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# The Association Between Knowledge and Confidence Related to LGBTQ+ Health Topics Among University Educators

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**The Association Between Knowledge and Confidence Related to LGBTQ+ Health Topics  
Among University Educators**

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Honors Thesis

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### **Abstract**

**Introduction:** Many healthcare professionals may have inadequate knowledge or training to care for lesbian, gay, bisexual, transgender, and queer (LGBTQ+) patients. Educational curriculum based on LGBTQ+ populations has been found to be inadequate in higher education. Little is known about how university educators' knowledge of LGBTQ+ topics or how that knowledge relates to their confidence in teaching this material. This study aims to explore how the healthcare educators' knowledge of LGBTQ+ topics impacts their confidence teaching this material.

**Methods:** Data was collected via an online survey sent to University of New Hampshire faculty. Respondents were asked to answer 12 knowledge and 19 confidence questions related to LGBTQ+ healthcare needs. Descriptive statistics were analyzed and t-tests were conducted to assess the relationship between variables.

**Results:** A total of 14 participants were included in our analysis. No statistically significant result was found regarding the association between LGBTQ+ knowledge levels and the confidence in teaching these healthcare needs. However, it was found that educators have greater knowledge on LGB population healthcare needs compared to transgender population healthcare needs ( $t(11)=4.33, p<0.01$ ).

**Discussion:** These findings support previous literature findings that university educators' knowledge levels vary between different sexual and gender minority groups. However, these findings do not support previous literature that states higher levels of LGBTQ+ healthcare knowledge leads to more confidence with this material. Limitations for this study include a small sample size and self-rated confidence questions. This project exposed a gap in knowledge among

university educators that may impact student learning experiences and should be rectified with increasing educator training regarding LGBTQ+ healthcare needs.

## **Introduction**

### **Health Disparities Among LGBTQ+ People**

*Healthy People 2030* described LGBTQ+ people as a “vulnerable population” due to the health disparities they face in healthcare (U.S Department of Health and Human Services, n.d.). Vulnerable populations are those who have poor health outcomes, poor access to healthcare, and receive poor quality care. Those who identify as LGBTQ+ show greater rates of depression, anxiety, and suicide (King et al., 2008; Valentine & Shipherd, 2018). Other disparities found in this population include increased alcohol and substance use (Ward et al., 2014; Valentine & Shipherd, 2018). Lack of insurance among the LGBTQ+ population leads to decreased healthcare access (Clark et al., 2021; Schuler et al., 2021). Even with insurance many gender affirming procedures are not covered as they are deemed “cosmetic” (Khan, 2011). Furthermore, lack of training among healthcare professionals limits LGBTQ+ patients access to care. This limited availability forces patients to pay out of pocket, travel for care, or postpone their care (Grant et al., 2011). LGBTQ+ people also experience poor quality of care as results of harassment and violence within the healthcare setting (Grant et al., 2011). A systematic review by Valentine and Shipherd (2018) report that 43.33% of included studies identified discrimination in healthcare due to one’s gender identity. It was found that discrimination in the healthcare setting was associated with increased incidence of depression and avoiding future medical care (Reisner et al., 2015). These disparities in health outcomes, access to care, and quality of care are a result of injustices in society related to race and ethnicity, poverty, gender identity, and sexual orientation (Wolitski et al., 2008).

