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The Interpersonal Psychological Theory of Suicide: Suicidal Ideation and Behaviors of Lesbian, Gay, and Bisexual College Students and Their Heterosexual Peers

Rachel Ann Ploskonka
Purdue University

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THE INTERPERSONAL PSYCHOLOGICAL THEORY OF SUICIDE: SUICIDAL IDEATION AND BEHAVIORS OF LESBIAN, GAY, AND BISEXUAL COLLEGE STUDENTS AND THEIR HETEROSEXUAL PEERS

by

Rachel Ann Ploskonka

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STATEMENT OF DISSERTATION APPROVAL

Dr. Heather L. Servaty-Seib, Chair
  Department of Educational Studies
Dr. Ayse Ciftci
  Department of Educational Studies
Dr. Eric D. Deemer
  Department of Educational Studies
Dr. Susan L. Prieto-Welch
  Director, Purdue Counseling and Psychological Services

Approved by:
  Dr. Richard Olenchak
  Head of the Departmental Graduate Program
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ABSTRACT

Lesbian, gay, and bisexual (LGB) college students are among the most vulnerable to suicidal ideation and behaviors when compared to both heterosexual college students and other, generally older, members of the LGB community (Oswalt & Wyatt, 2011). Joiner’s (2005) interpersonal psychological theory of suicide seems to be a possible framework for conceptualizing suicidal ideation and behaviors for LGB college students. Joiner (2005) posited that perceived burdensomeness and thwarted belongingness are associated with suicidal ideation and that acquired capability is related to suicidal behaviors. With respect to thwarted belongingness, researchers have posited that LGB college students have four primary interpersonal connections, which are to their family, peers, academic institution, and sexual orientation community (Haas et al., 2011). In the present study, I examined whether or not LGB and heterosexual college students differed with respect to their reported levels of perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors. I also examined whether or not sexual orientation (i.e., LGB or heterosexual) moderated the relationships between: (a) perceived burdensomeness and suicidal ideation, (b) the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation
community) and suicidal ideation, and (c) acquired capability and suicidal behaviors. I collected online survey data from 268 undergraduate students (i.e., 100 LGB and 168 heterosexual) and analyzed the data using MANCOVA and invariance testing via a path model. The results suggested that LGB college students may experience higher levels of discrimination as compared to heterosexual participants. Additionally, the results suggested that LGB and heterosexual college students significantly differed with respect to their reported levels of perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), suicidal ideation, and suicidal behaviors. Specifically, LGB participants exhibited higher levels of perceived burdensomeness, sexual orientation community belongingness, suicidal ideation, and suicidal behaviors as compared to heterosexual participants. LGB participants exhibited lower levels of family belongingness, peer belongingness, and academic institution belongingness as compared to heterosexual participants. Additionally, the results indicated that the positive relationship between perceived burdensomeness and suicidal ideation was statistically significant for both LGB and heterosexual college students. However, there was no statistically significant difference in the relationship between perceived burdensomeness and suicidal ideation for LGB and heterosexual college students. The results also suggested that sexual orientation moderated the relationships between: (a) family belongingness and suicidal ideation and (b) peer belongingness and suicidal ideation. Specifically, the significant negative relationships between (a) family belongingness and suicidal ideation and (b) peer belongingness and suicidal ideation for LGB participants were not present for their heterosexual peers. The results of the present study have the potential to aid in the
development of LGB-specific therapeutic interventions, outreach efforts, educational and advocacy programs, and institutional trainings and policies.
CHAPTER 1: INTRODUCTION

Overview of the Problem

Lesbian, gay, and bisexual (LGB) individuals are at a heightened risk for suicide when compared to heterosexual individuals. Research findings indicate that LGB individuals are twice as likely to report suicidal ideation and are between two to seven times more likely to attempt suicide when compared to heterosexual individuals (Bostwick, Boyd, Hughes, & McCabe, 2010; Haas et al., 2011; King et al., 2008; Suicide Prevention Resource Center, 2008). LGB college students, when compared to other LGB age groups and heterosexual college students, are at an even greater risk for suicide (U.S. Department of Health and Human Services Office of the Surgeon General & National Action Alliance for Suicide Prevention, 2012). Specifically, a meta-analysis of previous suicide research studies suggested that LGB college students are three times more likely to report a suicide attempt when compared to heterosexual college students and approximately 10% more likely to report a suicide attempt when compared to other, generally older, members of the LGB community (U.S. Department of Health and Human Services Office of the Surgeon General & National Action Alliance for Suicide Prevention, 2012).

Because of the higher suicide rates for LGB college students, researchers have made efforts to examine suicidal ideation and behaviors within this population in order to identify and mitigate suicide risk (Drum et al., 2009; Haas et al., 2011; Hill & Petit, 2012; Hunt & Eisenberg, 2010; Rankin, 2003). Although little research exists examining suicidal ideation and behaviors in LGB college students, preliminary evidence offers
some insight into the possible risk and protective factors that require further exploration. Specifically, research has suggested that LGB college students are likely to experience unique interpersonal risk factors (e.g., negative, unhealthy, or rejecting interpersonal relationships) because of the hostility, harassment, and even physical violence they encounter (Oswalt & Wyatt, 2011; Rankin, Weber, Blumenfeld, & Frazer, 2010). Researchers and theorists have posited that these additional interpersonal risk factors, combined with negotiating the typical transitional challenges faced by college students (e.g., adapting to the academic workload, moving away from home, determining a career path), may explain LGB college students’ heightened rates of suicidal ideation and behaviors (Drum et al., 2009; Hunt & Eisenberg, 2010; Oswalt & Wyatt, 2011; Rankin et al., 2010).

Although no specific theory exists regarding LGB college students’ suicidal ideation and behaviors, Joiner’s (2005) interpersonal psychological theory of suicide seems to offer a possible framework for conceptualizing suicidal ideation and behaviors in LGB college students. Joiner’s (2005) theory is likely a fitting model for LGB college students’ suicidal ideation and behaviors because LGB college students may often experience interpersonal risk factors that could contribute to their heightened suicidal risk (Haas et al., 2011; Hunt & Eisenberg, 2010; Oswalt & Wyatt, 2011; Rankin et al., 2010). Joiner (2005) highlighted three factors – perceived burdensomeness, thwarted belongingness, and acquired capability – as being the underlying causes of suicide within the general population. Joiner (2005) asserted that perceived burdensomeness and thwarted belongingness are associated with suicidal ideation and that acquired capability is associated with suicidal behaviors. Perceived burdensomeness refers to individuals’
self-hatred and beliefs that they are a problem to others because they are excessively flawed (Joiner, 2005; Van Orden, Witte, Cukrowicz, Braithwaite, Selby, & Joiner, 2010). Thwarted belongingness broadly refers to social isolation but is unique from social isolation in that thwarted belongingness includes perceived as well as actual social isolation from others (Joiner, 2005; Van Orden et al., 2010; Van Orden, Witte, Gordon, Bender, & Joiner, 2008a). Specifically, thwarted belongingness includes both subjective social isolation (i.e., perceived; e.g., “These days, I feel like I belong”) as well as objective social isolation (i.e., actual; e.g., “These days, I have at least one satisfying interaction every day;” Joiner, 2005; Van Orden et al., 2010; VanOrden, Witte, Gordon, Bender, & Joiner, 2008a). In contrast, social isolation solely refers to the absence of positive social relationships (Matthews et al., 2016). Acquired capability refers to the loss of fear associated with completing suicide (Joiner, 2005; Van Orden et al., 2010). Acquired capability is comprised of two components, which are (1) an increased physical pain tolerance and (2) a reduced fear of death (Joiner, 2005; Van Orden et al., 2010). Acquired capability is developed through repeated exposure to physically painful or fear-inducing experiences (Joiner, 2005; Van Orden et al., 2010). Joiner’s (2005) theory has been applied and affirmed through research with various populations, including college students (Lamis, Malone, Langhinrichsen-Rohling, & Ellis, 2010; Servaty-Seib, Lockman, Shemwell, & Marks, 2015; Van Orden et al., 2008b). However, relatively little research has used Joiner’s (2005) theory to examine LGB college students’ suicidal ideation and behaviors.

With regard to Joiner’s (2005) factors, perceived burdensomeness could be related to LGB college students’ suicidal ideation because perceived burdensomeness
may be associated with experiences of interpersonal, institutional, and societal
discrimination as well as negative interactions with family and peers (Haas et al., 2011;
Halpert, 2002; Hilton & Szymanski, 2011; McDermott, Roen, & Scourfield, 2008; Silva,
Chu, Monahan, & Joiner, 2014). Specifically, LGB college students’ exposure to
discrimination and negative interpersonal interactions may result in an internalization of
negative self-concepts, which could consequently lead to self-hatred and feelings of being
a liability to others (Haas et al., 2011; Halpert, 2002; Hilton & Szymanski, 2011;
McDermott et al., 2008; Silva et al., 2014). Limited research has seemingly affirmed the
relationship between perceived burdensomeness and suicidal ideation in LGB
individuals, in general. Specifically, a significant positive correlation was found between
suicide proneness (i.e., suicide-related thoughts) and perceived burdensomeness for LGB
adults (Cramer, Stroud, Fraser, & Graham, 2014). Perceived burdensomeness was found
to be significantly, positively associated with suicidal ideation in a sample of LGB
college students (Hill & Petit, 2012; Silva et al., 2014).

Thwarted belongingness, which is often assessed by measuring individuals’ social
connectedness and social support, has also been preliminarily associated with suicidal
ideation in LGB college students (Joiner, 2005; Van Orden et al., 2008a; Van Orden et
al., 2010). Thwarted belongingness may be uniquely experienced by LGB college
students because their sexual orientation could possibly lead to subjective and objective
social isolation (D’Augelli, 1994). Specifically, LGB college students may experience
subjective social isolation because they may feel disconnected from others because of
their sexual orientation identity, even if they actually have supportive relationships
(D’Augelli, 1994). LGB college students’ objective social isolation may include
individuals actively not including, avoiding, or rejecting LGB college students within social settings because of their sexual orientation (D’Augelli, 1994). Research on LGB college students found a link between social support and mental health issues often associated with suicide, such as depressive symptoms, wherein a lack of social support was positively correlated with depressive symptoms (Hill & Pettit, 2012; Ryan, Russell, Huebner, Diaz, & Sanchez, 2010; Shilo & Savaya, 2012; Ueno, Gayman, Wright, & Quantz, 2009). Research specifically on LGB college students’ thwarted belongingness indicated that thwarted belongingness was significantly and positively associated with suicidal ideation (Hill & Petit, 2012).

Researchers have examined LGB college students’ belongingness in relation to suicidal ideation. However, additional research is needed because Joiner’s (2005) definition of belongingness is global. Specifically, Joiner (2005) broadly conceptualizes belongingness as social connectedness and social support. Due to this global definition of belongingness, researchers have examined belongingness by broadly measuring social connectedness and social support (Hill & Pettit, 2012; Ryan, Huebner, Diaz, & Sanchez, 2009; Shilo & Savaya, 2012; Ueno et al., 2009; Van Orden et al., 2008b). However, this definition of belongingness does not reflect individuals’ various interpersonal groups. In particular, LGB college students have four primary interpersonal connections, which are to their family, peers, academic institution, and sexual orientation community (Darling, McWey, Howard, & Olmstead, 2007; Drum et al., 2009; Haas et al., 2011). Thus, previous researchers using Joiner’s (2005) conceptual framework of belongingness have overlooked the need to examine the possible differential impact of specific spheres of
belongingness (i.e., family, peer, academic institution, and sexual orientation community) on suicidal ideation.

