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UNIVERSITY OF NORTHERN COLORADO

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The Graduate School

IMPLICIT AND EXPLICIT SEXUAL ATTITUDE  
AMONG UNITED STATES BACCALAUREATE  
NURSING STUDENTS

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of the Requirements for the Degree of  
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## ABSTRACT

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Recognizing sexual minorities continue to experience discrimination and social, institutional, and health disparities, this study explored implicit and explicit sexual attitude among nursing students. Knowledge of these attitudes is an important step to improve the care provided to this vulnerable population. Yet, there remains little research of implicit sexual attitude among nurses and no research among nursing students. This study addressed this gap in the current literature by comparing measurements of implicit and explicit attitude and identifying demographic attributes that predict these attitudes. Critical cosmopolitan theory (Delanty, 2006), informed this non-experimental, descriptive, correlational study. Implicit attitude was measured using the sexuality Implicit Association Test (IAT) (Greenwald, McGhee, & Schwartz, 1998). Explicit attitude of homophobia was measured using the Attitudes Toward Lesbians and Gay Men Scale (ATLG) (Herek, 1988). The IAT had acceptable ( $\alpha = 0.73$ ) reliability and the ATLG good ( $\alpha = 0.89$ ) reliability with this study sample. A demographic questionnaire of relevant predictor variables was drawn from the literature attitudes toward sexual minorities. A large sample ( $n = 1,348$ ) of United States baccalaureate nursing students, drawn from a convenience sample, participated in the study. The majority of participants were female ( $n = 1,164$ , 86%),

White ( $n = 990$ , 73%), self-identified as heterosexual ( $n = 1,044$ , 77%), and were enrolled in a registered nurse (RN) to bachelor of science in nursing (BSN) program ( $n = 790$ , 59%). The average age of participants was 28 years. Analysis of the results demonstrated a moderate implicit preference favoring heterosexuals over lesbian women and gay men (D-score = 0.22) that was more negative than the general public who took the IAT in 2018 (D-score = 0.15). Explicit attitude results indicated a low level of homophobia (ATLG = 17.52) in contrast to earlier studies, which reported moderate to high levels of this negative explicit attitude. The difference in implicit and explicit scores were found to be statistically significant, consistent with previous research that reported more positive explicit compared to implicit attitude. Among demographic variables, identifying as male, heterosexual, somewhat or very religious, enrolled in a RN to BSN nursing program predicted more negative implicit and explicit attitude. The implications of these findings for nursing education were discussed and recommendations for nursing academic leadership, faculty, and students were presented.

## DEDICATION

This dissertation is dedicated to Ricky T. Hodges

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## CHAPTER I

### INTRODUCTION TO THE STUDY

#### **Sexual Minorities**

Despite society's improving knowledge and acceptance of sexual minorities, (Breen & Karpinski, 2013; Butler et al., 2016; Carabez, Pellegrini, Mankovitz, Eliason, & Dariotis, 2015), discrimination and political, social, and health disparities continue to be a challenge for this vulnerable population (Carabez et al., 2015; Dorsen, 2012, 2014; Institute of Medicine [IOM], 2011; McEwing, 2017; Tillman, Creel, & Pryor, 2016; Tyson, 2014; U.S. Department of Health and Human Services, 2010). While definitions are provided later, sexual minorities are defined here as those individuals who identify as not exclusively heterosexual (Butler et al., 2016; Graham, 2012). Sexual minorities are a diverse population that spans race, ethnicity, age, socioeconomic status, and geographic location (IOM, 2011; Maruca, Diaz, Stockmann, & Gonzalez, 2018; U.S. Department of Health and Human Services, 2010). Accurately quantifying the number and demographic characteristics of the sexual minority population remains a challenge (Butler et al., 2016; IOM, 2011; U.S. Department of Health and Human Services, 2010).

The number of Americans who identify as a sexual minority has steadily increased from 3.5% in 2012 to 4.5% in 2017 (Newport, 2018). In 2017, more women ( $n = 5.1\%$ ) than men ( $n = 3.9\%$ ) identified as a sexual minority (Newport, 2018). The number of women in this population has increased from 3.5% in 2012 to 5.1% in

2017, while men, during the same period, minimally increased from 3.4% to 3.7% (Newport, 2018). Millennials, those born between 1980 and 1999, are the generational cohort with the largest increase, from 5.8% in 2012 to 8.1% in 2017 (Newport, 2018). During the same period, 2012 to 2017, baby boomers, born between 1946 and 1964, and traditionalists, born prior to 1946, showed no increase (Newport, 2018). An additional 10 million Americans, who identify as heterosexual, report engaging in sexual behavior with someone of the same sex, and 25% of Americans report some level of same-sex attraction (Butler et al., 2016).

Fifty-six percent of Americans are satisfied with the country's acceptance of sexual minorities (McCarthy, 2018). While representing a 4% decrease compared to 2016 ( $n = 60\%$ ), this satisfaction is well above the 41% or less recorded between 2001 and 2012 (McCarthy, 2018). Of those dissatisfied ( $n = 38\%$ ), more desire greater ( $n = 23\%$ ), rather than less ( $n = 8\%$ ) acceptance of sexual minorities (McCarthy, 2018). While the number of Americans identifying as a sexual minority increases and the public becomes more accepting, challenges, in the form of discrimination and disparities remain.

### **Discrimination**

Sexual minorities experience violence, discrimination, and stigma across the lifespan (IOM, 2011; Mulé, 2007; U.S. Department of Health and Human Services, 2010; White & Gerke, 2007). Social, institutional, and health inequalities and disparities increase the occurrence and burden of trauma, illness, and premature death (Turner & Fowler, 2015). Causes of the discrimination and disparities suffered by sexual minorities are multifaceted and complex (Dorsen, 2014; IOM, 2011; Levy, Lytle, & Shin, 2016; Mulé, 2007; Olson & Zabel, 2016).

Theological doctrine and secular law have sought to regulate sexual behavior, punishing many nonprocreative sexual activities or those occurring outside marriage (Erlen, Riley, & Sereika, 1999; IOM, 2011; White & Gerke, 2007). For most of the 20th century, homosexuality was considered a form of mental illness and consensual same-sex behavior was illegal (Cochran et al., 2014; IOM, 2011). Despite the increased visibility of sexual minorities, evidence of social, institutional, and health disparities persist (Cornelius & Whitaker-Brown, 2015; Dorsen, 2012, 2014; Tillman et al., 2016; U.S. Department of Health and Human Services, 2010).

### **Disparities**

#### **Social**

While at least eight in 10 Western Europeans, compared to six in 10 Americans, believe sexual minorities should be accepted by society (Papadaki, Plotnikof, Gioumidou, Zisimou, & Papadaki, 2015), social disparities continue to be a challenge for this vulnerable population (Hollenbach, Eckstrand, & Dreger, 2014; IOM, 2011; The Joint Commission, 2011; U.S. Department of Health and Human Services, 2010). There are countries offering no legal protection for sexual minorities and some criminalize homosexual activity (Bilgic, Daglar, Sabanciogullari, & Ozkan, 2018; Hollenbach et al., 2014; IOM, 2011; Piwowarczyk, Fernandez, & Sharma, 2016). In the United States, sodomy laws were used to justify sexual minority discrimination in a variety of circumstances, including child custody, employment, and immigration (IOM, 2011). Immigrants and asylum seekers find the need to not disclose their sexual orientation, both in their country of origin as well as after arriving in the United States (Piwowarczyk et al., 2016). This need to hide their sexual identity

is often the result of the hostile environment encountered in the United States (Piwowarczyk et al., 2016).

The process of disclosing one's sexual identity to others, coming-out, is occurring at earlier ages (Chung, Szymanski, & Markle, 2012). Sexual minority youth report awareness of same-sex feelings as early as 10 years, with self-labeling occurring about five years later (Chung et al., 2012). Even at this young age, sexual minority youth are also recipients of societal discrimination experiencing higher levels of harassment, victimization, and violence compared to heterosexual youth (Chung et al., 2012; IOM, 2011). Young sexual minorities experience homelessness at higher rates than heterosexual youth as a result of family rejection and discrimination (Hollenbach et al., 2014; IOM, 2011; U.S. Department of Health and Human Services, 2010).

### **Institutional**

Over the past 50 years, the visibility of sexual minorities has advanced from being barred from military service and federal jobs (IOM, 2011) to enjoying certain basic rights such as being able to marry and raise families (Breen & Karpinski, 2013). Despite these advances (Hollenbach et al., 2014), universal workplace protections do not exist for sexual minorities (Gates, 2015; IOM, 2011), who experience negative attitudes, biased behaviors, and implicit stereotypes in the workplace as a result of their sexual orientation (Blumberg, 2019; Byrd, 2018; Chung et al., 2012; Copti, Shahriari, Wanek, & Fitzsimmons, 2016; Radix & Maingi, 2018). Workplace discrimination, based on sexual orientation, is illegal in only 17 states, and it remains legal in 33 states to refuse service in restaurants or retail stores to persons who are sexual minorities (Copti et al., 2016). Workplace discrimination has also been

reported by nurses who identify as a sexual minority (Carabez et al., 2015; Clarke, 2014; Eliason, DeJoseph, Dibble, Deevey, & Chinn, 2011). These nurses report challenges and difficulties balancing their professional roles with their sexual identity in a work environment that is less than supportive or inclusive (Clarke, 2014; Eliason et al., 2011; Harbin, Beagan, & Goldberg, 2012; MacDonnell, 2009; Stewart & O'Reilly, 2017).

Schools are often unsafe for sexual minority youth who are subject to verbal and physical harassment and even physical assault at rates higher than their peers (Clarke, 2014; Espelage, Merrin, & Hatchel, 2018; Gower et al., 2018; Graham, 2012). Evidence indicates sexual minority students frequently encounter a hostile school environment and educators who are poorly prepared to work with these students (Gower et al., 2018; IOM, 2011; Weinberg, 2011). This type of environment greatly increases the risk for academic and personal failure of sexual minority students (Gower et al., 2018; IOM, 2011; Weinberg, 2011).

## **Health**

Despite advances in equality, sexual minorities experience more significant and frequent health disparities compared to heterosexuals (Butler et al., 2016; Dorsen, 2014; IOM, 2011; Mann, 2017; U.S. Department of Health and Human Services, LGBT [lesbian, gay, bisexual, transgender] Issues Coordinating Committee, 2014). Knowledge of these health disparities, and their outcomes, is essential to developing effective interventions to improve the health of this vulnerable population (Fredriksen-Goldsen & Kim, 2014; IOM, 2011; Sukhera, 2020). The outcomes of these disparities and contributing barriers affect sexual minorities across the lifespan (Dorsen, 2014; Hollenbach et al., 2014; IOM, 2011; McEwing, 2017).

Sexual minority adults experience significantly increased risk and higher rates of mental health issues, including anxiety, depression, post-traumatic stress disorder, substance use disorders, and suicide attempts compared to heterosexuals (Fredriksen-Goldsen & Kim, 2014; Hollenbach et al., 2014; IOM, 2011; Mattocks et al., 2014). This population also experiences increased risk and higher rates of certain cancers, cardiovascular disease, asthma, and obesity compared to heterosexuals (Hollenbach et al., 2014; IOM, 2011; Radix & Maingi, 2018; U.S. Department of Health and Human Services, 2010). Smoking, alcohol, and substance use are also higher, compared to heterosexuals (IOM, 2011; U.S. Department of Health and Human Services, 2010). Sexual minority adults, particularly women, are less likely to access the healthcare system, including preventative services (Beagan, Fredericks, & Goldberg, 2012; U.S. Department of Health and Human Services, 2010).

Sexual minority youth also experience greater risk and higher rates of anxiety and depression compared to their heterosexual peers (Graham, 2012; U.S. Department of Health and Human Services, 2010). There is greater suicide ideation, with suicide attempts occurring more than twice as frequently among sexual minority youth, compared to their heterosexual counterparts (Copti et al., 2016; Espelage et al., 2018; Hollenbach et al., 2014; IOM, 2011; U.S. Department of Health and Human Services, 2010). Young men in this population show substantial elevations of cardiovascular disease biomarkers and overall higher rates of HIV infection, compared to heterosexual youth (Hollenbach et al., 2014; U.S. Department of Health and Human Services, 2010). Rates of smoking, alcohol use, and substance use and abuse are also higher among sexual minority youth compared to their peers (Chung et al., 2012;

Hollenbach et al., 2014; IOM, 2011; U.S. Department of Health and Human Services, 2010).

Contributing to these disparities are several real or perceived barriers to culturally responsive, equitable healthcare (Dorsen, 2014; McEwing, 2017; Ross-Bailey, 2013; Stewart & O'Reilly, 2017). These barriers include access to health insurance and lack of financial, social, and institutional support (Hollenbach et al., 2014; IOM, 2011; U.S. Department of Health and Human Services, 2010). Additional barriers include previous negative experiences in the healthcare setting, lack of healthcare provider knowledge, and real or perceived negative attitudes of healthcare providers (HCPs), including heteronormativity, heterosexism, and homophobia (Dorsen, 2012; IOM, 2011; Levesque, 2013; McEwing, 2017; Ross-Bailey, 2013; Rounds, McGrath, & Walsh, 2013; Steppe, 2013; Stewart & O'Reilly, 2017).

### **Problem Statement**

While the need to explore the attitudes of nurses toward sexual minorities is clearly established in the literature (Bilgic et al., 2018; Dorsen, 2014; IOM, 2011; Waldrop, 2016; Zestcott, Blair, & Stone, 2016), this research has focused on explicit attitudes toward this vulnerable population (Anselmi, Voci, Vianello, & Robusto, 2015; Breen & Karpinski, 2013; Cochran et al., 2014; Dorsen, 2014; Sabin, Riskind, & Nosek, 2015). Much of this research has relied on various self-report instruments (Anselmi et al., 2015; Sabin et al., 2015). A frequently identified limitation of these instruments is the potential for social desirability bias in the results (Breen & Karpinski, 2013; Costa, Bandeira, & Nardi, 2013; Della Pelle, Cerratti, Di Giovanni, Cipollone, & Cicolini, 2018; Douglas, Kalman, & Kalman, 1985; Harbin et al., 2012; Matharu, Kravitz, McMahon, Wilson, & Fitzgerald, 2012; Piwowarczyk et al., 2016).

Another limitation is a lack of clarity and consistency in operationalizing the concepts being measured (Costa et al., 2013; Dorsen, 2014; Lim & Hsu, 2016; Morrison & Dinkel, 2012).

There is growing evidence that implicit attitude has a significant role in our thoughts and behaviors toward sexual minorities (Anselmi, Vianello, Voci, Robusto, & Denson, 2013; Anselmi et al., 2015; Banaji & Greenwald, 2016; Byrd, 2018; Graham, 2012; Mayer, 2019; Penzias, 2016; Sirota, 2013; Waldrop, 2016). There is a need, within nursing and other healthcare professions, to have a greater understanding of the role implicit attitude plays in providing appropriate, culturally responsive care to this vulnerable population with a goal being a reduction or elimination of the disparities they experience (Dinkel, Patzel, McGuire, Rolfs, & Purcell, 2007; Fisher et al., 2016; Gonzalez, Kim, & Marantz, 2014; Isacco, Yallum, & Chromik, 2012; Lim & Hsu, 2016; Matharu et al., 2012; Pinto & Nogueira, 2016; Sabin et al., 2015; Waldrop, 2016). Research of the implicit attitude of nurses has focused on the elderly (Nash, Stuart-Hamilton, & Mayer, 2014), race (Fitzsimmons, 2009; Kimbrel, 2018; von Hippel, Brener, & von Hippel, 2008), obesity (Teachman & Brownell, 2001), disability (Aaberg, 2012), and drug users (von Hippel et al., 2008). Despite this call for further knowledge, only one study, by Sabin et al. (2015), has explored the implicit sexual attitude of nurses toward heterosexuals versus lesbian women and gay men.

### **Purpose Statement**

The purpose of this non-experimental, descriptive, correlational study was to examine the implicit and explicit sexual attitude among United States baccalaureate nursing students. The goal of this study was to provide nursing educators with

knowledge of the strength and direction of these attitudes regarding heterosexuals versus lesbian women and gay men.

### **Research Questions**

This study sought to address the following questions:

- Q1 What is the implicit sexual attitude of United States baccalaureate nursing students toward lesbian women and gay men?
- Q2 What is the explicit sexual attitude of United States baccalaureate nursing students toward lesbian women and gay men?
- Q3 What is the relationship among predictor variables (e.g., age, gender, year in nursing program, self-identified sexual identity, religiosity) and the criterion variables of implicit and explicit sexual attitude?
- Q4 Is there a difference in the level of implicit and explicit sexual attitude among United States baccalaureate nursing students?
- Q5 Is there a correlation between the implicit and explicit attitude toward lesbian women and gay men among baccalaureate nursing students in the United States?

### **Significance of the Study**

Recognizing its duty to address issues of health disparities and socioeconomic inequalities, the American Nurses Association, more than 30 years ago, called for legislation to protect the rights of all persons, regardless of sexual or affective preference (American Nurses Association, 1978; Racine & Perron, 2012). Nursing's well-established goal of providing culturally responsive, patient-centered care across diverse populations has yielded less than desirable results for sexual minorities who remain one of the largest underserved populations across all practice settings (Fredriksen-Goldsen & Kim, 2014; IOM, 2011; International Council of Nurses, 2009; Levesque, 2013). As the largest group of HCPs, nursing is in an excellent position to be a change agent in eliminating health disparities, yet sexual minorities have received

little attention, compared to other disciplines (Carabez et al., 2015; Cloyes, 2016; Eliason, Dibble, & DeJoseph, 2010; MacDonnell, 2009; Saunamäki & Engström, 2014).

Education and examining healthcare provider attitudes are important steps to improve the health and wellbeing of sexual minorities (Cornelius & Carrick, 2015; Levesque, 2013; Rounds et al., 2013; Steppe, 2013; Tillman et al., 2016; U.S. Department of Health and Human Services, LGBT Issues Coordinating Committee, 2014). Existing research of nurses' attitudes toward sexual minorities has focused on explicit or conscious attitudes (Anselmi et al., 2015; Breen & Karpinski, 2013; Dorsen, 2014; Sabin et al., 2015) with mixed results (Cloyes, 2016; Costa et al., 2013; Isacco et al., 2012; Lim & Hsu, 2016; Mandelbaum, 2016; Mattocks et al., 2014). There is growing attention in nursing to the role subtler, less conscious attitudes have in providing culturally responsive, patient-centered care to sexual minorities (Alexander, 2018; Bellack, 2015; Radix & Maingi, 2018; Stewart & O'Reilly, 2017). These less conscious attitudes are identified as implicit or automatic (Anselmi et al., 2013; Anselmi et al., 2015; Banaji & Greenwald, 2016), yet have not been explored among nursing students. This knowledge, as measured by the Implicit Association Test (IAT) (Greenwald et al., 1998) is a necessary part of their education to become culturally responsive providers of care to this vulnerable population (Alexander, 2018; Dorsen, 2014; Fishbein & Ajzen, 1975; Fisher et al., 2016; Hoyer, 2013; Papadaki et al., 2015; Penzias, 2016; Sabin et al., 2015; Tillman et al., 2016).

This study was the first to explore the implicit sexual attitude of baccalaureate nursing students toward heterosexuals versus lesbian women and gay men, to provide them, and nurse educators, with knowledge of the direction and strength of these

attitudes. The results of this study have the potential to provide nursing educators with knowledge that can be used to enhance students' learning experiences and improve the care they provide to this vulnerable population. Knowledge of nursing students' implicit sexual attitude toward this population could guide nursing faculty in making modifications to the academic and clinical experiences of their students to better address the unique healthcare needs and concerns of sexual minorities. Additionally, this study provides a first step for further research of implicit sexual attitude in nursing with the potential for additional research of other nursing populations, such as faculty, clinicians, and administrators.

### **Theoretical Framework**

The theoretical framework that guided this study was critical cosmopolitanism as articulated by Delanty (2006, 2011, 2014) and applied in the educational setting by Wahlström (2015). While the concept of cosmopolitanism and the theory of critical cosmopolitanism is more fully discussed in the literature review, an overview and the relevancy to this study is presented here. Multiple definitions of the contested term cosmopolitanism are developed in the literature blurring the boundaries of competing terms such as globalization, transnationalism, and universalism (Beck, 2002; Woodward, Skrbis, & Bean, 2008). The dictionary defines cosmopolitanism as a worldview; whereas, parochial or limited views represent the antithesis of the concept (Cosmopolitanism, 2016). The concept, as developed in popular and colloquial literature, identifies cosmopolitanism as sophisticated, global, and often exclusive. Historically, Greek scholar Diogenes, in the fourth century Before the Common Era, identified a cosmopolite as a person who is a "citizen of the world" (Hansen, 2010, p. 4). Eighteenth century philosopher Immanuel Kant identified citizenship in the

internal and external worlds of polis and cosmos (Beck, 2002, 2003). Central to Kant's development of this concept is the notion of otherness, which includes both an internal and external dimensions that are often in conflict (Beck, 2003). The polis is concerned with internalizing the otherness of the object and mastery of rationalization that is scientific and linear (Beck, 2002). The cosmos includes the external realms of otherness in civilizations, nature, and the future (Beck, 2002). The themes of conflict, internal and external duality, and otherness remain essential as the concept is further developed.

The emphasis of critical cosmopolitanism is the open nature of encounters between one's self and the other (Delanty, 2014). Delanty (2014) stressed that the importance of these encounters are what is learned from them, not the fact that the encounters occurred. The goal of this learning is self-transformation which is achieved by a critical analysis of the encounter through self-reflection, hospitality, dialogue, and transaction of perspectives (Delanty, 2006; Wahlström, 2015). The purpose of this self-transformation is the creation of a new understanding of one's self and the other (Delanty, 2006). This new understanding is not merely an acceptance, assimilation or unity between self and other, but rather a new reality which genuinely values the other (Delanty, 2011). This new reality is relational; it is not predefined or static (Delanty, 2011).

Critical cosmopolitanism is an appropriate lens for this study as its themes of openness, conflict, the other, self-transformation, and change are frequent themes found in the nursing literature related to sexual minorities. Openness is required for reasonable, ethical decision making, collaboration, and to address health disparities (American Nurses Association, 1978; Turner & Fowler, 2015). Openness is also

required to provide appropriate, culturally responsive care to sexual minorities (Butler et al., 2016; Carabez et al., 2015; Clarke, 2014; Cornelius & Whitaker-Brown, 2015; Della Pelle et al., 2018; Eliason et al., 2011). Nursing acknowledges the need to be aware of conflicts that can develop between one's personal and professional values (International Council of Nurses, 2009; Turner & Fowler, 2015). Conflict is a recurring theme in the nursing literature related to sexual minorities (Alexander, 2018; Christensen, 2005; Dorsen, 2014; Douglas et al., 1985; Saunamäki & Engström, 2014). Nurses acknowledge they provide care to others who may have values, beliefs, and attitudes different than theirs (Leonard, 2006; Penzias, 2016). This theme of otherness, of being different from oneself, is well developed in the sexual minority nursing literature (Beagan et al., 2012; Bilgic et al., 2018; Carabez et al., 2015; Clarke, 2014; Cloyes, 2016; Dinkel et al., 2007; Dorsen, 2014; Eliason et al., 2011; Eliason et al., 2010). Self-transformation, the need to become aware of one's attitude toward sexual minorities (Bilgic et al., 2018; Cornelius & Carrick, 2015; Dinkel et al., 2007; Dreachslin, Gilbert, & Malone, 2012; MacDonnell, 2009; Penzias, 2016; Rounds et al., 2013; Sirota, 2013), through critical self-reflection (Harbin et al., 2012; Isacco et al., 2012; Leonard, 2006; Tillman et al., 2016), and dialogue (Lewis & Bor, 1994; McEwing, 2017; Merryfeather & Bruce, 2014; Papadaki et al., 2015; Ross-Bailey, 2013; Saunamäki & Engström, 2014), leading to new perspectives that result in change (Carabez et al., 2015; Cloyes, 2016; Klotzbaugh, 2013; Lim & Hsu, 2016; McEwing, 2017; Merryfeather & Bruce, 2014; Smith, 2012) is another consistent theme in the nursing literature. The need for change, to improve the care we, as nurses, provide sexual minorities has been established. Critical cosmopolitanism provides a theory that is relevant to guide research to achieve this goal. This theory

articulates the concepts of openness, conflict, the other, self-transformation, and change. The nursing literature identifies these concepts as essential to achieving appropriate, culturally responsive care for sexual minorities.

Prior nursing studies of attitudes toward sexual minorities have either not stated a theoretical or conceptual basis (Bilgic et al., 2018; Cornelius & Carrick, 2015; Cornelius & Whitaker-Brown, 2015; Della Pelle et al., 2018; Dinkel et al., 2007; Douglas et al., 1985; Eliason, 1998; Strong & Folse, 2014) or used theories such as queer theory (Eliason et al., 2010; Goldberg, Harbin, & Campbell, 2011; Harding, 2007; Røndahl, 2011), feminist theory (Beagan et al., 2012; Harbin et al., 2012; MacDonnell, 2009), or minority stress theory (Espelage et al., 2018; Graham, 2012; Isacco et al., 2012; Piwowarczyk et al., 2016). Critical cosmopolitanism shares concepts similar to these theories identified as relevant in the sexual minority nursing literature: critical reflection, openness, and change apart from conflict. Minority stress theory addresses conflict but the theory is explanatory, not critical (Meyer, 2003). Having established conflict as a recurring theme in sexual minority nursing literature, related to improving the health outcomes of sexual minorities, it is reasonable to choose a theory that addresses this, and other relevant concepts, to explore the presence of the implicit sexual attitude among nursing students. Finally, critical cosmopolitanism is consistent with a transformative worldview as described by Creswell (2014). A transformative worldview seeks change by addressing important, current social issues such as oppression, inequality, and empowerment (Creswell, 2014). The transformative worldview is, therefore, relevant to addressing the discrimination and disparities suffered by sexual minorities.

## Methodology

The methodology and research design of this study is discussed in detail in Chapter III and is briefly summarized here. This study used a quantitative methodology with a non-experimental, descriptive, correlational research design to explore the implicit and explicit sexual attitude toward heterosexuals versus gays and lesbians among United States baccalaureate nursing students. Non-experimental design is appropriate when the variables of interest cannot, or should not, be manipulated (Johnson & Christensen, 2017). This design is appropriate for the initial study of implicit sexual attitude among nursing students. As this is the first study of this phenomenon among nursing students, no attempt was made to manipulate the independent or predictor variables (Johnson & Christensen, 2017; Mertens, 2015). Descriptive research in education is focused on describing the characteristics of a phenomenon (Johnson & Christensen, 2017; Mertens, 2015). This study sought to identify the presence of sexual implicit and explicit attitude among baccalaureate nursing students and whether these attitudes favor heterosexuals or lesbian women and gay men. Correlational research focuses on the relationship of the variables of interest (Johnson & Christensen, 2017; Mertens, 2015); because there is no manipulation of the independent variables, they are sometimes referred to as explanatory or predictor variables (Mertens, 2015) and the dependent variable is then termed the outcome or criterion variable (Mertens, 2015). In this study, the predictor variables were demographic criteria, identified in the literature as relevant to attitudes toward sexual minorities (Breen & Karpinski, 2013; Carabez et al., 2015; Cornelius & Carrick, 2015; Eliason, 1998; Gates, 2015), such as age, gender, year in nursing program, and self-identified sexual identity. The criterion variables for this study were implicit sexual

attitude, as measured using the IAT (Greenwald et al., 1998), and explicit sexual attitude, as measured by the Attitudes Toward Lesbians and Gay Men (ATLG) scale (Herek, 1988, 1994; Herek & Mclemore, 2011).

The IAT (Greenwald et al., 1998) is an appropriate instrument when the researcher desires to indirectly measure attitude through automatic response (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). The IAT is the most widely used instrument for measurement of automatic or implicit attitude (Anselmi et al., 2013; Sabin et al., 2015), and specifically of implicit sexual attitude (Anselmi et al., 2013; Graham, 2012). The IAT is also appropriate when the variables of interest are inherently comparative (Breen & Karpinski, 2013), as in this study. Research of controversial or sensitive social issues, such attitudes toward sexual minorities, have a higher risk of social desirability response bias (Steppe, 2013). Risk of this bias is inherent in self-report surveys that measure explicit responses (Hou et al., 2006; Mertens, 2015). The IAT, which has demonstrated strong reliability and validity (Egloff & Schmukle, 2002; Graham, 2012; Greenwald et al., 2009; Sabin et al., 2015), addresses this bias (Cunningham, Preacher, & Banaji, 2001; Greenwald et al., 2009; Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005). The IAT is also capable of measuring attitudes toward sexual minorities that would be undetectable using explicit measures (Costa et al., 2013; Steppe, 2013). Further, existing nursing research of implicit attitude has used the IAT (Fitzsimmons, 2009; Kimbrel, 2018; Nash et al., 2014; von Hippel et al., 2008), as well as the one study of implicit sexual attitude of nurses (Sabin et al., 2015).