### **The Theory of Minority Stress**

Understanding these health disparities among LGBTQ+ people can be explained through the theory of minority stress (Meyer, 2003; Testa et al., 2017). This theory suggests that LGBTQ+ individuals are at increased risk for health problems because this population is exposed to more stressful situations. External stressors include discrimination, rejection, victimization, and non-affirmation. Internal stressors include internalized homophobia/ transphobia, negative expectations, and non-disclosure (Meyer, 2003; Testa et al., 2017). Internalized homophobia and transphobia is described as LGBTQ+ people holding a negative self-view because of society's opinions of their identity (Meyer, 2003). Examples of minority stress are varied and wide ranging, including microaggressions (*e.g.*, such as using derogatory terms) and hate crimes (Meyer, 2003). Those who experience minority stress are more likely to experience physical health problems including flu and hypertension compared to those who do not experience prejudice (Frost, 2015) because of the physiological effects of chronic minority stress exposure (Flentje et al., 2020; Flentje et al., 2021). Likewise, this population reports higher rates of mental health conditions, such as suicidal ideation related to societal rejection and depression (King et al., 2008; Valentine & Shipherd, 2018). Those who experienced parental rejection related to their sexual orientation or gender identity in their childhood experienced higher levels of alcohol and substance misuse and depression (Rothman et al., 2012). Minority stress as a chronic stressor places this population at increased risk for various conditions, yet the stigma surrounding LGBTQ+ people continues to impact their health outcomes.

### **Minority Stress Faced Within Healthcare**

A systematic review found that LGBTQ+ people widely faced discrimination in healthcare (Ayhan et al., 2020). External stressors against LGBTQ+ people in the healthcare setting further contributes to the stigma internalized by this population as well as the observed

health disparities. External stressors, such as discrimination or inadequate provider knowledge, is associated with LGBTQ+ patients avoidance of healthcare or postponement of care (Cicero et al., 2019; Ayhan, et al., 2019). Many LGBTQ+ patients report concealment of their sexual or gender identities for fear of stigmatization. One explanation for the external stressors described in health care settings is the underlying attitudes of healthcare providers toward LGBTQ+ patients (Ayhan et al., 2020). In order to improve LGBTQ+ health outcomes, the anti-LGBTQ+ stigma must be rejected by society and addressed among healthcare providers and clinicians (Valdiserri et al., 2019).

### **Better Outcomes by Increasing Knowledge**

Although societal attitudes towards LGBTQ+ members have improved over recent decades, these vulnerable patients continue to face discrimination (Parameshwaran et al., 2017; Gallup, 2022). Education has been found to be a major influencing intervention in efforts to eliminate discrimination (Hughes et al., 2020). Education improves knowledge about the health needs of LGBTQ+ people which can result in greater confidence to provide LGBTQ+ affirming care (Parameshwaran et al., 2017). Cultural competence can also be fostered in the classroom by emphasizing empathy, exploring socio-economic issues, and addressing biases in clinical rotations (Betancourt et al., 2005). Culturally competent communication between provider and patient has been found to increase patient satisfaction, create positive health outcomes, and increase compliance (Betancourt et al., 2005). On the contrary, patients who visit providers with limited cultural competency have been shown to experience reduced quality of care (Shetty et al., 2016). Improved attitudes and knowledge towards LGBTQ+ populations has been shown among medical students with increased clinical exposure to LGBTQ+ patients (Sanchez et al., 2006). However, there is little to no relevant information about these vulnerable populations in major

nursing textbooks (Sirota, 2013). Additionally, the American Academy of Nursing and other healthcare professions have little to no standards for introducing LGBTQ+ content into curriculum (Sirota, 2013; Areskoug-Josefsson & Fristedt, 2019). On average, nursing students only receive about 2 hours of LGBTQ+ teaching throughout an entire bachelors nursing program (Lim et al., 2013). Students' increased competence regarding care for vulnerable populations should start in the classroom. Training educators about LGBTQ+ topics was found to be effective in minimizing bias and creating safer, more welcoming environments for all participants (Russell et al., 2010). Yet, there is minimal representation of transgender and gender non-conforming individuals in healthcare and academics.

Including this population in the creation of assessment tools and guiding research questions is crucial in advancing societal knowledge (Valentine & Shipherd, 2018). Wilson and Handa (2016) emphasize the importance of critical self-reflection by educators to address diversity and cultural differences. Educators' roles are to develop graduates that are attentive to diverse health care needs (Wilson & Handa, 2016). Knowledgeable healthcare providers provide culturally competent care and produce greater health outcomes. However, there are few standards for LGBTQ+ curriculum in universities. Educators are a main source of information for these students, but it is unsure how much knowledge the educators themselves have about this information.