Research findings indicate that these four unique spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) are significantly associated with LGB college students’ mental health (Haas et al., 2011; Shilo & Savaya, 2012; Ueno et al., 2009). Specifically, previous research findings suggest that LGB college students’ relationships with their parents are positively correlated with mental health resilience (Darling, et al., 2007; Haas et al., 2011). Research also suggests that LGB college students’ relationships with their parents are among the most influential relationships with respect to their mental health (Darling, et al., 2007; Haas et al., 2011). Additionally, research has suggested that there is a relationship between LGB college students’ depressive symptoms and a lack of peer and school connectedness within school settings (Friedman, Koeske, Silvestre, Korr, & Sites, 2006; Ploderl & Fartacek, 2007). In contrast, having healthy peer relationships and comfort within school environments is positively associated with LGB college students’ mental health resilience (Goodenow, Szalacha, & Westheimer, 2006; Haas et al., 2011). Relatedly, LGB college students’ connectedness with their academic institution has been positively associated with their overall well-being (Coffey, Wray-Lake, Mashek, & Branand, 2016; Longerbeam, Inkelas, Johnson, & Lee, 2007). Social contact with other LGB individuals is also positively correlated with LGB college students’ mental health due to the social support offered by other LGB individuals (D’Augelli, 2006; Shilo & Savaya, 2012; Ueno et al., 2009).
Acquired capability, which is Joiner’s (2005) third factor, may be heightened for LGB college students because LGB individuals are more likely to be victims of traumatic events, including physical and sexual assault, due to antigay hate crimes (Balsam, Rothblum, & Beauchaine, 2005; Ryan et al., 2010; Saewyc, Richens, Skay, Reis, Poon, & Murphy, 2006). These traumatic experiences could result in heightened acquired capability as LGB individuals’ pain tolerance increases in connection with the physical violence they endure. In addition, their acquired capability may be heightened because they interpret these experiences as meaning that they are unwanted or disliked, which could possibly lead them to devalue their lives and develop the belief that they do not matter (Joiner, 2005). The limited research on acquired capability and suicidal behaviors in LGB individuals suggests that acquired capability is significantly associated with suicide attempts (Ploderl, Sellmeier, Fartacek, Pichler, Fartacek, & Kralovec, 2014).

Ultimately, the purpose of the present study is to identify LGB and heterosexual college students’ differences with regards to perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors. Additionally, this study was designed to determine if sexual orientation (i.e., LGB or heterosexual) moderates the relationships between: (a) perceived burdensomeness and suicidal ideation, (b) thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation, and (c) acquired capability and suicidal behaviors. Findings from this study may afford a more comprehensive understanding of suicidal ideation and behaviors for LGB college students. Additionally, results from this study likely offer information that counseling psychologists could use to develop LGB-specific
therapeutic interventions, outreach efforts, educational and advocacy programs, and institutional trainings and policies.

**Importance of the Study**

Recently and notably, the 2010 suicide of Rutgers student Tyler Clementi, who jumped off the George Washington Bridge after his peers posted video of him engaging in sexual activities with another man, serves as a tragic example of the increasingly reported suicide completions of LGB college students and the urgent need to examine the possible risk and protective factors for suicidal ideation within this population (Eliason, 2011). The present study will add to the limited base of research on LGB college students’ suicidal ideation and behaviors, which can be applied by counseling psychologists, student affairs professionals, and other individuals who work with LGB college students. Specifically, this study will expand the applicability of Joiner’s (2005) interpersonal psychological theory of suicide by clarifying how Joiner’s (2005) three factors (i.e., perceived burdensomeness, thwarted belongingness, and acquired capability) uniquely apply to LGB college students.

First, further research is warranted because researchers have not tended to examine Joiner’s (2005) three factors (i.e., perceived burdensomeness, thwarted belongingness, and acquired capability) in relation to suicidal ideation and behaviors simultaneously and in depth. Thus, this study notably differs from previous studies because it simultaneously examines all three factors (i.e., perceived burdensomeness, thwarted belongingness, and acquired capability) in relation to suicidal ideation and behaviors. Researchers also have not studied the possible differences between LGB college students and heterosexual college students’ perceived burdensomeness, thwarted
belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors. Additionally, researchers have not examined if sexual orientation moderates the relationships for perceived burdensomeness and suicidal ideation, thwarted belongingness and suicidal ideation, and acquired capability and suicidal behaviors. Sexual orientation likely moderates these relationships given that LGB college students have a heightened suicidal risk and unique developmental challenges (e.g., coming out) as compared to heterosexual college students (Bostwick et al., 2010; Haas et al., 2011; King et al., 2008; Suicide Prevention Resource Center, 2008). Thus, these findings could offer greater understanding of LGB college students’ suicidal ideation and behaviors as well as possibly offer some insight into their heightened suicide risk.

Second, few past studies have focused on the relationship between acquired capability and suicidal behaviors within LGB individuals. Research on acquired capability in LGB college students is critical because acquired capability directly links to suicidal behaviors. Thus, understanding acquired capability in LGB college students could offer insight regarding LGB college students’ comparatively higher rates of suicidal behaviors and suicide completion. Furthermore, having a better understanding of acquired capability in LGB college students could offer insight regarding what may differentiate those LGB college students who simply experience suicidal ideation with those LGB college students who choose to act on their suicidal thoughts.

Third, researchers have studied thwarted belongingness from a global perspective. This global examination of belongingness does not account for the possible differential relationships between the four spheres of belongingness (i.e., family, peer, academic
institution, and sexual orientation community) and suicidal ideation. Because research indicates that LGB college students belong to four unique interpersonal spheres, suicidal ideation in LGB college students may be better understood by examining the possible differential relationships between these unique spheres and suicidal ideation. Specifically, knowledge of which spheres of belongingness have a greater contribution to suicidal ideation in LGB college students could potentially be used to develop LGB-specific psychoeducational and intervention strategies and to identify LGB college students who may be more susceptible to suicidal ideation.

Finally, research has not yet examined the proposed conceptual interplay between perceived burdensomeness and thwarted belongingness for LGB students (Van Orden et al., 2010). Understanding the possible conceptual interplay between perceived burdensomeness and thwarted belongingness may offer greater insight into LGB college students’ experience of suicidal ideation. This knowledge could be used to develop prevention and intervention strategies to, respectively, forestall or mitigate suicidal ideation in LGB college students. This information could also be helpful in identifying potentially at-risk LGB college students.

**Statement of Purpose**

The purpose of the present study was to use Joiner’s (2005) interpersonal psychological theory of suicide to investigate suicidal ideation and behaviors in LGB college students as compared to their heterosexual counterparts. Specifically, I examined whether or not LGB and heterosexual college students differed in their reported levels of perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and
suicidal behaviors. I also examined whether or not sexual orientation moderated the relationships between: (a) perceived burdensomeness and suicidal ideation, (b) the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation, and (c) acquired capability and suicidal behaviors. Greater insight into LGB college students’ heightened suicide risk may be garnered by examining the differences between LGB and heterosexual college students reported levels of perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors. Additionally, understanding if sexual orientation moderates the relationships between Joiner’s (2005) factors (i.e., perceived burdensomeness, thwarted belongingness, and acquired capability) and suicidal ideation and behaviors could offer greater understanding of LGB college students’ higher rates of suicidal ideation and behaviors. Furthermore, examining the differential impact of the interpersonal spheres to which LGB college students are connected (i.e., family, peer, academic institution, and sexual orientation community) could offer further insight into suicidal ideation, which Joiner’s (2005) theory currently does not address (Darling et al., 2007; Haas et al., 2011). Finally, much needed prevention and intervention strategies related to suicidal ideation and behaviors for LGB college students can be developed based on the findings from the present study.

**Terminology and Concepts**

Throughout this study, I use terms that may be unfamiliar to some readers. In this section, I provide definitions for these terms.
• The term *emerging adults* is used to refer to a distinct developmental period for individuals from Westernized cultures who are between 18 and 29 years old (Arnett 2000). Arnett (2000) proposed that emerging adulthood is an intermediary period of development categorized by transition, change, and prolonged identity exploration.

• The terms *sexual orientation* and *sexual orientation identity* are used interchangeably to refer to individuals’ “conscious recognition, identification, and self-labeling with respect to one’s sexual predispositions” (Worthington & Reynolds, 2009, p. 44).

• The terms *gay* and *lesbian* are used to refer to individuals who self-identify as experiencing sexual, romantic, and/or physical attraction to people of their same gender (Gender Identity in U.S. Surveillance [GenIUSS] Group, 2014). More specifically, the term *gay* is used to refer to men who self-identify as experiencing sexual, romantic, and/or physical attraction to men, and the term *lesbian* is used to refer to women who self-identify as experiencing sexual, romantic, and/or physical attraction to women (GenIUSS Group, 2014). Within this study’s survey, participants were offered the following definition: you identify as someone who experiences sexual, romantic, and/or physical attraction to people of your same gender (see Appendix B).

• The term *bisexual* is used to refer to individuals who self-identify as experiencing sexual, romantic, and/or physical attraction to people of their same gender as well as their opposite gender (GenIUSS Group, 2014). Within this study’s survey, participants were offered the following definition: you identify as someone who
experiences sexual, romantic, and/or physical attraction to people of your own gender and your opposite gender (see Appendix B).

- The term *lesbian, gay, and bisexual*, abbreviated as *LGB*, is used to collectively refer to individuals who self-identify as lesbian, gay, or bisexual.

- The term *questioning* is used to refer to individuals who are still developing and exploring their sexual orientation identity (GenIUSS Group, 2014). Within this study’s survey, participants were offered the following definition: you are exploring your sexual orientation identity (see Appendix B).

- The term *heterosexual* is used to refer to individuals who self-identify as experiencing sexual, romantic, and/or physical attraction to people of their opposite gender (GenIUSS Group, 2014). Within this study’s survey, participants were offered the following definition: you identify as someone who experiences sexual, romantic, and/or physical attraction to people of your opposite gender (see Appendix B).

- The term *transgender* refers to the relationship between individuals’ biological sex and their gender identity wherein individuals’ gender identity differs from their biological sex (GenIUSS Group, 2014). For the purposes of this study, transgender participants were not excluded and were included within either the LGB group or the heterosexual group based on their self-reported sexual orientation (see Chapter 2, p. 36).

- The term *suicidal ideation* is used to refer to “thoughts of engaging in suicide-related behavior” (National Action Alliance for Suicide Prevention [NAASP], 2012, p. 14).
The term **suicidal behaviors** is used to refer to any deliberate, self-directed action that could cause a person to die (Cole, Walter, & DeMaso, 2011).

The term **suicide** is used to refer to “death caused by self-directed injurious behavior with any intent to die as a result of the behavior” (NAASP, 2012, p. 14).

The term **family** is used to refer to anyone in individuals’ immediate and extended family (e.g., uncles, aunts, grandparents, cousins) as well as non-biologically related family members (e.g., sibling-in-laws, step-parents; Slaten, Thomas, & Baskin, 2008).

The term **peers** is used to refer to individuals within the same age group and/or social group (Slaten et al., 2008).

The term **academic institution** is used to refer to the college or university that individuals are currently attending (Slaten et al., 2008).

The term **sexual orientation community** is used to refer to a collective group of individuals who are members of or affiliated with a sub-population comprised of others who share their sexual orientation identity (Frost & Meyer, 2012).

For this study, I have created the term **spheres of belongingness** to refer to LGB college students’ four primary interpersonal connections, which are to their family, peers, academic institution, and sexual orientation community (Darling et al., 2007; Drum et al., 2009; Haas et al., 2011). This term is adapted from Paulhus’s (1983) term **spheres of interpersonal control**, which refers to individuals’ interactions with others and perceptions of control within dyads and groups.
Relevance to Counseling Psychology

The present study is consistent with counseling psychology’s professional identity and aims. First, the focus on suicidal ideation in LGB college students aligns with counseling psychology’s commitment to diversity and multiculturalism (Gelso & Fretz, 2001; Heppner, Casas, Carter, & Stone, 2000; Speight & Vera, 2008). Second, Joiner’s (2005) theoretical framework, which is central to the study, aligns with several of counseling psychology’s unifying themes (e.g., person-environment interactions, strengths-based approach; APA, 1999; Gelso & Fretz, 2001). Finally, this study reflects counseling psychology’s preventative and remedial roles (Gelso & Fretz, 2001).