Explicit attitude was measured using the ATLG (Herek, 1988, 1994; Herek & Mclemore, 2011). This scale was developed to measure homophobia and has been

used to measure the attitude of nurses (Blackwell, 2005, 2008; Della Pelle et al., 2018; Traister, 2018), nursing faculty (Sirota, 2013), and nursing students (Bilgic et al., 2018; Rowniak, 2015; Steppe, 2013; Strong & Folse, 2014; Unlu, Beduk, & Duyan, 2016). The scale is composed of 20 questions, 10 measuring attitudes toward lesbians and 10 measuring attitudes toward gays (Blackwell, 2005; Herek, 1988). The response to questions is presented in a 5-point Likert scale from *strongly disagree* to *strongly agree* (Herek, 1988; Papadaki et al., 2015). The instrument has demonstrated reliability (alpha) above 0.80 (Bilgic et al., 2018; Blackwell, 2005; Della Pelle et al., 2018; Herek, 1988; Sherman, Kauth, Shipherd, & Street, 2014; Steppe, 2013; Strong & Folse, 2014). The ATLG (Greene & Herek, 1994; Herek, 1988; Herek & Mclemore, 2011) is, therefore, an appropriate measure of nursing students' explicit sexual attitude toward sexual minorities.

Rationale for measuring both implicit and explicit attitude relates to the dual nature of attitude. Discussed in more detail in Chapter II, attitude is consistent with dual-process theory that categorizes responses as either automatic, nonconscious, and fast, that is, implicit or controlled, conscious and slow, or explicit (Brownstein & Saul, 2016; Frankish, 2016; Wilson, Lindsey, & Schooler, 2000). Explicit measures attempt to account for the possibility that participants may be unwilling to report their conscious, controlled attitude toward a target subject, especially one that is socially sensitive (Wittenbrink & Schwarz, 2007). Implicit measures acknowledge participants may not be capable of reporting an attitude which they are unaware of holding, that is, an implicit attitude, given it is nonconscious and automatic (Wittenbrink & Schwarz, 2007). This duality of attitude can give rise to conflict as a result of a contradiction between a person's implicit and explicit attitude toward a target subject (Frankish,

2016; Wilson et al., 2000; Wittenbrink & Schwarz, 2007). The concepts of duality and conflict are consistent with critical cosmopolitanism, which recognizes these are necessary components to effect change (Delanty, 2006, 2011; Wahlström, 2015).

This study focused on baccalaureate nursing students using convenience sampling, identified as students who are members of the National Student Nurses' Association (NSNA). Convenience sampling is appropriate when the target group is readily available, can be recruited easily, and willing to participate (Creswell, 2014; Johnson & Christensen, 2017; Mertens, 2015). Additional research of the attitudes of nursing students toward sexual minorities is recommended (Chambers, Thompson, & Narayanasamy, 2013; Cornelius & Carrick, 2015; Lim & Hsu, 2016; Papadaki et al., 2015; Steppe, 2013; Tillman et al., 2016). Given the mixed results of existing research regarding nursing students attitudes toward sexual minorities (Bilgic et al., 2018; Carabez et al., 2015; Chapman, Watkins, Zappia, Nicol, & Shields, 2012; McEwing, 2017; Tillman et al., 2016), there is a need to know their implicit attitude toward this population (Bellack, 2015; Matharu et al., 2012; Steppe, 2013). While early nursing research of attitudes toward sexual minorities demonstrated moderate to strong negative attitudes (Douglas et al., 1985; Eliason, 1998; Erlen et al., 1999; Lewis & Bor, 1994), more recent studies indicate more positive attitudes but a lack of the knowledge required to provide culturally responsive care to sexual minorities (Carabez et al., 2015; Goldberg et al., 2011; Harbin et al., 2012; Pinto & Nogueira, 2016). In the research of attitude toward sexual minorities a common limitation of using self-report instruments, which are subject to response bias, has been identified (Clarke, 2014; Della Pelle et al., 2018; Douglas et al., 1985; Eliason, 1998; Klotzbaugh, 2013; Lim & Hsu, 2016; Ross-Bailey, 2013). The results of this study

contribute to the current body of knowledge by potentially exposing implicit attitude that favors heterosexuals over lesbians and gays. This is an important step to improving the ability of nursing students to become aware of unconsciously held attitudes (Boscardin, 2015; Chambers et al., 2013), which may contribute to potential bias (Steppe, 2013) that impedes providing culturally responsive care to this vulnerable population (Bellack, 2015; Cornelius & Carrick, 2015; Gonzalez et al., 2014; Steppe, 2013).

### **Definition of Terms**

**Attitude.** “A learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given idea, object, place or person” (Fishbein & Ajzen, 1975, p. 6) with cognitive, affective, and behavioral components (Eagly & Chaiken, 2007) that is evaluative (Albarracin, Sunderrajan, Lohmann, Man-pui, & Jiang, 2019; Brownstein & Saul, 2016), malleable (Blair, 2002), and contributes to bias (Brownstein & Saul, 2016; Mandelbaum, 2016).

**Baccalaureate nursing student.** Any student enrolled in a bachelor’s degree registered nursing program, including generic bachelor of science in nursing (BSN) and registered nurse (RN)-BSN programs.

**Belief.** A firmly held propositional attitude (Frankish, 2016; McGrath & Devine, 2018) one accepts as true or real (Klotzbaugh, 2013).

**Bias.** A personal attitude toward others that can be positive or negative, giving advantage to some and disadvantaging others, and can be known (explicit) or unknown (implicit) (Anselmi et al., 2013; Bellack, 2015; Fitzsimmons, 2009).

Cognitive processes. “Both the content of thoughts as well as the process of thinking” (Hatzenbuehler, 2009, p. 718).

Cosmopolitan. A contextual word-view with political, institutional, and cultural threads that recognizes and values otherness at the local, national, and global level.

Cosmopolitan modernity. A contested term with political, cultural, and social threads related to the creation of multiple social and political alternatives through dialogue and recognition of otherness (Delanty, 2009; Delanty & O’Mahony, 2002; Marinopoulou, 2015).

Critical cosmopolitanism. A socially oriented, post-universalistic approach to achieve change through self-transformation as a result of dialogue created by the conflicts between the global and the local, on the one hand, and the universal and particular, on the other (Delanty, 2006, 2009).

Culturally responsive care. Recognizing the need to move beyond acquired knowledge and skills to implementation by responding to the needs of diverse patients, with the goal being to reduce population level health disparities (Chambers et al., 2013; Dorsen, 2014; Dreachslin et al., 2012).

Explicit attitude. Perceptions toward an individual or group that we are aware of having; perceptions are conscious and reflective and measured by self-report toward the subject matter (Banaji & Greenwald, 2016; Graham, 2012; Penzias, 2016).

Gender. A socially constructed concept traditionally viewed as binary (Hoyer, 2013; IOM, 2011; Merryfeather & Bruce, 2014).

**Gender identity.** How an individual identifies as a man or woman, boy or girl, or other gender and may differ from the gender assigned at birth, sexual history or practices, or sexual orientation; it is a non-binary concept (Butler et al., 2016; Hollenbach et al., 2014; IOM, 2011).

**Heteronormativity.** A widely shared normative attitude or belief that is internalized of heterosexuality as preferred, natural, normal, and is expected in social and sexual relations to be otherwise abnormal, lesser, or deviant (Anselmi et al., 2013; Beagan et al., 2012; Dorsen, 2014; Goldberg et al., 2011; Harbin et al., 2012; Røndahl, 2011; Weinberg, 2011).

**Heterosexism.** Overt or covert attitudes, beliefs, or behaviors that assume and privilege heterosexual identity and behaviors, to be otherwise results in discrimination, stigmatizing, or segregating which can be active or passive (Crisp, 2002; DiAngelo, 1997; Dorsen, 2014; Eliason, 1993; Eliason et al., 2010; Gates, 2015; Levesque, 2013; Morrison & Dinkel, 2012; Ross-Bailey, 2013; Smith, 2012; Steppe, 2013).

**Homonegativity.** A negative affective response to persons who identify or are perceived as not heterosexual and can be internalized by an individual who identifies as a sexual minority (Costa et al., 2013; Isacco et al., 2012; Klotzbaugh, 2013; Ungstad, 2016).

**Homophobia.** A complex affective response that may be conscious or subconscious, intentional or unintentional, toward anyone perceived as not heterosexual and may manifest as fear, loathing, or hatred resulting in avoidance, discrimination, or violence (Christensen, 2005; Costa et al., 2013; Crisp, 2002; Dinkel et al., 2007; Douglas et al., 1985; Eliason, 1993; Smith, 2012; Steppe, 2013;

Weinberg, 2011). A closely related term is homosexism (Appleby, 1999; Black, Oles, & Moore, 1998; Hansen, 1982). In this research project the two terms will be considered equal and the term homophobia will be used.

**Implicit attitude.** Attitudes that are automatic (Fazio, Jackson, Dunton, & Williams, 1995), operate without intention, and of which we may lack awareness (Banaji & Greenwald, 2016; Graham, 2012).

**Self-problematization.** A critical self-evaluation that is objective, conscious, and deliberate (Bacchi, 2015; Crotty, 1998; Delanty, 2009; Freire, 1970) and an essential expression of critical cosmopolitanism (Delanty, 2009; Wahlström, 2015).

**Sexual identity.** A broad term including sexual behavior, orientation, and expression and is not a binary concept (Hollenbach et al., 2014; Hoyer, 2013).

**Sexual minority.** A person who does not identify as exclusively heterosexual (Butler et al., 2016; Graham, 2012).

### **Assumptions, Limitations, and Delimitations**

#### **Assumptions**

To address the study purpose, a quantitative methodology was used, guided by a critical theoretical framework. Assumptions for this study include:

- A1. Quantitative methodology is appropriate for this study.
- A2. Critical cosmopolitanism is a relevant theoretical framework to guide research of implicit sexual attitude in baccalaureate nursing students.
- A3. Implicit sexual attitude exists in baccalaureate nursing students and can be measured using the IAT.

- A4. Explicit sexual attitude exists in baccalaureate nursing students and can be measured using the ATLG.
- A5. Implicit sexual attitude of nursing students favors heterosexuals compared to lesbian women and gay men.
- A6. Explicit sexual attitude of nursing students is generally positive toward lesbian women and gay men.
- A7. Implicit and explicit sexual attitude of nursing students is associated with certain demographic criteria (e.g., age, level of education, gender, self-identified sexual identity).
- A8. Disassociation exists between an individual's implicit and explicit attitude toward lesbian women and gay men.
- A9. There is a correlation between an individual's implicit and explicit sexual attitude.
- A10. Implicit sexual attitude has an important role in providing culturally responsive care to sexual minorities.
- A11. Knowledge of implicit sexual attitude will enhance the education of baccalaureate nursing students leading to an improvement of the care they provide to sexual minorities.
- A12. Participants will be able to follow the provided instructions and make a genuine attempt to complete the IAT, ATLG, and related data.

### **Limitations**

1. The use of convenience sampling limits generalizing the findings to the greater student nursing population.

2. Explicit sexual attitude was measured using a self-report instrument, increasing the risk of social desirability bias.

### **Delimitations**

1. The study focused on baccalaureate nursing students, excluding students in associate, diploma, and graduate programs.
2. The participants were from the United States, excluding other countries.

### **Organization of the Remainder of the Study**

Chapter I provided an overview of the background, context, theoretical framework, and research problem to be addressed. The purpose, methodology, and relevance to nursing were discussed. Chapter II will provide a detailed discussion of the theoretical framework supporting this study and an in-depth review of the relevant literature. Chapter III will discuss the chosen methodology in greater detail. Chapter IV will give details of the data collected and its analysis, along with the results. Chapter V will present conclusions and recommendations for further research related to implicit sexual attitude among nurses.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### **Introduction**

Substantive research advances knowledge and understanding (Boote & Beile, 2005; Hart, 2018). The foundation for doing substantive research is a thorough literature review of a justified selection of sources focused on clearly stated research questions (Boote & Beile, 2005; Hart, 2018). The result should be a critical synthesis of carefully selected literature that provides a new perspective and explains what research has been done and what questions remain to be addressed (Boote & Beile, 2005; Cooper, 1985; Hart, 2018). This approach to the literature review mirrors the research process: (a) problem formation, (b) data collection and evaluation, (c) analysis and interpretation, and (d) presentation of results (Cooper, 1985; Cooper, Hedges, & Valentine, 2009; Randolph, 2009).

Cooper (1985) proposed a six-part taxonomy of the literature review: (a) focus, (b) goal, (c) perspective (d) coverage, (e) organization, and (f) audience to be used to guide the review's development and evaluation. This taxonomy is relevant to a review that forms the basis for doctoral research reported in the dissertation (Randolph, 2009). The focus can be theoretical, methodological, or outcomes and organized conceptually, historically, or methodologically (Cooper, 1985; Randolph, 2009). Scholars represent the dissertation audience with the goal of the review being an integration of related topics, identifying central issues, or a critical approach (Cooper,

1985; Cooper et al., 2009; Randolph, 2009). The dissertation literature review frequently has several goals (Randolph, 2009). Coverage of the literature can be representative, central works, exhaustive, or exhaustive with selective citation, and taking a neutral or espousal of a position perspective (Cooper, 1985; Cooper et al., 2009; Randolph, 2009).

The goal of this review is a critical approach, guided by the research questions and assumptions stated in Chapter I, to support this research project. The operationalized theoretical concepts and methods used to measure attitude toward sexual minorities are the focus of this review, which is organized conceptually. The approach is consistent with the organizational methods suggested by Cooper (1985) and Cooper et al. (2009) and further developed by Randolph (2009) and Hart (2018). Critical cosmopolitanism, introduced in Chapter I, provided the lens through which the review was conducted. A discussion of the method used to gather, organize, and evaluate the relevant literature is followed by a more detailed discussion of critical cosmopolitanism. An overview of relevant theorization and conceptualization of attitude provide a foundation for the empirical literature, related to attitude toward sexual minorities, with a focus on nurses and nursing students. The empirical literature is presented conceptually, guided by the research questions introduced in Chapter I. The chapter concludes with a summary.

### **Method of Data Collection, Organization, and Evaluation**

#### **Initial Search Strategy and Management**

Literature searches were conducted using terms relevant to this research: attitude, disparities, discrimination, education, explicit, gender, health, identity,

implicit, knowledge, nurs\*, sexual, sexuality, and student\* (\*used to include related terms). Additional search terms related to sexual attitude included heteronormativity, heterosexism, homonegativity, and homophobia. Terms were used in various combinations to expand the results. Searched databases included Academic Search Premier, Cumulative Index of Nursing and Applied Health Literature, Google Scholar, ProQuest Dissertation and Theses, and Wilson Omnifile Full Text. Internet searches were conducted to identify additional scholarly sources not contained in the above databases. No restriction regarding date or publication type was used in the initial searches.

This method provided a wide view of the literature related to attitudes towards sexual minorities in the healthcare system and related health disparities. Significantly, no dissertations, theses, or research studies were found that explored the implicit sexual attitude of nursing students. One study (Sabin et al., 2015) measuring implicit sexual attitude was discovered that included nurses in the study sample. These findings represent a gap in nursing knowledge that has been identified as a necessary component for improving the delivery of culturally responsive care to sexual minorities (Alexander, 2018; Bellack, 2015; Dorsen, 2014; Radix & Maingi, 2018; Sabin et al., 2015; Stewart & O'Reilly, 2017) and support this research as an important contribution toward realizing this goal.

As the literature was reviewed, additional sources were obtained from the reference lists and citation tracking tools available in the databases consulted. Garrard (2011) suggested a matrix method to organize the extensive amount of information gathered in a literature review. Wilson (2009) provided a method for systematically coding the literature to describe the characteristics of included studies and capture

relevant findings. The Citavi™ software was used to achieve these organizational goals.

Citavi is a reference management and knowledge organizational software published by Swiss Academic Software in Wädenswil, Switzerland (Swiss Academic Software, 2018). The software is widely used at universities in Austria, Germany, and Switzerland, with many holding site licenses (Stöhr, 2010). The software allows the user to develop a coding system of categories and key words. This coding system can be applied to sources used in the review. Sources available in the portable document format can be analyzed and passages excerpted and coded to the relevant categories and keywords. User notes and comments can be attached to sources or excerpts and applied to the coding system. Databases can be queried from within the software to locate additional sources pertinent to the review. Citavi has a Microsoft Word™ add-in providing a link to all sources, excerpts, and notes which can be formatted in the user's desired citation style.

### **Focused Review of Literature**

A focused literature review is an essential part of the research process (Cooper, 1985; Hart, 2018; Randolph, 2009). The approach to identify relevant literature in this review was an exhaustive review with selective citations as defined by Cooper (1985), Cooper et al. (2009), and Randolph (2009). This method retrieves a manageable number of sources through a focused approach using questions to be addressed by the review and inclusion and exclusion criteria (Cooper, 1985; Randolph, 2009).

**Questions to be answered by the literature review.** The theoretical framework guided the development of the following questions, relevant to this research, with the potential to be answered by this review:

1. What is critical cosmopolitanism and how is it relevant to nursing?
2. How has attitude been broadly theorized and conceptualized in the psychological and philosophical literature?
3. How has attitude toward sexual minorities been conceptualized in the empirical literature?
4. How has this attitude been operationalized?
5. What is the reported attitude toward sexual minorities, particularly among nurses and nursing students?
6. What implications do these results have for nursing practice, education and research?

**Inclusion and exclusion criteria.** The following inclusion criteria established to aide in a focused review of the literature:

1. Primary sources defined as original, peer-reviewed research articles, theses, and dissertations related to the concepts of interest; no restriction on publication date.
2. Secondary sources defined as peer-reviewed systematic reviews, meta-synthesis, or meta-analysis related to the concepts of interest; no restriction on publication date.
3. Grey literature defined as reports, conference proceedings, and other sources generally not available in established journals (Hart, 2018), related to the concepts of interest; no restriction on publication date.

The concepts of interest include attitude toward sexual minorities and measurement of this attitude. The population of interest is nursing students in the United States; however, due the paucity of research within nursing of the concepts of

interest (Carabez et al., 2015; Cloyes, 2016; Saunamäki & Engström, 2014), the population of interest was expanded to include the attitudes of healthcare providers (HCPs) and students, as well as nursing students. No restriction was placed on the date or country of publication.

The following exclusion criteria were established:

1. Sources not written in English.
2. Sources not focused on attitudes toward sexual minorities except for those studies measuring implicit attitude in the expanded population mentioned.

### **Review of the Theoretical Literature Related to Critical Cosmopolitanism and Attitude**

This section will focus on the following questions:

1. What is critical cosmopolitanism and how is it relevant to nursing?
2. How has attitude been broadly theorized and conceptualized in the psychological and philosophical literature?

### **Critical Cosmopolitanism**

Briefly introduced in Chapter I, critical cosmopolitanism provides the theoretical framework for this research project. It is appropriate to begin by identifying the perspectives or forms of cosmopolitanism to provide context. These perspectives are termed the cosmopolitan imagination in the literature (Beck, 2002; Delanty, 2011; Nava, 2002). This is followed by a discussion of central themes found in the literature related to cosmopolitanism. This will provide the necessary background for a discussion of the relevancy of critical cosmopolitanism to nursing

and this research project. The cosmopolitan imagination described in the literature include methodological, normative, rooted, and critical.

Methodological cosmopolitanism continues to recognize duality, but not as oppositional forces. Instead, multiple perspectives of self and other, internal and external, are identified as an inclusive mutuality, an internalization, or consumption of otherness (Nava, 2002; Soysal, 2010). Methodological cosmopolitanism is contrasted with methodological nationalism, which perpetuates the differences of self and otherness, local and foreign. Having a historical focus, methodological nationalism honors an imagined, shared past, contrasted with cosmopolitanism that gives rise to a shared, global, imagined future (Beck, 2002). Methodological cosmopolitanism recognizes the interdependencies existing in a globalized world and is consistent with the themes of boundary and conflict identified in the literature.

Normative cosmopolitanism is described in cultural, political, and institutional forms of orientations and behaviors (Pichler, 2012; Woodward et al., 2008). Beyond describing the ideal, it develops in prescriptive and descriptive form simultaneously, delimiting itself from its philosophical, political, and sociological foundations encompassing a multidisciplinary approach to human experience and action (Beck, & Sznaider, 2010; Mihelj, van Zoonen, & Vis, 2011; Tyfield & Urry, 2009). An essential element of normative cosmopolitanism is recognizing and valuing the struggle or conflict arising from an existing difference that engages self with other, producing a new identity (Beck & Grande, 2010; Kim, 2011). The themes of reflectiveness and openness are significant to normative cosmopolitanism.

Rooted cosmopolitanism suggests the importance of a local disposition that “reconciles abstract universalism with concrete particulars” (Nagy, 2006, p. 625).

Rooted cosmopolitanism grounds the individual in the everyday, allowing the negotiation of conflicting local loyalties and culture while maintaining an open outlook focused on the universal (Christensen, 2012; Mihelj et al., 2011). The individual establishes an identity that is at once established in both the local and global (Beck, 2002). Alternative terms conveying a similar meaning include vernacular cosmopolitanism and patriotic cosmopolitanism (Darieva, 2011). The theme of identity is relative to rooted cosmopolitanism.

Critical cosmopolitanism is socially oriented compared to traditional conceptualizations of the construct that, while having social elements focus on political philosophy (Delanty, 2009, 2011). Delanty (2009) argued traditional cosmopolitanism was a revolt against the social world that represented the closed world of immediate particularistic attachment that was territorially bounded in favor of being a citizen of the world endowed with individual freedoms that society is obligated to protect. The traditional cosmopolitan imaginations, methodological, normative, and rooted, can be viewed, respectively as moral, political, and cultural forms that remained popular from Kant through the Age of Enlightenment (Delanty, 2006, 2009, 2011). The methodological (moral) imagination is concerned with a universal perspective but lacks a nuanced sociological dimension (Delanty, 2009). The normative (political) imagination views globalization as supporting transnational democracy diminishing the role of the nation-state (Delanty, 2009). Rooted (cultural) imagination is a willing engagement with the other, with intellectual and aesthetic openness (Delanty, 2009).

Critical cosmopolitanism differs from traditional imaginations because it is post-universalist with a social, rather than political, focus that is both critical and

dialogic (Delanty, 2006, 2009). Post-universalist cosmopolitanism is not merely about multiculturalism with plurality as its goal, but moral and political change through self-problematization resulting in self-transformation (Delanty, 2009). Similar to the traditional cosmopolitanisms, the critical imagination recognizes universal norms (Delanty, 2009). This normativity allows for recognition, and by extension measurement, of change. This change, self-transformation, is the product of dialogue resulting from conflict based on the traditional dualistic view of self and other, the polis and cosmos (Beck, 2002). Delanty (2009) expanded the dualistic view to conflict between global and local, as well as universal and particular. He argued that the global is inside the social world, identifying this as the global “public” (Delanty, 2009, p. 67). The global public is the ever-present discourse contextualizing political and public discussion, clarifying globalization and cosmopolitanism that are connected but distinct (Delanty, 2009). Globalization does not create but rather enhances cosmopolitanism (Delanty, 2009).

The implication of the concept of the global public, according to Delanty (2009), is that the self can no longer be defined only in terms of the other; rather, social cosmopolitanism includes the world as part of the discourse. Delanty (2009) applied the abstract term third culture to represent the interaction of the world, through the global public, with the self and the other. This interaction, or world openness, identifies a cosmopolitan imagination that is reflexive and internalized, emphasizing the socio-cognitive processes that create new social realities through self-problematization that results in self-transformation leading to transformative communication and subject formation (Delanty, 2006, 2009, 2014). The themes of

boundary, reflectiveness, conflict, openness, and identity are relevant to critical cosmopolitanism.

**Central themes in cosmopolitanism.**

*Boundaries.* Cosmopolitan boundaries derive from the dualistic nature of self and other (Beck, 2002). They can be cultural, social, or political constructs that clarify identity (Beck, 2002; Christensen, 2012; Ossewaarde, 2007). While globalism seeks to tear down boundaries in an attempt at homogeneity, cosmopolitanism transcends them, honoring the heterogeneity of the individual at the macro and micro levels of society (Lamont & Aksartova, 2002; Morris, 2009). At the macro level, cosmopolitan aspects of an engaged regard for global political processes, set within a nationalism respectful and valuing historical and cultural contexts, spans the boundaries of individual nation-states (Lamont & Aksartova, 2002; Pichler, 2012). At the micro level, the cosmopolitan attributes of trust, tolerance, and seeking diversity bridge the boundaries of self and otherness encountered in the everyday experiences of the individual (Pichler, 2012). The negotiation of cosmopolitan boundaries recognizes the conflicts inherent in self and otherness. The recognition of conflict is an essential part of achieving any cosmopolitan imagination. Integral to the concept, conflict is a thread present in the literature and studies reviewed.

*Reflectiveness.* Cosmopolitan reflectiveness differentiates it from neoliberalism and becomes a means of avoiding theoretical conventionalism (Racine & Perron, 2012). Reflective engagement of otherness contributes to self-transformation of one's attitudes and practices an "internalizing the other" (Beck, & Grande, 2010, p. 417) through a multidimensional social plurality (Beck, 2002; Delanty, 2009; Mihelj et al., 2011; Racine & Perron, 2012). A reflective posture is

integral to cosmopolitanism and encompasses more than just a passive reflection of one's past and present experiences (Delanty, 2009). The outcome of this activity is a conversion or transformation, without which it would lack a cosmopolitan essence (Delanty, 2009). A component of this reflectiveness is openness, another consistent theme in the literature.

***Conflict.*** At its foundation, cosmopolitanism is founded on the dualistic conflict between the polis and cosmos, the self and other (Beck, 2002). The literature broadly extrapolates the notion to include that which is strange or different to the self, both internally and externally (Ossewaarde, 2007). Cosmopolitan conflict arises from tensions emerging from the negotiation of global and self, universal and particular, and manifests in mores, politics, and institutions (Beck, 2002; Delanty, 2009). Inclusive of the inherent issues of power, it recognizes the competing forces of class status, prejudice, bias, and similar social constructs which can lead to a marginalization of individuals and groups (Beck, 2002; Delanty, 2009; Kawachi, Daniels, & Robinson, 2005; Kim, 2011). Recognition of conflict leads to change, creating new frameworks and dynamics, recognizing and valuing the other (Beck, & Grande, 2010; Delanty, 2009; Mihelj et al., 2011; Soysal, 2010). This recognition is enhanced by reflectiveness that is a significant theme in the literature.

***Openness.*** Openness is an important way of conceptualizing cosmopolitanism and can be demonstrated in various ways (Woodward et al., 2008). It is a means of conscious transformation and imaginative engagement giving a disposition of curiosity and provides a bridge between self and other (Christensen, 2012; Kim, 2011; Woodward et al., 2008). Through an orientation of openness, one moves beyond the self-absorption and egotism of the local to embrace and value the diversity of

otherness in a search for variability rather than homogeneity (Hannerz, 1990; Pichler, 2012; Todd, 2007; Woodward et al., 2008). Cosmopolitan openness encourages collaboration that simultaneously recognizes the contributions of self and other, mediating the bonds of power (Gruner-Domic, 2011; Tyfield & Urry, 2009). It is an attitude embracing the indefinite, understanding the possibility of multiple modernities (Delanty, 2009; Mihelj et al., 2011; Ryan & Dogbey, 2012; Todd, 2007). An understanding of the role of an open disposition is essential to cosmopolitanism. It moves the individual outside the local context in ways that not only motivates an appreciation of difference but values it. This inclusiveness avoids marginalization or dominance of values or beliefs. The outcome is a transformation grounded in the local that incorporates otherness without a presupposition of rightness. The transformed self contributes to establishing a cosmopolitan identity.

***Identity.*** Identity defines how individuals see themselves; it expresses the essential qualities of self (Racine, 2008). At the macro level, cosmopolitan identity establishes both a national and transnational self (Nava, 2002; Pichler, 2012). On a micro level, it creates a personal and professional self and establishes loyalties (Bennis, Berkowitz, Affinito, & Malone, 1958; Johnson, Cowin, Wilson, & Young, 2012). Inclusiveness of culture, race, ethnicity, gender, and sexuality contribute and enhance its development at both levels (Binnie & Skeggs, 2004; Gruner-Domic, 2011). A lack of rigidity to specific orthodoxy gives the identity fluidness, relative to the present context, in recognizing otherness (Binnie & Skeggs, 2004). Not limited by boundaries, a cosmopolitan identity incorporates the themes of openness, reflection, and conflict, potentiating new possibilities for an altered social order (Delanty, 2009; Kim, 2011; Ossewaarde, 2007).