To address this gap, this study aims to evaluate the degree of LGBTQ+ health knowledge among College of Health and Human Services (CHHS) educators regarding LGBTQ+ health related content. Secondly, we will also evaluate whether university educators' knowledge is associated with their degree of confidence in LGBTQ+ health topics. We hypothesize that

increased knowledge of LGBTQ+ topics will be associated with increased confidence teaching and discussing these topics.

## **Methodology**

### **Recruitment and Sample**

This cross-sectional, quantitative study was conducted through an online survey sent to University of New Hampshire faculty. Emails were sent out to faculty in the CHHS and the psychology department, inviting them to complete a Qualtrics-programmed survey. Flyers with a QR code and web address were also placed in all buildings where faculty from CHHS and the psychology department have offices. Study procedures, design and protection of human subjects were reviewed and approved by the Institutional Review Board (IRB) at the University of New Hampshire. After accessing the Qualtrics survey, participants were presented the inclusion criteria. To participate in the study, respondents must be 18 years or older, a UNH CHHS or psychology faculty member, and have taught a course related to health and wellbeing in the last 2 years. If respondents met inclusion criteria, they were automatically shown the informed consent to review. The CHHS faculty includes 144 people in nursing, communication sciences, occupational health, health management and policy, social work, and recreation management and 26 people in the psychology department.

### **Measures**

#### ***Demographics***

Demographic data collected included race, age, gender identity, sexual orientation, primary department, and whether they have lectured in the past 2 years. For demographic questions about age, participants could select <20, 20-29, 30-39, 40-49, 50+ or “prefer not to answer”. Questions related to gender identity were select all that apply and included

genderqueer, man, “transgender man”, “transgender woman”, woman, “a gender identity not listed”, and “prefer not to answer”. Sexual orientation questions were coded as either sexual minority or not due to the small sample size. Likewise, the programs participants teach in were coded as either nursing or other to maintain anonymity. To indicate race, participants could select all that apply and included “Asian or Asian American”, “Black or African American”, “Native American or Alaskan Native”, white, “a race not listed”, and “prefer not to answer”. Primary department was elicited with the options “communication sciences and disorders,” “health management and policy,” “human development and family studies,” kinesiology, nursing, “occupational therapy,” “recreating management and policy,” “social work,” psychology, or “prefer not to answer.” Due to the relevance of knowledge to provision of clinical care, skip logic was used to assess knowledge only for those who answered nursing, social work, or psychology in the demographics section.

### ***Knowledge***

A total of 12 questions related to knowledge were asked in the Qualtrics survey. True or false format was used for 10 questions and 2 questions used a Likert scale with 1 representing “strongly disagree” and 5 representing “strongly agree”. Knowledge questions were derived from multiple sources (Cornelius & Carrick, 2015; Sanchez et al., 2006; and Shetty et al., 2016). This section asked questions related to topics important to LGBTQ+ health inequities, such as access to healthcare, substance and alcohol use, and taking a sexual history. For example, one multiple choice item included “When taking a sexual history on an adolescent, it is important to ask about sexual activity before questions about sexual attraction”. Table 1 shows a complete list of survey questions and responses.

Table 1. Variables related to LGBTQ+ knowledge

Question	Responses Options	Correct Answer
The LGB population has unique health risks and needs	1- Strongly disagree 2- Disagree 3- Don't know	5-Strongly agree OR 4- Agree
LGB patients may avoid accessing healthcare due to difficulty communicating with providers	4- Agree 5- Strongly agree	
Transgender patients may avoid accessing healthcare due to difficulty communicating with providers	1- Strongly disagree 2- Disagree 3- Don't know 4- Agree 5- Strongly agree	5-Strongly agree OR 4- Agree
The transgender population has unique health risks and needs		
LGB women are less likely to abuse alcohol than heterosexual women	True or false	False
Transgender people have higher rates of substance use compared to the general population	True or false	True
Heterosexual women are more likely to be smokers than lesbian women	True or false	False
The incidence of depression in older gays and lesbians is greater than in the general population	True or false	True
The prevalence of depression is higher in transgender individuals than in the general population	True or false	True
When taking a sexual history on an adolescent, it is important to ask about sexual activity before questions about sexual attraction	True or false	True
Breast cancer can still occur after bilateral reductive surgery for transgender men	True or false	True
During gender affirming bottom surgery for transgender women, the prostate gland is removed	True or false	False