Counseling psychology has deliberately attended to diversity and multiculturalism in research, teaching, training, and practice. As a field, counseling psychology has been at the forefront of addressing issues related to minority populations and advocating for these populations (Forrest & Campell, 2012; Heppner et al., 2001). Counseling psychology continues to persistently attend to issues related to diverse populations and maintains its staunch commitment to diversity, multiculturalism, and social justice (Mintz & Bieschke, 2009; Munley, Lidderdale, Thiagarajan, & Null, 2004; Sue, 2001). Counseling psychology has demonstrated its focus on diversity and multiculturalism through its development of cross-cultural competencies and creation of best practices for research and clinical intervention with minority populations (Mintz & Bieschke, 2009; Munley et al., 2004; Sue, 2001). Furthermore, counseling psychology’s Division 17 regularly (i.e., every two years) hosts a National Multicultural Conference and Summit in order to discuss issues related to race/ethnicity, gender, sexual orientation, ability, etc., forge cross-cultural alliances, and develop strategies to serve and advocate for minority
populations (Forrest & Campbell, 2012). Finally, psychology broadly as a field has made intentional efforts to attend to LGB issues as evidenced by the American Psychological Association’s (APA, 2012) publication of *Guidelines for Psychological Practice with Lesbian, Gay, and Bisexual Clients* and their creation of Division 44, which focuses on LGBT research, teaching, and practice. My deliberate choice to focus on LGB college students honors counseling psychology’s continual commitment to diversity and multiculturalism.

The underlying theory for the present study, which is Joiner’s (2005) interpersonal psychological theory of suicide, is consistent with several of counseling psychology’s unifying themes (e.g., person-environment interactions, strengths-based approach; APA, 1999; Gelso & Fretz, 2001). First, Joiner’s (2005) theory reflects counseling psychology’s attention to person-environment interactions. Specifically, the theory accounts for specific environmental circumstances (e.g., harassment, discrimination) that could contribute to individuals’ suicidal ideation and behaviors. Second, Joiner’s (2005) theory reflects counseling psychology’s strengths-based perspective. Specifically, interventions developed using Joiner’s (2005) theory have focused on identifying individuals’ interpersonal strengths in order to establish social support and a healthy self-concept in order to reduce suicidal ideation and behaviors (Joiner, 2005; Van Orden et al., 2010). Additionally, interventions honor clients’ primary strength of resiliency amidst their suicidal ideation and behaviors to maintain their hope (Van Orden et al., 2010). Interventions also use clients’ unique individual strengths to set therapeutic goals targeted at reducing the frequency and severity of clients’ suicidal ideation and behaviors (Van Orden et al., 2010). Additionally, Joiner’s (2005) theory
does not assume that individuals experiencing suicidal ideation and behaviors have diagnosable clinical disorders (e.g., depression).

Finally, this study reflects counseling psychology’s attention to prevention and remediation. With regard to the preventative role, current suicide prevention programs on college campuses (e.g., Question, Persuade, Refer; QPR) do not have a specific focus on minority populations, including LGB college students. Findings from this study could be incorporated into existing suicide prevention programs in order to highlight specific risk factors unique to LGB college students that could be overlooked by current, more generalized suicide prevention programs. Additionally, existing suicide prevention programs are geared toward intervening when individuals are actively and intensely contemplating suicide or are engaging in suicidal behaviors or a suicide attempt (Capuzzi & Gross, 2014; Lamis & Lester, 2013). Findings from this study could offer insight into specific cues (e.g., feelings of perceived burdensomeness, lack of family belongingness) that could be used to identify at-risk LGB college students. Thus, potentially at-risk LGB college students may be identified earlier by university faculty and staff and consequently be referred to campus mental health professionals before these students exhibit more severe suicidal behaviors (e.g., near lethal suicide attempts). Additionally, the results of this study could be applied to the development of specific psychoeducational workshops for LGB college students and for those who work with LGB college students. Finally, results from this study could be used as the foundation for broader institutional interventions that could be implemented by universities in order to improve campus climates and connections for LGB college students, consequently reducing LGB college students’ risk for suicide and fostering their resiliency.
With regard to the remedial (i.e., treating psychological symptoms) role, the results of the present study could be used to develop targeted interventions for those working with LGB college students. Specifically, counseling psychologists working with LGB college students may be able to use these findings to apply Joiner’s (2005) theory in understanding, assessing, and treating suicidal ideation and behaviors within this population. Thus, mental health professionals can implement more specific therapeutic strategies that account for LGB college students’ unique experience of suicidal ideation and behaviors. For example, results from this study suggest that peer belongingness is significantly associated with suicidal ideation for LGB college students. Therefore, mental health professionals could implement strategies to foster LGB college students’ peer relationships (e.g., connecting them with on-campus clubs and organizations) in order to enhance their peer belongingness. Additionally, this information could lead to the development of LGB support or process groups that are focused around factors that these findings suggest are most related to suicidal ideation.
CHAPTER 2: REVIEW OF LITERATURE

Lesbian, gay, and bisexual (LGB) college students are particularly vulnerable to experiencing suicidal ideation and engaging in suicidal behaviors (Blosnich & Bossarte, 2012; de Graaf, Sandfort, & ten Have, 2006; King et al., 2008). However, little is known about the specific factors that contribute to LGB college students’ suicidal ideation and behaviors. Among the noted risk factors that LGB college students experience are interpersonal hostility, harassment, and perceived lack of interpersonal support (Longerbeam et al., 2007; Oswalt & Wyatt, 2011; Rankin et al., 2010). Protective factors highlighted within previous research are the presence of social support, perceived environmental support, having LGB role models, and being involved with LGB campus organizations (Longerbeam et al., 2007; Mancini, 2011). However, it appears that these protective factors are less present as compared to the risk factors (Longerbeam et al., 2007; Sanlo, 2005). Thus, further research examining LGB college students’ suicidal ideation and behaviors is needed in order to develop population-specific prevention and intervention strategies to mitigate their suicidal ideation and behaviors.

The purpose of the present study was to use Joiner’s (2005) interpersonal psychological theory of suicide to investigate suicidal ideation and behaviors in LGB college students as compared to their heterosexual counterparts. Specifically, I examined whether or not LGB and heterosexual college students differ in their reported levels of perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors. I then examined whether or not sexual orientation (i.e., LGB or
heterosexual) moderated the relationships between: (a) perceived burdensomeness and suicidal ideation, (b) the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation, and (c) acquired capability and suicidal behaviors.

In this chapter, I first provide an overview and critique of existing literature examining theories of college student development. Then, I describe and critique theories of LGB college student identity development followed by an overview of LGB college students’ suicidal ideation and behaviors. I subsequently detail Joiner’s (2005) interpersonal psychological theory of suicide followed by specific sections that highlight the theory’s three main factors of perceived burdensomeness, thwarted belongingness, and acquired capability. Within the thwarted belongingness section, I include additional subsections that highlight four key spheres of belongingness, which are family belongingness, peer belongingness, academic institution belongingness, and sexual orientation community belongingness. I then offer a critique for Joiner’s (2005) three main factors. Finally, I list the research questions and corresponding hypotheses for the present study.

**Theories of College Student Development**

In this section I provide an overview of theories that are often used when conceptualizing college student development. I first offer an overview of Arnett’s (2000, 2001, 2004, 2014) theory of emerging adulthood. I then expound upon Chickering and Reisser’s (1993) psychosocial model of college student development. Finally, I conclude with a summary and critique of these two developmental theories.
Arnett’s (2000) Theory of Emerging Adulthood

Arnett’s (2000, 2001, 2004, 2014) theory of emerging adulthood highlights a distinct period of human development. Arnett (2000, 2001, 2004, 2014) defined emerging adulthood as a developmental period that occurs within industrialized countries among individuals ranging from 18 to 29 years old. Emerging adulthood’s hallmark characteristic is a prolonged period of identity exploration, particularly within the areas of love (i.e., intimate relationships), work (i.e., career choice), and worldview (i.e., perspectives on the self, others, and the world; Arnett, 2000; Erikson, 1968; Rindfuss, 1991).

Emerging adulthood has two key features. One of these key features is that emerging adults do not entirely assume adolescent or adult characteristics; they neither view themselves as children nor as adults (Arnett, 2000). Thus, they are in an intermediary stage of development that is characterized by transition, change, and exploration and have the ability to explore their identity due to their increasing independence and freedom from normative expectations of adulthood (Arnett, 2000). A second key feature is that emerging adults are increasingly delaying their engagement in typical demographic markers of adulthood (e.g., marriage, childbirth; Arnett, 2000). By not being constrained by responsibilities associated with these demographic markers of adulthood, emerging adults have an increased opportunity for identity exploration.

Arnett’s (2000, 2001, 2004, 2014) theory of emerging adulthood offers a possible conceptualization for college student development because college students are a distinct subset of emerging adults. Specifically, many emerging adults attend college (Arnett, 2000; Chisholm & Hurrelmann, 1995). Emerging adults who attend college may
encounter additional challenges beyond the identity exploration process that broadly categorizes emerging adulthood (Arnett, 2007; Cote, 2006; Moses, 1998). Specifically, emerging adults who are college students often deal with unique challenges associated with the college setting, such as academic workload and university acculturation (Hunt & Eisenberg, 2010).

LGB emerging adults who are also college students likely face even greater challenges during emerging adulthood than their heterosexual counterparts. Along with encountering the same challenges as their heterosexual peers, they also endure additional unique challenges due to their minority sexual orientation status, such as discrimination, marginalization, and heterosexism (Grossman & Kerner, 1998). Specifically, the explorations in love, work, and worldview that serve as a defining feature of emerging adulthood must take place within the context of a heteronormative environment and heterosexist discrimination and harassment (Spencer & Patrick, 2009). Although some LGB college students may find social and environmental support within the college environment, these experiences appear to be comparatively less common than unsupportive experiences (Longerbeam et al., 2007). Thus, establishing a positive identity amidst numerous negative social factors may be incredibly challenging for LGB emerging adults who are also college students, and these additional factors could contribute to increased psychological stress and reduced psychological well-being (Spencer & Patrick, 2009).

Research suggests that LGB emerging adults self-report elevated psychological distress and poorer psychological well-being when compared to their heterosexual counterparts (Spencer & Patrick, 2009). Additionally, research indicates that LGB
emerging adults exhibit higher levels of depressive symptoms and lower self-esteem than their heterosexual counterparts (Spencer & Patrick, 2009). This research also suggests that adequate social support, particularly family relationships and close friends, is critical for LGB emerging adults to successfully navigate this developmental period (Bohan, 1996; DiPlacido, 1998; Spencer & Patrick, 2009). Thus, LGB emerging adults appear to be uniquely vulnerable to psychological distress, depressive symptoms, and low self-esteem; however, adequate social support can aid in successful navigation of this developmental period.

**Chickering and Reisser’s (1993) Psychosocial Model of College Student Development**

Chickering and Reisser (1993) proposed a psychosocial (i.e., the interrelation of individuals’ thoughts and emotions with social factors) model of college student development. Their theoretical model contains seven core areas (i.e., vectors) of development for college students that are ultimately all linked to identity development (Chickering & Reisser, 1993). These seven vectors of development are: (1) developing competence, (2) managing emotions, (3) moving through autonomy toward interdependence, (4) developing mature interpersonal relationships, (5) establishing identity, (6) developing purpose, and (7) developing integrity (Chickering & Reisser, 1993).