**Relevancy to nursing.** As outlined in Chapter I, the themes identified in the social theory of critical cosmopolitanism (Delanty, 2006, 2009) are also themes in the nursing literature and specifically the literature focused on sexual minorities (Bilgic et al., 2018; Blackwell, 2005, 2008; Hou et al., 2006; Klotzbaugh, 2013; Steppe, 2013), making it a reasonable theoretical framework to guide this research project. Use of a theory, borrowed from another discipline, should be justified (Polit & Beck, 2012); further, critical cosmopolitanism was not used as a framework in the reviewed research. In this section the theoretical or conceptual frameworks used in the 73 studies reviewed and their weaknesses, compared to critical cosmopolitanism for the study of attitude toward sexual minorities, will be discussed.

Forty-three theoretical or conceptual frameworks were reported in the 73 reviewed studies. Feminist theory ( $n = 6$ ) was most common, followed by queer theory ( $n = 5$ ) and minority stress theory ( $n = 4$ ). The remaining studies ( $n = 30$ ) did not report a theoretical or conceptual framework. The critical cosmopolitan themes of boundaries, reflectiveness, openness, and identity are reflected in both feminist (Beagan et al., 2012; Giddings & Smith, 2001; Goldberg et al., 2011; Harbin et al., 2012; MacDonnell, 2009; Røndahl, 2011) and queer (Beagan et al., 2012; Goldberg et al., 2011; Harbin et al., 2012; Harding, 2007; Røndahl, 2011) theories. A critical analysis of normative processes and dynamics of power at the political and societal level identified in critical cosmopolitanism (Delanty, 2009) are also relevant to feminist (MacDonnell, 2009) and queer theories (Goldberg et al., 2011).

Feminist and queer theories are critical, advocating change; however, they do not directly address conflict, which is a consistent theme in the nursing literature. For the sexual minority patient, conflict can occur from real or anticipated bias or

prejudice from the HCP (Dinkel et al., 2007; Harbin et al., 2012; Piwowarczyk et al., 2016; Rounds et al., 2013). Conflict for the sexual minority nurse can arise from less than accepting colleagues or a less than welcoming work environment (Clarke, 2014; Eliason et al., 2011; Giddings & Smith, 2001; Harding, 2007). For nurses providing care to sexual minorities, conflict can exist as the result of a lack of knowledge (Cornelius & Carrick, 2015; Sirota, 2013; Strong & Folse, 2014; Ungstad, 2016) or from a difference in personal values and beliefs (Hou et al., 2006; Levesque, 2013; Sirota, 2013; Smith, 2012; Tillman et al., 2016).

Minority stress theory is suggested by the Institute of Medicine (IOM) (2011), as an appropriate framework to guide research of issues and related disparities experienced by sexual minorities. Critical cosmopolitanism (Delanty, 2009) and minority stress theory (Meyer, 2003) identify the themes of boundaries, conflict, reflectiveness, openness, and identity (Espelage et al., 2018; Graham, 2012; Piwowarczyk et al., 2016; Ungstad, 2016). However, minority stress theory uses an explanatory, rather than critical, approach. Change is implied, but not directly addressed in the theory.

The remaining theories and frameworks, such as Campinha-Bacote's (2002) theory of cultural competency, in Kimbrel's (2018) study of emergency department nurses, the Tervalon and Murray-García (1998) theory of cultural humility, in the Carabez et al. (2015) study of nursing students, or Leininger's (2002) cultural care theory (McFarland & Wehbe-Alamah (2014), in Ungstad's (2016) study of nursing faculty, contain elements of cultural cosmopolitanism related to sexual minorities and improving the care provided them. These theories explicitly (Campinha-Bacote, 2002; Leininger, 2002) or implicitly (Tervalon & Murray-García, 1998) argue for change to

improve the way care is provided. What is lacking in these, and the remaining theories, is an acknowledgment of the conflict that is likely to arise when care is provided to persons whose values, beliefs, or lifestyles differ.

Education has a fundamental role in developing cosmopolitan values through self-knowledge and reflection (Delanty, 2006; Wahlström, 2015). Through reflection on our daily encounters with persons, ideas, and concepts that are different from own, we gain self-knowledge that opens the possibility for new perspectives (Delanty, 2009; Wahlström, 2015). The goal of this learning is self-transformation, through critical analysis of new perspectives, leading to social change that recognizes and values those persons on the periphery, that is, minorities (Delanty, 2009; Nagy, 2006; Nava, 2002).

A stated objective of nursing is ongoing learning to improve care provided to diverse populations (Turner & Fowler, 2015). Reflectiveness, openness, and identity are essential to expanding the boundary of knowledge of our discipline and ourselves, while recognizing conflict is likely to occur during this process. These critical cosmopolitan themes provide a more comprehensive framework, compared to frameworks previously used in the reviewed literature, to guide research to improve the culturally responsive care provided to sexual minorities. The literature makes clear that attitude plays a significant role in how nurses interact with and provide care to sexual minorities and needs to be more fully explored (Bilgic et al., 2018; Dorsen, 2014; IOM, 2011; Waldrop, 2016; Zestcott et al., 2016). The concept of attitude will now be more fully discussed.

## **Attitude**

This section will provide a broad overview of relevant theories and conceptualization of attitude to provide context for the measurement of implicit and explicit attitude in the current study. The goal is not a detailed or exhaustive review of the literature on attitude; even if this were possible, it would not be relevant to the current study. A brief historical overview and theoretical exemplars are reviewed. This is followed by a discussion of the dual attitude theory (Wilson et al., 2000) to support the measurement of both implicit and explicit sexual attitude in the current study.

Attitude is one of the most common terms appearing in psychology and the social sciences (Allport, 1935; Fabrigar & MacDonald, 2019; Fishbein & Ajzen, 1975; Greenwald et al., 2009). There is great diversity and even contraction concerning its definition (Albarracin et al., 2019; Fabrigar & MacDonald, 2019). The concept has been described in broad terms as a subjective judgement and more narrowly as an evaluative judgment of a target (Albarracin et al., 2019; Fabrigar & MacDonald, 2019; Fishbein & Ajzen, 1975). Evaluation has been a consistent component of the various conceptualizations of attitude (Albarracin et al., 2019; Eagly & Chaiken, 2007). Early theorists, in the 1930s considered attitude to be stable and enduring with a close relationship to behavior (Allport, 1935; Schwarz & Bohner, 2001). Thought of in terms of valence, positive or negative, and extremity, magnitude, or strength, early measurements were reported as a numerical value on a continuum (Fabrigar & MacDonald, 2019; Fishbein & Ajzen, 1975). However, early on this approach was recognized as not sufficient; as a result, early on characteristics such as behavior, affect, and cognition were recognized to help distinguish among attitudinal responses.

More recent theoretical and conceptual approaches to attitude have challenged the traditional enduring nature of attitude (Eagly & Chaiken, 2007; Schwarz & Bohner, 2001). This is in response to the lack of stability observed in attitude measurement over time (Eagly & Chaiken, 2007; Schwarz & Bohner, 2001). Schwarz and Bohner (2001) proposed that attitudes are situational, a constructed response to a target object in a given context, which Berger (2018) called sensitivity. Further research demonstrated that, in fact, attitude was subject to objective and subjective factors that were generally viewed as noise and cast doubt on the ability to accurately measure the construct (Brownstein & Saul, 2016; Fazio et al., 1995).

As the situational and contextual aspects of attitude were being explored in the empirical literature, the traditional connection between attitude and behavior was being evaluated. Traditionally, attitude influences motivation which influences behavior (Katz, 1960). However, motivation and persuasion theoretical and empirical literature was suggesting this traditional connection was much more complex (Earl & Hall, 2019). Fishbein and Ajzen (1975) concluded attitude indirectly moderates behavior. They argued beliefs form attitudes which influence intention that leads to behavior (Fishbein & Ajzen, 1975).

Theories trying to reconcile attitude as stable, stored evaluations, and constructed in situational context used an “anchoring-and-adjustment model of attitude change” (Wilson et al., 2000 p. 103). According to this model, attitudes can be asserted either way, contingent on moderator variables such as openness to new information and strength of the initial attitude (Wilson et al., 2000). An implicit assumption of this model is that changes in attitude replace the existing attitude (Wilson et al., 2000). The dual attitudes theory (Wilson et al., 2000) uses this model

to contend that when an attitude changes the prior attitude is stored in memory, resulting in a dual attitude to a single target object (Wilson et al., 2000).

The model derives the following five hypotheses (Wilson et al., 2000):

1. Explicit attitudes (AE) and implicit attitudes (AI) toward the same attitude object can coexist in memory.
2. When dual attitudes exist, the implicit attitude is activated automatically, whereas the explicit one requires more capacity and motivation to retrieve from memory. When people can retrieve AE, it can override AI such that they report AE. When people do not have the capacity and motivation to retrieve AE, they report AI.
3. Even when the explicit attitude has been retrieved from memory, AI influences implicit responses, namely, uncontrollable responses (e.g., some nonverbal behaviors) or responses that people do not view as an expression of their attitude and thus do not attempt to control.
4. Explicit attitudes change relatively easily, whereas implicit attitudes, like old habits, change more slowly. Attitude-change techniques often change explicit but not implicit attitudes.
5. Dual attitudes are distinct from ambivalence and attitudes with discrepant affective and cognitive components. Rather than experiencing a subjective state of conflict, people with dual attitudes report the attitude that is most accessible. (p. 104)

### **Review of the Empirical Literature Regarding Attitudes Toward Sexual Minorities**

This section will focus on the following questions:

1. How has attitude toward sexual minorities been conceptualized in the empirical literature?
2. How has this attitude been operationalized?
3. What is the reported attitude toward sexual minorities, particularly among nurses and nursing students?

This section of the review is organized by each conceptualization of attitude identified in the reviewed literature. For each concept, which has been defined in the Definition of Terms section above, the relevant studies will be discussed related to participants, target population, and characteristics germane to this study. Target

population refers to the sexual minority group identified as the attitude focus in the study (e.g., lesbian, gay, bisexual, transgender [LGBT], lesbian, gay, etc.), this identifier represents the target object, discussed in the attitude section above, that triggers a response, (i.e., attitude). This becomes relevant in analyzing methodology (i.e., did the study use the best instrument?). How the concept was operationalized, the result, and relevance to this study will be also be discussed. As defined, the concepts of homophobia, homonegativity, heterosexism, and heteronormativity are considered attitudes that present barriers to delivering culturally responsive care. Results for quantitative studies represent the measured conceptualized attitude reported in the study. For qualitative studies, the result represents the conceptualized attitude reported by participants. For interventional studies, the result represents the measured conceptualized attitude reported post-intervention. The review of empirical literature includes 74 studies using quantitative ( $n = 56$ ), qualitative ( $n = 15$ ), or mixed ( $n = 3$ ) methodologies. The majority ( $n = 66$ ) are exploratory in nature. The interventional studies used a quantitative ( $n = 7$ ) or mixed ( $n = 1$ ) methodology.

### **Homophobia**

Twenty-two of the studies reviewed were identified as focusing on homophobia as the attitude of interest; of these, 21 were exploratory and one was interventional (Maruca et al., 2018). The studies were conducted in the United States ( $n = 16$ ), Australia ( $n = 1$ ), Greece ( $n = 1$ ), Italy ( $n = 2$ ), Taiwan ( $n = 1$ ), and Turkey ( $n = 1$ ). The studies by Dorsen (2014), Eliason (1998), Gower et al. (2018), and Maruca et al. (2018) did not indicate the specific attitude that was being assessed, a finding not uncommon in the empirical literature related to attitudes toward sexual minorities (Costa et al., 2013; Dorsen, 2012; Grey, Robinson, Coleman, & Bockting, 2013;

Merryfeather & Bruce, 2014). It is, therefore, relevant to explain the process used to identify the conceptualized attitude of interest in studies where it was not clearly stated. The interventional study by Maruca et al. was used as an example of this process.

The Gay Affirmative Practice Scale (Crisp, 2002, 2006) was used by Maruca et al. (2018) to measure attitude change following a simulated clinical experience. According to Crisp (2002), affirmative practice is necessary to provide culturally competent care for sexual minorities. She defined the term gay in a broader sense to include lesbian, gay, and bisexual persons (Crisp, 2002). The scale measures beliefs and behaviors of HCPs in the clinical setting toward gay persons related to affirmative practice (Crisp, 2002). It is reasonable to identify homophobia as the implied attitude being conceptualized by Crisp (2002) as she mentioned a goal for developing the gay affirmative practices scale as,

Several studies have examined homophobia in the general population and in different groups of helping professionals such as social workers, counselors, psychologists, and nurses. However, few scales have been developed and validated to assess how practitioners interact with gay and lesbian clients in clinical settings. (p. vii)

Further, the theoretical framework used to develop the Gay Affirmative Practices Scale incorporates the six principles of affirmative practice articulated by Appleby, Anastas, and Anastas (1998) that identified homophobia as the negative attitude to be addressed by affirmative practice (Crisp, 2002). For these reasons, homophobia was identified as the implied underlying conceptualization of the attitude toward sexual minorities in the study by Maruca et al. (2018). This approach was used to categorize the reviewed studies that did not indicate the conceptualized attitude being assessed.

Nurses in clinical practice participated in six studies (Blackwell, 2005, 2008; Della Pelle et al., 2018; Dorsen, 2014; Douglas et al., 1985; Hou et al., 2006). The study by Douglas et al. (1985) also included physicians. Nursing faculty were participants in the studies by Dinkel et al. (2007) and Sirota (2013). Nursing students also participated in the study by Dinkel et al., as well as the studies by Bilgic et al. (2018), Eliason (1998), Maruca et al. (2018), Rowniak (2015), and Steppe (2013). The study by Chapman et al. (2012) included both nursing and medical students. The study conducted by Matharu et al. (2012) included only medical students. The HCPs participated in the study conducted by Sherman et al. (2014). The HCPs were also included in the study by Fisher et al. (2016), as well as sexual minorities and the general public. Healthcare students (Papadaki et al., 2015), university students (Boysen, Vogel, & Madon, 2006; Hansen, G., 1982; Schulte, 2002), and sexual minority students (Gower et al., 2018) also participated in these studies that conceptualized homophobia as the attitude of interest toward sexual minorities.

Nine studies (Chapman et al., 2012; Dinkel et al., 2007; Dorsen, 2014; Douglas et al., 1985; Eliason, 1998; Hou et al., 2006; Schulte, 2002; Sherman et al., 2014; Steppe, 2013) focused on homophobic attitudes toward sexual minorities, most often identified as LGBT. The remaining 10 studies focused on homophobic attitudes toward subgroups within this population. The Gower et al. (2018) study was the only one to focus on homophobic attitudes toward sexual minority high school students. Homophobic attitudes toward lesbians and gays, specifically, were the focus in seven studies (Bilgic et al., 2018; Blackwell, 2005, 2008; Crisp, 2002; Herek, 1988; Papadaki et al., 2015; Rowniak, 2015; Sirota, 2013). Boysen et al. (2006), Della Pelle et al. (2018), and Matharu et al. (2012) focused on homophobic attitudes toward gay

men, while transgender persons were the focus in the studies by Fisher et al. (2016) and Maruca et al. (2018). Given that homophobia was conceptualized in a more traditional sense in studies focused on attitudes solely toward gay men, while other studies used a broader interpretation to explore attitudes toward lesbian, bisexual, and transgender persons, it is reasonable to assume this concept was operationalized in a variety of ways. This assumption was demonstrated in the various instruments used to operationalize homophobia.

Homophobia was operationalized using several different instruments, many in combination. The most frequently used instrument was the Attitudes Toward Lesbians and Gay Men (ATLG) scale (Herek, 1988, 1994, 2016b) ( $n = 11$ ). The ATLG was used in combination with other instruments in seven of these studies: Chapman et al. (2012) also used the Gay Affirmative Practices Scale, knowledge About Homosexuality Scale (Harris, 1998), and interviews. In addition to the ATLG (Herek, 1988, 1994, 2016b), Bilgic et al. (2018) used interviews, Della Pelle et al. (2018) used the Knowledge About Homosexuality Questionnaire (Harris, 1998) and Gay Affirmative Practices Scale (Crisp, 2002, 2006). It is noted that the Knowledge About Homosexuality Scale used in the Chapman et al. (2012) study and the Knowledge About Homosexuality Questionnaire used by Della Pelle et al. (2018) are the same scale. Steppe (2013) used the Multidimensional Heterosexism Inventory (Walls, 2008), and Rowniak (2015) used the Modern Homonegativity Scale (Morrison & Morrison, 2003). Schulte (2002), who assessed the effects of race on homophobia, incorporated three published scales: the Sexual Ideology Instrument (Lottes, 1998), Ambivalent Sexism Inventory (Glick & Fiske, 1996), Modified California F-Scale (Cherry & Byrne, 1977), and an Anti-White Scale developed by the author for this

study, in addition to the ATLG. Sherman et al. (2014) and Sirota (2013) also used author developed surveys along with the ATLG. The ATLG was the sole instrument in the remaining four studies (Blackwell, 2005, 2008; Herek, 1988; Papadaki et al., 2015).

As mentioned, Maruca et al. (2018) used the Gay Affirmative Practices Scale, and Dorsen (2014) used interviews. Instruments to operationalize homophobia in the remaining seven studies included the Attitudes Toward Homosexuality Questionnaire (Beere, 1990) used by Hou et al. (2006), Index of Attitudes Toward Homosexuals (Hudson & Ricketts, 1980), Homophobic Behavior of Students Scale (Van de Ven, Bornholt, & Bailey, 1996) used by Dinkel et al. (2007), Implicit Association Test (IAT) (Greenwald et al., 1998) used by Boysen et al. (2006), Index of Homophobia (Hudson & Ricketts, 1980) was also used by Boysen et al. and by Douglas et al. (1985). Fisher et al. (2016) used the Modern Homophobia Scale (Raja & Stokes, 1988), Attitudes Toward Transgendered Individuals Scale (Walch, Ngamake, Francisco, Stitt, & Shingler, 2012), Discrimination And Stigma Scale (Brohan et al., 2013), Religious Fundamentalism Scale (Altemeyer & Hunsberger, 2004), Gender Identity/Gender Dysphoria Questionnaire (Deogracias et al., 2007), Symptom Checklist-0-Revised (Derogatis, 1992), Social Phobia Scale (Liebowitz, 1987). The Minnesota Student Survey (Department of Education, 2013) was used by Gower et al. (2018), and the Oklahoma Racial Attitudes Scale (Sadowsky & Impara, 1996) was used by Eliason (1998).

It is clear that while these studies, focused on homophobia, used a variety of instruments to assess various aspects of this attitude and related variables of interest, the results indicated the presence of homophobia in the majority ( $n = 14$ ) of studies

(Bilgic et al., 2018; Blackwell, 2005, 2008; Boysen et al., 2006; Della Pelle et al., 2018; Douglas et al., 1985; Eliason, 1998; Fisher et al., 2016; Gower et al., 2018; Herek, 1988; Hou et al., 2006; Rowniak, 2015; Sherman et al., 2014; Steppe, 2013). Nurses were the participants in the studies by Blackwell (2005, 2008), Douglas et al. (1985), and Hou et al. (2006). Nursing students participated in the studies by Bilgic et al. (2018), Eliason (1998), Rowniak (2015), and Steppe (2013). Another significant finding is this negative attitude, identified as homophobia, exists not only in the earlier studies, such as Douglas et al. (1985) and Eliason (1998), but also in the more recent studies by Bilgic et al. (2018) and Rowniak (2015) who both explored the attitudes of nursing students. The study of nursing student attitudes by Dinkel et al. (2007) and Maruca et al. (2018) reported improvement, or a positive attitude. While Dinkel et al. (2007) found lower levels of homophobia, the authors suggested this may be due to ambivalence or higher levels of heterosexism. Maruca et al. (2018), in their interventional study, reported an increase in students' knowledge and attitude as measured by the Gay Affirmative Practices Scale, following a simulated clinical encounter with a transgender patient. However, there was only minimal improvement in the pre-/post-test attitude scores (64 versus 66) (Maruca et al., 2018).

A frequent limitation reported in these studies was the possibility of social desirability bias influencing participants' responses, leading to inflated positive attitude results (Della Pelle et al., 2018; Dinkel et al., 2007; Dorsen, 2014; Douglas et al., 1985; Papadaki et al., 2015; Steppe, 2013). Social desirability bias is minimized with the implicit association test (Baron & Banaji, 2006; Greenwald, Nosek, & Banaji, 2003; Greenwald et al., 2009). While the majority of the instruments were reported to have adequate to good validity and reliability, concern was expressed that these self-

report instruments may not be sensitive to all of the influences on attitudes toward sexual minorities, particularly those that might not be known to the participant, such as influences in the subconscious mind (Douglas et al., 1985; Sirota, 2013). The IAT is designed to explore these types of influences (Banaji & Greenwald, 2016; Greenwald & Krieger, 2006; Greenwald et al., 2009; Rudman, Greenwald, Mellott, & Schwartz, 1999).

### **Homonegativity**

The concept of homonegativity was the attitude of interest in six exploratory studies (Eliason et al., 2011; Espelage et al., 2018; Klotzbaugh, 2013; Piwowarczyk et al., 2016; Sabin et al., 2015; Wilson, Asbridge, Woolcott, & Langille, 2018). The studies by Eliason et al. (2011), Espelage et al. (2018), Klotzbaugh (2013), and Piwowarczyk et al. (2016) were conducted in the United States. The study by Wilson et al. (2018) was conducted in Canada, and the study by Sabin et al. (2015) had global participation.

Attitudes toward sexual minorities were the focus in three of the studies (Espelage et al., 2018; Klotzbaugh, 2013; Wilson et al., 2018). Sabin et al. (2015) focused on attitudes toward lesbians and gays. Eliason et al. (2011) focused on attitudes toward sexual minority nurses. The Piwowarczyk et al. (2016) study focused on sexual minority attitudes toward HCPs.

Four of these studies, Eliason et al. (2011), Espelage et al. (2018), Piwowarczyk et al. (2016), and Wilson et al. (2018), explored internalized homonegativity, as experienced by persons who identify as a sexual minority. Study samples were made up of nurses (Eliason et al., 2011; Klotzbaugh, 2013), other HCPs (Sabin et al., 2015), sexual minority asylum seekers (Piwowarczyk et al., 2016), and

sexual minority students (Espelage et al., 2018; Wilson et al., 2018). The studies by Espelage et al. (2018) and Wilson et al. (2018) were included because they took place in an academic setting and it is reasonable to assume similar factors, related to attitudes toward sexual minorities, exist across academic settings.

The IAT (Greenwald et al., 1998) and an author-developed survey were used to operationalize homonegativity in the study by Sabin et al. (2015). Klotzbaugh (2013) operationalized homonegativity using the Modern Homonegativity Scale (Morrison & Morrison, 2003) and Healthcare Equality Index (Delpercio & Snowdon, 2012); Eliason et al. (2011) developed her own study survey. The Dane County Youth Survey (Koenig, Espelage, & Biendsel, 2005) was used by Espelage et al. (2018), and the Atlantic Student Drug Use Survey (Asbridge & Langille, 2013) was used by Wilson et al. (2018). Piwowarczyk et al. (2016) used a chart review to operationalize homonegativity.

All of the studies, with the exception of Eliason et al. (2011), reported the presence of homonegativity. Eliason et al. (2011) reported mixed results. Eliason et al. (2011) extracted data from a “2005-2006 survey prepared by S. Deevey, PhD, RN” (Eliason et al., 2011 p. 239) with the assistance of the Gay and Lesbian Medical Association. Data extraction focused on sexual minority nurses who completed the survey (Eliason et al., 2011). The study purpose was to explore the workplace environment of sexual minority nurses (Eliason et al., 2011). While most ( $n = 70\%$ ) of the sexual minority nurse participants reported a “friendly environment,” responses to open-ended survey questions suggested this was due to “somewhat low expectations for an LGBTQ [lesbian, gay, bisexual, transgender, queer]-friendly environment” (Eliason et al., 2011, p. 241). This conclusion was based on

participants' providing examples of an environment not particularly inclusive or welcoming (Eliason et al., 2011).

Klotzbaugh (2013) identified the existence of negative beliefs and attitudes toward sexual minorities, homonegativity, among the directors of nursing at American Nurses Credentialing Center Magnet® hospitals. A less than welcoming and inclusive clinical and work environment was also found in these hospitals (Klotzbaugh, 2013). In a sample of 5,379 nurses, Sabin et al. (2015) identified a strong preference for heterosexuals compared to lesbians or gays and for one's sexual identity (i.e., lesbian, gay, or heterosexual). To date, this is the only study that explored the implicit sexual attitude of nurses. These results must be interpreted with caution as no control was applied to the sample; participants self-selected to participate and self-reported their occupation. The data for a five-year period (2006 to 2012) was gathered from the Project Implicit webpage (Sabin et al., 2015).

Results from the study by Espelage et al. (2018) indicated sexual minority youth are frequently subjected to peer victimization, prejudice, and violence in the academic environment. This environment greatly increases the risk for stress and suicide ideation in this population (Espelage et al., 2018). The results for a similar sample in the Wilson et al. (2018) study found sexual minority youth are at greater risk for alcohol related harm. These negative results have serious implications regarding socialization and academic achievement. Nursing students must be sensitive to the possibility a classmate may have had similar experiences earlier in their schooling. Nurse educators and program administrators must also be knowledgeable of this possibility and be prepared to provide an academic and clinical environment

that will allow these students to learn and socialize into the profession without fear or intimidation because of their identification as a member of this minority group.

The poorly constructed doctoral dissertation by Gavlas (2018) attempted to measure the psychometric properties of the Modern Homonegativity Scale (Morrison & Morrison, 2003) used in the study by Klotzbaugh (2013). The structure, logic, lack of clarification of terms and anacronyms, prevented a reasoned review.

A chart review of sexual minority asylum seekers was conducted by Piwowarczyk et al. (2016) that revealed evidence of internalized homonegativity as a result of the cruel circumstances endured by this population, in part, from their experiences with HCPs. This study was included as the sample population reflects a broader current concern, specifically asylum seekers. Nurses, nurse educators, and nursing students need to stay informed of the fluid situation with this population and anticipate the possibility of having the opportunity of professional engagement in the clinical or academic setting with a person who identifies as a member of this group.

Instrumentation was again reported as a limitation in several of these studies. The concern identified was the use of self-report instruments which could contribute to social desirability bias reflected in responses by participants (Klotzbaugh, 2013; Sabin et al., 2015; Wilson et al., 2018) The focus of the IAT (Greenwald et al., 1998) on attitudes towards lesbians and gays, excluding other subpopulations (e.g., transgender), was identified by Sabin et al. (2015) as a limitation, as well as generalizability due to small sample size, in the Piwowarczyk et al. (2016) study. This limitation of the IAT (Greenwald et al., 1998) will be discussed in Chapter III.

## **Heterosexism**

Thirteen studies, 11 exploratory and two interventional, conceptualized heterosexism as the attitude of interest toward sexual minorities. Rounds et al. (2013) explored internalized heterosexism experienced by sexual minority patients from their interactions with HCPs. Heterosexism was implied in the exploratory studies by Breen and Karpinski (2013), Graham (2012), Røndahl (2009), Smith (2012), Ungstad (2016), and the interventional study by Carabez et al. (2015). The exploratory studies by MacDonnell (2009) and Røndahl (2009) were conducted in Canada and Sweden, respectively. The remaining studies were conducted in the United States, including the two interventional studies by Carabez et al. (2015) and Loza, Alvarez, and Peralta-Torres (2018).

Nurses participated in the studies by Levesque (2013), MacDonnell (2009), and Ross-Bailey (2013). Nursing education administrators participated in the study by Ungstad (2016). Carabez et al. (2015) and Tillman et al. (2016) recruited nursing student participants. The HCPs participated in the study by Loza et al. (2018). These providers care for sexual minority immigrants in Texas; however, the professional composition of these providers (i.e., doctor, nurse, etc.) was not specified. Participants in the study by Gates (2015) were Health and Human Services employees. Breen and Karpinski (2013) recruited heterosexual university students. Sexual minority patients made up the sample in the studies by Røndahl (2009) and Rounds et al. (2013). The studies by Breen and Karpinski and Graham (2012) were included because the IAT was one of the measures used to operationalize heterosexism. The study by Rounds et al. was included because the population of interest was HCPs. The master's thesis by Smith (2012), while not an empirical study, was included because it explored the

experiences of gay nursing students and suggests ways of creating a more welcoming academic environment for this population.

Attitudes toward sexual minorities was the focus in the studies by Carabez et al. (2015), Gates (2015), Loza et al. (2018), Smith (2012), Tillman et al. (2016), and Ungstad (2016). Graham (2012) explored attitudes toward sexual minority students. Breen and Karpinski (2013) focused on attitudes toward lesbians and gays, while MacDonnell (2009) and Ross-Bailey (2013) focused on the attitudes towards lesbians, and Levesque (2013) toward transgender persons. Two studies explored the attitudes of sexual minority patients toward nurses (Röndahl, 2009) and HCPs (Rounds et al., 2013).