Topics were separated between LGB knowledge and transgender knowledge to ensure that accurate representations of knowledge were gathered for groups minoritized based on sexual orientation and gender identity separately. Each question was coded to measure knowledge levels. For the true or false questions, a 0 was assigned to the incorrect answer and a 1 was assigned to the correct answer. For Likert scale questions, an answer of 4 or 5 was scored as a 1 for correct. After assigning each response a 1 (correct) or 0 (incorrect), scores for LGB

knowledge and transgender were created. There was a potential range of 0-6 for LGB and 0-6 for transgender knowledge variables.

### *Confidence*

There were 19 questions related to confidence that were measured using a Likert scale with 1 representing “strongly disagree” or “very unconfident” and 5 representing “strongly agree” or “very confident”. Confidence questions were obtained from several sources (Herek & McLemore 1998; Christensen et al., 2019; Shetty et al., 2016; Parameshwaran et al., 2017). Wording of these questions were adapted to present more inclusive wording and specify content to this demographic population. Questions were also adapted to separate LGB and transgender populations to address confidence in sexual orientation and gender identity topics separately. For example, question 16 and 53 asked whether the participant “would be unsure what to do or say if I met someone who is openly LGB” and “I would be unsure what to do or say if I met someone who is openly transgender”. Participants chose their answers using a scale of 1-5. 1- Strongly disagree, 2- Disagree, 3-Neutral, 4-Agree, 5- Strongly Agree. Due to the wording of questions 16 and 53, they were reverse coded. Each participant’s responses were totaled using the Likert scale to measure LGB and transgender confidence. There was a potential range of 5-25 for LGB confidence and 6-36 for transgender confidence.

### *Analysis*

Data analysis was completed using Stata software (Stata Corp, 2019). Descriptive statistics was used to describe the demographic characteristics of our sample into percentages and frequencies. Student’s t-tests were performed to evaluate the difference between LGB and transgender knowledge levels. Data analysis was performed to determine the correlation between

LGB and transgender knowledge and confidence in healthcare needs. A p-value of <0.05 is reported as statistically significant and suggests that the null hypothesis can be rejected.

## Results

### Demographics

Originally, 35 participants responded to the survey and 24 met inclusion criteria and provided consent. Educators in departments other than nursing, social work, and psychology were also excluded from the current analysis, resulting in a sample size of 14. Only these departments were included because the knowledge survey questions were clinically focused and these departments all provide clinical care amongst their field. Table 2 represents the demographics for this population.

Table 2. Demographics of CHHS nursing, social work, and psychology faculty participants (N=14)

<b>Demographic</b>	<b>N (%)</b>
<b>Total sample</b>	14 (100%)
<b>Age</b>	
20-29	1 (7%)
30-39	5 (36%)
40-49	4 (29%)
50+	3 (21%)
Prefer not to answer	1 (7%)
<b>Gender identity</b>	
Gender queer	0 (0%)
Man	1 (7%)
Transgender man	0 (0%)
Transgender woman	0 (0%)
Woman	13 (93%)
<b>Sexual minority</b>	
Yes	5 (36%)
No	9 (64%)
<b>Race</b>	
Asian	0 (0%)
Black	0 (0%)
Native American	0 (0%)
White	14 (100%)
Prefer not to answer	0 (0%)
<b>Hispanic</b>	
Yes	1 (7%)
No	13 (93%)

**Programs taught**

Nursing	10 (71%)
Other	4 (29%)

**Knowledge levels**

Survey answers were converted to percentages based on participants responses.