In addition to outlining seven vectors of development for college students, Chickering and Reisser (1993) also emphasized that college students’ development within these seven vectors is contextually linked to their college environment. They elaborated that this contextual link is a result of college students’ exposure to diverse
individuals and worldviews while in college (Chickering & Reisser, 1993). Chickering and Reisser (1993) added that this exposure to different individuals and worldviews challenges students’ personal beliefs, feelings, norms, and identity.

A final integral element of Chickering and Reisser’s (1993) theory is their assertion that college students, at some point in their college career, generally experience developmental crises related to the tasks associated with the seven vectors of development, or they become preoccupied with an issue before resolving it and moving on to another issue. These crises or delays in resolving a particular developmental task may lead to psychological distress and even suicide risk (Buelow, Schreiber, & Range, 2011; Sanlo, 2005).

Because LGB college students’ sexual orientation is an integral aspect of their development, their sexual orientation must be attended to within each of the seven vectors (Zubernis, Snyder, & McCoy, 2011). The additional emotional, social, and institutional challenges faced by LGB college students could complicate or inhibit their overall identity development, might lead to an increased risk for experiencing crises or delays within the seven vectors, and/or could be associated with psychological distress and reduced psychological well-being. Although little empirical literature exists regarding LGB identity development in relation to Chickering and Reisser’s (1993) vectors, a number of researchers and scholars have attributed the disproportionately high rate of suicidal ideation and behaviors and higher levels of psychological distress in LGB college students to the multitude of additional challenges that they endure as they navigate their development within the seven vectors (King et al., 2003; Rivers, 2001; Rosario, Hunter, & Gwadz, 1997; Rosario, Schrimshaw, & Hunter, 2005; Ryan &
Futterman, 1998). These researchers and scholars have specifically described the unique additional difficulties that LGB college students may encounter (e.g., harassment, heterosexism, discrimination) with respect to each of the seven vectors. However, these researchers and scholars have not directly compared LGB college students with heterosexual college students. In Appendix A, I have offered a detailed summary of the potential challenges that LGB college students may struggle with for each of the seven vectors.

**Summary and Critique of Theories of College Student Development**

Arnett (2000) and Chickering and Reisser (1993) conceptualize emerging adult/college student development, the challenges college students may face during their development, and the potential negative mental health outcomes associated with these developmental challenges. However, these theories are not specifically designed to conceptualize the development of LGB college students. Additionally, LGB college students are not explicitly referenced within these models, and relatively little attention has been paid to examining LGB college student development within these theories.

Although LGB college students are not explicitly accounted for in these models and the application of these theories to minority students is primarily used to examine racial/ethnic minority college students’ development, inclusion of these theories is necessary because LGB college students experience the same developmental challenges as heterosexual college students along with additional unique challenges connected to their sexual orientation identity (Arnett, 2003; Chickering, 2006). In fact, some researchers have used these theories as a basis to postulate the possible additional, unique difficulties that LGB college students may encounter during their development by
explicitly applying the theories to LGB college student development (e.g., Zubernis et al., 2011). For example, Zubernis et al. (2011) indicated that Chickering and Reisser’s (1993) vector of moving from autonomy to interdependence is possibly more difficult for LGB college students than heterosexual college students because LGB college students may experience a lack of acceptance and approval by others (e.g., family, peers, acquaintances) to a greater degree than their heterosexual peers due to their sexual orientation identity (Zubernis et al., 2011). However, little empirical literature exists that examines LGB college student development within these models.

Inclusion of these theories is also necessary given that LGB college students have relatively higher rates of suicide when compared to other, generally older, members of the LGB population. Thus, aspects unique to college students’ development may help in illuminating LGB college students’ unique suicidal risk factors as compared to other members of the LGB community. Specifically, these theories acknowledge that psychological distress and suicide risk could be linked to challenges associated with college experiences and development. Therefore, LGB college students’ heightened suicide risk may be due to factors associated with not only their sexual orientation identity but also their college student identity. Therefore, these theories could be used to better understand suicidal ideation and behaviors in LGB college students.

**Theories of LGB Identity Development**

In this section, I provide an overview of LGB identity development theories (i.e., models) most closely associated with LGB college student identity development and most often used when conceptualizing LGB college student sexual orientation identity development. I first offer a broad overview of stage models of LGB identity
development. I then expound upon D’Augelli’s (1994) life span model of sexual orientation identity development. Finally, I provide a summary and critique of these theories.

**Stage Models of LGB Identity Development**

Numerous stage models of sexual orientation identity development exist that can be applied to LGB college students (Bilodeau & Renn, 2005; Cass, 1979, 1984; Fassinger, 1996; D’Augelli, 1994; Evans & Broido, 1999; Rhoads, 1994; Worthington, Savoy, Dillon, & Vernaglia, 2002). Among the various stage models of development, there are four models that are most commonly cited, which are: Cass’s (1979) model of sexual orientation formation, Fassinger’s (1996) model of gay and lesbian identity development, Savin-Williams’s (1988, 1990) sexual orientation identity development model, and Troiden’s (1979, 1988) model of homosexual identity formation. These stage models were created in response to student affairs professionals noticing a need to describe LGB identity development within the university environment but were not developed solely using LGB college student samples (Bilodeau & Renn, 2005; Rhoads, 1994). Thus, these models are not only used with LGB college students but are also applied more generally to the overall LGB population (Bilodeau & Renn, 2005; Rhoads, 1994).

Professionals who work with LGB college students often use these models interchangeably because these models contain several similarities (Bilodeau & Renn, 2005; Rhoads, 1994). Each of these models begins with a stage in which LGB college students attempt to deny or avoid awareness and recognition of their sexual orientation as well as their sexual and romantic feelings toward same-gender individuals (Bilodeau &
Renn, 2005). Within these models, LGB college students’ stage of denial is followed by a tentative, gradual recognition and acceptance of same-gender sexual and romantic attraction (Bilodeau & Renn, 2005). LGB college students then enter a final stage that includes both emotional (e.g., developing romantic feelings for same-gender individuals) and behavioral (e.g., physical intimacy with same-gender individuals) experimentation within same-gender relationships, which leads to increased acceptance of their sexual orientation and an internalization of their LGB identity (Bilodeau & Renn, 2005). During this final stage, LGB college students ultimately integrate their LGB identity with their other identities (e.g., gender, race, ability) and become emotionally and socially secure with their LGB identity (Bilodeau & Renn, 2005).

These stage models have evolved since their original development in a few notable ways. First, the creators of these stage models are increasingly acknowledging that the complexity of sexual orientation development cannot be adequately captured within linear stages (Bilodeau & Renn, 2005). Second, the revisions of these stage models suggest that LGB identity development sometimes involves repeating stages, stalling between stages, and experiencing varying stage durations (Bilodeau & Renn, 2005; Cass, 1979, 1984; Troiden, 1979; Savin-Williams, 1990). Finally, newer research regarding sexual orientation identity development seems to suggest that LGB sexual orientation self-identification is increasingly occurring in adolescence (Bilodeau & Renn, 2005; Troiden, 1998). Thus, some researchers posit that college students are likely to enter college having either begun or completed their sexual orientation identity development process (Bilodeau & Renn, 2005; Troiden, 1998). Therefore, some
researchers argue that sexual orientation identity establishment is complete for many college students and stage models are more applicable to LGB adolescents.

Regardless of LGB college students’ sexual orientation developmental level, all LGB college students likely experience similar distress due to their sexual minority status (Meyer, 2003). Specifically, LGB college students’ minority identity and identity development ultimately exists within a broader social context that includes heterosexism and discrimination. Thus, their overall psychological well-being may be negatively affected if they have negative interactions with others, regardless of the degree of solidification of their sexual orientation identity (Herek, 2000; Stryker & Statham, 1985). Indeed, research has indicated that LGB individuals who experience discrimination, heterosexism, or stigma during the stages of LGB identity development either fear or doubt their feelings about their sexual orientation, which may be associated with psychological distress and mental health issues (Blosnich & Bossarte, 2012; Mays & Cochran, 2001; Meyer, 1995). Research has also suggested that LGB individuals who have solidified their sexual orientation identity (i.e., “completed” the stages) can similarly experience psychological distress and mental health issues in response to discrimination and harassment as compared to individuals who are still exploring their sexual orientation identity (Corrigan & Matthews, 2003; Frost & Meyer, 2012; Galatzer-Levy & Cohler, 2002; Whitlock, 2007).

D’Augelli’s (1994) Life Span Model of Sexual Orientation Development

D’Augelli (1994) proposed a life span model of sexual orientation identity development that was specifically developed using a college student sample. This model suggests that sexual orientation is shaped by both biology and environment and can be
both fluid and fixed across the lifespan (D’Augelli, 1994). Broadly, D’Augelli (1994) argued that LGB identity establishment ultimately requires conscious and intentional distancing from socialized heterosexual norms and expectations as well as the creation of an LGB identity that is consistent with LGB cultural norms (D’Augelli, 1994). His model differs from the prior stage models in two primary ways. First, D’Augelli’s (1994) model accounts for multiple, different social contexts, including relationships with family, peers, and the community. Second, D’Augelli’s (1994) model is nonlinear, which allows for consideration of multiple, individualized paths of development.

D’Augelli’s (1994) model reflects a task model of development and consists of six, non-ordered, interdependent “identity processes” (p. 317). Individuals often experience these identity processes differently within different contexts or points of development and may experience some identity processes more than others (D’Augelli, 1994). These six identity processes are: (1) exiting heterosexuality, (2) developing a personal LGB identity, (3) developing an LGB social identity, (4) becoming an LGB offspring, (5) developing an LGB intimacy status, and (6) entering an LGB community (D’Augelli, 1994). Exiting heterosexuality entails LGB individuals’ personal and social recognition that they are not heterosexual as well as labeling their romantic and sexual attractions as non-heterosexual (D’Augelli, 1994). Developing a personal LGB identity status refers to an internal sense of certainty and stability regarding LGB-related thoughts, feelings, and desires as well as how these thoughts, feelings, and desires guide their behaviors with others (D’Augelli, 1994). Developing an LGB social identity entails telling others about their LGB identity as well as establishing and maintaining an affirming social support network that includes long-lasting intimate interpersonal
relationships (D’Augelli, 1994). Becoming an LGB offspring includes the likely temporary disruption of parental and other family relationships due to LGB identity disclosure, which is followed by reintegration into the family (D’Augelli, 1994). Developing an LGB intimacy status refers to establishing same-gender intimate relationships, which includes both friendships and romantic relationships (D’Augelli, 1994). Entering an LGB community is defined as engaging with the LGB community, which includes having close, positive, and supportive relationships with other LGB individuals and developing a commitment to LGB political and social causes (D’Augelli, 1994).

LGB individuals inevitably encounter challenges and barriers during their identity development. Specifically, D’Augelli (1994) asserted that LGB college students face two primary barriers during their sexual orientation identity development. The first barrier is that their LGB identity is socially invisible. Having a socially invisible identity may lead to a struggle with internally and externally establishing their LGB identity and could result in simultaneously managing multiple psychological identities due to pressures to adhere to heterosexual social norms (D’Augelli, 1994). The second barrier is the potential social and legal consequences associated with LGB identity expression (D’Augelli, 1994). Some of these legal and social consequences include lacking protections with respect to employment, housing, and health care benefits access as well as experiencing harassment and lacking social acceptance. Furthermore, slightly less than half of the United States (i.e., 23 states) have LGBT-specific non-discrimination laws (American Civil Liberties Union, 2015). Empirically, LGB individuals’ self-reported experiences of these two barriers is correlated with increased substance use and abuse, suicidality, loss
of interpersonal relationships, depression, anxiety, and psychological distress (Bontempo & D’Augelli, 2001; D’Augelli, 2002; Mays & Cochran, 2001).