As with the concepts of homophobia and homonegativity, these studies operationalized heterosexism using a number of different instruments. Graham (2012) operationalized heterosexism using the IAT (Greenwald et al., 1998), Modern Homonegativity Scale (Morrison & Morrison, 2003), and the internal and external motivation to respond without prejudice scale (Plant & Devine, 1998). The IAT single category (Karpinski, 2004), along with an author-developed semantic differential survey, were used in study by Breen and Karpinski (2013). Interviews were used in the studies by Beagan et al. (2012), Loza et al. (2018), and Tillman et al. (2016) to operationalize homosexuality. Ross-Bailey (2013) also used interviews and an author-developed survey to operationalize heterosexism. Focus groups were utilized by Rounds et al. (2013). Levesque (2013) operationalized heterosexism using the Attitude Towards Transgender Survey (Swanstrom, 2006) and Health Care Provider Survey (Burch, 2008). Carabez et al. (2015) used the health care equality index (Delpercio & Snowdon, 2012). The Lesbian, Gay, Bisexual, And Transgender

Medical Education Assessment (Obedin-Maliver et al., 2011) and LGBT Health Integration in the Bachelor of Science in Nursing (BSN) Curriculum Survey (Lim, Johnson, & Eliason, 2015) was used by Ungstad (2016). Gates (2015) operationalized heterosexism using organizational tolerance for heterosexism inventory (Waldo, 1999).

Of the seven nursing studies, conceptualizing heterosexism, only the study by Carabez et al. (2015) was interventional. This was also the only study, within this concept, to report positive results, related to attitudes toward sexual minorities. Using a pre-/post-test design, nursing students conducted scripted interviews with two key nurse informants (Carabez et al., 2015). Results indicated students improved in knowledge, understanding, and comfort (attitude) in providing care to sexual minorities (Carabez et al., 2015). The other study, involving nursing students, was conducted by Tillman et al. (2016). After attending a Pride Fair, Tillman et al. conducted semi-structured interviews of nursing students ( $n = 30$ ). The students reported little prior experience with sexual minorities, but had increased tolerance and acceptance following the experience (Tillman et al., 2016). However, they also reported shock, anxiety, and confusion concerning the transgender persons they encountered (Tillman et al., 2016).

The attitudes, knowledge, and confidence (self-efficacy) of nurses, in the study conducted by Levesque (2013), were determined to be positive in attitude (acceptance) of sexual minorities and knowledge to care for this population. However, nurses scored low on confidence, with knowledge being a significant contributing factor as measured by the HCPS (Levesque, 2013). Nurses in the Ross-Bailey (2013) mixed methods study identified correct cancer screening protocols, however, falsely

identified sexually transmitted infection risk as low for women who have sex with women. In the qualitative portion of the study, nurses reported feeling they lacked adequate knowledge to provide culturally appropriate care to this population (Ross-Bailey, 2013). In a survey of Colorado nursing school administrators, Ungstad (2016) found only 42% of sexual minority topics, recommended in the two surveys used (LGBT-Medical Education Assessment, LGBT-Healthy Integration in the BSN Curricular Survey), were required in the curriculum and a mean of 3.3 hours of content throughout the nursing program. Exploring how nurses advocate for sexual minorities, MacDonnell (2009) conducted interviews of 10 nurses, using life history methodology. The nurses identified as either heterosexual or sexual minority. Participants indicated that while progress has been made, many challenges remain to creating a culturally responsive, caring environment that truly embraces sexual minorities (MacDonnell, 2009). A consistent theme was the importance of an explicit focus in nursing education on sexual minority content and the tone educators set by including or excluding sexual minority content (MacDonnell, 2009). Another prominent theme was invisibility, which remains a significant barrier in nursing education (MacDonnell, 2009). The thesis by Smith (2012) identified the existence of heterosexism in nursing education. He recommended cultural safety as a framework to improve the learning experience of sexual minority nurses (Smith, 2012).

The community-based participatory study by Loza et al. (2018) surveyed 43 HCPs of sexual minority migrants near the Texas border. The purpose was to determine those HCPs who identify as sexual minority friendly (Loza et al., 2018). While most ( $n = 30$ ) responded positively, a third indicated they did not have such a practice (Loza et al., 2018). Focus groups, conducted by Rounds et al. (2013), of

sexual minority patients reported experiences of being negatively judged and discriminated against in the healthcare system. Participants also reported experiencing internalized heterosexism (Rounds et al., 2013). Rounds et al. recommended HCPs gain knowledge of their own biases.

In a study of educators, Graham (2012) found evidence of explicit negative sexual minority bias; however, the IAT yielded unusable data. Graham recommended not using the instrument in this environment. Additional information obtained by Graham confirmed a majority of the schools lacked policies to ensure the safety of sexual minority students. Breen and Karpinski (2013) assessed implicit, using the IAT-single category (Karpinski, 2004), and explicit, using an author developed survey, sexual attitude among heterosexual university students. Results revealed disassociation with neutral implicit attitudes and positive explicit attitudes toward gays (Breen & Karpinski, 2013).

Gates (2015) used the Organizational Tolerance for Heterosexism Inventory to assess perceived heterosexism among Health and Human Services employees in upstate New York. Results indicated heterosexism was not tolerated in the workplace, with the expectation of supervisors (Gates, 2015). Supervisors exhibiting heterosexist behavior were less likely to be confronted or reported (Gates, 2015). This result indicates leadership was identified as perpetuating a heterosexist work environment without personal consequence (Gates, 2015).

### **Heteronormativity**

Twenty-two studies conceptualized heteronormativity as the attitude of interest regarding sexual minorities. Nineteen of these studies were exploratory, and the studies by Cornelius and Carrick (2015), McEwing (2017), and Strong and Folse

(2014) were interventional. The reviewed studies of heteronormative attitudes toward sexual minorities represent more global diversity, compared to the other concepts, with studies being conducted in the United States ( $n = 10$ ), Canada ( $n = 4$ ), Italy ( $n = 2$ ), the United Kingdom ( $n = 2$ ), Sweden ( $n = 2$ ), Portugal ( $n = 1$ ), and New Zealand ( $n = 1$ ).

Nurses were the participants in the studies conducted by Beagan et al. (2012), Lewis and Bor (1994), and Saunamäki and Engström (2014). Nurses and sexual minority patients participated in the study by Goldberg et al. (2011), lesbian nurses in the study by Giddings and Smith (2001), male nurses in the study by Harding (2007), and nursing faculty and administrators in the study conducted by Hoyer (2013). Nursing students were participants in the studies conducted by Clarke (2014), Cornelius and Carrick (2015), Cornelius and Whitaker-Brown (2015), McEwing (2017), Pinto and Nogueira (2016), and Strong and Folse (2014). Two studies including students from other healthcare disciplines (Freeman, Sousa, & Neufeld, 2014; Røndahl, 2011), as participants, and the study by LaMar and Kite (1998) included university students. Of the remaining four studies, three had the general public as participants (Anselmi et al., 2013; Anselmi et al., 2015; Fredriksen-Goldsen & Kim, 2014), and the study conducted Harbin et al. (2012) included physicians and sexual minorities as participants. In addition to the empirical studies conceptualizing heterosexism, systematic reviews by Eliason et al. (2010) and Leonard (2006) are included, as discussed below.

The three studies in which the general public participated were included because the studies by Anselmi et al. (2013) and Anselmi et al. (2015) measured implicit sexual attitude using the IAT (Greenwald et al., 1998), and the study by

Fredriksen-Goldsen and Kim (2014) was the only study reviewed that exclusively had sexual minority adults 65 years or older in the sample. The two systematic reviews were included because Eliason et al. (2010) found only eight articles directly addressing sexual minority issues over a five-year (2005 to 2009) period in the top 10 nursing journals. This represented 0.16% of the nearly 5,000 articles published in these journals (Eliason et al., 2010). This result represented the silence of our profession toward sexual minorities and is a clear example of the normative values associated with heteronormativity. Leonard (2006) reviewed the self-report accreditation documents of 13 National League of Nursing Accreditation Commission (predecessor organization to the Accreditation Commission for Education in Nursing) accredited nursing programs focusing on diversity inclusiveness. Sexual minorities were identified as a sub-theme as this group was frequently omitted in the reviewed documents (Leonard, 2006). This is another example of silence representing heteronormativity.

The studies by Clarke (2014), Cornelius and Carrick (2015), Cornelius and Whitaker-Brown (2015), Fredriksen-Goldsen and Kim (2014), Harbin et al. (2012), Hoyer (2013), Leonard (2006), McEwing (2017), Røndahl (2011), and Strong and Folse (2014) focused on heteronormative attitudes toward the general sexual minority population. Attitudes toward lesbians and gays were the focus of LaMar and Kite (1998). Beagan et al. (2012), Goldberg et al. (2011), and Pinto and Nogueira (2016) explored attitudes towards lesbians, and Anselmi et al. (2013) and Anselmi et al. (2015) toward bisexuals. Lewis and Bor (1994) and Saunamäki and Engström (2014) explored nurses' attitudes toward issues of sexuality in the clinical setting. Attitudes

towards nurses, as experienced by their lesbian (Giddings & Smith, 2001) and male (Harding, 2007) colleagues, were also explored.

Heteronormativity was operationalized using a combination of established and author-developed instruments. Interviews were used in the studies by Beagan et al. (2012), Clarke (2014), Giddings and Smith (2001), Goldberg et al. (2011), Harbin et al. (2012), Harding (2007), Røndahl (2011), and Saunamäki and Engström (2014). The ATLG (Greene & Herek, 1994; Herek, 1988, 2016b) Scale was used in the study by Strong and Folsie (2014) who also used modified versions of the LGBT healthcare (Harris, Nightengale, & Owen, 1995), and LGTB knowledge scales (Harris et al., 1995). The IAT (Greenwald et al., 1998) was used in the Anselmi et al. (2013) and Anselmi et al. (2015) studies. Anselmi et al. (2015) also used an author-developed explicit attitude scale in the later study. The nursing students' knowledge and attitudes of LGBT health concerns (Cornelius & Carrick, 2008) was used by Cornelius and Carrick (2015) and Cornelius and Whitaker-Brown (2015) to operationalize homonormativity. The Polymorphous Prejudice Multidimensional Questionnaire (Massey, 2009) and Perception of Discrimination (de Oliveira, Pereira, Costa, & Nogueira, 2010) was used by Pinto and Nogueira (2016). The Transcultural Self-Efficacy Tool (Jeffreys & Dogan, 2010) and an author-developed survey were used by Hoyer (2013). Freeman et al. (2014) and LaMar and Kite (1998) also used author-developed surveys. The behavioral risk factor surveillance system for Washington State (Washington State Department of Health, n.d.) was used by Fredriksen-Goldsen and Kim (2014). Heteronormativity was operationalized using the Sexual Orientation Counseling Competency Scale versions 2 and 3 (Bidell, 2015) and an author-

developed interview in the study by McEwing (2017). Lewis and Bor (1994) used the Sex, Knowledge and Attitude Test (Miller & Lief, 1979) in their study.

While showing some improvement, the results from the 13 nursing studies and two nursing literature meta-analyses (Eliason et al., 2010; Leonard, 2006) showed varying degrees of heteronormativity, which remains one of the most pervasive attitudes among nurses and other HCPs (Beagan et al., 2012; Cornelius & Carrick, 2015; Goldberg et al., 2011). Several studies reported the existence of heteronormativity among nurses (Eliason et al., 2010; Giddings & Smith, 2001; Goldberg et al., 2011; Harding, 2007; Lewis & Bor, 1994; Saunamäki & Engström, 2014), nurse educators (Hoyer, 2013; Leonard, 2006), and nursing students (Clarke, 2014; Cornelius & Carrick, 2015; Cornelius & Whitaker-Brown, 2015; Pinto & Nogueira, 2016) that could be a barrier to providing culturally responsive care to sexual minorities. Similar findings were reported among doctors (Harbin et al., 2012) and healthcare students (Freeman et al., 2014; Røndahl, 2011). Heteronormativity was reported to also exist among university students (LaMar & Kite, 1998) and the general public (Anselmi et al., 2013; Anselmi et al., 2015; Fredriksen-Goldsen & Kim, 2014). These individuals may not be aware of their negative attitudes toward sexual minorities as these attitudes may be implicit (Anselmi et al., 2013; Anselmi et al., 2015).

A lack of knowledge necessary to provide culturally appropriate care to sexual minorities was reported by Cornelius and Carrick (2015), Cornelius and Whitaker-Brown (2015), and Harbin et al. (2012). Invisibility, of sexual minority topics in the nursing curriculum (Røndahl, 2011), literature (Eliason et al., 2010), and as experienced by sexual minority nurses (Giddings & Smith, 2001) and nursing students

(Clarke, 2014) contributed to the barriers to providing culturally responsive care in these studies. Gay nurses in the phenomenological study by Harding (2007) reported nursing does not provide a safe place for sexual minority nurses. In the study by Pinto and Nogueira (2016), prejudice toward sexual minorities was present in nursing students, with higher levels in students from rural areas. The majority ( $n = 54\%$ ) of nursing educators and educational administrators in Hoyer's (2013) study said LGBT education is no more important than any other group, and others reporting it is only slightly important ( $n = 10\%$ ) or not important at all ( $n = 14\%$ ). Nurses in the Saunamäki and Engström (2014) study exhibited silence, a reoccurring theme in the literature, by not discussing sexuality with patients. Sexual minority parents in the Goldberg et al. (2011) phenomenological study reported concern with the care received from the perinatal nurses. Non-birthing mothers had strong negative affect described as fear for the birthing mother (Goldberg et al., 2011). Similar negative affect toward HCPs was also described by sexual minority patients in the Harbin et al. (2012) phenomenological study. Also in the study by Harbin et al. (2012), doctors reported lacking the necessary knowledge to address sexual minority health concerns. LaMar and Kite (1998) reported negative attitudes toward sexual minorities among university students, with male students measuring higher negative levels than female students.

In their first study, Anselmi et al. (2013) reported strong heterosexual preference among heterosexual participants, attributed to in-group preference, rather than negative attitude toward lesbians and gays. In the second study by Anselmi et al. (2015), the authors measured both implicit and explicit attitude and a disassociation, or incongruence, of scores was reported, with implicit attitude favoring heterosexuals

with a weak negative explicit attitude toward lesbians and gays. A congruent result, with strong in-group implicit preference, would be reflected as a strong negative out-group explicit preference (Greenwald & Krieger, 2006; Greenwald et al., 2009).

Positive attitude but a lack of knowledge, concerning sexual minorities, was found in the healthcare students in the study by Freeman et al. (2014). In McEwing's (2017) educational intervention study, nursing students scored higher in the three measured parameters of knowledge, skill, and attitude, post-test, but lower in attitude when tested three weeks later. While Leonard's (2006) review of nursing programs accreditation self-reports addressed diversity inclusion, she found sexual minorities frequently omitted in the documents and no evidence that the goals and ideals in the documents were being implemented.

The study by Strong and Folse (2014) was an educational intervention with undergraduate nursing students to assess attitudes, knowledge, and cultural competence. Results of the intervention indicated improvement in all three areas, yet students reported they did not believe sexual minority related issues were adequately address in the curriculum (Strong & Folse, 2014) The study by Fredriksen-Goldsen and Kim (2014) indicated the sexual minority seniors were willing to disclose their sexual identity when asked on health questionnaires or interviews, as well as governmental forms and surveys. This information is frequently omitted, for various reasons, yet, has been identified as important information to improve the care provided to older sexual minorities (Hollenbach et al., 2014; IOM, 2011).

### **Implicit Attitude**

As previously discussed, only the study by Sirota (2013) explored implicit sexual attitude among nurses. Implicit sexual attitude in nursing students has not been

studied. Due to this paucity of studies, related implicit sexual attitude in nursing and its implications, as previously discussed, the following 11 studies were added to the review to provide greater depth to this concept. All of these studies were conducted in the United States, except the study by von Hippel et al. (2008), which occurred in Australia, and Nash et al. (2014) who did their study in the United Kingdom.

Nurses were participants in the four studies by von Hippel et al. (2008), Kimbrel (2018), Nash et al. (2014), and Teachman and Brownell (2001). Nash et al. also included nursing student participants, as did the study by Henry (2015). Nursing faculty participated in the studies by Aaberg (2012) and Fitzsimmons (2009). Healthcare students, excluding nursing students, were participants in Yozzo's (2017) study, medical students in the Gonzalez et al. (2014) study, and university students in Felmban's (2015) study. The study by Baron and Banaji (2006) was also included because it provides seminal information regarding when human beings begin to develop implicit attitudes, which he reported, occurs at 10 years of age. Both children and adults were participants in this study (Baron & Banaji, 2006).

The implicit attitudes of the participants, as well as the populations of interest, have direct and indirect interest to nursing, however, recall the purpose of these additional studies is to broaden the concept of implicit attitude, as it is central to this proposed study. Five studies explored implicit racial attitudes among nurses (Kimbrel, 2018), nursing faculty (Fitzsimmons, 2009), nursing students (Henry, 2015), healthcare students (Yozzo, 2017), and adults and children (Baron & Banaji, 2006). The study by von Hippel et al. (2008) investigated implicit attitudes toward intravenous drug users among nurses. Two in this group of studies also explored the implicit attitudes of nurses toward obese patients (Teachman & Brownell, 2001) and

older adults (Nash et al., 2014). Aaberg (2012) investigated the implicit attitudes of nursing faculty toward disabled persons. The study by Gonzalez et al. (2014) explored the implicit attitudes of medical students toward patients. Felmban (2015) explored implicit cultural attitudes among university students.

Implicit attitude was operationalized using the IAT (Greenwald et al., 1998) in the Aaberg (2012) and Teachman and Brownell (2001) studies. Seven of these studies used the IAT (Greenwald et al., 1998) in combination with other instruments.

Kimbrel (2018) used the IAT (Greenwald et al., 1998) and Clinical Cultural Competence Questionnaire (Like & Fulcomer, 2001). Nash et al. (2014) used the Fraboni Scale of Ageism (Fraboni, Saltstone, & Hughes, 1990) to measure the explicit attitude of ageism, in combination with the IAT (Greenwald et al., 1998). Yozzo (2017) used the IAT (Greenwald et al., 1998) and an author-developed explicit survey. Baron and Banaji (2006), Fitzsimmons (2009), Gonzalez et al. (2014), and Teachman and Brownell (2001) also used author-developed surveys to measure explicit attitudes, in addition to the IAT (Greenwald et al., 1998). Von Hippel et al. (2008) operationalized implicit attitude using the IAT-single category (Karpinski, 2004) and an author-developed explicit survey. Felmban (2015) used the bias blind spot (Pronin, Lin, & Ross, 2002), and Henry (2015) used McDonald's Nursing Intervention Tool (McDonald, 1990).

The studies by Kimbrel (2018) and Fitzsimmons (2009) identified implicit racial bias in nurses working in the emergency department (Kimbrel, 2018), among nurse educators (Fitzsimmons, 2009) and nursing students (Henry, 2015). Kimbrel's (2018) study was an interventional design to explore if there was a change in implicit racial bias and cultural competency following a brief educational intervention. Results

reported a statistically significant improvement in the clinical cultural competency questionnaire (Like & Fulcomer, 2001) sub-scales of knowledge and attitude; however, there was no change in IAT (Greenwald et al., 1998) scores (Kimbrel, 2018). A similar divergence of the implicit and explicit measures was reported by Fitzsimmons (2009). This lack of correlation, divergence (Greenwald et al., 1998), in implicit and explicit attitude results is discussed below. Although McDonald's Nursing Intervention Tool (McDonald, 1990) was developed to assess gender bias, Henry (2015) argued the tool was appropriate for measuring race bias, defined as subconscious stereotyping in this study, based on prior research. The results reported no racial bias was identified in nursing students who participated (Henry, 2015).

The results of the study by von Hippel et al. (2008) indicated nurses working with patients, who abuse intravenous drugs and alcohol, exhibited implicit prejudice toward this population. According to von Hippel et al., the results clearly indicated implicit attitudes “predict independent variance beyond that predicted by explicit attitudes” (p. 11) regarding behavior intention. The understanding of the role implicit attitudes have on behavior remains contested in the literature (Olson & Zabel, 2016; Wittenbrink & Schwarz, 2007), as discussed in the Attitude section above. The term prejudice was used by the study authors to describe the attitude measured by the IAT-single category (Karpinski, 2004). Use of the terms prejudice (Anselmi et al., 2013; Graham, 2012; Nash et al., 2014) and bias (Anselmi et al., 2015; Fitzsimmons, 2009; Gonzalez et al., 2014; Kimbrel, 2018; Yozzo, 2017) were often used in the reviewed literature to describe the results of the IAT (Greenwald et al., 1998) and IAT-single category (Karpinski, 2004). These instruments measure the strength of associations

between a target (e.g., gay/straight) and an attribute (e.g., good/bad) (Greenwald et al., 1998; Greenwald et al., 2009; Karpinski, 2004).

Negative implicit attitudes were also reported among nurses and nursing students who provide care to older patients (Nash et al., 2014) and nurses caring for obese patients (Teachman & Brownell, 2001). While overall results indicated negative implicit attitudes towards older patients, higher attitudes were present in gerontological nurses, who spend more time with this patient population, compared to emergency department nurses, who typically spend less time with older patients (Nash et al., 2014). The results of this study also indicated both groups of nurse participants had higher negative implicit attitudes compared to the first and second year nursing student participants (Nash et al., 2014). These results were interpreted as indicating exposure to the target population is not sufficient to improve attitudes and contradicts prior findings (Nash et al., 2014). The nurses in the Teachman and Brownell (2001) study clearly manifested negative implicit attitudes toward obese patients; however, their level was lower than the general population. This finding is more consistent with prior findings and inconsistent with the results reported by Nash et al. (2014). It is important to consider that while many studies of attitude report exposure to a target population, or out-group, and reduces negative attitudes (e.g., bias or prejudice), explicit measures have frequently been used, which are subject to social response bias. Both Nash et al. (2014) and Teachman and Brownell (2001) measured implicit and explicit attitude, and while a statistically significant difference, between these attitudes, was reported in nurses caring for obese patients (Teachman & Brownell, 2001), no statistically significant difference was evident in the nurses or nursing students caring for older patients (Nash et al., 2014).

Of the 10 studies, in this review, measuring both implicit and explicit attitude, no correlation of the measures was found in the studies by Anselmi et al. (2015), Baron and Banaji (2006), Boysen et al. (2006), Breen and Karpinski (2013), Fitzsimmons (2009), Gonzalez et al. (2014), von Hippel et al. (2008), and Yozzo (2017). In addition to the study by Nash et al. (2014), implicit and explicit measures correlated in Graham's (2012) study. Graham (2012) suggested this was due to the IAT (Greenwald et al., 1998) being an inappropriate measure of sexual implicit bias in a sample of high school teachers.

This incongruence between the correlation of implicit and explicit measures is contested. Greenwald et al. (1998), Greenwald et al. (2003), and Banaji and Greenwald (2016) argued the IAT is a measurement of attitude that is not accessible to the individual through deliberate thinking (i.e., implicit), as is explicit attitude, while acknowledging certain factors, such as location, can effect results, as demonstrated by Boysen et al. (2006). While Schwarz and Bohner (2001) acknowledged the popularity of the IAT (Greenwald et al., 1998), they stated the measure had demonstrated a lack of stability, a point contested by Greenwald et al. (2009) and Hofmann, Gawronski et al. (2005), supporting their argument attitude is situational, formed in the moment based on current and past experiences. This scholarly discussion of measurement of implicit and explicit attitude, in addition to discussion of attitude in the theoretical section of this review, support the measurement of both implicit and explicit attitude as planned in this study. The choice of the IAT (Greenwald et al., 1998) and the ATLG (Herek, 1988) will be further discussed in Chapter III.

## Summary of Empirical Literature

The purpose of this review was to focus on the following previously identified questions:

1. How has attitude toward sexual minorities been conceptualized in the empirical literature?
2. How has this attitude been operationalized?
3. What is the reported attitude toward sexual minorities, particularly among nurses and nursing students?

These questions were addressed by a review of 74 studies, including two relevant literature reviews (Eliason et al., 2010; Leonard, 2006). The majority ( $n = 37$ ) of the 44 nursing studies reviewed were exploratory in nature. The participants of these exploratory studies included nurses ( $n = 14$ ), nursing faculty ( $n = 3$ ), nursing program administrators ( $n = 1$ ), and nursing students ( $n = 8$ ). Three studies focused on the subpopulations of sexual minority nurses ( $n = 1$ ), lesbian nurses ( $n = 1$ ), and male nurses ( $n = 1$ ). Several studies had combined samples of nurses and doctors ( $n = 1$ ), nurses and nursing students ( $n = 1$ ), nurses and sexual minority parents ( $n = 1$ ), nursing faculty and administrators ( $n = 1$ ), nursing faculty and students ( $n = 1$ ), and nursing and medical students ( $n = 1$ ). The two literature reviews focused on nursing research literature ( $n = 1$ ) and BSN nursing programs ( $n = 1$ ). The seven reviewed interventional studies included nurses ( $n = 1$ ) and nursing students ( $n = 6$ ).

Varying levels of homophobia, homonegativity, heterosexism, and heteronormativity were reported in all the nursing studies. Of the seven nursing studies exploring implicit attitude, which was referred to as bias (Aaberg, 2012; Fitzsimmons, K., 2009; Kimbrel, 2018; Teachman & Brownell, 2001), prejudice

(Nash et al., 2014; von Hippel et al., 2008), or stereotype (Henry, 2015), evidence of negative attitudes was reported in six. Negative attitudes of nurses were reported toward non-whites (Copti et al., 2016; Fitzsimmons, 2009; Kimbrel, 2018), the disabled (Aaberg, 2012), drug abusers (von Hippel et al., 2008), obese patients (Teachman & Brownell, 2001), and older adults (Nash et al., 2014). The IAT (Greenwald et al., 1998) was used in each of these studies to operationalize implicit attitude. The study by Henry (2015) operationalized implicit attitude, referred to as a racial stereotype, using McDonald's nursing intervention tool (McDonald, 1990) and reported an absence of negative attitudes among nursing students toward non-White patients.

While progress has been made in providing culturally responsive care to sexual minorities, the results of the reviewed literature make clear improvement is needed to address the needs of this vulnerable population. The risk of social desirability bias was a frequent limitation of self-report (explicit) measures, contributing to the often-reported lack of correlation between implicit and explicit results. This finding, in the literature, supports the use of the IAT (Greenwald et al., 1998) to explore implicit sexual attitude, the preference for heterosexuals compared to lesbians and gays, which has not yet been explored among nursing students, but is recommended as means of improving culturally responsive care for sexual minorities (Bellack, 2015; Matharu et al., 2012; Steppe, 2013)

Further, given the results of the reviewed literature, which demonstrate varying degrees of explicit negative attitudes of nursing students towards sexual minorities and the frequent lack of correlation between measures of implicit and explicit attitude, it is reasonable to include an explicit measure. The inclusion of an explicit measure

advances nursing knowledge of the attitudes of nursing students toward sexual minorities and provides a comparison that could be informative to both nursing educators and administrators in addressing sexual minorities issues in the curriculum to improve the culturally responsive care provided to this vulnerable population. The ATLG (Greene & Herek, 1994; Herek, 1988; Herek & Mclemore, 2011) is an appropriate measure of nursing students' explicit attitudes, in part, because it was the most frequently used ( $n = 14$ ) instrument in the reviewed literature, and it has demonstrated sound reliability and validity, as discussed in Chapter III.

## CHAPTER III

### METHODOLOGY

#### **Introduction**

Crotty (1998) identified four elements that guide the research process: epistemology, theoretical perspective, methodology, and methods. This chapter will begin with a discussion of the epistemological and theoretical perspective that guided this study. Discussion of the methodological approach and methods will follow. Ethical considerations, relevant to this study, will be addressed and the chapter will conclude with a brief summary.

#### **Epistemology**

This section will discuss the epistemology used to develop this study. This study followed a constructivist epistemology as described by Crotty (1998) and Creswell (2014) while recognizing Creswell identifies constructivism as a philosophical perspective. Constructivism opposes objectivism, recognizing that knowledge and truth are not absolute, rather they emerge from a collective consciousness and the individual's interaction with this consciousness (Creswell, 2014; Crotty, 1998). This collective consciousness manifests as societal norms and attitudes (Dreachslin et al., 2012). An individual must have knowledge of these societal norms and attitudes in order to recognize the need for, and to begin the process of, change (Freire, 1970). Less than inclusive or welcoming attitudes towards sexual minorities persist in our society (American Academy of Nurses, 2016;

Hollenbach et al., 2014; Institute of Medicine [IOM], 2011). These attitudes represent a continuum from overt hostility, such as homophobia (Douglas et al., 1985; Weinberg, 2011; Wright, Adams, & Bernat, 1999) and homonegativity (Isacco et al., 2012), to more subtle, concealed attitudes as heteronormativity (Anselmi et al., 2015; Habarth, 2015) that may be implicit (Banaji & Greenwald, 2016; Greenwald et al., 1998; Hahn, 2012). These attitudes also continue to persist among nursing students (Bilgic et al., 2018; Maruca et al., 2018; McEwing, 2017; Tillman et al., 2016).