Regarding LGB knowledge, 4 (33%) participants scored a 6. The range of knowledge of LGB health needs was 3-6 (M= 4.9, SD=0.99). Meanwhile, only 1 (8.33%) participant scored a 6 on transgender knowledge. The range of knowledge on transgender health needs was 1-6 (M=3.08, SD=1.44). Table 3 depicts a t-test performed to compare the difference in knowledge between the two groups. A statistically significant result was found (t (11)= 4.33, p <.01), showing that there is a significant difference with educators having more knowledge regarding LGB compared to transgender knowledge.

Table 3. T-test examining differences between faculty LGB content knowledge versus transgender content knowledge

Variable	Mean	Standard deviation
LGB knowledge	4.9	.99
Transgender knowledge	3.08	1.44
Difference	1.83	1.47
	p= 0.0012	T= 4.33

**Confidence**

Regarding LGB confidence, 1 (8.33%) participants scored a 25, the highest possible score. The range of confidence in LGB topics was 12-25 (M=18.5, SD= 3.82). A total of 1 (8.33%) participants scored a 28, the highest score, on transgender confidence. The range of confidence in transgender topics was 14-28 (M=21.25, SD= 4.56).

**Knowledge and confidence**

Table 4 depicts the correlation between LGB knowledge and confidence. The p-value for the association between LGB knowledge and confidence was 0.8539. This is not a statistically significant result therefore the null hypothesis cannot be rejected. Table 5 represents the

correlation between transgender knowledge and confidence. The p-value for the association between these values was 0.5687. This is not a statistically significant result and therefore the null hypothesis cannot be rejected.

Table 4. Correlation matrix for relationship between LGB content knowledge and confidence

	LGB knowledge	LGB confidence
LGB confidence		1.0000
LGB knowledge	1.0000	-0.0596 <i>p</i> =0.8539

Table 5. Correlation matrix for relationship between transgender content knowledge and confidence

	Transgender knowledge	Transgender confidence
Transgender confidence		1.0000
Transgender knowledge	1.0000	-0.1832 <i>p</i> =0.5687

### Discussion

This study aimed to assess the association of CHHS university educators knowledge levels of LGBTQ+ health topics and confidence teaching these topics. The findings of this study represent an initial assessment of the knowledge and confidence in UNH educators’ ability to teach LGBTQ+ topics in the classroom. Based on these findings, interventions can be performed to support educators in increasing inclusion of this information into the curriculum. We determined that the level of knowledge related to LGB healthcare needs ranged from 3-6 (M= 4.9, SD= 0.99). This indicates that participants have a high level of knowledge with LGB healthcare needs with minimal variability in results. Faculty knowledge related to transgender health needs was lower, with a range of 1-6 (M=3.08, SD=1.44). This data suggests that there are greater degrees of knowledge on LGB population healthcare needs compared to transgender population healthcare needs among university educators. These findings match previous studies that report knowledge limitations and lack of awareness of LGBTQ+ healthcare needs (Lim et al., 2015). One explanation for greater LGB knowledge is improved attitudes towards this

population over previous decades. Affirmative policies from courts, legislatures, and bureaucratic agencies have rapidly spread as a result of LGB advocacy (Fetner, 2016). Likewise, U.S. citizens attitudes towards LGB people have drastically improved over the years (Fetner, 2016). Since different sexual orientations are becoming more widely accepted, the awareness of LGB people in communities is increasing, causing more people to personally know an LGB person (Fetner, 2016). A personal relationship with an LGB person is one of the greatest predictors of improved attitudes (Fetner, 2016). These improved attitudes towards this group could explain the higher level of knowledge regarding LGB healthcare needs.

However, participants self-rated LGB healthcare needs confidence levels resulted in a mean of 18.5 compared to a mean of 21.25 for transgender healthcare needs confidence. Similarly, participants in previous studies reported high levels of comfort with LGBTQ+ topics (Lim et al., 2015). One explanation for these results is the secondary transfer effect. This states that reduction in prejudice towards one group can result in further reduction of prejudice in a different, but related group (Pettigrew, 2009). In this case, LGB and transgender populations. Since participants displayed greater knowledge regarding LGB healthcare needs, it is possible that a secondary transfer effect occurred regarding confidence in transgender healthcare needs. Participants could have rated themselves higher on transgender confidence via secondary transfer effect as a result of their improved attitudes towards LGB people.