Summary and Critique of LGB Identity Development

The LGB identity development models that exist provide a broad framework for LGB identity development. Specifically, they offer information about the unique experiences that LGB college students encounter within their sexual orientation identity development. Additionally, these theories acknowledge the complexity of LGB identity development. However, these theories are limited because of their emphasis on same-gender sexual and romantic behavior as being integral in LGB identity development. This focus on same-gender sexual and romantic behavior does not account for individuals who identify as LGB without having same-gender sexual or romantic experiences (Blumenfeld & Raymond, 1993; Ryan & Futterman, 1998; Savin-Williams, 1990). Additionally, these theories possess the underlying assumption that all lesbian, gay, and bisexual individuals’ identity development is similar to each other (Bilodeau & Renn, 2005). However, research has suggested that lesbian, gay, and bisexual individuals comprise unique subgroups and consequently may have different sexual orientation identity development experiences (Fox, 1995; Klein, 1990).

Although these models have some limitations, they are important for this study. First, they offer some insight into the possible unique challenges that LGB college students may experience. Given that this study is focused on examining LGB college students’ heightened suicide risk, these theories could offer theoretical, contextual explanations for these findings. Second, these models are framed using a developmental perspective. Thus, these theories align with the broader developmental framework
through which college student developmental theories were conceptualized. Therefore, supplementing the college student development theories (described above) with these LGB identity development theories could offer specific insights into the results of this study given the study’s targeted focus on LGB college students.

**Intersectionality**

The above sections described and offered critiques of college student development theories and LGB identity development theories. Although these theories are useful in conceptualizing and understanding LGB college students, LGB college students have additional identities beyond their identities as college students and as LGB individuals. Thus, LGB college students’ other identities (e.g., race, ethnicity, gender, ability) must be acknowledged in order to fully consider LGB college students’ mental health.

Intersectionality broadly refers to individuals simultaneously having multiple interrelated, interdependent identities (e.g., race, ethnicity, sexual orientation, gender, socioeconomic status, ability; Cole, 2009; Parent, DeBlaere, & Moradi, 2013). Intersectionality also suggests that the relative sociocultural power and privilege associated with individuals’ identities affects their individual as well as group identities and experiences (Parent et al., 2013). Ultimately, intersectionality encompasses the interrelationships between privileged and oppressed identities and highlights the importance of attending to multiple marginalized identities because individuals with multiple marginalized identities could be exposed to multiple forms of oppression (Cole, 2009; Bowleg, 2008; Parent et al., 2013; Rankin et al., 2010). For example, a Black lesbian woman could experience racism, sexism, and heterosexism (Bowleg, 2008). In
contrast, a White gay man could experience heterosexism but would not experience racism or sexism. Rather, he would experience both White privilege and male privilege (Bowleg, 2008).

LGB college students’ intersectionality encompasses their multiple interrelated identities (e.g., race, ethnicity, gender, socioeconomic status, ability) that are also interconnected with their college student identity and sexual orientation identity. Consistent with research that suggests that individuals with multiple marginalized identities can experience multiple forms of oppression, the 2010 State of Higher Education for Lesbian, Gay, and Transgender People reported that LGBQ participants who were racial minorities were more likely than White LGBQ participants to experience harassment and indicate race, along with sexual orientation, as a basis for harassment (Rankin et al., 2010).

Although intersectionality critically affects individuals’ experiences, researchers have yet to establish clear, consensus guidelines regarding how to address intersectionality within research design, data analysis, and results interpretation (Cole, 2009; Parent et al., 2013). Current recommendations within existing research on intersectionality acknowledge the impracticality of asking an exhaustive list of identities and instead emphasize limiting identity-related questions to the specific identities that are the focus of the study (Bowleg, 2008). Researchers have also noted the importance of addressing any limitations associated with intersectionality considerations when interpreting and reporting research results (Bowleg, 2008; Cole, 2009). Specifically, empirical literature recommends being attuned to intersectionality when interpreting results in order to prevent inaccurate overgeneralizations while simultaneously avoiding
the minimization of research findings’ applicability due to all individuals ultimately and inherently having unique intersectionalities (Bowleg, 2008; Cole. 2009).

For the purposes of this study, intersectionality was attended to in several ways. First, intersectionality assumes individuals’ group identities affect their individual experiences, particularly experiences of privilege and oppression (Parent et al., 2013). Because this study focused on LGB and heterosexual college student groups, I included the Everyday Discrimination Scale (Williams, Yu, & Anderson, 1997) in order to identify possible differences in experiences of discrimination for LGB and heterosexual college students. Possible differences in experiences of discrimination for LGB and heterosexual college students could be interpreted as being reflective of experiences of oppression due to sexual orientation. Second, I examined the correlations between participants’ demographic factors and the primary variables. However, significant demographic factors (i.e., age, gender, race/ethnicity, educational status, relationship status, living situation, campus organization involvement, campus leadership involvement) were not included in the primary data analyses because inclusion of these factors would have resulted in a significant reduction in statistical power. (See Chapter 4, p. 100 for additional details). Finally, the limitations associated with intersectionality are acknowledged within Chapter 5 (p. 175).

**LGB College Students: Suicidal Ideation and Behaviors**

Suicide is the second leading cause of death for college students wherein 30.9% of students have seriously considered attempting suicide at some point in their life and 8.9% reported making a suicide attempt (Pennsylvania State University, 2015). LGB college students are at an even greater risk for suicide. They are three times more likely
to report a suicide attempt when compared to heterosexual students and approximately 10% more likely to report a suicide attempt when compared to other, generally older, members of the LGB community (U.S. Department of Health and Human Services Office of the Surgeon General & National Action Alliance for Suicide Prevention, 2012). Because of the striking suicide attempt rates for LGB college students, researchers have broadly explored the differential rates of suicidal ideation and behaviors for this vulnerable population when compared to their heterosexual counterparts in order to better understand LGB college students’ suicide risk.

It is important to note that for the purposes of this study transgender participants were not excluded, and they were categorized as heterosexual or LGB based on their self-reported sexual orientation. Researchers have emphasized the need to examine LGB college students’ suicide risk separately from transgender college students’ suicide risk for three key reasons (GenIUSS Group, 2014; Haas et al., 2011). First, sexual orientation is different from gender identity. Sexual orientation refers to whom individuals are sexually, romantically, and/or physically attracted (GenIUSS Group, 2014). Gender identity refers individuals’ sense of their gender (i.e., man, woman, transgender, other; GenIUSS Group, 2014). For transgender individuals, their biological sex (i.e., male or female) is different from their gender identity (GenIUSS Group, 2014). An example of transgender gender identity is a person who is born into a female body but feels male and identifies as a man. Additionally, gender identity encompasses how individuals feel about their gender regardless of how their gender identity is expressed (GenIUSS Group, 2014). Specifically, some transgender individuals change their physical appearance to align with their gender identity (e.g., clothing choices, gender alignment surgeries) and some
transgender individuals do not similarly alter their physical appearance (GenIUSS Group, 2014). Second, sexual orientation is independent of gender identity (GenIUSS Group, 2014). Transgender individuals can be of any sexual orientation (e.g., gay, lesbian, bisexual, heterosexual). Third, transgender college students may have a higher rate of suicide attempts as compared to cisgender college students wherein a national survey of over 14,000 college students from universities across the United States found that 32.7% of transgender college students reported thoughts of attempting suicide (Active Minds, 2016; Healthy Minds Network, 2016). Examination of transgender participants as compared to cisgender students was not conducted in this study because of the small number of transgender participants ($n = 3$) as well as the potential confounding of sexual orientation and gender identity due to two of the three transgender participants identifying as gay.

Various researchers have explored suicidal *ideation* within LGB college students. Specifically, Hill and Pettit (2012) studied 198 college students, 46 of whom were LGB, and found that LGB participants had significantly higher mean scores for suicidal ideation than heterosexual participants. Blosnich and Bosarte’s (2012) analyses of the National College Health Assessment (NCHA) revealed that 15% of gay and lesbian college student participants and 21% of bisexual college student participants experienced suicidal ideation within the past year whereas only 5.5% of heterosexual college student participants experienced suicidal ideation within the past year. Garcia, Adams, Friedman, and East (2002) surveyed 138 LGB college students and found that 43% of the respondents reported past suicidal ideation within their lifetime. Thus, research seems to
consistently demonstrate higher rates of suicidal ideation for LGB college students when compared to their heterosexual peers.

Researchers examining LGB individuals’ suicidal behaviors have similarly discovered higher rates of suicidal behaviors when compared to heterosexual individuals. Ploderl et al.’s (2014) analyses of a sample of 225 LGB adults (mean age of 27.66) indicated that 14% of participants self-reported engaging in suicidal behaviors at least once in their life. Blosnich and Bosarte’s (2012) analysis of National College Health Assessment (NCHA) revealed that 3.3% of gay or lesbian participants and 4.6% of bisexual participants self-reported past suicide attempts whereas 0.9% of heterosexual participants self-reported past suicide attempts. Additionally, King et al.’s (2008) meta-analysis of 25 studies examining comparative rates of reported suicidal behaviors between LGB individuals and heterosexual individuals found that LGB individuals have a higher rate of suicide attempts across their lifespan and concluded that LGB people are 2.47 times higher to engage in suicidal behaviors over the life span. Thus, LGB individuals seem to exhibit suicidal behaviors at a greater prevalence rate than heterosexuals. Therefore, it is likely that LGB college students similarly exhibit higher rates of suicidal behaviors although little research has focused specifically on suicidal behaviors exhibited by LGB college students.

Because of the striking suicide statistics associated with LGB college students, researchers have acknowledged the critical need to understand what factors contribute to these comparatively higher rates of suicidal ideation and behaviors by determining the possible risk and protective factors for suicidal ideation and behaviors for this vulnerable population (Blosnich & Bossarte, 2012; de Graaf et al., 2006; King et al., 2008). In spite
of this recognized need, relatively little attention has been given to theoretically conceptualizing and empirically examining the specific risk and protective factors related to suicidal ideation for this population. Although no specific theory exists regarding LGB college students’ suicidal ideation and behaviors, Joiner’s (2005) interpersonal psychological theory of suicide (detailed below) seems to offer a possible framework for conceptualizing LGB college students’ suicidal ideation and behaviors. Joiner’s (2005) interpersonal psychological theory of suicide is likely a fitting framework because this theory has been effectively applied to college students in previous research (Lamis et al., 2010; Van Orden et al., 2008b). Additionally, this theory is likely a fitting framework because previous research on LGB college students’ suicide has highlighted the critical role of interpersonal factors in LGB college students’ suicide risk (Drum et al., 2009; Oswalt & Wyatt, 2011; Rankin et al., 2010).

For the purposes of this study lesbian, gay, and bisexual college students were examined as one group. Lesbian, gay, and bisexual college students were examined as one group in order to be consistent with previous suicide research on LGB populations, which examines lesbian, gay, and bisexual individuals collectively (Blosnich & Bossarte, 2012; de Graaf et al., 2006; Drum et al., 2009; Haas et al., 2011; King et al., 2008; Oswalt & Wyatt, 2011; Rankin et al., 2010). Additionally, bisexual college students were included because they are an important and sizable subset of the LGB community (Li, Dobinson, Scheim, & Ross, 2012). However, although previous studies examine lesbian, gay, and bisexual individuals collectively, recent research has highlighted possible differences between the mental health of lesbian and gay individuals as compared to bisexual individuals (Brennan, Ross, Dobinson, Veldhuizen, & Steele, 2010; Li et al.,
2012). Specifically, research suggests that bisexual individuals may have higher rates of mental health problems (e.g., depression, anxiety, substance abuse, suicidality) as compared to lesbian and gay individuals (Balsam, Beauchaine, Mickey, & Rothblum, 2005; Brennan et al., 2010; Steele, Ross, Dobinson, Veldhuizen, Tinmouth, 2009; Tjepkema, 2008).