### **Theoretical Perspective**

The constructivist view is consistent with critical cosmopolitanism, which describes change as resulting from new realities that emerge from self-transformation as a result of self-problematization (Delanty, 2009). Self-problematization, in the context of this study, is identifying one's attitude toward sexual minorities and critically reflecting on the influence this attitude has toward providing culturally responsive care to this vulnerable population. The process of identifying one's attitude is a form of knowledge, consistent with constructivism and the new realities identified by critical cosmopolitanism. The collective consciousness (Creswell, 2014; Crotty, 1998) of constructivism is represented by the social other described by Delanty (2011). A constructivist epistemology and a critical cosmopolitan theoretical approach are consistent with a transformative world view. A transformative worldview seeks change by addressing important, current social issues such as oppression, inequality, and empowerment (Creswell, 2014). Critical cosmopolitanism recognizes this change occurs through an internal and external dialogue that identifies and respects the boundaries of self and other in an open and reflective stance, while understanding conflict is inherent to this process. The methodological approach to

this study is consistent with a constructivist epistemology guided by a critical cosmopolitan theoretical approach within a transformative world view. Using this perspective, this study sought to identify the implicit attitude of nursing students towards lesbian women and gay men. Knowledge of this implicit attitude is a necessary (Bellack, 2015; Matharu et al., 2012; Steppe, 2013), and previously overlooked, step toward transforming the care provided to sexual minorities.

### **Purpose**

The purpose of this research, as previously presented, was to examine the implicit and explicit sexual attitude among United States baccalaureate nursing students. To achieve this purpose, the following four questions were addressed in this study:

- Q1 What is the implicit sexual attitude of United States baccalaureate nursing students toward lesbians and gays?
- Q2 What is the explicit sexual attitude of United States baccalaureate nursing students toward lesbians and gays?
- Q3 What is the relationship among predictor variables (e.g., age, gender, year in nursing program, self-identified sexual identity, religiosity) and the criterion variables of implicit and explicit attitude?
- Q4 What is the correlation between the implicit and explicit attitude toward lesbian women and gay men of baccalaureate nursing students in the United States?
- Q5 Is there a correlation between the implicit and explicit attitude toward lesbian women and gay men among baccalaureate nursing students in the United States?

### **Methods**

This study used a quantitative methodology with a non-experimental, descriptive, correlational research design to explore the implicit and explicit sexual attitude toward heterosexuals versus gays and lesbians among United States

baccalaureate nursing students. This design is appropriate for the initial study of implicit sexual attitude among nursing students. As this is the first study of implicit attitude, among nursing students, no attempt will be made to manipulate the independent or predictor variables (Johnson & Christensen, 2017; Mertens, 2015). This study sought to identify the presence of sexual implicit and explicit attitude among baccalaureate nursing students and whether these attitudes favor heterosexuals or lesbians and gays.

The predictor variables are demographic criteria, identified in the literature (Boysen et al., 2006; Breen & Karpinski, 2013; Carabez et al., 2015; Cornelius & Carrick, 2015; Eliason, 1998; Gates, 2015) as relevant to attitudes toward sexual minorities and include:

1. Age.
2. Self-identified gender.
3. Self-identified race.
4. Self-identified sexuality (e.g., straight, lesbian, gay, etc.).
5. Religiosity (e.g., very religious, somewhat, not at all).
6. Type of nursing program: Generic, accelerated or registered nurse (RN)-bachelor of science in nursing (BSN).
7. Year in nursing program (e.g., first, second, etc.).
8. Geographic location of nursing program (e.g., state, urban/rural).
9. Participant setting when completing the Implicit Association Test (IAT) and Attitudes Toward Lesbians and Gay Men (ATLG) scale.

The criterion variables are implicit attitude, as measured by the IAT (Greenwald et al., 1998), and explicit attitude, as measured by the ATLG (Herek, 1988, 1994; Herek & Mclemore, 2011).

### **Research Participants**

This study focused on baccalaureate nursing students, in the United States, using convenience sampling. Inclusion and exclusion criteria were developed for this study to target the population of interest. Participant inclusion criteria included students, over the age of 18 years, who were currently enrolled in United States undergraduate nursing programs awarding a bachelor of BSN or bachelor of science (BS) baccalaureate degree. This included students enrolled in generic, accelerated, or registered nurse RN-BSN programs. Students currently enrolled in associate, diploma, or graduate programs, including accelerated graduate programs (BSN/BS-doctor of philosophy, BSN/BS-master of science in nursing/master of science), were excluded.

### **Sampling**

This study focused on baccalaureate nursing students using convenience sampling. Convenience sampling is appropriate when the target group is readily available, can be recruited easily, and is willing to participate (Creswell, 2014; Johnson & Christensen, 2017; Mertens, 2015). As of the fall of 2017, the latest figure available, there were 338,802 undergraduate nursing students in the United States, including 201,517 students enrolled in generic baccalaureate programs and 137,285 in RN-BSN programs (American Association of Colleges of Nursing, 2017). A priori desired sample size was determined by power analysis. Using the survey system sample size calculator (Creative Research Systems, 2012), to achieve a statistically

95% confidence level, confidence interval of five, for a total population of 338,802 United States baccalaureate students, a sample size of  $n = 384$  is needed. This number was rounded to 400 to allow for unusable responses.

### **Recruitment**

Participants were recruited from current members of the National Student Nurses' Association (NSNA), representing a potential sample of 60,000 students (NSNA, 2019). Response rates to surveys continue to decline, with online response rates lower than traditional mail-in surveys (Cho, Johnson, & Vangeest, 2013). Reported response rates vary from 17% (Sahlqvist et al., 2011) to 42% (McPeake, Bateson, & O'Neill, 2014). A meta-analysis by Cho et al. (2013) found a survey response of 34% among nurses. Of the studies of nursing students that reported response rates, the range was from 9% (Henry, 2015) to 92% (Carabez et al., 2015). For the current study a 20% response rate was used. Therefore, contact with 2,000 students from the 60,000 NSNA database was made.

The researcher worked through an NSNA liaison. Researcher input in the study sampling was limited to providing the inclusion criteria, thus reducing sampling bias and supporting participant anonymity. After receiving permission to access the NSNA database, the NSNA liaison was requested to select 2,000 members, based on the inclusion criteria, and sent invitations to potential participants via e-mail. The invitation included the informed consent explaining the survey, risk of harm, potential benefit, and the voluntary nature of participation. No compensation was provided for participation in this study. The letter also contained a link to the online website where the survey was located.

### **Data Collection**

Institutional Review Board approval and permission to use the IAT was obtained prior to beginning data collection. Permission for use of the ATLG in academic research is not required (Herek & Mclemore, 2011). Data were collected online using a secure website. Participants were provided a link to this website in the invitation letter. The Project Implicit (2011) website was used for this study. Participants were asked to complete three instruments: a demographic questionnaire representing the predictor variables discussed above, the ATLG (Herek, 1988, 1994; Herek & Mclemore, 2011), and the IAT for implicit sexual attitude (Greenwald et al., 1998). The IAT was used to collect data related to implicit sexual attitude and the ATLG for explicit sexual attitude. It took participants 15 to 20 minutes to complete the three instruments.

### **Data Management**

Data collected on the Project Implicit (2011) website were secured with a password, and access by Project Implicit personnel was limited to the scope required to maintain access to the website. Anonymity for all participants could not be guaranteed due to the online nature of the data collection. However, steps to support anonymity included the exclusion of individually identifying data in the data collected from the demographic survey, IAT, or ATLG. Confidentiality of the data was maintained by the researcher. Data provided by Project Implicit was maintained in a password protected file on the researcher's personal computer, which also was password protected. This computer was stored in the researcher's home office, with limited access.

## **Instrumentation**

### **Implicit Association Test**

The IAT is the most widely used instrument for measurement of automatic or implicit attitude (Aaberg, 2012; Anselmi et al., 2013; Sabin et al., 2015) and specifically of implicit sexual attitude (Anselmi et al., 2013; Graham, 2012). The IAT is also appropriate when the variables of interest are inherently comparative (Breen & Karpinski, 2013) as in this study. Research of controversial or sensitive social issues, such as attitudes toward sexual minorities, have a higher risk of social desirability response bias (Steppe, 2013). Risk of this bias is inherent in self-report surveys that measure explicit responses (Hou et al., 2006; Mertens, 2015). The IAT addresses this bias (Cunningham et al., 2001; Greenwald et al., 2009; Hofmann, Gawronski et al., 2005). The IAT is also capable of measuring attitudes toward sexual minorities that would be undetectable using explicit measures (Costa et al., 2013; Steppe, 2013).

The IAT is an online program, though a paper-based one is available that assesses association strengths between “target-concept discrimination and attribute dimension” (Greenwald et al., 1998, p. 1465). These association strengths are what are commonly thought of as a belief or bias (Lane, Banaji, Nosek, & Greenwald, 2007). This is achieved by presenting two sets of contrasting concepts (e.g., straight/gay) paired with contrasting attributes (e.g., good/bad) and measuring response latency, in milliseconds, to the task of responding to the concept with a matching attribute. The concepts and attributes are expected a priori to demonstrate differences in attitude which is tested with the IAT (Lane et al., 2007). Faster responses indicate a preference, or bias, for the paired concept and attribute (Greenwald et al., 1998; Lane et al., 2007). The participant is presented with a total of

seven stages (S1-S7) of matching tasks. Participants are instructed to respond as quickly as possible, to each matching task, using the computer keyboard (e.g., the I and E keys). The S1, S2, and S5 are single category classifications; the participant responds to a single concept or attribute. S3 and S4 are double configuration tasks, as are S6 and S7 (Lane et al., 2007). In these stages, concepts are paired with similar attributes (S3 and S4) or contrasting attributes (S6 and S7). The S1, S2, S3, and S6 are composed of 20 matching tasks each (Nosek, Greenwald, & Banaji, 2006). There are 40 matching tasks in each of the remaining stages: S4, S5, and S7 (Nosek et al., 2006). Evidence indicates 20 matching tasks in the first pair double configuration tasks (S3 and S6) and 40 matching tasks in the second pair of double configuration tasks (S4 and S7) yield good psychometric properties (Greenwald et al., 1998; Nosek, Greenwald, & Banaji, 2005). The program prevents participants from advancing until any response errors are corrected and latency is measured for the correct response (Greenwald et al., 2003). Scoring of the IAT is discussed in the data analysis section below. The IAT typically takes about 10 minutes to complete (Project Implicit, 2011).

For example, in the first stage (S1) the participant is presented with one of two possible contrasted concepts (e.g., heterosexual or lesbian/gay) and instructed to respond, as quickly as possible, to heterosexual using the E key and lesbian or gay with the I key when the concepts, presented as words or pictures, appear on the screen. In the second stage (S2) two different contrasting attributes are presented (e.g., good or bad) and are responded to using the same computer keys. In the third stage (S3) the concepts are paired with matching attributes, which are responded to using the same computer keys (e.g., heterosexual or good and gay/lesbian or bad). In the fourth stage (S4) contrasting concept and attribute pairs are presented (e.g., heterosexual and bad

or lesbian/gay and good), again using the same computer keys to respond as in S3. S5 is like S1 and S2; however, keyboard responses are reversed (e.g., heterosexual is now responded to using the I key). S6 and S7 are again combined concept/attribute pairs, as in S3 and S4, with the keyboard responses reversed, as in S5. The responses of S3, S4, S6, and S7 are used to calculate the implicit result, or D-score. In this example, faster responses in the combined stages (S3, S4, S6, and S7) (e.g., heterosexual and good or gay and bad) would indicate a stronger association for or bias favoring heterosexuals compared to gays.

The IAT has demonstrated reasonable reliability (Egloff & Schmukle, 2002; Graham, 2012; Greenwald et al., 2009; Sabin et al., 2015). In a meta-analysis comparing the psychometrics of various implicit measures, Cunningham et al. (2001) reported the IAT had acceptable reliability (Cronbach's alpha = 0.78). The IAT has reasonable internal reliability (average 0.79) reported in the meta-analysis by Hofmann, Gschwendner, Nosek, and Schmitt (2005). Implicit ingroup preference related to gender, race, ethnicity, and stigmatized groups have been demonstrated and support the construct validity of the IAT (Greenwald et al., 2002; Lane et al., 2007; Nosek et al., 2005). Greenwald et al. (2009) compared the IAT and explicit measure effect size across studies (implicit  $n = 122$ , explicit  $n = 156$ ) and found the IAT had lower effect size ( $r = 0.274$ ) than explicit measures ( $r = 0.361$ ); however, there was greater variability in the explicit measures. Temporal stability of the IAT has produced less than robust results. An analysis of 20 studies reporting test-retest reliability had a range from 0.25 to 0.69, with a mean and median of 0.50 (Lane et al., 2007). A latent variable approach suggested by Cunningham et al. (2001) separating measurement error (average Cronbach's alpha > 30%) from estimates of stability

resulted in improved stability reliability of the IAT, but the result 0.68 continues to be less than robust. Despite the less than robust results of effect size and stability, the IAT is a widely accepted measure of implicit social cognition and has good psychometric properties compared to other implicit measures (Sabin et al., 2015). Therefore, the sexuality-IAT was an appropriate instrument to measure implicit sexual attitude in this study.

### **Attitudes Toward Lesbians and Gay Men Scale**

Explicit attitude was measured using the ATLG scale (Greene & Herek, 1994; Herek, 1988; Herek & Mclemore, 2011). This scale is a brief measure of homophobic attitude toward lesbians and gay men (Herek & Mclemore, 2011). The scale has been used to assess the attitude of nurses (Blackwell, 2005, 2008; Della Pelle et al., 2018; Traister, 2018), nursing faculty (Sirota, 2013), and nursing students (Bilgic et al., 2018; Rowniak, 2015; Steppe, 2013; Strong & Folse, 2014; Unlu et al., 2016). The scale is composed of 20 questions, 10 measuring attitudes toward lesbians and 10 measuring attitudes toward gays (Blackwell, 2005; Herek, 1988).

The ATLG is composed of two 10-question subscales, the attitude toward lesbians and the attitude toward gay men (Herek, 1988, 1994). Each question is ranked on a 5-point Likert scale, ranging from *strongly disagree* to *strongly agree* (Herek, 1988, 1994). The sums across both scales provide the composite ATLG score, which ranges from 20 (highly positive attitude) to 180 (extremely negative attitude) (Herek, 1988).

The instrument has demonstrated robust reliability, with Cronbach's alpha consistently above 0.85 when self-administered by university students (Herek, 1994;

Herek & Mclemore, 2011). Individual studies have reported alpha above 0.90 (Steppe, 2013; Strong & Folsie, 2014; Unlu et al., 2016). The scale has demonstrated statistically significant correlation with related theoretical constructs (Herek & Mclemore, 2011). Higher scores, indicating more negative, homophobic attitudes, are associated with higher religiosity, traditional sex role attitudes, absence of previous positive interactions with lesbians or gay men, and holding fundamental political attitudes (Greene & Herek, 1994). Test–retest reliability of the scale is reported greater than 0.80 (Herek & Mclemore, 2011). Discriminate validity has been established with members of lesbian and gay organizations who have scored on the extreme positive end of the scale, while adult community members, who publicly opposed a gay rights ballot initiative, were significantly more negative on scale, compared to those who supported the initiative. Herek (1994) subsequently developed a shorter, parallel version of the scale, the ATLG-R-S5, with two, five-question subscales for attitudes toward lesbians (ATL-R-S5) and gay men (ATL-R-S5). These shorter subscales are highly correlated with the longer, 10-question version (Cronback’s alpha greater than 0.95) (Herek, 1994). The shorter version is recommended instead of the longer version (Herek & Mclemore, 2011). The ATLG (Herek, 1988, 1994; Herek & Mclemore, 2011) was, therefore, an appropriate measure of nursing students’ explicit sexual attitude toward sexual minorities and, based on Herek and Mclemore’s (2011) recommendation, the shorter scale was used. It is estimated participants will need five minutes to complete the ATLG.

## Demographic Questionnaire

The following items compose the demographic questionnaire and were developed based on variables relevant to implicit and explicit attitudes toward sexual minorities. These items represent the predictor variables in this study.

1. Age.
2. Self-identified gender.
3. Self-identified race.
4. Self-identified sexuality (e.g., straight, lesbian, gay, etc.).
5. Religiosity (e.g., very religious, somewhat, not at all).
6. Type of nursing program: Generic, accelerated or RN-BSN.
7. Year in nursing program (e.g., first, second, etc.).
8. Geographic location of nursing program (e.g., state, urban/rural).
9. Participant setting when completing the IAT and ATLG.

The literature has identified correlations between certain demographic variables and attitudes toward sexual minorities, supporting their relevancy for this study. These correlations vary for implicit and explicit attitude, as well as when a study was completed. As previously discussed, implicit attitude of nursing students towards sexual minorities has not been studied. However, studies exploring the implicit attitude of nurses regarding race reported mixed results of the correlation of age to implicit attitude. The studies by Kimbrel (2018) and Yozzo (2017) reporting a positive correlation between age and negative implicit attitude measured as a preference for White persons compared to non-White persons. Fitzsimmons (2009) found no correlation between age and implicit race attitude. Similar mixed results have also been reported between age and explicit attitude toward sexual minorities

(Blackwell, 2005; Hoyer, 2013) Correlations have also been reported among gender, race, self-identified sexuality, and religiosity (Breen & Karpinski, 2013; Carabez et al., 2015; Chapman et al., 2012; Cornelius & Carrick, 2015; Della Pelle et al., 2018; Eliason, 1998; Gates, 2016). These results support the inclusion of variables two through five, listed above. The study by von Hippel et al. (2008) of nurses' implicit attitude toward drug users did not assess age, but did report a positive correlation between length of time in the profession and more negative implicit attitude, while Sirota (2013) reported more positive explicit attitudes towards sexual minorities among nurse educators who had been teaching longer. These results support the inclusion of variables six and seven to assess the correlation of nursing experience, pre-licensure in a generic program or accelerated program, or licensed in a RN to BSN program, and both implicit and explicit attitude towards sexual minorities. The literature also reported a correlation between a student's attitude toward sexual minorities and an urban versus rural setting. More negative attitudes were reported in students residing in rural areas compared to urban (MacDonnell, 2009; Papadaki et al., 2015; Pinto & Nogueira, 2016) supporting the inclusion of variable eight. Finally, there is evidence that the setting in which the IAT (Greenwald et al., 1998) is completed can influence results. Boysen et al. (2006) reported lower implicit bias when the IAT was administered in a public versus private setting, supporting the inclusion of variable nine above. It is estimated it will take five minutes for participants to complete the demographic survey.

## Data Analysis

### Implicit Association Test

Data gathered from the IAT was used to address Research Question Q1.

Q1 What is the implicit sexual attitude of United States baccalaureate nursing students toward lesbians and gays?

To address this research question, IAT effect, referred to as a D-score, a variant of Cohen's  $d$  (Greenwald et al., 2003) was analyzed to determine the direction, that is, whether the measured associations favor, or bias, heterosexuals or lesbians/gays and if this direction was statistically significant. Originally, the IAT effect was reported as the difference in the log-transformed mean response latencies between the second of the two combined pairings, S4 and S7, in the discussion above (Greenwald et al., 1998). Adjustments were made for extremely slow or fast responses (Greenwald et al., 1998). Greenwald et al. (2003) developed an improved scoring method based on the large datasets available on the Project Implicit website and other public websites. This recommended algorithm sought to (Lane et al., 2007):

1. Minimize the correlation between IAT effects and individual subjects' average response latencies.
2. Minimize the effect of the order of the IAT stages.
3. Minimize the effect of previously completing one or more IATs on IAT scores.
4. Retain strong internal consistency.
5. Maximize the correlation between implicit and explicit measures.

This revised scoring method of IAT effect, D-score, assumes a design that requires participants to correctly complete each matching task before moving on

(Greenwald et al., 2003). The following steps, according to Greenwald et al. (2003), were used to compute the IAT D-score:

1. Exclude matching tasks greater than 10,000 ms.
2. Exclude IATs of participants with more than 10% of matching tasks having less than 300 ms of latency.
3. Compute a pooled Standard Deviation (SD) for all matching tasks in S3 and S6 and another for S4 and S7.
4. Compute the mean latency for responses for each of S3, S4, S6, and S7.
5. Compute the two mean differences ( $\text{Mean}_{\text{Stage6}} - \text{Mean}_{\text{Stage3}}$ ) and ( $\text{Mean}_{\text{Stage7}} - \text{Mean}_{\text{Stage4}}$ ).
6. Divide each difference score by its associated pooled SD.
7.  $D$  = the equal-weight average of the two resulting ratios.

### **Attitudes Toward Lesbians and Gay Men Scale**

Data gathered from the ATL-R-S5 and ATG-R-S5 was used to address Research Question Q2.

- Q2 What is the explicit sexual attitude of United States baccalaureate nursing students toward lesbians and gays?

To address this research question, ATLG subscale scores were analyzed to determine if the explicit attitude of nursing students toward lesbians and gay men is positive or negative and if this result is statistically significant. The ATLG is scored by assigning a numerical value to each of the responses. These values are then summed across each subscale, with some items reverse scored, as indicated below (Herek & Mclemore, 2011). For this study, a 5-point Likert scale was used and values assigned as follows: 1 = *strongly disagree*, 2 = *disagree somewhat*, 3 = *neither agree*

*nor disagree*, 4 = *agree somewhat*, 5 = *strongly agree*. The possible range of scores depends on the response scale used (Herek & Mclemore, 2011). With a 5-point response scale, total scores can range from 10 (extremely positive attitudes) to 50 (extremely negative scores). The subscales for the revised short-form scale are as follows (Herek & Mclemore, 2011):

Attitudes toward lesbians (ATL-R-S5) subscale:

1. Sex between two women is just plain wrong.
2. I think female homosexuals (lesbians) are disgusting.
3. Female homosexuality is a natural expression of sexuality in women.  
This item is reverse scored.
4. Female homosexuality is a perversion.
5. Female homosexuality is merely a different kind of lifestyle that should not be condemned. This item is reverse scored.

Attitudes toward gay men (ATG-R-S5) subscale:

1. Sex between two men is just plain wrong.
2. I think male homosexuals are is disgusting.
3. Male homosexuality is a natural expression of sexuality in men. This item is reverse scored.
4. Male homosexuality is a pervasion.
5. Male homosexuality is merely a different kind of lifestyle that should not be condemned. This item is reverse scored.

### **Demographic Questionnaire**

Data from the demographic questionnaire were used to address Research Question Q3.

- Q3 What is the relationship among predictor variables (e.g., age, gender, year in nursing program, self-identified sexual identity, religiosity) and the criterion variables of implicit and explicit attitude?

To address this research question, IAT and ATLG scores were analyzed to determine if there was a statistically significant correlation with each of the predictor variables. Descriptive statistics were used to report the characteristic of each predictor variable. Correlational and regression analysis was computed to determine if an effect and correlation is present between each predictor variable and scores from the IAT and ATLG and if these results were statistically significant.

### **Statistical Analysis**

The scores from the IAT and ATLG were used to address Research Questions Q4 and Q5.

- Q4 Is there a difference in the level of implicit and explicit sexual attitude among United States baccalaureate nursing students?
- Q5 Is there a correlation between the implicit and explicit attitude toward lesbian women and gay men among baccalaureate nursing students in the United States?

Standardization and paired sample *t*-tests were used to determine if there was a statistically significant difference between IAT-D and ATLG scores. It was anticipated, based on the literature reviewed, that the ATLG scores would have to undergo statistical procedures before such analysis could be completed. Correlational analysis was conducted to determine if IAT implicit scores correlated with explicit ATLG scores.

### **Ethical Considerations**

It was anticipated there would be minimum risk to participants, and this risk was considered similar to that encountered in a typical online setting. The instruments

were made available on a server maintained in a secure environment to enhance security of the data. It was acknowledged that participants would access the instruments from computers personally available to them. This presents a possible risk for a loss of anonymity or data breach, as the researcher cannot guarantee the security of the environment from which the participant accesses the online instruments; however, this risk is thought to be minimal. All data were maintained in a secure environment.

Electronic data were maintained in a password protected file on a computer that also required a password. Non-electronic data were maintained in a locked cabinet in the researcher's home office. All data were maintained by the researcher in a secure environment and will be destroyed five years after the study concludes. Throughout the study, participants were treated with respect and informed of my gratitude for their participation.

No direct benefit to participants was anticipated. Indirect benefits anticipated included the knowledge gained from this study related to the implicit and explicit attitudes of nursing students towards sexual minorities. This knowledge, the first in nursing, of implicit sexual attitude of nursing students, is expected to provide the opportunity for new approaches in nursing education to enhance students' knowledge of this vulnerable population through didactic and clinical experiences. Within the context of culturally responsive care, it is believed these enhanced experiences can foster an academic environment that is open, critically reflective, and not only accepting, but appreciates and values the contribution of the other. The goal is a better outlook, belief, and attitude for sexual minority individuals, whether these individuals are patients or members of our profession.

### **Summary**

This chapter discussed the research design, epistemology, theoretical approach, and methods. Incorporating a transformative worldview, a constructive epistemology, and a critical cosmopolitan theoretical framework, this chapter described the measures to assess implicit and explicit attitude of nursing students towards sexual minorities. Rationale for the choice of the IAT and ATLG was supported with evidence from the theoretical and empirical literature. In addition to articulating the strengths of these instruments, weaknesses were also discussed. Sampling methods and recruitment of participants were discussed, as well as ethical considerations for insuring the respect for autonomy and privacy of participants.

## CHAPTER IV

### RESULTS

#### **Introduction**

This chapter contains the results and relevant analyses to address the research questions. A discussion of data collection and management will be followed by study sample characteristics. The results are organized around the five research questions:

- Q1 What is the implicit sexual attitude of United States baccalaureate nursing students toward lesbian women and gay men?
- Q2 What is the explicit sexual attitude of United States baccalaureate nursing students toward lesbian women and gay men?
- Q3 What is the relationship among predictor variables (e.g., age, gender, year in nursing program, self-identified sexual identity, religiosity) and the criterion variables of implicit and explicit sexual attitude?
- Q4 Is there a difference in the level of implicit and explicit sexual attitude among United States baccalaureate nursing students?
- Q5 Is there a correlation between the implicit and explicit attitude toward lesbian women and gay men among baccalaureate nursing students in the United States?

The results, analyses, and pertinent findings will be summarized at the end of this chapter. Discussion of these results and findings and their implications for nursing education will follow in Chapter V. The limitations identified in this study and recommendations for future research will also be included in the next Chapter V.

#### **Data Collection**

After obtaining Institutional Review Board approval (see Appendix A), Project Implicit was contracted (see Appendix B) to host the surveys online and collect data.

Permission to use the Attitudes Toward Lesbians and Gay Men (ATLG) in academic research is not required (Herek & Mclemore, 2011). In mid-April 2019 the state presidents of the Student Nurses Association were sent e-mails ( $n = 51$ ) informing them of this study and inviting them to share the study Uniform Resource Locator with their members (see Appendix C). Data were collected for a five-month period, beginning April 2019 and concluding September 2019. As discussed in Chapter III, the Implicit Association Test (IAT) (Greenwald et al., 1998) was used to collect implicit sexual attitude data, the ATLG scale (Herek, 1988) (see Appendix D) for explicit sexual attitude, and a demographic survey (see Appendix E) to collect data of pertinent predictors of these attitudes.

The surveys required the use of a computer keyboard. After the first month of data collection, the IAT completion rate was 6% ( $n = 8$ ) for 127 participants. It was notable this rate was well below the 64% ( $n = 2,172,875$ ) IAT completion rate reported by Project Implicit (Xu et al., 2019) from 2004 to 2018. Further review of this preliminary data revealed 8% ( $n = 10$ ) of non-participants ( $n = 119$ ) accessed the surveys using touch-screen devices. Due to these results, touch-screen compatibility was added to improve the completion rate. In the final sample, 41.91% ( $n = 565$ ) of participants accessed the surveys using a touch-screen device. As there was no change in the surveys or recruitment method, it was determined additional Institutional Review Board approval was not required. A summary of participation method is summarized in Table 1.

Table 1

*Participation by Keyboard or Touchscreen*

Participation method	<i>n</i>	%
Keyboard	783	58.09
Touch-screen	565	41.91

*Note.* Due to rounding errors, percentages may not equal 100%.

After four months of data collection, the participation rate ( $n = 9$ ) was well below the 400 participants needed per the a priori desired sample size determined by power analysis. Details of this power analysis were discussed in Chapter III. To improve the participation rate, the chief nursing officers of baccalaureate nursing programs accredited by the Collegiate Commission of Nursing Education were contacted by e-mail ( $n = 825$ ) asking them to share the study Uniform Resource Locator with their students (see Appendix F). This modification for recruitment received Institutional Review Board approval (see Appendix G) prior to contacting the chief nursing officers.

