergh & Crisp, 2004). Promoting extracurricular events about transgender topics, encouraging students to attend transgender conferences, and hiring transgender professors are all effective ways to enhance interpersonal contact between students and transgender individuals—thus they are important in increasing positive attitudes toward transgender people (Swank & Raiz, 2008). Accredited programs could even be required to have a "LGBT track" faculty member, to ensure adequate representation of LGBT faculty and to offer the appropriate training

for students to work with the LGBT population (Cochran & Robohm, 2015). Future research is recommended to further explore the appropriate strategies needed to decrease transphobia among students, including on-campus programs, internships in agencies providing services to transgender people, and the infusion of transgender material in the curriculum. It is important that researchers explore effective teaching methods and extracurricular activities that help in decreasing transphobia among students and that can be incorporated in the transgender curriculum development (Kulkin et al., 2009; Trevor & Boddy, 2013). Research efforts should explore the social and health care needs of the LGBT community, identifying the different forms of institutionalized discrimination against this population (Erich et al., 2007). It is important that research explores the resilience associated with being transgender members of their community and how it serves them in changing their oppressive situations; new strategies can be developed and used by students and practitioners to empower and help transgender individuals face institutional and individual transphobia (Erich et al., 2007). Additionally, longitudinal studies measuring students' attitudes over time may enhance our understanding of the long-term effects of education in changing students' attitudes toward diverse and marginalized population including the transgender community (Papadaki, Plotnikof, & Papadaki, 2013; Swank & Raiz, 2008).

This study has expanded the knowledge about factors affecting students' attitudes toward transgender people. It would be still worth replicating these findings with other samples of students both nationally and internationally, which will increase the generalizability of the findings of this current study.

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