Researchers posit that bisexual individuals may have comparatively higher rates of mental health issues as compared to lesbian and gay individuals because they may experience prejudice from lesbian and gay individuals as well as heterosexual individuals (Dodge et al., 2012; Li et al., 2012). Specific prejudices that exist include: bisexuality is a denial of one’s gay or lesbian identity, bisexuality is not a legitimate sexual orientation, and bisexual individuals are unable to be monogamous, faithful romantic partners (Li et al., 2012; Yoshino, 2000). Research has also suggested that bisexuals experience these prejudices regardless of whether or not they are in a same-gender or opposite-gender relationship (Dodge et al., 2012; Li et al., 2012). However, bisexual individuals demonstrate similar mental health benefits and resilience from emotionally supportive relationships (e.g., family, peers, romantic partners) as compared to lesbian and gay individuals (Li et al., 2012). Consequently, including bisexual college students with lesbian and gay college students is likely appropriate for this study because this study uses an interpersonal framework to examine suicidal ideation and behaviors.

**Joiner’s (2005) Interpersonal Psychological Theory of Suicide**

In this section, I first provide an overview of Joiner’s (2005) interpersonal psychological theory of suicide. I subsequently highlight the theory’s three main factors of perceived burdensomeness, thwarted belongingness, and acquired capability. Within
the thwarted belongingness section, I include additional subsections that highlight four key spheres of belongingness, which are family belongingness, peer belongingness, academic institution belongingness, and sexual orientation community belongingness. I then offer a critique for Joiner’s (2005) interpersonal psychological theory of suicide.

Overview

Joiner’s (2005) interpersonal psychological theory of suicide provides a fitting theoretical conceptualization to examine the factors related to suicidal ideation and behaviors for LGB college students. Joiner (2005) stated that suicidal ideation is thinking about, considering, or planning for suicide completion. Suicidal ideation can range from a specific, concrete plan to a fleeting thought (Joiner, 2005). Suicidal behaviors are defined as self-initiated actions that include both an intention to die and physical injury wherein both intention to die and physical injury can vary in degree (Van Orden et al., 2010).

Joiner (2005) highlighted three factors as being the underlying causes of suicide within the general population. These three factors are: perceived burdensomeness, thwarted belongingness, and acquired capability. More specifically, Joiner (2005) asserted that a conceptual interplay between perceived burdensomeness and thwarted belongingness contributes to suicidal ideation. Empirical findings are consistent with Joiner’s (2005) assertion regarding the association of perceived burdensomeness and thwarted belongingness with suicidal ideation (Conner, Britton, Sworts, & Joiner, 2007; Joiner et al., 2002; Lamis & Malone, 2011; Van Orden et al., 2008b; You, Van Orden, & Conner, 2011). Joiner (2005) posited that acquired capability is associated with suicidal behaviors, which has been supported within research. Specifically, results from Joiner et al.’s (2009) study suggested that community-based psychotherapy outpatients with
greater numbers of suicide attempts had higher acquired capability than those with fewer suicide attempts or no suicide attempts. The theory further elaborates that the combined effect of perceived burdensomeness, thwarted belongingness, and acquired capability results in lethal or near lethal suicide attempts (Joiner, 2005).

Research with various samples, including college students, offers empirical support for Joiner’s (2005) theory. More specifically, perceived burdensomeness and thwarted belongingness have been associated with suicidal ideation in psychotherapy outpatient clients (Van Orden, Lynam, Hollar, & Joiner, 2006), inpatient psychiatric patients (Monteith, Menefee, Pettit, Leopoulos, & Vincent, 2013), individuals with substance use and abuse disorders (Conner et al., 2007), college students (Lamis et al., 2010; Van Orden et al., 2008b), and international college students (Servaty-Seib et al., 2015). Additionally, findings exhibited a relationship between acquired capability and past suicide attempts in adult outpatient clients (Smith, Cukrowicz, Poindexter, Hobson, & Cohen, 2010; Van Orden et al., 2008a) and college students (Anestis, Bagge, Tull, & Joiner, 2011). Specifically for college students, Van Orden et al. (2008b) demonstrated that perceived burdensomeness and thwarted belongingness significantly predicted suicidal ideation for a sample of over 300 undergraduate students. Relatedly, Christensen, Batterham, Soubelet, and Mackinnon (2013) examined suicidal ideation in relation to thwarted belongingness and perceived burdensomeness and also explored the relationship between acquired capability and suicidal behaviors across three age cohorts, which were participants in their 20s, 40s, and 60s. They found that Joiner’s (2005) model was most predictive for the cohort of participants in their 20s. Thus, research suggests that
Joiner’s (2005) model offers a fitting explanation for suicidal ideation and behaviors, particularly for individuals who are emerging adults.

Although researchers have used Joiner’s (2005) interpersonal psychological theory of suicide as a framework to examine suicidal ideation and behaviors for various populations, including college students, little research exists regarding the relationship between Joiner’s (2005) three factors (i.e., perceived burdensomeness, thwarted belongingness, and acquired capability) and suicidal ideation and behaviors within LGB college students. Furthermore, whereas existing research suggests a possible link between Joiner’s (2005) theoretical factors (i.e., perceived burdensomeness, thwarted belongingness, and acquired capability) and suicidal ideation and behaviors in LGB college students, no study has simultaneously examined these three factors in relation to suicidal ideation and behaviors for LGB college students. In the following sections, I highlight empirical studies that offer support for Joiner’s (2005) theory as a fitting framework for explaining suicidal ideation and behaviors within LGB college students.

**Perceived Burdensomeness**

Perceived burdensomeness is one of two factors that is a primary, essential factor associated with suicidal ideation (Joiner, 2005). Perceived burdensomeness consists of two facets, which are individuals’ (a) self-hatred resulting from the belief that they are a problem to others because they are excessively flawed and (b) beliefs that they are a liability to close others (e.g., family, friends) because others would be better off without them (Joiner, 2005; Van Orden et al., 2010). The first facet, which is self-hatred beliefs, can be evidenced directly through individuals’ assertions that they hate themselves, or it can be communicated indirectly, such as through feelings of uselessness (Van Orden et
al., 2010). The second facet, which is the belief that they are a liability to others, can be
ehibited by individuals stating that close others (e.g., family, friends) are worse off
because of their presence (Van Orden et al., 2010). Perceived burdensomeness is a
dynamic cognitive-affective state and individuals’ degree of perceived burdensomeness
can vary across time (Van Orden et al., 2010). Additionally, perceived burdensomeness
can vary across relationships (e.g., family, friends; Van Orden et al., 2010).

Given that perceived burdensomeness is comprised of beliefs of self-hatred and of
being a liability to others, perceived burdensomeness is likely related to LGB college
students’ mental health and suicidal ideation because of the unique difficulties that LGB
college students face. Specifically, LGB college students endure interpersonal,
institutional, and societal discrimination (Haas et al., 2011; Halpert, 2002; McDermott et
al., 2008). These experiences of discrimination may send implicit and/or explicit
messages to LGB college students that could be connected with a sense of self-hatred
(Haas et al., 2011; Halpert, 2002; McDermott et al., 2008; Silva et al., 2014; Westefeld,
Maples, Buford, & Taylor, 2001). Additionally, negative interactions with family
members and peers may be linked to LGB college students believing that they are unable
to meet others’ expectations due to their sexual orientation (Hilton & Szymanski, 2011;
Silva et al., 2014). Thus, LGB college students may experience perceived
burdensomeness to a greater degree (i.e., more) than their heterosexual peers.
Additionally, because many of these environmental and social experiences are solely
associated with LGB identity, LGB college students may also uniquely experience
perceived burdensomeness as compared to their heterosexual peers.
Minimal research exists examining the relationship between perceived burdensomeness and suicidal ideation in LGB populations. Among this limited empirical literature, a relationship between perceived burdensomeness and suicidal ideation seems to exist. Specifically, Cramer et al. (2014) found a significant correlation between suicide proneness (i.e., suicide-related thoughts) and Joiner’s (2005) factor of perceived burdensomeness in LGB adults ($r = .40$). Ploderl et al. (2014) studied a sample of 225 LGB emerging adults (mean age of 27.66) and found that perceived burdensomeness was significantly correlated with suicidal ideation as measured by the Beck Scale for Suicide Ideation ($r = .42$; Beck & Steer, 1991). Specifically for LGB college students, Hill and Pettit (2012) and Silva et al. (2014) found that LGB college students had higher perceived burdensomeness and suicidal ideation than their heterosexual counterparts and that perceived burdensomeness was positively associated with LGB college students’ suicidal ideation.

**Thwarted Belongingness**

Thwarted belongingness is broadly defined as social isolation and is often assessed by measuring individuals’ social connectedness (Joiner, 2005; Van Orden et al., 2008b; Van Orden et al., 2010). Thwarted belongingness is unique from social isolation in that thwarted belongingness includes *perceived* as well as actual social isolation from others (Joiner, 2005; Van Orden et al., 2008b; Van Orden et al., 2010). Specifically, thwarted belongingness includes both subjective social isolation (i.e., perceived; e.g., “These days, I feel like I belong”) as well as objective social isolation (i.e., actual; e.g., “These days, I have at least one satisfying interaction every day;” Joiner, 2005; Van Orden et al., 2010; Van Orden, Witte, Gordon, Bender, & Joiner, 2008a). In contrast,
social isolation solely refers to the absence of positive social relationships (Matthews et al., 2016). Thwarted belongingness is also a dynamic cognitive-affective state, which is influenced by individuals’ interpersonal environments, interpersonal cognitive schemas, and emotional states (Van Orden et al., 2010). Therefore, individuals’ thwarted belongingness varies across time and in degree of magnitude, ranging from minimal social isolation (i.e., having social relationships but occasionally feeling lonely) to severe social isolation (i.e., few to no social relationships; Van Orden et al., 2010). Joiner (2005) elaborated that thwarted belongingness contributes to suicidal ideation because belongingness is an essential need for all individuals. When the need to belong is not met, thwarted belongingness emerges and involves the experience of emotional and psychological pain, which can significantly contribute to the development of suicidal ideation (Joiner, 2005).

Joiner (2005) added that thwarted belongingness is comprised of two facets, which are (a) loneliness and (b) the absence of reciprocally caring relationships. Loneliness is defined as the cognitions and emotions associated with the lack of sufficient social connections (Van Orden et al., 2010). The loneliness facet of thwarted belongingness can be exemplified through the assertion of feeling disconnected or having dissatisfying social interactions (Van Orden et al., 2010). The absence of reciprocally caring, positive, and supportive relationships is evidenced by a lack of relationships in which there are feelings of being cared for by others and caring about others (Van Orden et al., 2010). The absence of reciprocally caring relationships can be evidenced by assertions about feeling a lack of support from others, in general, and during times of need (Van Orden et al., 2010).
Thwarted belongingness may be uniquely experienced by or exacerbated for LGB college students due to their minority sexual orientation status. Specifically, the stigma and discrimination associated with the identity labels of gay, lesbian, and bisexual may create an emotional barrier for expression of closeness to others (D’Augelli, 1994). This emotional barrier is likely two-fold in that it may inhibit LGB individuals from establishing intimate relationships with others and also could prevent others from developing emotionally close connections with LGB individuals. The resulting social isolation and alienation from this emotional barrier may be maintained and reinforced because LGB individuals may come to expect discrimination and harassment, which could lead LGB individuals to engage in active self-isolation from others in order to avoid interpersonal rejection (Frable, Wortman, & Joseph, 1997; Greenberg, 1973; Grossman & Kerner, 1998; Malyon, 1981; Malyon, 1982; Massey & Ouellette, 1996; Meyer, 2003; Stokes & Peterson, 1998). Thus, LGB individuals’ sexual orientation may be linked to experiencing thwarted belongingness above and beyond their heterosexual peers.