The surveys were hosted on a secure website with data access password protected and limited to this author and the Project Implicit research coordinator assigned to this study. After giving informed consent (See Appendix H), the surveys were presented in the same consecutive order for all participants: IAT, ATLG, and demographic. The data collected were loaded into Statistical Package for the Social

Sciences, version 25 (International Business Machines Corporation, 2017). A total of 3,583 participants accessed the surveys. To protect confidentiality, a random session number was assigned to each participant who accessed the online surveys. Prior to beginning the analysis, the data were reviewed for accuracy, missing data, and outliers.

A visual review of the data revealed further analysis was needed to identify missing data and outliers. Missing data were identified as participants who did not complete the IAT ( $n = 2,235$ ), ATLG ( $n = 19$ ), or demographic survey ( $n = 25$ ) and were excluded from further analysis. The demographic survey included a declined to respond option which is reported in the results. Outliers in the data were defined as ATLG or IAT scores falling plus or minus 3.29 standard deviations from the mean. As a result of this analysis, nine ATLG scores were excluded from further analysis. No outliers were identified in the IAT scores. This preliminary analysis resulted in 1,348 participants included for further analysis.

### **Sample Characteristics**

The demographic survey was developed based on predictor variables relevant to implicit and explicit attitudes toward sexual minorities. Most participants were female ( $n = 1164$ , 86%), White ( $n = 990$ , 73%), and self-identified as heterosexual ( $n = 1,044$ , 77%). Participants were asked the state in which they were located, and this information was aggregated into regions as defined by the United States Census Bureau (U.S. Census Bureau, 2012). Colorado had the most participants ( $n = 182$ ). The sample characteristics are summarized in Table 2.

Table 2

*Sample Characteristics*

Characteristic	<i>n</i>	%
Self-identified sexuality		
Gay	53	3.93
Heterosexual	1,044	77.45
Lesbian	44	3.26
Other	167	12.39
Transgender	4	0.30
Declined to respond	36	2.67
Year in nursing program		
1st	410	30.42
2nd	243	18.03
3rd	284	21.07
4th	349	25.89
Declined to respond	62	4.60
Urban or rural location		
Rural	385	28.56
Urban	883	65.50
Declined to respond	80	5.93
Self-identified gender		
Female	1,164	86.35
Male	142	10.53
Other	7	0.52
Declined to respond	35	2.60
Race		
African American	59	4.38
Asian or Pacific Islander	95	7.05
Latin	116	8.61
Native American or Alaskan	10	0.74
Other	43	3.19
White	990	73.44
Declined to respond	35	2.60

Table 2 (continued)

Characteristic	<i>n</i>	%
<b>Religiosity</b>		
Not at all religious	418	31.01
Somewhat religious	649	48.15
Very religious	239	17.73
Declined to respond	42	3.12
<b>Type of nursing Program</b>		
Accelerated	157	11.65
Generic	360	26.71
RN to BSN	790	58.61
Declined to respond	41	3.04
<b>Region</b>		
West	381	28.26
South	327	24.26
Northeast	210	15.58
Midwest	347	27.74
Declined to respond	56	4.15
<b>Where surveys were taken</b>		
Home	812	60.24
Other private setting	21	1.56
Other public setting	67	4.97
School	300	22.26
Work	112	8.31
Decline to respond	36	2.67

*Note.* RN = registered nurse, BSN = bachelor of science in nursing.

The observations for age had an average of 27.60 ( $SD = 11.10$ ,  $SE_M = 0.31$ , min = 17.00, max = 70.00, skewness = 1.46, kurtosis = 1.18). When the skewness is greater than two in absolute value, the variable is considered to be asymmetrical about its mean. When the kurtosis is greater than or equal to three, then the variable's distribution is markedly different than a normal distribution in its tendency to produce

outliers (Westfall & Henning, 2013). Therefore, there were no issues of skewness or kurtosis in the age variable. The summary statistics can be found in Table 3.

Table 3

*Summary Statistics for Age of Participants*

Variable	<i>M</i>	<i>SD</i>	<i>n</i>	<i>SE<sub>M</sub></i>	Min	Max	Skewness	Kurtosis
Age	27.60	11.10	1,278	0.31	17.00	70.00	1.46	1.18

### **Implicit Sexual Attitude**

The first research question addressed in this study was to determine the implicit sexual attitude of United States baccalaureate nursing students toward lesbian women and gay men. This was assessed using the IAT (Greenwald et al., 1998). A Cronbach alpha coefficient was calculated for the reliability of the IAT, consisting of the IAT D-scores of trails three and six (congruent pairs) and IAT D-scores of trails four and seven (incongruent pairs) (Greenwald et al., 2003). The Cronbach's alpha coefficient was evaluated using the guidelines suggested by George and Mallery (2016) where  $\leq 0.9$  excellent,  $\leq 0.8$  good,  $\leq 0.7$  acceptable,  $\leq 0.6$  questionable,  $\leq 0.5$  poor, and  $> 0.5$  unacceptable. The IAT had a Cronbach's alpha coefficient of 0.73, indicating acceptable reliability. Table 4 presents the results of the reliability analysis.

Table 4

*Reliability for the Implicit Association Test Implicit Scale*

Scale	No. of items	$\alpha$
Implicit Association Test implicit scale	2	0.73

A one-sample *t*-test was performed (see Table 5) to obtain the mean D-score, a derivative of Cohen's *d*, (Greenwald et al., 2003). D-scores greater than zero indicate a greater association of heterosexual, and good negative scores indicate a greater association of lesbian/gay and good. The mean of 0.22 (*SD* = 0.46) was significant ( $p < 0.001$ ), indicating a moderate automatic preference for heterosexuals and good, compared to lesbians/gays and good. This result was consistent with data collected by Project Implicit from 2004 to 2018 for the IAT. A mean D-score of 0.25 with a *SD* of 0.49 for a large sample ( $n = 2,172,875$ ) was reported (Xu et al., 2019), suggesting the implicit attitude of United States baccalaureate nursing students, which favors heterosexual and good compared to lesbian/gay and good and mirrors the implicit attitude of the general population. These results support the assumption that implicit attitude can be measured by the IAT and the implicit attitude of nursing students favors heterosexuals compared to lesbian women and gay men.

Table 5

*Two-Tailed One Sample t-Test for the Implicit Association Test Implicit Scale*

Variable	<i>M</i>	<i>SD</i>	$\mu$	<i>T</i>	<i>p</i>	<i>d</i>
Implicit Association Test	0.22	0.46	0	17.43	< .001	0.48

*Note.* Degrees of freedom for the *t*-statistic = 1,347; *d* = Cohen's *d*; *test value* = 0.

### Explicit Sexual Attitude

The next research question to be considered was the explicit sexual attitude of United States baccalaureate nursing students toward lesbian women and gay men. This question was assessed with the ATLG scale (Greene & Herek, 1994; Herek, 1988; Herek & Mclemore, 2011) (See Appendix H). The ATLG was scored by assigning a numerical value to each of the responses. These values were then summed across each subscale, with some items reverse scored, as indicated below (Herek & Mclemore, 2011). For this study, a 5-point Likert scale was used and values assigned as follows: 1 = *strongly disagree*, 2 = *disagree somewhat*, 3 = *neither agree nor disagree*, 4 = *agree somewhat*, 5 = *strongly agree*. The possible range of scores depends on the response scale used (Herek & Mclemore, 2011). With a 5-point response scale, total scores can range from 10 (extremely positive attitudes) to 50 (extremely negative scores). The subscales for the revised short-form scale are as follows (Herek & Mclemore, 2011):

Attitudes toward lesbians (ATL-R-S5) subscale:

1. Sex between two women is just plain wrong.

2. I think female homosexuals (lesbians) are disgusting.
3. Female homosexuality is a natural expression of sexuality in women.  
Item is reverse scored.
4. Female homosexuality is a perversion.
5. Female homosexuality is merely a different kind of lifestyle that should not be condemned. Item is reverse scored.

Attitudes toward gay men (ATG-R-S5) subscale:

1. Sex between two men is just plain wrong.
2. I think male homosexuals are is disgusting.
3. Male homosexuality is a natural expression of sexuality in men. Item is reverse scored.
4. Male homosexuality is a pervasion.
5. Male homosexuality is merely a different kind of lifestyle that should not be condemned. Item is reverse scored.

A Cronbach alpha coefficient was calculated for the reliability of the ATLG explicit scale, consisting of the ATLG items in each subscale. The items for ATLG explicit scale had a Cronbach's alpha coefficient of 0.89, indicating good reliability.

Table 6 presents the results of the reliability analysis.

Table 6

*Reliability for the Attitudes Toward Lesbians and Gay Men (ATLG) Explicit Scale*

Scale	No. of Items	$\alpha$
ATLG explicit scale	10	0.89

The ATLG scores mean was 17.52 ( $SD = 8.44$ ,  $SE_M = 0.23$ , min= 10.00, max = 48.00, Skewness = 1.38, Kurtosis = 1.22). There were no issues of kurtosis in the ATLG. The summary statistics can be found in Table 7.

Table 7

*Summary Statistics for the Attitudes Toward Lesbians and Gay Men (ATLG) Explicit Scale*

Variable	$M$	$SD$	$n$	$SE_M$	Min	Max	Skewness	Kurtosis
ATLG	17.52	8.44	1,324	0.23	10.00	48.00	1.38	1.22

To determine if the mean ATLG score was significant, a one-sample  $t$ -test was performed (see Table 8). The mean of 17.52 was significant ( $p < 0.001$ ) indicating United States baccalaureate nursing students have a strong explicit attitude that is positive toward lesbian women and gay men.

Table 8

*Two-Tailed One Sample t-Test for the Attitudes Toward Lesbians and Gay Men (ATLG) Explicit Scale*

Variable	<i>M</i>	<i>SD</i>	$\mu$	<i>t</i>	<i>p</i>	<i>d</i>
ATLG	17.52	8.44	0	75.59	< .001	2.08

*Note.* Degrees of freedom for the *t*-statistic = 1,323; *d* = Cohen's *d*; test value = 0.

### **Demographic Variables Related to Implicit and Explicit Sexual Attitude**

The next research question addressed the relationship of the demographic variables as predictors of implicit and explicit attitude. To address this question, multiple linear regression analysis was conducted to assess whether the predictor variables of age, gender, race, sexuality, religiosity, type of nursing program, year in the program of the participant, geographic region, urban or rural setting of the nursing program, and if the surveys were completed in a public or private setting significantly predicted implicit or explicit attitude. The enter variable selection method was chosen for the linear regression model, which included all the selected predictors. The results for the IAT implicit test will be presented first, followed by the ATLG explicit scale.

#### **Implicit Attitude Predictors**

The overall results of the linear regression model were significant,  $F(24,1155) = 11.99, p < .001, R^2 = 0.20$ , indicating that approximately 20% of the variance in the IAT is explainable by the predictor variables. The demographic predictors of male ( $B = 0.19, p < 0.001$ ), heterosexual ( $B = 0.62, p < 0.001$ ), other sexuality ( $B = 0.30, p <$

0.001), somewhat religious ( $B = 0.09, p = 0.002$ ), very religious ( $B = 0.15, p < 0.001$ ), generic nursing program ( $B = 0.09, p = 0.031$ ), RN BSN nursing program ( $B = 0.12, p = 0.002$ ) were identified as predicting an increase in the IAT D-score; therefore, an increased automatic preference for heterosexual and good versus lesbian/gay and good. A summary of this linear regression is found in Table 9.

The remaining variables were not significant predictors of the IAT score. As 71% of the predictors ( $n = 17$ ) in the regression were not significant, and the generic and RN BSN nursing program variables were significant predictors, the regression was run with the significant ( $n = 7$ ) predictors. Of note, the revised model indicates 19% of the IAT variance is explainable by the predictor variables ( $F(10,1274) = 29.06, p < .001, R^2 = 0.19$ ). The generic nursing program predictor was no longer significant ( $B = 0.07, p = 0.076$ ). The other predictors retained their significance: male ( $B = 0.19, p < 0.001$ ), heterosexual ( $B = 0.65, p < 0.001$ ), other sexuality ( $B = 0.33, p < 0.001$ ), somewhat religious ( $B = 0.09, p < 0.001$ ), very religious ( $B = 0.14, p < 0.001$ ), RN BSN program ( $B = 0.11, p = 0.003$ ). The results of this linear regression are summarized in Table 10.

Table 9

*Results for Linear Regression of Demographic Variables Predicting Implicit Association Test Implicit Attitude*

Variable	<i>B</i>	<i>SE</i>	CI	$\beta$	<i>t</i>	<i>p</i>
(Intercept)	-0.60	0.12	[-0.83, -0.37]	0.00	-5.13	< .001
Age	0.00	0.00	[-0.00, 0.00]	0.05	1.56	.119
Gender (reference: female)						
Male*	0.19	0.05	[0.09, 0.28]	0.13	3.96	< .001
Other gender	-0.22	0.22	[-0.65, 0.22]	-0.03	-0.97	.331
Ethnicity (reference: African American)						
Asian or Pacific Islander	0.07	0.08	[-0.08, 0.23]	0.04	0.95	.343
Latin	0.04	0.07	[-0.11, 0.18]	0.02	0.51	.607
Native American or Alaskan	0.10	0.16	[-0.22, 0.41]	0.02	0.59	.554
Other race	-0.00	0.09	[-0.18, 0.18]	-0.00	-0.01	.995
White	0.03	0.06	[-0.10, 0.15]	0.02	0.41	.684
Self-identified sexuality (reference: Gay)						
Heterosexual*	0.62	0.07	[0.48, 0.77]	0.55	8.38	< .001
Lesbian	0.04	0.10	[-0.16, 0.24]	0.01	0.38	.703
Other sexuality*	0.30	0.08	[0.15, 0.46]	0.23	3.77	< .001
Transgender	0.45	0.29	[-0.13, 1.03]	0.05	1.53	.127
Religiosity (reference: Not at all religious)						
Somewhat religious*	0.09	0.03	[0.03, 0.14]	0.10	3.17	.002
Very religious*	0.15	0.04	[0.08, 0.23]	0.13	4.15	< .001
Type of nursing program (reference: accelerated)						
General nursing Program*	0.09	0.04	[0.01, 0.18]	0.09	2.16	.031
RN BSN nursing program*	0.12	0.04	[0.04, 0.20]	0.13	3.06	.002
Year in nursing program (reference: 1 <sup>st</sup> year)						
2nd	0.01	0.04	[-0.06, 0.08]	0.01	0.30	.766
3rd	-0.06	0.03	[-0.12, 0.01]	-0.05	-1.66	.096
4th	-0.03	0.03	[-0.09, 0.04]	-0.03	-0.86	.392
Region (reference: West)						
Northeast	-0.01	0.04	[-0.08, 0.07]	-0.01	-0.25	.803
South	0.06	0.03	[-0.01, 0.12]	0.05	1.67	.095
West	0.03	0.04	[-0.04, 0.10]	0.03	0.78	.435
Location (reference: Rural)						
Urban	-0.00	0.03	[-0.05, 0.05]	-0.00	-0.00	.999
Survey setting (reference: Private)						
Public	-0.01	0.03	[-0.07, 0.04]	-0.02	-0.55	.581

Note. CI is at the 95% confidence level; results:  $F(24,1155) = 11.99$ ,  $p < .001$ ,  $R^2 = 0.2$ ; RN = registered nurse, BSN = bachelor of science in nursing.

\*Significant at  $p < 0.05$

Table 10

*Results for Linear Regression with Significant Variables Predicting Implicit Attitude*

Variable	B	SE	CI	$\beta$	t	P
(Intercept)	-0.53	0.08	[-0.68, -0.37]	0.00	-6.64	< .001
Gender (reference: Female)						
Male*	0.19	0.05	[0.10, 0.28]	0.13	4.19	< .001
Other gender	-0.24	0.22	[-0.67, 0.19]	-0.03	-1.08	.282
Self-identified sexuality (reference: Gay)						
Heterosexual*	0.65	0.07	[0.51, 0.79]	0.57	9.08	< .001
Lesbian	0.06	0.10	[-0.12, 0.25]	0.03	0.67	.504
Other sexuality*	0.33	0.08	[0.17, 0.48]	0.24	4.21	< .001
Transgender	0.54	0.29	[-0.03, 1.11]	0.06	1.85	.065
Religiosity (reference: Not at all religious)						
Somewhat religious	0.09	0.03	[0.04, 0.14]	0.10	3.33	< .001
Very religious	0.14	0.03	[0.07, 0.21]	0.12	4.04	< .001
Type of nursing program (reference: Accelerated)						
Generic nursing program	0.07	0.04	[-0.01, 0.15]	0.07	1.78	.076
RN BSN nursing program*	0.11	0.04	[0.04, 0.18]	0.12	3.00	.003

Note. CI is at the 95% confidence level; results:  $F(10,1270) = 28.99$ ,  $p < .001$ ,  $R^2 = 0.19$ ; RN = registered nurse, BSN = bachelor of science in nursing.

\*Significant at  $p < 0.05$

These analyses suggest the demographic variables of male, heterosexual, other sexuality, somewhat and very religious, and RN BSN nursing programs statistically influence implicit attitude. The influence of these demographic variables increases the IAT D-score, indicating a stronger preference for heterosexual and good compared to lesbian/gay and good. These results support the assumption that implicit sexual attitude of nursing students is associated with certain demographic criteria.

### Explicit Attitude Predictors

The explicit overall results of the linear regression model were significant,  $F(24,1155) = 13.66$ ,  $p < .001$ ,  $R^2 = 0.22$ , indicating that approximately 22% of the variance in the ATLG is explainable by the predictor variables. The demographic

predictors male ( $B = 2.02, p = 0.012$ ), heterosexual ( $B = 5.35, p < 0.001$ ), somewhat religious ( $B = 2.10, p < 0.001$ ), very religious ( $B = 8.06, p < 0.001$ ), and RN BSN nursing program ( $B = 1.47, p = 0.028$ ) were identified as predicting an increase in the ATLG score; therefore, a more negative attitude toward lesbian women and gay men. The demographic predictors Asian or Pacific Islander ( $B = -3.43, p = 0.009$ ), Latin ( $B = -3.16, p = 0.012$ ), and White ( $B = -3.23, p = 0.003$ ) were identified as predicting a decrease in the ATLG score, suggesting a more positive attitude toward lesbian women and Gay men. The remaining variables were not significant predictors of the ATLG score. A summary of this linear regression is found in Table 11.

Table 11

*Results for Linear Regression of Demographic Variables Predicting Attitudes Toward Lesbians and Gay Men Scale Explicit Attitude*

Variable	B	SE	CI	$\beta$	t	p
(Intercept)	12.19	1.98	[8.30, 16.08]	0.00	6.15	< .001
Age	0.01	0.02	[-0.03, 0.06]	0.02	0.50	.619
Gender (reference: Female)						
Male	2.02	0.80	[0.45, 3.59]	0.08	2.53	.012
Other Gender	-0.71	3.77	[-8.11, 6.68]	-0.01	-0.19	.850
Ethnicity (reference: African American)						
Asian or Pacific Islander*	-3.43	1.32	[-6.02, -0.85]	-0.11	-2.61	.009
Latin*	-3.16	1.26	[-5.63, -0.68]	-0.11	-2.51	.012
Native American or Alaskan	-4.22	2.73	[-9.59, 1.14]	-0.04	-1.55	.123
Other race	-0.99	1.53	[-3.99, 2.01]	-0.02	-0.65	.519
White*	-3.23	1.07	[-5.33, -1.13]	-0.17	-3.02	.003
Self-identified sexuality (reference: Gay)						
Heterosexual*	5.35	1.27	[2.86, 7.83]	0.28	4.22	< .001
Lesbian	0.05	1.71	[-3.32, 3.41]	0.00	0.03	.979
Other sexuality	1.66	1.37	[-1.03, 4.35]	0.07	1.21	.226
Transgender	5.97	5.00	[-3.85, 15.79]	0.04	1.19	.233
Religiosity (reference: Not at all religious)						
Somewhat religious	2.10	0.48	[1.16, 3.04]	0.13	4.40	< .001
Very religious	8.06	0.63	[6.81, 9.30]	0.38	12.69	< .001
Type of nursing program (reference: Accelerated)						
Generic nursing program	0.30	0.73	[-1.14, 1.73]	0.02	0.41	.683
RN BSN nursing program*	1.47	0.67	[0.16, 2.79]	0.09	2.20	.028
Year in nursing program (reference: 1 <sup>st</sup> year)						
2nd	-0.76	0.61	[-1.95, 0.44]	-0.04	-1.24	.216
3rd	-0.22	0.58	[-1.37, 0.93]	-0.01	-0.38	.707
4th	-0.01	0.55	[-1.09, 1.08]	-0.00	-0.02	.987
Region (reference: West)						
Northeast	-0.74	0.65	[-2.02, 0.53]	-0.03	-1.15	.252
South	0.52	0.57	[-0.61, 1.65]	0.03	0.90	.366
West	-0.45	0.61	[-1.65, 0.757]	-0.03	-0.74	.462
Location (reference: Rural)						
Urban	-0.35	0.47	[-1.27, 0.57]	-0.74	-0.02	.459
Survey setting (reference: Private)						
Public	-0.08	0.44	[-0.94, 0.79]	-0.00	-0.17	.862

Note. CI is at the 95% confidence level; results:  $F(24, 1155) = 13.66$ ,  $p < .001$ ,  $R^2 = 0.22$ ; RN = registered nurse, BSN = bachelor of science in nursing.

\*Significant at  $p < 0.05$

**Difference in Implicit Association  
Test and Attitudes Toward  
Lesbians and Gay  
Men Scores**

The next research question addressed in this study was to identify if a difference, disassociation, exists between the implicit and explicit attitude toward lesbian women and gay men of baccalaureate nursing students in the United States. To answer this question, the scores of the IAT implicit test and ATLG explicit scale were compared to determine if there was a statistically significant difference. To conduct this comparison, the ATLG scores were converted through standardization by range so that both scales, IAT and ATLG, had the same -1 to 1 range with 0 in the middle (Greenwald et al., 2003). Recall higher scores indicate a preference for heterosexuals versus lesbian women and gay men. To examine if the standardization of the ATLG scores was significant, a two-tailed, one-sample *t*-test was conducted to determine if the standardized mean of the ATLG could have been produced by a probability distribution with a mean of 0. The standardized mean of -0.60 was significant ( $p < 0.001$ ). The results are presented in Table 12.

Table 12

*Two-Tailed One Sample t-Test for the Standardized Attitudes Toward Lesbians and Gay Men Explicit Scale*

Variable	<i>M</i>	<i>SD</i>	$\mu$	<i>t</i>	<i>p</i>	<i>d</i>
Standardized Attitudes Toward Lesbians and Gay Men scale	-0.60	0.44	0	-50.40	< .001	1.37

*Note.* Degrees of freedom for the *t*-statistic = 1,347; *d* = Cohen's *d*; test value = 0.

Having established the standardized mean of the ATLG was statistically significant, a two-tailed paired samples *t*-test was conducted to examine if there was a statistically significant difference in the IAT implicit and ATLG explicit scores. The result was significant based on an alpha value of 0.05,  $t(1342) = 58.07, p < .001$ . The mean of the IAT implicit test was significantly higher, indicating an automatic preference for heterosexual/good, compared to the mean of the standardized ATLG scale (See Table 13). This result supports the assumption that a disassociation exists between the implicit and explicit attitude of United States baccalaureate nursing students toward lesbian women and gay men.

Table 13

*Two-Tailed Paired Samples t-Test for the Difference Between Implicit Association Test (IAT) Implicit Scale and Standardized Attitudes Toward Lesbians and Gay Men (ATLG) Explicit Scale*

Implicit IAT		Standardized Explicit ATLG		<i>t</i>	<i>p</i>	<i>d</i>
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
0.22	0.46	-0.60	0.44	58.07	< .001	1.58

*Note.* N = 1,343, degrees of freedom for the *t*-statistic = 1,342; *d* = Cohen's *d*.

### **Correlation Between Implicit and Explicit Sexual Attitude**

The final research question sought to identify if correlation existed between implicit IAT and explicit ATLG scores. To address this question, a Pearson

correlation analysis was conducted between the ATLG and IAT scores. Cohen's standard was used to evaluate the strength of the relationship, where coefficients between 0.10 and 0.29 represent a small effect size, coefficients between 0.30 and 0.49 represent a moderate effect size, and coefficients above 0.50 indicate a large effect size (Cohen, 1988). The correlations were examined based on an alpha value of 0.05.

A statistically significant positive correlation was observed between ATLG explicit scores and implicit IAT scores ( $r = 0.33, p < .001$ ). The correlation coefficient between ATLG explicit and implicit IAT scores was 0.33, indicating a moderate effect size. This correlation indicates that as ATLG explicit scores increase, implicit IAT scores tend to increase. Another way to report this, higher levels of homophobia positively correlate with stronger attitudes that favor heterosexuals over lesbian women and gay men. Table 14 presents the results of this correlation.

Table 14

*Pearson Correlation Results Between Attitudes Toward Lesbians and Gay Men (ATLG) Explicit Scores and Implicit Association Test (IAT) Implicit Scores*

Combination	$r$	Lower	Upper	$p$
Explicit ATLG – Implicit IAT scores	0.33	0.29	0.38	< .001

*Note.* The confidence intervals were computed using  $\alpha = 0.05, n = 1,324$ .

## Conclusion

The implicit and explicit sexual attitude of a sample ( $n = 1,348$ ) of United States baccalaureate nursing students was analyzed using the implicit IAT and explicit ATLG scale. The results indicate implicit attitude favors heterosexual and good, compared to lesbian/gay and good. Explicit attitude is significantly positive toward lesbian women and gay men. The difference in implicit attitude and explicit attitude is statistically significant. The implicit IAT and explicit ATLG scores are positively correlated. As ATLG scores increase, IAT scores also tend to increase. An increase in these scores represents more negative attitudes towards lesbian women and gay men. Certain individual and academic characteristics were identified as predicting implicit and explicit attitude. While the implicit attitude of nursing students has not been previously studied, its importance has been identified in the nursing literature (Bellack, 2015; Matharu et al., 2012; Steppe, 2013). The explicit results are consistent with theory and previous research (Carabez et al., 2015; Dorsen, 2012; Eliason, 1998; Eliason et al., 2010). Additional discussion of the results and implications follow in Chapter V.

## CHAPTER V

### DISCUSSION AND CONCLUSION

#### **Introduction**

This chapter begins with a summary of the study, including a discussion of how the reported data analysis aligns with addressing the research questions. Discussion of the study findings are organized around the five research questions identified in Chapter I. The theoretical implications of these findings and implications for nursing education follow. The strengths and weaknesses identified in this study will be followed by a presentation of recommendations for nursing education and future research.

#### **Summary of Study**

The purpose of this non-experimental, descriptive, correlational study was to examine, within a framework of critical cosmopolitanism, the implicit and explicit sexual attitude drawn from a sample of 1,348 United States baccalaureate nursing students and if this attitude favored heterosexuals versus lesbian woman and gay men. This is an appropriate research design as this is the first study of implicit sexual attitude among nursing students. Despite growing evidence in the literature that implicit attitude has a significant role in our thoughts and behaviors toward sexual minorities (Anselmi et al., 2013; Anselmi et al., 2015; Banaji & Greenwald, 2016; Byrd, 2018; Graham, 2012; Penzias, 2016; Sirota, 2013; Waldrop, 2016), only the

study by Sabin et al. (2015) has included nurses. To address this problem, the following research questions, drawn from the literature, were addressed in this study:

- Q1 What is the implicit sexual attitude of United States baccalaureate nursing students toward lesbian women and gay men?
- Q2 What is the explicit sexual attitude of United States baccalaureate nursing students toward lesbian women and gay men?
- Q3 What is the relationship among predictor variables (e.g., age, gender, year in nursing program, self-identified sexual identity, religiosity) and the criterion variables of implicit and explicit sexual attitude?
- Q4 Is there a difference in the level of implicit and explicit sexual attitude among United States baccalaureate nursing students?
- Q5 Is there a correlation between the implicit and explicit attitude toward lesbian women and gay men among baccalaureate nursing students in the United States?

The Implicit Association Test (IAT) (Greenwald et al., 1998) was used to address Research Question Q1. The reliability of the IAT was assessed using Cronbach's alpha coefficient. The Cronbach's alpha coefficient is an appropriate assessment of an instrument's internal consistency, that is, how reliably the instrument measures the variable of interest (Grove & Ciper, 2017). To examine if the mean IAT D-score, a derivative of Cohen's *d* (Greenwald et al., 2003), was statistically different from zero, a one-sample *t*-test was performed. The one-sample *t*-test is appropriate to compare the mean of a sample with a hypothesized mean, zero in this case, to assess if differences occur (Grove & Ciper, 2017). The *t*-test was two-tailed with probability set at  $p < 0.05$  to ensure a 95% certainty that the differences did not occur by chance (Grove & Ciper, 2017).

Research Question Q2 was addressed using the Attitudes Toward Lesbians and Gay Men (ATLG) scale (Greene & Herek, 1994; Herek, 1988; Herek & Mclemore,

2011). Cronbach's alpha coefficient was again used to assess the reliability of the ATLG. Significance of the mean ATLG score was evaluated using the same procedure as the IAT, that is, a two-tailed one-sample *t*-test.