Both LGB knowledge and transgender knowledge were not associated with confidence. This data does not support the hypothesis that increased knowledge of LGBTQ+ health topics is associated with increased confidence teaching these topics. These findings are inconsistent with previous literature that states increased health education leads to higher confidence levels regarding LGBTQ+ topics (Parameshwaran et al., 2017). This survey was conducted among

New Hampshire faculty members. In New Hampshire, only 4.7% of adults in the population identify as LGBTQ+ (Gallup, n.d.). As previously stated, increased clinical exposure to LGBTQ+ patients results in improved knowledge and attitudes regarding LGBTQ+ healthcare (Parameshwaran et al., 2017). Due to the small percentage of New Hampshire residents who identify as LGBTQ+, it is unlikely that healthcare providers in New Hampshire who participated in this survey have abundant exposure to LGBTQ+ patients. Therefore, even with educational programs for educators, this decreased clinical exposure may explain the lack of relationship between LGBTQ+ knowledge and confidence.

Results of this study indicate that there is a gap in UNH faculty's knowledge around transgender people's unique healthcare needs. These findings are an initial assessment of the knowledge and confidence in UNH educator's ability to teach LGBTQ+ material. Previous studies have found that barriers for increasing educator knowledge include minimal training provided, and not enough time and resources available (Russell et al., 2010).

### **Limitations**

First, all participants in this study were a part of the same university system in a small geographic area. This led to minimal variability in demographics. Likewise, this study reflects only a small sample size. These factors reduce the generalizability of this project. Second, CHHS faculty with less interest or less positive attitudes towards this population may opt not to complete the survey. This may have led to a response bias in the results. Likewise, evidence based assessment tools were found to be outdated. For example, multiple knowledge and confidence such as "I would be unsure what to do or say if I met someone who was openly LGB" were derived from survey questions from Herek & Lomore (1998). Lastly, self-rated confidence questions may not reflect the participants actual confidence levels in practice.

### **Future Directions**

This research did not identify factors that contribute to educators increased knowledge or confidence levels. Future research may identify what training and interventions creates increased knowledge and confidence in educators most effectively. Another opportunity for future research is assessment of clinical preceptors knowledge and confidence of LGBTQ+ healthcare needs. By inviting clinical preceptors to participate, we can know the ability to discuss and contextualize LGBTQ+ healthcare needs with students during clinical. Increasing clinical preceptor's knowledge of LGBTQ+ healthcare needs could lead to increased cultural competence among students. Parameshwaran (2017) found that students have varying exposure to LGBTQ+ patients in their clinical experiences. Students with less exposure to LGBTQ+ patients have less perceived ability to care for these patients (Parameshwaran et al., 2017). Future research should also explore effective interventions to train university educators about these topics and increase this material in school curriculum. Interventions for educators may include LGBTQ+ case studies, lectures, or seminars with LGBTQ+ panels.

### **Conclusion**

While there are known health disparities within the LGBTQ+ population, there is little being done in the educational setting to improve these disparities. Educating healthcare students is a major factor to increasing cultural competency and eliminating health disparities. The purpose of this study was to explore the association between university educators knowledge of LGBTQ+ materials and their confidence teaching this material. No statistical significance was found between LGBTQ+ knowledge and confidence. However, a knowledge gap between LGB and transgender knowledge was found among CHHS university educators. The small sample size reduces the generalizability of these results and the self-rating of confidence scores may be

impacted by a response bias. Increasing LGBTQ+ material in healthcare curriculum will produce culturally competent healthcare providers. Patients cared for by culturally competent providers experience improved patient outcomes. Now that a gap in educator knowledge has been identified, further steps should be taken to minimize this gap. Future research should include clinical preceptors in the knowledge and confidence analysis and focus on interventions to increase educators knowledge and confidence teaching these topics to students.

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