Existing research examining LGB college students’ social connectedness and social support in relation to variables associated with suicidal ideation (e.g., depressive symptoms) reflects some evidence for Joiner’s (2005) proposed relationship between thwarted belongingness and suicidal ideation. Researchers have found that LGB college students self-report lower levels of social support and connectedness when compared to their heterosexual counterparts (Rosario et al., 2005; Safren & Heimberg, 1999). Additionally, research on LGB college students has suggested a link between social support, in general, and mental health issues often associated with suicide, such as
depressive symptoms (Hill & Pettit, 2012; Ryan et al., 2009; Ryan et al., 2010; Shilo & Savaya, 2011; Shilo & Savaya, 2012; Ueno et al., 2009). Studies have indicated that a lack of social support is positively correlated with depressive symptoms for LGB individuals, and these studies have also suggested that the presence of supportive relationships is negatively correlated with depressive symptoms for LGB individuals (Haas et al., 2011; Ryan et al., 2009; Ryan et al., 2010; Shilo & Savaya, 2012; Ueno et al., 2009). Given the observed relationship between social support and mental health issues often associated with suicide (e.g., depressive symptoms) for LGB college students, thwarted belongingness may be an important factor in understanding LGB college students’ suicidal ideation.

Limited preliminary research has more explicitly examined thwarted belongingness in direct relation to suicidal ideation for LGB adults and college students. Cramer et al. (2014) examined suicide proneness (i.e., suicide-related thoughts) in LGB adults and found that the presence of belongingness was significantly, negatively correlated with suicide proneness. In addition, Ploderl et al. (2014) used a sample of 225 LGB adults (mean age of 27.66) and found that thwarted belongingness, which was measured directly by the Interpersonal Needs Questionnaire (Van Orden et al., 2008b), was significantly correlated with suicidal ideation as measured by the Beck Scale for Suicide Ideation (Beck & Steer, 1991). These same researchers used t-tests to demonstrate that thwarted belongingness was significantly associated with suicide attempts for the LGB participants (Ploderl et al., 2014). Specifically for LGB college students, Hill and Pettit (2012) found that suicidal ideation was positively correlated with
thwarted belongingness. Thus, research findings seem to provide evidence for the possible link between belongingness and suicidal ideation for LGB college students.

**Spheres of belongingness.** Although researchers have examined thwarted belongingness in relation to suicidal ideation and mental health variables related to suicidal ideation for LGB adults and LGB college students, further research is needed because Joiner’s (2005) definition of belongingness refers to a global sense of social connectedness and social support. Thus, researchers have examined belongingness by measuring individuals’ global sense of social connectedness and social support (Haas et al., 2011; Hill & Pettit, 2012; Ryan et al., 2009; Ryan et al., 2010; Shilo & Savaya, 2012; Ueno et al., 2009; Van Orden et al., 2008b; Wilcox, Arria, Caldeira, Vincent, Pinchevsky, & O’Grady, 2010). This definition of belongingness does not address that all individuals, including LGB individuals, are connected to various interpersonal groups (Baskin, Wampold, Quintana, & Enright, 2010; Baumeister & Leary, 1995). Therefore, previous research that has used Joiner’s (2005) conceptual framework of belongingness has not accounted for the possible differential associations of specific spheres of belongingness with suicidal ideation for LGB college students, which are to their family, peers, academic institution, and sexual orientation community (Darling et al., 2007; Drum et al., 2009; Haas et al., 2011). Because previous research has examined belongingness from a global perspective and consequently not examined thwarted belongingness with respect to these four spheres of belongingness, it is currently impossible to know if these spheres of belongingness may be differentially associated with LGB college students’ suicidal ideation. Therefore, a more comprehensive understanding of LGB college students’ suicidal ideation may potentially be obtained by exploring the relationship between
thwarted belongingness for the individual spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation.

In the subsections below, I offer a description of these four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and review existing research that suggests a relationship between these individual spheres and suicidal ideation for LGB college students. In each of the four following sections, I provide an overview of the specific spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community). Then, I offer LGB college students’ unique experience of the specific spheres of belongingness. I conclude each section with a description of studies that link the specific spheres of belongingness with psychological well-being and suicidal ideation for LGB college students.

**Family belongingness.** Family belongingness refers to individuals’ perceptions that they are connected to, supported by, and cared for by their family members (Slaten & Baskin, 2014). Researchers and theorists have asserted that family belongingness is a particularly important and unique sphere of belongingness because family relationships are universal and stable (i.e., family members are always family members even if contact ceases; Gittins, 1993; Goldsmith, 1976; Lambert, Stillman, Baumeister, Fincham, Hicks, & Graham, 2010; Murdock, 1949). Family belongingness is critical for college students because college students often seek the emotional and practical support and security needed to successfully transition into adulthood from their families (Dennis, Phinney, & Chuateco, 2005; Gerdes & Mallinckrodt, 1994; Lambert et al., 2010; Mattanah, Hancock, & Brand, 2004). Additionally, family members often provide college students with emotional and interpersonal support during times in which they feel overwhelmed.
(Lambert et al., 2010). Finally, family members often serve as a basis for individuals’ self-worth because family relationships, particularly parental relationships, are generally the first significant relationships in individuals’ lives (Chung, Robins, Trzesniewski, Noftle, Roberts, & Widaman, 2014; Lambert et al., 2010; Moneta, Schneider, & Csikszentmihalyi, 2014; Wei, Yeh, Chao, Carrera, & Su, 2013; Wouters, Duriez, Luyckx, Colpin, Bijdtebier, & Verschueren, 2014).

Family belongingness is likely uniquely experienced by and important for LGB college students. Unlike individuals of other minority statuses (e.g., race/ethnicity, religion), LGB college students generally do not have parents or other family members who share their minority sexual orientation status, which could lead LGB college students to feel isolated from their family members (Blum & Pfetzing, 1997). Additionally, LGB college students are sometimes subject to familial rejection due to their sexual orientation (Ryan et al., 2009). Thus, LGB college students may be at an increased risk for experiencing a lack of family belongingness.

Research provides evidence that family belongingness is linked to psychological well-being and suicidal ideation in LGB college students. Specifically, previous research suggests that relationships with parents are positively associated with mental health resilience for LGB college students and that relationships with parents are among the most critical relationships with regards to mental health (Darling, et al., 2007; Haas et al., 2011). Relatively, research indicated that family support mitigated negative mental health symptoms that were a product of homophobic discrimination (Hershberger & D’Augelli, 1995). Finally, researchers have found that LGB college students who reported high
parental and family rejection due to their sexual orientation were more likely to report a history of a past suicide attempt (Blosnich & Bossarte, 2012; Ryan et al., 2009).

Although researchers have suggested that family relationships are associated with LGB college students’ mental health, some research suggests that the detrimental mental health effects of negative, rejecting familial relationships can be mitigated by obtaining connectedness and support from other members of the LGB community (Meyer, 2003). However, this research also suggests that the interpersonal support obtained through LGB community relationships does not fully alleviate the negative mental health effects of familial rejection (Hershberger & D’Augelli, 1995; Kertzner, 2001; Meyer, 2003).

Furthermore, in spite of the ameliorating effects of LGB community relationships, family support has been most closely tied with LGB mental health as compared to social support from peers or community members, and research has indicated that family support is integral in mitigating LGB individuals’ negative interpersonal experiences with other, non-family individuals (Hershberger & D’Augelli, 1995; Kertzner, 2001; Meyer, 2003).

**Peer belongingness.** Peer belongingness is defined as individuals’ beliefs and feelings that they are connected to, supported by, and cared for by their peers (Slaten & Baskin, 2014). Peer relationships are important for college students because peers give social support, provide encouragement and empathy when dealing with difficult situations, and offer opportunities to engage in social activities (Dennis et al., 2005; Pittman & Richmond, 2008). Additionally, peers have an important role in college students’ adjustment to college as well as college students’ development throughout college because peers are sharing their college experience and environment (Astin, 1993; Dennis et al., 2005; Freeman, Anderman, & Jensen, 2007; Rodriguez, Mire, Myers,
Morris, & Cardoza, 2003). Furthermore, the opportunity to self-disclose to peers affords college students the chance to receive social feedback and social input, which aids in the development of self-esteem and intimate relationships (Buhrmester & Prager, 1995; Pempek, Yermolayeva, & Calvert, 2009). Finally, peers can offer unique academic support that directly contributes to academic performance, including having study groups, sharing class notes, and offering guidance about classes and college living (Dennis et al., 2005; Richardson & Skinner, 1992).

LGB college students often have difficulties with establishing peer belongingness with heterosexual peers because they are less likely to experience accepting and respectful peer interactions due to their heterosexual peers’ negative attitudes, stereotypes, prejudices, and discrimination (Lucozzi, 1998; Sanlo, 2005; Worthen, 2012). Indeed, past research findings affirm that LGB college students are negatively perceived by their heterosexual peers, and some researchers have also found that heterosexual college students would prefer that their campuses only had heterosexual students (D’Augelli, 1989; D’Augelli & Rose, 1990; Engstrom & Sedlacek, 1997; Liang & Alimo, 2005). LGB college students can also struggle with establishing peer belongingness with heterosexual peers because their sexual orientation may affect their behavior around their heterosexual peers (Adams, Brigham, Daples, & Marchesani, 1994; Bell, 1997; Fassinger, 1998; Jackson & Hardiman, 1994; Liang & Alimo, 2005). Specifically, LGB college students often censor their behaviors and emotions around their heterosexual peers due to fear of harassment or discrimination (Harley, Nowak, Gassaway, & Savage, 2002; Norris, 1992; Renn, 2000). This self-censorship could affect LGB college students’ interpersonal and emotional distance from their heterosexual peers in order to avoid the
misperception that they are expressing a romantic interest in their heterosexual peers (Norris, 1992).

Research has affirmed the importance of peer relationships in connection with LGB college students’ mental health. Lack of peer belongingness, peer rejection, and peer harassment have been linked to LGB college students’ experience of chronic stress and even their dropping out of college (Hunter & Schaecher, 1995; Rotheram-Borus, Roserio, & Koopman, 1991; Sanlo, 2005). Additionally, the absence of peer relationships was positively correlated with depressive symptoms for LGB college students (Friedman et al., 2006; Ploderl & Fartacek, 2007). Furthermore, healthy peer relationships was positively associated with mental health resilience for LGB college students (Goodenow et al., 2006; Haas, et al., 2011). Research has also indicated that LGB college students’ exposure to peers’ homophobic attitudes was negatively correlated with mental health (Liang & Alimo, 2005). Finally, empirical literature indicated that LGB college students who self-reported higher friendship quality had higher academic performance (Lapsley, Rice, & Fitzgerald, 1990; Liang & Alimo, 2005) and lower levels of depression, anxiety, and perceived distress (Dworkin, 2000; Mounts, Valentiner, Anderson, & Boswell, 2006; Sanlo, 2005) than LGB college students with lower self-reported friendship quality. Thus, peer relationships seem to be linked to a variety of mental health factors for LGB college students; consequently, a relationship between peer belongingness and suicidal ideation may exist for LGB college students.

**Academic institution belongingness.** Academic institution belongingness, which is also sometimes referred to as school belongingness, is defined as individuals’ connectedness or perceived membership to their college or university (Pittman &
Richmond, 2008). Academic institution belongingness is a sense of belongingness to the larger academic institution community and members of the academic institution community (e.g., faculty, staff, administrators; Pittman & Richmond, 2008). Factors associated with academic institution belongingness include individuals’ sense of commitment to their institution and their sense that others at the institution recognize their abilities (Hagborg, 1994; Pittman & Richmond, 2008; Smerdon, 2002). Academic institution belongingness is important for college students because colleges and universities are integral in students’ academic and socioemotional development (Beyers & Goossens, 2002; Eccles & Roeser, 2003; Pittman & Richmond, 2008; Tao, Dong, Pratt, Hunsberger, & Pancer, 2000). Furthermore, research has suggested that college students who do not feel connected to the larger university community experience emotional distress, even if they have positive family and peer relationships (Ashwin, 2003; Dennis et al., 2005; Mounts et al., 2006; Pittman & Richmond, 2008).