Multiple linear regression was used to evaluate Research Question Q3. This analysis method is appropriate to assess the relationship among a set of nominal, ordinal, or interval/ratio predictor variables on an interval/ratio criterion variable (Grove & Ciper, 2017; Menard, 2010). Using the enter method, regression models for each of the criterion (dependent) variables, IAT and ATLG, were used to evaluate the contribution of the predictor (independent) variables drawn from the literature and presented in the demographic questionnaire.

In order to address the Research Question Q4, the scores of the ATLG were standardized to a -1 to 1 range, with 0 as the mid-point, as suggested by Greenwald et al. (2003), to allow comparison with the IAT scores. A two-tailed, one sample *t*-test was conducted to assess statistical significance of the standardization. Difference in the IAT and standardized ATLG scores was evaluated with a two-tailed paired samples *t*-test.

Research Question Q5 asked if a correlation exists between the implicit (IAT) and explicit (ATLG) scores. A Pearson correlation analysis demonstrated a positive correlation exists between the scores. The instruments were presented in the same order to each participant, IAT, ATLG, and finally, demographic. Participants could exit the study at any time, simply by closing their web browser.

The goal of this study was to provide nursing educators with knowledge of the presence of implicit sexual attitude among nursing students. Additional goals identified during the study included knowledge of this attitude favoring heterosexuals

or lesbian women and gay men and how this implicit attitude compared to the explicit sexual attitude of nursing students. While existing research has focused on the explicit sexual attitude of nurses (Cloyes, 2016; Costa et al., 2013; Isacco et al., 2012; Lim & Hsu, 2016; Mandelbaum, 2016; Mattocks et al., 2014), the role less conscious, implicit, attitudes have in providing culturally responsive, patient-centered care is receiving greater attention (Alexander, 2018; Bellack, 2015; Radix & Maingi, 2018; Stewart & O'Reilly, 2017; Sukhera, Wodzinski, Rehman, & Gonzalez, 2019). Knowledge of implicit sexual attitude among nursing students is a necessary part of their education to become culturally responsive providers of care (Alexander, 2018; Dorsen, 2014; Fishbein & Ajzen, 1975; Fisher et al., 2016; Hoyer, 2013; Papadaki et al., 2015; Penzias, 2016; Sabin et al., 2015; Tillman et al., 2016). The results of this study have the potential to provide nursing educators with knowledge that can be used to enhance students' learning experiences and improve the care they provide to this vulnerable population. A discussion of these results follows.

### **Summary of Findings**

#### **Research Question Q1**

The first research question explored the presence of implicit sexual attitude among nursing students and if this attitude favored heterosexuals or lesbian women and gay men. Of the 3,583 participants who accessed the online study site, 38% ( $n = 1,348$ ) completed the sexuality IAT and were included for further analysis. This exceeded the 20% estimated completion rate used for this study and the 400 usable responses, determined a priori by power analysis, to achieve a 95% confidence level, confidence interval of five, that the results represent the population of the 338,802 United States baccalaureate nursing students.

The IAT was found to have acceptable ( $\alpha = 0.73$ ) reliability with this study sample. This result is consistent with the acceptable reliability ( $\alpha = 0.77$ ) in the data reported by Xu et al. (2019) of a large sample of participants ( $n = 2,172,875$ ) who took the sexuality IAT from 2004 to 2018. It is notable that IAT reliability was reported in only three of the 15 studies reviewed in Chapter II, ranging from  $\alpha = 0.67$  in the study by Breen and Karpinski (2013) to  $\alpha = 0.80$  in the study by Aaberg (2012). The remaining studies cited IAT reliability reported by the developers across several studies (Greenwald et al., 2002; Greenwald et al., 1998; Greenwald et al., 2009). Establishing instrument reliability is essential to demonstrate the extent to which the variable of interest is being measured (Grove & Ciper, 2017). Therefore, IAT results, the D-scores, from studies lacking this information, should be interpreted cautiously.

The mean D-score of 0.22 ( $SD = 0.46$ ) was statistically significant and indicated nursing students have a moderate implicit preference for heterosexual/good compared to lesbian/gay and good. This score was consistent with the mean D-score of 0.25 ( $SD = 0.49$ ) reported by Xu et al. (2019) for the period 2004 to 2018, indicating United States nursing students have similar implicit sexual attitude compared to the general public, for this time period.

As previously discussed, the implicit sexual attitude of nursing students has not been explored; only the study by Sabin et al. (2015) included nurses in the sample. This study of implicit sexual attitude reported nurses having the strongest implicit attitude, favoring heterosexuals, among all healthcare providers (Sabin et al., 2015). IAT D-scores for nurses were not aggregated, rather results were reported by gender. The D-score for female nurses was 0.65 ( $SD = 1.17$ ), and 0.43 ( $SD = 1.54$ ) for male

nurses (Sabin et al., 2015). It is noted these results reflect a stronger implicit attitude, favoring heterosexuals, compared to the nursing students and the general public.

While these results are cause for concern, it must be noted data were collected between May 2006 and December 2012, and the data were not aggregated by year.

Further analysis of the data from the study by Xu et al. (2019), indicate an improvement of implicit sexual attitude among the general public, with mean D-scores consistently decreasing since 2010. This would support the conclusion that the difference in D-scores between nurses in the Sabin et al. (2015) study and nursing students in the present study are due to the difference in the timing of data collection, and this trend follows the improving implicit sexual attitude of the general public.

While D-scores of nursing students indicate improved implicit sexual attitude, compared to nurses, they remain more negative than the general public. This interpretation is supported by the 2018 mean D-score of the general public, which was 0.15 (Xu et al., 2019), compared to the nursing students mean D-score of 0.22. This raises concern as there is evidence that implicit attitude has a significant role in our thoughts and behaviors toward sexual minorities (Anselmi et al., 2013; Anselmi et al., 2015; Banaji & Greenwald, 2016; Byrd, 2018; Graham, 2012; Penzias, 2016; Sirota, 2013; Waldrop, 2016).

These findings support the following research assumptions, presented in Chapter I:

- A1. Quantitative methodology is appropriate for this study.
- A3. Implicit sexual attitude exists in baccalaureate nursing students and can be measured using the IAT.

- A5. Implicit sexual attitude of nursing students favors heterosexuals compared to lesbian women and gay men.
- A9. Implicit sexual attitude has an important role in providing culturally responsive care to sexual minorities.
- A11. Participants will be able to follow the provided instructions and make a genuine attempt to complete the IAT, ATLG, and related data.

These findings, of the implicit sexual attitude among nursing students, are a first step to address the need for greater understanding of the presence of this attitude among nurses as a means of reducing or eliminating the disparities experienced by sexual minorities (Dinkel et al., 2007; Fisher et al., 2016; Gonzalez et al., 2014; Isacco et al., 2012; Lim & Hsu, 2016; Matharu et al., 2012; Pinto & Nogueira, 2016; Sabin et al., 2015; Waldrop, 2016). The implications of these findings and related recommendations are discussed in a later section.

### **Research Question Q2**

The second research question explored the explicit sexual attitude of nursing students and if this attitude favored heterosexuals or lesbian women and gay men. To address this question, participants completed the 10-question ATLG scale (Greene & Herek, 1994; Herek, 1988; Herek & Mclemore, 2011). The ATLG is a measurement of homophobia (Herek, 1988). Using a 5-point Likert scale, responses could range from 10 (extremely positive) to 50 (extremely negative) regarding attitude toward lesbian women and gay men. A neither agree nor disagree response was included in the analysis. A total of 1,324 nursing students completed the ATLG. The ATLG was found to have good reliability ( $\alpha = 0.89$ ) with this study sample. The ATLG has been found to have consistently good reliability ( $\alpha > 0.85$ ) with most college student

samples (Herek, 1988, 1994, 2016a; University of California, Davis, 2017). Good reliability ( $\alpha > 0.80$ ) of the ATLG was also reported in the reviewed studies with nursing student samples (Bilgic et al., 2018; Rowniak, 2015; Steppe, 2013; Strong & Folse, 2014; Unlu et al., 2016).

The mean ATLG score of 17.52 ( $SD = 8.44$ ) was statistically significant and indicates nursing students, in this sample, have a low level of homophobia, interpreted as a moderately positive explicit attitude toward lesbian women and gay men. This finding contrasts with earlier studies measuring the explicit sexual attitude of homophobia among nursing students. These earlier studies reported moderate to high levels of homophobia among nursing students (Bilgic et al., 2018; Chapman et al., 2012; Eliason, 1998; Papadaki et al., 2015; Rowniak, 2015; Steppe, 2013; Strong & Folse, 2014; Unlu et al., 2016). It is noted the studies by Bilgic et al. (2018), Chapman et al. (2012), Papadaki et al. (2015), and Unlu et al. (2016) involved nursing students outside the United States. Only the study by Dinkel et al. (2007) reported low overall homophobia, interpreted as positive attitude, among nursing students. Dinkel et al. speculated this finding was due to social desirability response or higher levels of heterosexism.

The current finding, of low levels of homophobia, also contrasts with the findings in studies of the more subtle, explicit attitudes of heterosexism and heteronormativity. The presence of heterosexism has been demonstrated among nursing students (Carabez et al., 2015; Tillman et al., 2016). Heteronormativity has also been demonstrated among nursing students (Cornelius & Carrick, 2015; Cornelius & Whitaker-Brown, 2015; McEwing, 2017). Implications and

recommendations, regarding the persistence of homophobia and presence of related negative explicit attitudes, among nursing students, are discussed later.

The following research assumptions are supported by these findings:

- A1. Quantitative methodology is appropriate for this study.
- A4. Explicit sexual attitude exists in baccalaureate nursing students and can be measured using the ATLG.
- A6. Explicit sexual attitude of nursing students is generally positive toward lesbian women and gay men.
- A11. Participants will be able to follow the provided instructions and make a genuine attempt to complete the IAT, ATLG, and related data.

### **Research Question Q3**

Certain demographic characteristics have been identified as predictors of implicit (Greenwald, Banaji, & Nosek, 2015; Greenwald et al., 1998; Greenwald et al., 2009;) and explicit (Herek, 1988; Herek & Mclemore, 2011) sexual attitude. The third research question examined the relationship of relevant demographic variables ( $n = 24$ ) as predictors of implicit and explicit sexual attitude among nursing students. The findings of the multiple linear regression models, for the predictor variables, were statistically significant for both implicit and explicit attitude, at  $p < 0.001$ . These variables explained 20% and 22% of the implicit and explicit variance, respectively. As only seven variables were found to be significant predictors of implicit attitude, a second regression was performed with only these variables. This second model was again statistically significant and explained 19% of the implicit attitude variance.

Among the predictor variables, the categories of gender, self-identified sexuality, religiosity, and type of nursing program were found to contain significant

characteristics that contribute to more negative implicit and explicit attitude toward lesbian women and homosexual men. Negative predictor variables, for implicit and explicit sexual attitude, were identified as male, heterosexual, somewhat or very religious, or enrolled in a registered nurse (RN) to bachelor of science in nursing (BSN) nursing program. The characteristic of other sexuality was also found to negatively contribute to implicit attitude. Asian or Pacific Islander, Latin, or White ethnicities were identified as demographic variables that contribute to more positive explicit attitude. Age, year in nursing program, geographic region, program location, and survey setting were not found to be significant predictors of implicit or explicit sexual attitude.

To more fully interpret these findings, the regression models for implicit and explicit attitude (see Tables 10 and 11) indicate the reference variable within each of the demographic characteristics. Negative predictors are identified as those that would result in an increase in IAT or ATLG score, thus a more negative attitude, compared to the reference variable. More specifically, increases in the IAT score indicate an increased automatic preference for heterosexuality and good, versus, lesbian women/gay men and good, which is interpreted as negative. For example, based on the current sample, these results suggest identifying as heterosexual or other sexuality would result, in a 0.62 or 0.30, respectively, unit increase in IAT score, compared to those who identify as gay. Identifying as lesbian or transgender did not significantly predict implicit attitude. The lack of significance for transgender should be interpreted cautiously as only four participants (0.30%), in the current sample, self-identified in this category.

As discussed, implicit sexual attitude, among nursing students, has not previously been explored. However, the current findings suggest there are similar demographic characteristics that predict implicit sexual attitude, and the negative explicit attitude of homophobia. However, the current analysis of these characteristics did not evaluate if a correlation exists, therefore, no conclusion is drawn.

The significant predictors of implicit and explicit attitude, in the current study, are congruent with prior research which identified gender, self-identified sexuality, and religiosity as predictors of implicit (Banaji & Greenwald, 2016; Breen & Karpinski, 2013; Kimbrel, 2018) and explicit (Carabez et al., 2015; Cornelius & Whitaker-Brown, 2015; Della Pelle et al., 2018) attitude. Enrollment in a RN-BSN nursing program was also found, in the present study, to predict implicit and explicit attitude. These participants were already members of the profession, compared to participants enrolled in generic or accelerated programs. Length of time in the profession has been identified as a predictor of implicit (von Hippel et al., 2008) and explicit (Sirota, 2013) attitude among nurses.

In the present study, several demographic variables were found to not predict implicit or explicit attitude. Age was not a significant predictor of implicit or explicit attitude. This finding is congruent with prior research which found age did not predict implicit (Fitzsimmons, 2009) or explicit (Hoyer, 2013) attitude. This contrasts with studies that found age was a significant predictor of implicit (Kimbrel, 2018; Yozzo, 2017) and explicit (Blackwell, 2008) attitude. The demographic characteristic of the year (first, second, third, and fourth) enrolled in a nursing program was also not a significant predictor of implicit or explicit attitude. This finding was not congruent with prior research finding year of enrollment as a significant predictor of implicit and

explicit attitude (Hahn, 2012). Prior research has reported higher levels of homophobia (Papadaki et al., 2015), heterosexism (MacDonnell, 2009), and heteronormativity (Pinto & Nogueira, 2016) among students from rural areas compared to their urban counterparts. These findings were not supported in the current study. Participants' location in an urban or rural setting was not a significant predictor of implicit or explicit attitude. There is evidence that indicates completing the IAT in a private versus public setting influences D-scores (Boysen et al., 2006). Lower scores, indicating more positive attitude, were reported for participants completing the IAT in a private setting, compared to a public setting (Boysen et al., 2006). This result was not supported in the current research, which found a public or private setting was not a significant predictor of implicit or explicit attitude.

The following research assumptions are supported by these findings:

- A1. Quantitative methodology is appropriate for this study.
- A7. Implicit and explicit sexual attitude of nursing students is associated with certain demographic criteria (e.g., age, level of education, gender, self-identified sexual identity).

#### **Research Question Q4**

The fourth research question asked if a disassociation exists between the implicit and explicit sexual attitude of United States nursing students and if this dissociation was statistically significant. To address this question, the explicit scores, as measured by the ATLG, had to be standardized to a -1, 1 range with 0 in the middle (Greenwald et al., 2003) to allow comparison with the IAT scores. This resulted in a standardized mean ATLG score of -0.60, which was statistically significant at  $p < 0.001$ . Further analysis found the IAT score (0.22) was higher than the standardized

ATLG score and this difference was statistically significant at  $p < 0.001$ . This finding is consistent with prior research that has compared implicit and explicit measures of attitude (Baron & Banaji, 2006; Felmban, 2015; Fitzsimmons, 2009; Gonzalez et al., 2014; Hahn, 2012; von Hippel et al., 2008; Zogmaister, Roccato, & Borra, 2013).

This result is interpreted to indicate that, in the current sample, a disassociation exists between implicit and explicit attitude. Further, the implicit sexual attitude of nursing students, in the current sample, associates the concepts of heterosexual and good more strongly than the concepts of lesbian/gay and good. This implicit association is significantly different than the explicit sexual attitude of this sample, which indicated a moderately positive attitude toward lesbian women and gay men. The implications of these finding and related recommendations are discussed below.

These findings support the following research assumptions:

- A1. Quantitative methodology is appropriate for this study
- A8. Disassociation exists between an individual's implicit and explicit attitude toward lesbian women and gay men.

### **Research Question Q5**

The final research question asked if a correlation exists between implicit IAT and explicit ATLG scores. A Pearson correlation analysis was conducted. The results of this analysis indicated a moderately positive correlation exists between the scores. This finding suggests that higher levels of homophobia correlate with an attitude that favors heterosexuals compared to lesbian women or gay men. Prior studies have reported mixed correlation results between the IAT and explicit measures. The studies by Breen and Karpinski (2013), von Hippel et al. (2008), Boysen et al. (2006), Yozzo (2017), Nash et al. (2014), Fitzsimmons (2009), and Kimbrel (2018) found no

correlation between the IAT and explicit measures. The IAT implicit and various explicit attitude measures were correlated in the studies by Graham (2012), Sabin et al. (2015), and Gonzalez et al. (2014). The study by Sabin et al. (2015) is the only study, to date, which has explored implicit sexual attitude among nurses. The correlation results of this study are consistent with the findings reported by Sabin et al. (2015).

These findings support the following research assumptions:

- A1. Quantitative methodology is appropriate for this study
- A9. There is a correlation between an individual's implicit and explicit sexual attitude.

### **Implications**

This section begins with a discussion of the theoretical implications of the findings in this study. Within the context of the theoretical framework, these results are evaluated through the lens of critical cosmopolitanism. Within this theoretical context, implications for nursing education are also drawn from the results. This section is followed by a discussion of the strengths and weaknesses identified with carrying out the current research.

#### **Theoretical Implications**

A transformative worldview (Creswell, 2014) and constructivist epistemology (Creswell, 2014; Crotty, 1998) provided the theoretical foundation for this study. Critical cosmopolitanism (Delanty, 2006, 2009) and dual attitude theory (Wilson et al., 2000) provided the theoretical framework. The dual nature of attitude supported exploring both implicit and explicit sexual attitude in the current study. This duality is consistent with the cosmopolitan duality of self and other. Within this theoretical

context, the cosmopolitan themes of boundaries, reflectiveness, conflict, openness, and identity are relevant to the findings in this study.

Critical cosmopolitanism, compared to traditional forms of the concept, has a social, rather than political, focus (Delanty, 2006, 2009). This focus is both critical and dialogic, the goal being change through self-transformation (Delanty, 2006, 2009). Fundamental to self-transformation is education through self-knowledge and reflection (Delanty, 2009; Wahlström, 2015). The goal of this study was to provide new knowledge of implicit and explicit attitudes held by nursing students toward sexual minorities. The current findings indicate improvement of these attitudes, compared to earlier studies, yet the level of negative attitudes, implicit and explicit, remains a concern. Nursing had advocated not only for the reduction of negative bias, but its elimination as an important and necessary step to eliminating the disparities experienced by those who do not identify as heterosexual (American Nurses Association, 2015; Dinkel et al., 2007; Dorsen, 2012, 2014; Dreachslin et al., 2012).

Recognizing the challenges of eliminating negative attitudes toward sexual minorities, an approach that is open and reflective, recognizing identity and boundary while acknowledging conflict, is proposed. Such an approach is consistent with the goals of nursing and the theoretical framework of critical cosmopolitanism. This approach begins by being open to acknowledging negative attitudes, toward sexual minorities, persist among nursing students. This acknowledgment is reflective and considers the implications of this reality regarding the care provided to this vulnerable population, while honoring the identity and respecting the boundaries of both those providing and receiving this care. Conflict is an essential element of this approach,

and while recognized, has not been an integral part of nursing frameworks to address these negative attitudes.

Conflict, within a cosmopolitan context, is recognized as a positive and necessary part of transformative change (Beck, 2003; Delanty, 2006). Conflict provides evidence that differences exist between self and other. These differences are rooted in personal, societal and institutional values, and norms and traditions (Beck, 2003; Beck & Sznajder, 2010). Within the present study, conflict arises from two sources: the research focus and findings. Topics that are more socially sensitive, such as attitudes toward sexual minorities, expose differences which are deeply rooted in personal and professional values and framed in societal and institutional norms and traditions (Beck, 2003; Delanty, 2006; Dreachslin et al., 2012). To achieve the transformative change advocated by this study, specifically improved culturally responsive care of sexual minorities, these differences must not only be recognized but valued as a necessary part of the knowledge required to realize this change. The second source of conflict, in this study, comes from the finding that while negative attitudes persist among nursing students, the implicit sexual attitude of nursing students is significantly more negative than their explicit attitude.

The theoretical implications of critical cosmopolitanism, relative to the findings of this study, have been identified. Acknowledging the negative attitudes, particularly implicit attitudes, among nursing students, is suggested as an essential first step to eliminating the disparities experienced by sexual minorities. Nursing recognizes the elimination of these disparities is needed to improve the culturally responsive care provided to this vulnerable population. Within this context, the implications for nursing education are discussed next.

These theoretical implications support the following research assumption:

- A2. Critical cosmopolitanism is a relevant theoretical framework to guide research of implicit sexual attitude in baccalaureate nursing students.

### **Implications for Nursing Education**

Nursing educators recognize the need to provide a curriculum that gives students the knowledge and skills necessary to provide culturally responsive care to individuals from diverse cultural, ethnic, and socioeconomic backgrounds (American Nurses Association, 2015; International Council of Nurses, 2009). Yet, related to sexual minorities, evidence suggests this goal is not being fully realized (Bristol et al., 2019; Ungstad, 2016). Findings of this study provide further evidence that more needs to be done to achieve this goal.

Based on existing literature and research, attitude is identified as an important contributor to providing culturally responsive care (Dinkel et al., 2007; Dorsen, 2014; Papadaki et al., 2015; Tubbs-Cooley, Perry, & Keim-Malpass, 2020). Within the context of this study, attitude has been identified as having a direct impact on the care provided to sexual minorities (Cornelius & Whitaker-Brown, 2015; Rounds et al., 2013; Tillman et al., 2016). While evidence demonstrates the more overt explicit attitudes of homophobia and homonegativity have decreased, among nursing students, the more subtle explicit attitudes of heterosexism and heteronormativity persist (Cornelius & Whitaker-Brown, 2015; McEwing, 2017; Pinto & Nogueira, 2016). There is growing interest, within the nursing literature, regarding attitudes of which we may not be aware but influence the care we provide (Alexander, 2018; Radix & Maingi, 2018; Stewart & O'Reilly, 2017), these automatic or implicit attitudes

represent an even more subtle form of bias. Research of the implicit attitude of nurses in clinical practice, nursing faculty and nursing students, toward racial minorities, the elderly, and disabled have revealed generally negative attitudes (Aaberg, 2012; Fitzsimmons, 2009; Kimbrel, 2018; Nash et al., 2014; Yozzo, 2017). These previous implicit results are mirrored in the current study, which indicates nursing students have a moderately negative implicit attitude, favoring heterosexuals over lesbian women and gay men.

This study provides knowledge of the explicit attitude and first-time knowledge of the implicit attitude of United States baccalaureate nursing students, toward sexual minorities. This study found a persistence of homophobia and moderately negative implicit attitude among the study sample. These findings make clear change in the current learning environment of nursing students is needed. Modifications in the didactic and clinical experiences, as well as academic culture, are required to eliminate homophobia and achieve a more neutral implicit attitude. The responsibility for these modifications is shared by academic leadership, faculty, and students. Recommendations for nursing education and further research will follow the discussion of strengths and weaknesses identified in carrying out this study.

These implications for nursing education support the following research assumptions:

- A10. Implicit sexual attitude has an important role in providing culturally responsive care to sexual minorities.
- A11. Knowledge of implicit sexual attitude will enhance the education of baccalaureate nursing students leading to an improvement of the care they provide to sexual minorities.

### **Strengths and Weaknesses of the Study**

In carrying out this study, certain strengths and weaknesses were identified. These strengths and weaknesses are discussed related to the study sample, instruments used to measure implicit and explicit attitude, and related findings. Recommendations for practice and future research follow this discussion.

#### **Study Sample**

While the power of the sample, in this study, was sufficient, the use of convenience sampling limits generalizing to the larger student nursing population. The sample was drawn from baccalaureate nursing students in the United States, excluding students from other countries or those enrolled in associate, diploma, and graduate programs. This also limits generalizing the findings. There was good geographic distribution of the sample, across the United States; however, the majority ( $n = 65.5\%$ ) of participants were from urban areas. This could have influenced the results as individuals from rural areas have generally demonstrated having more negative attitudes toward sexual minorities. Most participants completed the study at home or in another private setting. There is evidence indicating a public, versus private, setting can influence participant response and limited evidence this influence extends to implicit response. However, this was not found to be a significant predictor in this study.

The sample had adequate distribution across year of enrollment, with freshmen representing the largest percentage ( $n = 30.4\%$ ) across four-year nursing programs. However, the majority ( $n = 58.6\%$ ) of participants were enrolled in RN to BSN programs, indicating they were already engaged in nursing practice. The length of time a nurse is in practice has been shown to influence explicit and implicit attitude

and was not explored in the current study. Consistent with current nursing program demographics, most participants were White ( $n = 73.4\%$ ) and female ( $n = 86.4\%$ ), with males ( $n = 10.5\%$ ) and racial minorities ( $n = 24.0\%$ ) making up the remainder of the sample. However, the average age of participants ( $n = 27.6$  years), was higher than anticipated and may reflect the high percentage of participants enrolled in RN to BSN programs. Most participants ( $n = 79.1\%$ ) indicated they were either not at all or only somewhat religious. Research indicates persons who identify as holding stronger religious beliefs tend to also hold more negative attitudes toward sexual minorities.

The current sample overwhelmingly identified as heterosexual ( $n = 77.5\%$ ). As previously discussed, current estimates of the United States population identifying as a sexual minority range from 3.5% to 5.5%. It is notable, in the current sample, that the percentage of participants identifying as gay ( $n = 3.9\%$ ) or lesbian ( $n = 3.3\%$ ) was on the low end of this estimated national average. However, a large percentage of participants ( $n = 12.4\%$ ) identified as other sexual identity, well above the national estimated average of sexual minorities among the United States population. Evidence suggests persons identifying as heterosexual hold moderately negative explicit attitudes toward sexual minorities, while implicit attitudes tend to be mixed with a stronger preference of heterosexuals. The findings from the current sample align with this prior evidence.

### **Instrumentation**

The IAT was an appropriate instrument for the measurement of implicit sexual attitude in the current study. However, the sexuality IAT has not been previously used with nursing students. While the IAT demonstrated acceptable reliability, with the current sample, the lack of prior studies, within this population, does not allow for

comparison. It is noted that the stability and internal consistency of the IAT remain contested among scholars in the psychological and philosophical domains. This ongoing discussion has implications for future research with this instrument.

The ATLG was appropriate to measure the explicit sexual attitude in this study. The ATLG demonstrated good reliability in the study sample and was consistent with prior samples of nursing and other college students. This instrument has also demonstrated robust stability and internal consistency. The ATLG is a self-report instrument, which increased the risk of social-desirability response bias. While the ATLG has frequently been used in samples with mixed sexual identity, it was developed to measure homophobia among heterosexuals (Herek, 1988). This may have influenced the current findings, which included sexual minorities as participants.

The demographic questionnaire provided the predictor variables, identified in the literature, as relevant to implicit and explicit sexual attitude. These variables were found to be significant, explaining 19% of implicit variance and 22% of explicit variance. These findings supported the use of the questionnaire in the present study. Consistent with prior research, the predictor variables of gender, self-identified sexuality, religiosity, and type of nursing program were identified, within the current sample, to be significant predictors of more negative implicit and explicit sexual attitude.

Having summarized the findings of this study and their implications related to critical cosmopolitanism and nursing education, the strengths and weaknesses of this study have been identified. Within this context, recommendations will now be presented. Recommendations for nursing education will be followed by recommendations for future research.

## **Recommendations for Nursing Education**

### **Academic Leadership**

The directors and members of academic leadership in nursing programs recognize the importance of creating learning environments that foster an inclusive setting, in which individual identity is not only recognized but valued. This process should begin with leadership reflecting on their own attitudes toward sexual minorities (Crisp, 2002; Dreachslin et al., 2012; Weinberg, 2011). It is reasonable to conclude based on the findings of this study that a level of negative implicit and explicit attitude persists among academic leadership. Of concern in this study are attitudes we hold but are not aware of, yet contribute to our decisions and actions (Greenwald et al., 2015; Madva & Brownstein, 2018; Sukhera et al., 2019). Acknowledging the attitudes one holds toward sexual minorities is a first step to reducing bias toward this vulnerable population (Dreachslin et al., 2012; Sirota, 2013; Smith, 2012).

Academic leaders have a responsibility for the institutional culture of their programs (Roxas, Cho, Rios, Jaime, & Becker, 2015). It is recommended program policies and procedures be reviewed for content and inclusiveness. Recognizing sexual minorities are represented across all races, ethnicities, and genders, it is important formal policy and procedure promote a culture that not only recognizes but values difference among students, faculty and staff.

Curriculums provide the framework of the learning experience and support the goals and outcomes of an academic program. A recommended next step is for academic leadership to review their curriculums to identify the amount of sexual minority content (Bonvicini, 2017; Lim et al., 2015; Obedin-Maliver et al., 2011). This should also include the topic of implicit attitude. In recent studies, an overall

lack of sexual minority content was found in the curriculums of professional nursing programs (McEwing, 2017; Ungstad, 2016).

### **Faculty**

Faculty share, with academic leadership, the responsibility for creating a learning environment in the classroom and clinical setting that is open, values the individual, and respects boundaries between self and other. Within the current context, this must begin with faculty recognizing and acknowledging their own attitudes toward sexual minorities (Aaberg, 2012; Clarke, 2014; Fitzsimmons, 2009; Hoyer, 2013). Further, faculty should reflect on the implications their attitude has on their interaction with students and their approach to teaching, especially related to sensitive topics, such as sexual minorities (Bonvicini, 2017; Leonard, 2006; Sirota, 2013).

Nursing faculty must also be aware of the conflict that can arise in their students because of the dissonance, supported in this study, between implicit and explicit sexual attitude. It is recommended faculty develop an approach that is open, respectful, and supportive to allow students to explore this dissonance. Recognizing dialogue is essential to the transformative change (Delanty, 2006; Delanty & Turner, 2012), faculty should promote open discussion of attitudes toward sexual minorities. Through dialogue that values individual differences, nursing faculty can support students in understanding how their attitudes, especially implicit attitudes, can influence the care they provide sexual minorities.

In the classroom and clinical setting, nursing faculty should create learning experiences that break the silence in nursing about sexual minority issues and social justice (Carabez et al., 2015; Eliason et al., 2010). These experiences should allow

students to openly ask questions and challenge existing approaches regarding the care provided to sexual minorities (Carabez et al., 2015; Tillman et al., 2016). Allowing students to question and challenge can provide faculty with greater insight that can be incorporated to improve students' understanding of their attitudes and how these may influence their approach toward sexual minorities.

### **Students**

Nursing students report feeling generally unprepared to provide culturally responsive care to sexual minorities (Carabez et al., 2015; Maruca et al., 2018; McEwing, 2017; Rowniak, 2015; Tillman et al., 2016). Knowledge of implicit and explicit sexual attitude is a required first step to improving students' readiness to provide care to this vulnerable population. Students should be encouraged to reflect on this knowledge and how it may influence their thoughts and behaviors toward sexual minorities. Academic leadership and faculty should also encourage open dialogue, with and among students, as a way of promoting greater understanding of these attitudes, with a goal to improve care provided to sexual minorities.

Academic leadership and nursing faculty should foster the shared role students have in creating an inclusive learning experience that values difference and recognizes conflict is a necessary part of transformative change. This study was the first to explore the implicit sexual attitude among nursing students. This knowledge is important to improve the learning experiences of students and their confidence in providing culturally responsive care to sexual minorities (Alexander, 2018; Dorsen, 2014; Fishbein & Ajzen, 1975; Fisher et al., 2016; Hoyer, 2013; Papadaki et al., 2015; Penzias, 2016; Sabin et al., 2015; Tillman et al., 2016). Having discussed the

recommendations for nursing education, recommendations for future research will now be presented.

### **Recommendations for Future Research**

The strengths and weaknesses identified in the current study, along with existing research of attitudes toward sexual minorities, guide the recommendations for future research. These recommendations are presented within the theoretical framework of critical cosmopolitanism. Within a critical cosmopolitan framework, these recommendations seek to advance knowledge of the attitudes of nurses toward sexual minorities. The goal is to advance transformative change that improves the care we provide this vulnerable population.

This study was the first to explore implicit sexual attitude among nursing students. The sample was limited to baccalaureate students in the United States. To advance the body of knowledge, concerning implicit sexual attitude, it is recommended researchers include samples from graduate nursing students and students enrolled in other pre-licensure programs, such as associate and diploma programs. This knowledge has the potential to allow for comparison across different student populations, as well as within these populations.

As discussed, knowledge of the implicit sexual attitude one has is an essential first step to improving the care of sexual minorities. Therefore, it is recommended that future studies explore this attitude among academic leadership and faculty in nursing programs. This knowledge is needed for meaningful dialogue and reflection to identify and facilitate transformational change of formal policies, curriculum, and academic culture within nursing programs. The findings in this study indicate such

change is necessary to better prepare students to provide culturally responsive care to sexual minorities.

Future research of attitudes toward sexual minorities should continue to include measures of both implicit and explicit attitude. Implicit and explicit attitude are recognized as a dual attitude to a single object, with implicit being activated automatically and explicit requiring more motivation and capacity (Wilson et al., 2000). In this study, the ATLG scale was used to measure explicit sexual attitude. While the scale has demonstrated robust psychometric properties, it is limited to measuring homophobia. Future research should consider instruments that measure more subtle explicit attitudes, such as the heterosexism (Carabez et al., 2015; Gates, 2015; Ungstad, 2016), or heteronormativity (Cornelius & Carrick, 2015; McEwing, 2017; Pinto & Nogueira, 2016).

The IAT was used to measure implicit attitude in the present study. The IAT has been used to explore attitudes (Nash et al., 2014; Sabin et al., 2015; Yozzo, 2017) or as a measure of attitude change in interventional studies (FitzGerald, Martin, Berner, & Hurst, 2019; Kimbrel, 2018; Sukhera et al., 2019) among nurses and related health professions. Use of the IAT as a measure of implicit sexual attitude is recommended and supported by the current findings. However, caution must be exercised when using the IAT to measure change in implicit attitude (FitzGerald et al., 2019; Kimbrel, 2018). This recommendation is due to the issues of stability of the IAT over time (Greenwald, 2004; Greenwald, Nosek, Banaji, & Klauer, 2005) and the complex nature of implicit attitude (Banaji & Greenwald, 2016; Sukhera et al., 2019), which is more resistant change, compared to explicit attitude (Banaji & Greenwald, 2016; Dreachslin et al., 2012; Wilson et al., 2000). The IAT is appropriate as part of a

larger, interconnected set of components related to recognizing and managing implicit sexual attitude (Dreachslin et al., 2012; Sukhera et al., 2019).

The results of the present study supported the research assumption of dissociation between implicit and explicit attitude. Given that this study was the first to explore implicit sexual attitude among nursing students and the scarcity of sexual minority content in nursing curriculums, individual results of the IAT and ATLG were not provided to participants. It is recommended students be introduced to the concepts of implicit and explicit attitude prior to measurement if individual feedback is to be provided (Banaji & Greenwald, 2016; Greenwald, 2004; Sukhera et al., 2019), to assist with understanding and interpreting the results (Banaji & Greenwald, 2016; Greenwald, 2004; Sukhera et al., 2019). With such an approach, it would be useful to obtain qualitative data from participants to more fully understand their thoughts about the IAT as an implicit measure of attitude and interpretation of their implicit and explicit results.

### **Conclusion**

This exploratory study advanced the knowledge of the presence of implicit and explicit sexual attitude among United States baccalaureate nursing students. The findings indicated homophobia persists as an explicit attitude in the current sample. Implicit attitude was found to bias heterosexuals over lesbian women and gay men. The level of implicit sexual attitude, in this sample, was identified as more negative, favoring heterosexuals, compared to the general public. The theoretical and practical implications of these findings, for nursing education, were discussed. The strengths and weaknesses, in carrying out this study, were identified. Recommendations for nursing academic leadership, faculty, and students were presented. Within the context

of the present findings and implications, recommendations for future research to further advance the knowledge of implicit and explicit sexual attitude, in nursing education, were also presented.

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APPENDIX A  
INSTITUTIONAL REVIEW BOARD APPROVAL



DATE: March 15, 2019

TO: Michael Murphy

FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1401902-1] Implicit and Explicit Sexual Attitude Among US  
Baccalaureate Nursing Students

SUBMISSION TYPE: New Project

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS

DECISION DATE: March 15, 2019

EXPIRATION DATE: March 15, 2023

Thank you for your submission of New Project materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

*Thank you for a clear and thorough IRB application for a relevant and interesting study. Your materials and protocols are verified/approved exempt and you may begin participant recruitment and data collection.*

*Best wishes with your research.*

*Sincerely,*

*Dr. Megan Stellino,  
UNC IRB Co-Chair*

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or [nicole.morse@unco.edu](mailto:nicole.morse@unco.edu). Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX B  
PROJECT IMPLICIT CONTRACT

**Project Implicit, Inc.  
Custom Test Agreement**

This agreement (the "Agreement") is entered into as of April 1, 2019 by and among Project Implicit, Inc., a Massachusetts nonprofit corporation with a business address of 444 NE Ravenna Blvd. 400, Seattle, WA, 98115 ("Project Implicit"), and Michael Murphy ("Client"), in relation to research conducted by Michael Murphy ("Researcher").

Background

Project Implicit has been founded by the creators of a web-based interface for developing, administering and managing web-based study protocols.

The Researcher has requested that Project Implicit build and host custom measures for the Researcher for use in research.

**1. The Tests**

A. Confirmation

Based on information provided by the Researcher, and subject to the terms of this Agreement, Project Implicit will create a web study following specifications provided by the Researcher. (see Exhibit A). Project Implicit will permit mutually agreed upon personnel selected by the Researcher to access the Tests via a web site hosted by Project Implicit (the "Testing Site") solely for the purpose of confirming that the Tests are consistent with the Researcher's research goals.

B. Participant Access

Subject to the terms of this Agreement, after the Researcher has confirmed to its reasonable satisfaction that contents of the web study are consistent with Researcher's research goals, Project Implicit will create a link on the production server "implicit.harvard.edu" for study participants (recruited by the Researcher) for a suitable duration (see Exhibit A). Renewal of contract terms to extend this period can occur with a renegotiated agreement that is approved by Project Implicit and the Researchers.

**2. The Data**

Project Implicit will provide the Researcher access to the data recorded as the result of participant responses provided at the Testing Site ("The Data") using a password protected web account. Data will be in a tab-delimited text format. Data may contain information that will enable the Researcher to identify the participants, and as such, it is the responsibility of the Researcher to protect this information in a manner prescribed by Federal law and Institutional Review Board regulations. The Researcher may use these Data for whatever purposes it desires.

### 3. Consulting Services

Upon request by the Researcher from time to time and subject to Project Implicit's other commitments and priorities, Project Implicit may agree to provide the Researcher with consulting services in connection with the Project Implicit Technology or data analysis.

### 4. Compensation

Please see Exhibit B.

### 5. Confidentiality

#### A. Confidential Information and Materials.

In connection with the matters described in the Agreement, each party (the "Disclosing Party") may share certain confidential information and materials (the "Confidential Information") with the other party (the "Recipient"). For purposes of the Agreement, the Confidential Information of Project Implicit shall include, but not be limited to, any technical information regarding the Tests or Testing Site, and any pricing information provided by Project Implicit or contained herein.

#### B. Restrictions on Use and Reproduction.

Recipient agrees to keep confidential any Confidential Information, and further agrees that it will not, without the Disclosing Party's prior written permission, (a) use any Confidential Information for any purpose other than performance under the Agreement, or (b) reproduce any Confidential Information. These obligations shall apply regardless of whether any of the information shall have been furnished orally or in writing or gathered by inspection and regardless of whether the information has been specifically identified as "confidential."

#### C. Disclosure to Representatives.

Recipient may disclose any Confidential Information to any Representatives who need to know such information for the purpose of evaluating or implementing the Agreement. ("Representatives" means any of Recipient's directors, officers, partners, employees, agents, representatives, including, without limitation, financial advisors, counsel, persons contemplating providing financing for any transaction, accountants, experts, and consultants.) Prior to disclosing any of the Confidential Information to any Representative, however, Recipient shall inform the Representative of the confidential nature of such information and undertake reasonable efforts to cause the Representative to treat such information on a confidential basis. Recipient shall be responsible for the breach of the Agreement by its Representatives, and shall take all reasonable measures, including but not limited to court proceedings, to restrain its Representatives from unauthorized disclosure of any of the Confidential Information.

D. Exceptions.

Notwithstanding the foregoing, Recipient shall have no obligation with respect to any portion of such Confidential Information which:

(a) is or shall have been known to Recipient before planning of this project commenced, as evidenced by dated writings;

(b) is disclosed to Recipient in good faith without restriction on further disclosure by a third party who has a right to make such disclosure; or

(c) is or shall have become generally known to the industry through no fault of Recipient.

E. Return of Confidential Information.

Upon the Disclosing Party's request, Recipient shall promptly deliver to the Disclosing Party all written Confidential Information and any other written materials to the extent they contain or reflect any Confidential Information, and Recipient will not retain any copies, extracts or other reproductions in whole or in part of such written materials. Upon the Disclosing Party's request, all documents, memoranda, notes, and other writings whatsoever prepared by Recipient or Recipient's Representatives including any of the Confidential Information shall be destroyed to the extent that they include any of the Confidential Information, and such destruction shall be certified in writing to the Disclosing Party by an authorized officer supervising such destruction.

**6. Miscellaneous**

A. Ownership of Intellectual Property

Project Implicit shall retain the entire right, title and interest in and to any technology utilized on the Testing Site or in the Tests, whether developed prior to, during or after the Testing Period, including without limitation the Tests and, only because they are stored in a server from which they cannot be deleted, the Data themselves. The entire right and title in all inventions, discoveries, processes, methods, compositions, formulae, techniques, information and data, whether or not related to the Tests, the Testing Site, or any services performed hereunder, whether or not patentable, and any patent applications or patents based thereon, developed by Project Implicit in the performance of the activities contemplated by the Agreement, whether or not developed specifically for the Tests or the Testing Site or with input from the Researcher or other Client's employees or agents, shall be owned by Project Implicit. Project Implicit retains ownership of the Data stored in its server only for the purpose of providing contracted service in association with this project. Project Implicit will handle the data confidentially and will not distribute the data to anyone other than the Researcher. The Researcher retains all rights of publication and dissemination of the collected Data for educational and research purposes including journal articles, dissertations, and related media. The Researcher has no reporting responsibilities to Project Implicit regarding educational and research use of the Data. The entire

right and title in all discoveries developed by the Researcher from the Data shall be owned by the Researcher.

B Disclaimer of Warranty; Limitation of Liability

THE SERVICES AND TECHNOLOGIES PROVIDED BY PROJECT IMPLICIT HEREUNDER (INCLUDING WITHOUT LIMITATION THE TESTING SITE, THE TESTS, AND ANY DATA PROVIDED HEREUNDER) ARE PROVIDED "AS IS" AND PROJECT IMPLICIT DOES NOT PROVIDE ANY WARRANTY WHATSOEVER WITH RESPECT TO THEIR PERFORMANCE, INCLUDING THEIR SAFETY, QUALITY, EFFECTIVENESS, COMMERCIAL VIABILITY OR MERCHANTABILITY. CLIENT ASSUMES ALL RESPONSIBILITY AND LIABILITY IN THIS REGARD. Project Implicit's liability, whether in contract, tort, or otherwise, arising out of or in connection with the Tests, the Data, or otherwise in connection with this Agreement shall not exceed the amounts actually paid to Project Implicit by Client hereunder.

C. Indemnification

Each party hereto (the "Indemnitor") hereby agrees to indemnify, defend and hold the other party (the "Indemnitee") and its officers, directors, employees and agents harmless from and against any and all losses, costs, expenses (including reasonable outside attorneys' fees), claims, suits and liabilities by third parties (collectively, "Claims") that Indemnitee may suffer or incur, that arise, result from, or relate in any way to (i) Indemnitor's infringement of any intellectual property or other rights of a third party; (ii) Indemnitor's violation of any laws or regulation of any governmental, regulatory or judicial authority arising from its performance of its obligations under this Agreement; or (iii) the actual or alleged gross negligence or willful misconduct of Indemnitor or its employees or other agents in connection with this Agreement. In addition, the Client agrees to indemnify, defend and hold Project Implicit and its officers, directors, employees and agents harmless from and against any and all Claims arising out of the Researcher's interactions with Participants or any use of their personal information by the Researcher.

D. Assignment

This agreement may not be assigned or delegated by either party, in whole or in part, without the prior written consent of the other party. This agreement shall be binding upon and inure to the benefit of each party and its successors and assigns.

E. Enforcement

This Agreement shall be governed by Massachusetts law and controlling United States federal law, without regard to the choice or conflicts of law provisions of any jurisdiction. Any disputes, actions, claims or causes of action arising out of or in connection with this Agreement shall be subject to, and the Client consents to, the exclusive jurisdiction of the state and federal courts located in Boston, Massachusetts.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

PROJECT IMPLICIT, INC.

By: K. Ratliff

Date: \_\_\_\_\_

Name: Kate Ratliff  
Title: Executive Director

Address: 945 Center Drive  
Department of Psychology  
University of Florida  
Gainesville, FL 32611

Phone: 352-273-2155

Email: [ratliff@ufl.edu](mailto:ratliff@ufl.edu)

SEND PAYMENTS TO:

Address: Project Implicit, Inc.  
ATTN: Barbara Petty  
Accman Inc.  
444 NE Ravenna Blvd, Suite 400  
Seattle, WA 98115

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CLIENT

By: Michael Murphy

Date: 3. 04. 19

Name: Michael Murphy  
Title: Doctoral Student

Address: 89 Bd Richard Lenoir  
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### **Exhibit A**

Project Implicit will develop and host a research study on the web. The participant sample comprises of adults. Services provided by Project Implicit include the following:

- Construction of a temporary environment for The Researcher to complete study testing and confirm that it operates as specified. It is the responsibility of the Researcher to detect errors or desired changes in the study implementation and inform Project Implicit in a timely manner to enable suitable corrections or amendments.
- Posting the study confirmed by The Researcher to the Project Implicit production environment for study administration – the production environment includes SSL security for data exchange, secure data storage on Project Implicit databases, and supervision by the technical staff at Harvard’s FASCS in case of hardware malfunction or failure.
- Study will be accessed by participants via the Internet who are directed to the site by the Researcher. Participants will complete the study using computers with keyboards.
- Password access to Project Implicit’s Virtual Laboratory for data retrieval. All data collected will be confidential and the property of your study group.
- Information for decoding variable names and values in the dataset
- Project Implicit will provide the Researcher with both the raw IAT data and survey data, as well as calculated IAT scores. Scored data will be sent once, at the conclusion of data collection. Participants will take the study materials once.
- Unlimited data collection and data storage for the studies specified below (up to 500 participants)
- Development, hosting, maintenance, and storage services for a period of 3 months.

The study incorporates:

- Login page: e.g., <https://implicit.harvard.edu/implicit/user/>
- 1 standard Sexuality IAT and Survey measures (up to 25 survey items)
- A debriefing page that provides participants with information about the study and/or their results (this page optional)
- Project Implicit will provide a brief, formal report on the main findings in the final data. This will consist of 6 hours from a Project Implicit consultant to provide the report by mid-April

The costs of personnel time, equipment operation, and materials required to complete the services specified in Exhibit A have been built into the fee specified in Exhibit B. Client can

Project Implicit Custom Test Agreement with Michael Murphy (1 April 2019)

expect that the work as specified in Exhibit A will be completed without further cost. Should Client request, after signing this contract, services that go beyond Exhibit A's specification, the cost of the added services will be estimated and explained, and the added work will be initiated once Client has accepted the estimate.

Additional consulting fees for tasks outlined in Exhibit A are rare. Additional time necessary to test novel components as they are originally defined will not warrant additional charges. Instances where additional hours may be necessary include cases where Researchers request substantial revisions to study content and/or design after materials have been programmed by Project Implicit developers.

## Exhibit B

### A. Discount

In invoicing, the amount of \$2000 will be discounted from total fees specified in the remainder of this Exhibit, in recognition of work reductions achieved by completing this agreement with minimal revisions and without need to integrate Client-proposed revisions or additions, or review and fill out time-consuming paperwork.

### B. Test and Site Maintenance Fee

In consideration for Project Implicit's services described in Exhibit A, the Client will pay Project Implicit a "Test and Site Maintenance Fee" of US\$6,900 (six thousand nine hundred dollars), excluding travel costs. With discount described in A. above, the total fee will be US\$4,900 (four thousand nine hundred dollars). This amount will be payable upon execution of this Agreement.

### C. Consulting Fees

In consideration for any consulting services provided by Project Implicit that goes beyond the work required for test and site development and delivery of the Data, the Client shall pay Project Implicit's standard hourly rates of \$350 per hour for time from a Principal Investigator, \$200/hour for a faculty or research scientist, \$150/hour for a post-doctoral associate or developer/technician, \$125/hour for a graduate student, or \$75/hour for a research assistant or administrative personnel. In the event that a mutually agreed upon Statement of Work provides for the provision of specific services for a lower rate than is otherwise provided for in this paragraph, then the terms of this agreement shall govern with respect to such services in a Contract Agreement Extension, to be signed by both parties, incorporating said Statement of Work.

### D. Payment Terms

All payments due to Project Implicit hereunder will be paid in United States dollars. The Client may not withhold any amounts due hereunder. Project Implicit reserves the right to (i) deny the Researcher and/or the Participants access to the Testing Site, (ii) discontinue the provision of any support or services hereunder, and/or (iii) assert appropriate liens, until all amounts due are paid in full. Project Implicit further reserves the right to charge the Client interest on any unpaid balance at the rate of one and one-half percent (1.5%) per month, or at the maximum rate permitted by law if such maximum rate is less than one and one-half percent (1.5%) per month. The Client agrees to pay any costs of collection (including reasonable legal fees) incurred in collecting any amounts due hereunder.

### E. Cancellation

In the event that the Client must cancel this agreement, Project Implicit will refund fees already received from Client *minus* fees for any work already completed by Project Implicit staff, which covers fee quotation, contract negotiation and administration (typically \$300 to \$2000), as well as

any portion of the test development, hosting, and data collection described in Exhibit A that has been completed prior to cancellation. Services performed before our invoice has been paid are still payable. A revised invoice for the completed work will be issued within 10 business days of notification of cancellation, pro-rated to reflect the percentage of services described in Exhibit A that have been completed. The revised invoice will be payable in 30 days and be subject to the provisions described in Exhibit B, paragraph D.

F. Taxes

In addition to any other amounts due hereunder, the Client shall pay all foreign, federal, state, municipal and other governmental excise, sales, use, property, customs, value added, gross receipts and other taxes, fees and duties of any nature now in force or enacted in the future that are assessed upon or with respect to any sums paid or owing or any rights, materials or services provided hereunder, or otherwise arising in connection with this Agreement, but excluding United States taxes based on Project Implicit's net income. If the Client is required by the law of any country to make any deduction, or withhold from any sum payable to Project Implicit by the Client hereunder, then the sum payable upon which the deduction or withholding is based shall be increased to the extent necessary to ensure that, after such deduction or withholding, Project Implicit receives and retains, free from liability for such deduction or withholding, a net amount equal to the amount Project Implicit would have received and retained in the absence of such required deduction or withholding.

APPENDIX C

INVITATION LETTER TO STUDENT NURSING  
ASSOCIATION PRESIDENTS



Dear S.N.A. President,

I am asking for your assistance to help recruit participants for my doctoral study.

My name is Michael Murphy, I am a doctoral candidate at the University of Northern Colorado. The focus of my study is baccalaureate nursing students' attitudes towards lesbians and gays. This online study should take about 20 minutes to complete. I have attached an invitation e-mail I would ask you share with your students.

Respectfully Yours,

Michael Murphy, MS, RN, RGN  
Doctoral Candidate  
University of Northern Colorado

APPENDIX D  
ATTITUDES TOWARD LESBIANS  
AND GAY MEN SCALE

**Revised Short Version #2  
(ATLG-R-S5)**

*ATTITUDES TOWARD GAY MEN (ATG-R-S5) SUBSCALE*

1. I think male homosexuals are disgusting.
2. Male homosexuality is a perversion.
3. Male homosexuality is a natural expression of sexuality in men. (Reverse-scored) \*
4. Sex between two men is just plain wrong. \*
5. Male homosexuality is merely a different kind of lifestyle that should not be condemned.

*ATTITUDES TOWARD LESBIANS (ATL-R-S5) SUBSCALE*

6. Lesbians just can't fit into our society. \*
7. State laws against private sexual behavior between consenting adult women should be abolished.
8. Female homosexuality is a sin.
9. Female homosexuality in itself is no problem unless society makes it a problem.  
(Reverses cored)
10. Lesbians are sick.  
(\*Reverse-scored)

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APPENDIX E  
DEMOGRAPHIC SURVEY

### **Demographic Survey**

1. Age: number, decline to answer
2. Self-identified gender: male, female, other, decline to answer
3. Self-identified race: African American, Asian/Pacific Islander, Native American/Native Alaskan, White, Latino/Hispanic, other, decline to answer
4. Self-identified sexuality: heterosexual, lesbian, gay, transgender, other, decline to answer
5. Religiosity: very religious, somewhat, not at all, decline to answer
6. Type of nursing program: Generic, accelerated, or RN-BSN, decline to answer
7. Year in nursing program: 1, 2, 3, 4, decline to answer
8. State where nursing program is located: State, decline to answer
9. Nursing program is in an urban or rural area? urban, rural, decline to answer
10. Where are you completing these surveys: home, work, school, other public setting, other private setting, decline to answer

APPENDIX F

INVITATION LETTER TO COMMISSION ON  
COLLEGIATE NURSING EDUCATION



Dear Chief Nursing Officer,

I am asking for your assistance to help recruit participants for my doctoral study. My name is Michael Murphy, I am a doctoral candidate at the University of Northern Colorado. The focus of my study is baccalaureate nursing students' attitudes towards lesbians and gays. This online study should take about 20 minutes to complete and has IRB approval. I have attached an invitation e-mail I would ask you share with your baccalaureate students.

Your contact information was obtained from the Commission on Collegiate Nursing Education (CCNE) website and other publicly available sources.

Thank you for any assistance you can offer.

Respectfully Yours,  
 Michael Murphy, MS, RN, RGN  
 Doctoral Candidate  
 University of Northern Colorado

=====Please share with your baccalaureate students=====

Dear Fellow Nursing Student,

My name is Michael Murphy, I am a doctoral candidate at the University of Northern Colorado. I am inviting you to participate in my dissertation study to understand attitudes toward lesbians and gays. Participation will take about 20 minutes and requires internet access. This study focuses on attitudes we know we have and attitudes we may not be aware of. This information is important as we strive to improve the care provided to this vulnerable population. I ask you to participate because you are a student in a baccalaureate nursing program.

I hope you will consider participating by following the link below.

Respectfully Yours,  
 Michael Murphy, MS, RN, RGN  
 Doctoral Candidate  
 University of Northern Colorado  
 Link to online study

APPENDIX G  
INSTITUTIONAL REVIEW BOARD APPROVAL  
FOR REVISION



DATE: September 12, 2019

TO: Michael Murphy

FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1401902-2] Implicit and Explicit Sexual Attitude Among US  
Baccalaureate Nursing Students

SUBMISSION TYPE: Amendment/Modification

ACTION: MODIFICATION APPROVED/VERIFICATION OF EXEMPT STATUS

DECISION DATE: September 12, 2019

EXPIRATION DATE: March 15, 2023

Thank you for your submission of Amendment/Modification materials for this project. The University of Northern Colorado (UNCO) IRB approves this project modification and verifies its continued status as EXEMPT according to federal IRB regulations.

*Approving request to expand recruitment population.*

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or [nicole.morse@unco.edu](mailto:nicole.morse@unco.edu). Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX H  
INFORMED CONSENT



## CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH UNIVERSITY OF NORTHERN COLORADO

**Project Title:** Implicit and Explicit Sexual Attitude Among US Baccalaureate Nursing Students

**Lead Investigator:** Michael Murphy, MS, RN, RGN, Department of Nursing  
Phone Number: 813-419-6003      E-mail: murp3546@bears.unco.edu

**Research Advisor:** Faye Hummel, PhD, RN, Department of Nursing  
Phone Number: 970-351-1697      E-mail: faye.hummel@unco.edu

### **Description of the Study:**

This study has a web-based survey that will ask you to make choices between different words and pictures. This survey focuses on attitudes we may not know we have. The key to this survey is to respond as quickly as possible. There are more instructions online. The second survey is brief, 10 questions, and focuses on attitudes we know we have. Finally, there is a demographic survey.

### **Privacy:**

Information you provide online will be encrypted during transmission. Stored data will be password protected on a computer with limited access. Your responses will be assigned a random number to protect your privacy. No individual responses will be reported. This study has IRB approval from the University of Northern Colorado.

### **Participation:**

Your participation is completely voluntary. If you decide to participate, you can stop at any time, just close your web browser. Your choice to participate, or not, will have no impact on your status at your school.

### **Risks and Benefits:**

The risk for your participation is expected to be the same as you would have in a typical online session, when visiting a familiar website. There is no compensation for participation. However, your participation will provide valuable information that can be used to improve the care we provide sexual minorities, through better knowledge and understanding, which can be applied in our nursing education programs.

**Consent:**

*Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled. Having read the above and having had an opportunity to ask any questions, please complete the questionnaire if you would like to participate in this research. **By clicking the link below, you give your permission to be included in this study as a participant.** You may keep this form for future reference. If you have any concerns about your selection or treatment as a research participant, please contact the Research Compliance Manager, Office of Research, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1910.*

Link to online study