LGB college students face unique challenges in establishing academic institution belongingness. Because colleges and universities are ultimately a microcosm of the broader society, LGB college students are exposed to the prejudices, biases, and systemic oppressions that are characteristic of society-at-large (Bieschke, Eberz, & Wilson, 2000; Dilley, 2002; Harley et al., 2002; Rankin, 2003; Sanlo, 2005). The prejudices and biases they experience can often result in academic, emotional, and transitional difficulties. Furthermore, systemic oppression could lead to these difficulties being falsely attributed to the incorrect assumption that LGB college students are incompetent and inept when these difficulties are actually associated with existing systemic problems (Gwalla-Ogisi & Sikorski, 1996; Harley et al., 2002). The difficulties associated with systemic
Oppressions are also frequently exacerbated because colleges and universities often do not offer open support and empowerment to LGB students (Epstein, 1994; Harley et al., 2002; Rankin et al., 2010). Additionally, LGB college students often feel devalued and underappreciated by their universities. Specifically, the university environment should be an environment of free expression and exchange of ideas (Renn, 2000). However, LGB college students frequently censor their ideas and opinions because they fear potential discrimination or harassment by university faculty and staff due to their sexual orientation (Harley et al., 2002; Norris, 1992; Renn, 2000). Universities often unintentionally, and sometimes intentionally, ignore both overt and subtle discrimination and harassment directed toward LGB students (Harley et al., 2002). As a result, LGB students often feel uneasy within their university environment. Finally, even though some university administrators, faculty, staff, and counseling center practitioners strive for increasing acceptance of LGB students within the overall university climate, they often lack the skills, experience, and knowledge needed to effectively foster a safe university environment (Croteau & Lark, 1995; Harley et al., 2002).

Minimal research has suggested the significant impact that academic institution belongingness could have on LGB college students’ mental health. Existing research indicates that LGB college students generally perceive colleges and universities as less welcoming than their heterosexual peers, and LGB college students report being targeted for harassment and violence (Brown, Clarke, Gortmaker, & Robinson-Keilig., 2004; Evans & D’Augelli, 1996; Franklin, 2000; Rankin, 1998; Rankin 2003). This lack of academic institution belongingness appears linked to LGB college students’ mental health. Specifically, LGB college students’ lack of connectedness to their academic
institution was positively correlated with depressive symptoms (Friedman et al., 2006; Ploderl & Fartacek, 2007); whereas, the presence of comfort within their academic institution was positively correlated with mental health resilience (Goodenow et al., 2006; Haas, et al., 2011).

**Sexual orientation community belongingness.** Sexual orientation community belongingness is LGB college students’ perception that they are connected to the LGB community in a positive, rewarding manner (Frost & Meyer, 2012). Sexual orientation community belongingness is distinctly important because it offers LGB individuals validation through shared experiences due to their sexual minority status (Ashmore, Deaux, & McLaughlin-Volpe, 2004; Baumeister & Leary, 1995). Additionally, sexual orientation community belongingness offers emotional support through shared emotional experiences, which assists LGB individuals in coping with discrimination, heterosexism, and harassment (Corrigan & Matthews, 2003; Frost & Meyer, 2012; Galatzer-Levy & Cohler, 2002; Whitlock, 2007).

Although sexual orientation community belongingness may not be an integral sphere of belongingness for heterosexual college students, being connected to the LGB community could be important for LGB college students for several reasons. First, sexual orientation community belongingness provides LGB college students with positive role models and offers evaluative standards in relation to people who are similar in sexual orientation to them rather than perpetuating self-comparisons with the dominant heterosexual culture (Crocker & Major, 1989; Herek & Glunt, 1995; Meyer, 2003; Sanlo, 2005). Second, sexual orientation community belongingness offers emotional support and validation as LGB college students encounter many situations and stressors that
heterosexual college students do not experience (e.g., “coming out” to others, establishing same-gender romantic relationships, determining if and how to disclose sexual orientation to employers; Meyer, 2003). Although sexual orientation community belongingness has been only minimally explored for LGB college students, research on LGB adults, in general, provides evidence of the importance of sexual orientation community belongingness for LGB individuals’ mental health. Connection with the LGB community has been associated with increased ability for LGB individuals to cope with internalized heterosexism (Cox, Dewaele, Van Houtte, & Vincke, 2010). Additionally, research indicates that LGB community connectedness positively correlates with mental health and well-being (Kertzner, Meyer, Frost, & Stirratt, 2009; Ramirez-Valles, Fergus, Reisen, Poppen, & Zea, 2005). Specifically for LGB college students, mental health was positively correlated with both LGB community social contact and LGB community social support (D’Augelli, 2006; Shilo & Savaya, 2012; Ueno et al., 2009). Finally, the provision of LGB community support through group therapy has been positively related to LGB college students’ sense of community and perceived social support as demonstrated by comparing LGB college students’ perceived sense of community and social support before and after their participation in therapy (Zapata, 2000).

**Acquired Capability**

Joiner’s (2005) third factor, acquired capability, is a critical and essential factor for engagement in suicidal behaviors. Acquired capability is comprised of two facets, which are (a) an elevated physical pain tolerance and (b) a reduced fear of death (Van Orden et al., 2010).
The first facet, which is elevated physical pain tolerance, refers to habituating to physically painful experiences and having a heightened ability to engage in increasingly painful, physically harmful, and lethal self-harm behaviors (Van Orden et al., 2010). Physical pain tolerance is developed as a result of individuals’ self-experience of physical pain. Physical pain tolerance varies in degree and is method-specific wherein physical pain tolerance associated with one method (e.g., cutting) can be high but can be low for another method (e.g., hanging; Van Orden et al., 2010). This physical pain can either be directly associated with suicidal behaviors, such as self-harm, or can develop through non-suicidal physical pain, such as physical abuse and invasive medical procedures (Van Orden et al., 2010). Research is consistent with this theoretical assertion that elevated physical pain tolerance could develop through non-suicidal physical pain in that research findings indicate significant relationships between both suicidal and non-suicidal self-injury and suicide attempts (Guan et al., 2012; Hamza et al., 2012; Klonsky et al., 2013; Nock et al., 2006; Willoughby et al., 2015).

Reduced fear of death is the second facet associated with acquired capability. Reduced fear of death refers to a decreased fear of death, which develops from having been exposed to or observing numerous or repeated physically painful or fearful experiences and includes feelings of relief associated with these experiences (Van Orden et al., 2010). Specifically, reduced fear of death can develop through individuals’ witnessing physically painful experiences (e.g., observing physical abuse or trauma), actively engaging in physically painful experiences (e.g., inflicting physical pain or harm on another person or animal), or being involved in fearful experiences (e.g., exposure to combat or natural disaster). Individuals who witness, engage in, or are involved in
physically painful or fearful experiences could develop a reduced fear of death because they habituate to these physically painful or fearful situations and these situations become somewhat normalized (Van Orden et al., 2010). Reduced fear of death results in individuals becoming increasingly able to engage in previously painful or frightening behaviors (Van Orden et al., 2010). Fear of suicide occurs on a range from high fear to low fear, and fear of suicide must be nearly nonexistent for individuals to engage in suicide attempts (Van Orden et al., 2010). Having almost no fear of suicide can be expressed through individuals stating that they have the courage and capability to complete suicide (Van Orden et al., 2010).

Because acquired capability is comprised of an elevated physical pain tolerance and a reduced fear of death, acquired capability can be gained over time and is relatively stable once established (Van Orden et al., 2010). The most direct route to developing acquiring capability is practicing, preparing for, or engaging in suicidal behaviors with suicide attempts being the most extreme form of suicidal behaviors (Van Orden et al., 2010). However, acquired capability can also be established through other experiences and behaviors. For example, individuals who are subject to childhood physical abuse can develop an increased physical pain tolerance, which could result in increased acquired capability (Van Orden et al., 2010). Specifically, individuals who experience childhood physical abuse could be less frightened of physical harm and consequently may have an increased likelihood to engage in self-harm behaviors associated with suicide (VanOrden et al., 2010). As an example, a military veteran who is wounded-in-action can develop increased physical pain tolerance due to the sustained injury and also develop a reduced fear of death due to witnessing combat (Van Orden et al., 2010).
LGB individuals may be at an increased susceptibility for heightened acquired capability due to possibly higher physical pain tolerance and reduced fear of death when compared to heterosexual individuals. LGB individuals may develop a higher physical pain tolerance because LGB individuals are more likely to be victims of traumatic events as a result of antigay hate crimes, including physical assault and sexual assault (Balsam et al., 2005; Ryan et al., 2010; Saewyc et al., 2006). Specifically, the 2010 State of Higher Education for Lesbian, Gay, and Transgender People indicated that LGBQ participants (as compared to heterosexual participants) were twice as likely to report experiencing harassment and seven times more likely to indicate that their experiences of harassment were associated with their sexual orientation identity (Rankin et al., 2010). Additionally, 61% of LGBQ participants (as compared to 37% of heterosexual participants) reported being called derogatory remarks (Rankin et al., 2010). Within a national survey specifically focused on sexual harassment, 73% of LGBT students reported experiencing sexual harassment, and 44% of LGBT students reported experiencing contact sexual harassment (Perez & Hussey, 2014). These traumatic experiences can result in immense physical pain, which could result in heightened acquired capability (Herek, Gillis, & Cogan, 1999; Ploderl et al., 2014). Additionally, the psychological pain associated with traumatic experiences, harassment, and discrimination could result in LGB individuals re-experiencing the physical, psychological, and emotional pain associated with these experiences (Ploderl et al., 2014). Due to this re-experiencing, there is a possibility that LGB individuals could internalize the pain as well as habituate to the pain, which may be associated with a reduced fear of death and heightened acquired capability.
Limited research exists that examines the relationship between acquired capability and suicidal behaviors for LGB individuals. Additionally, no research has specifically focused on acquired capability within LGB college students. Among the limited existing research, Ploderl et al. (2014) used an LGB adult sample and found that acquired capability was significantly correlated with suicide attempts. In addition, House et al. (2011) examined acquired capability indirectly by assessing interpersonal trauma (i.e., experiencing traumatic events, such as natural disasters, motor vehicle accidents, combat exposure, miscarriages, family violence, sexual assault, etc.) and discrimination in a sample of LGB adults. They reported that both interpersonal trauma and discrimination significantly explained suicide attempts in their sample (House et al., 2011). Thus, there is some empirical support for a relationship between acquired capability and suicidal behaviors in LGB individuals and that this relationship between acquired capability and suicidal behaviors for LGB individuals may be greater than that for heterosexual individuals. Because of the theorized relationship between discrimination and acquired capability, I included a discrimination measure to examine the possible relationship between experiences of discrimination and acquired capability (the Everyday Discrimination Scale; Williams, Yu, & Anderson, 1997; Appendix H).

**Summary and Critique of Joiner’s (2005) Interpersonal Psychological Theory of Suicide**

Although research has used Joiner’s (2005) theory to examine suicidal ideation and behaviors in numerous populations, including LGB college students, additional research is warranted. First, existing studies have not simultaneously examined the possible differences between LGB college students and heterosexual college students for
perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors. Second, researchers have not studied the possible differential relationships that may exist between LGB college students and heterosexual college students for perceived burdensomeness and suicidal ideation, thwarted belongingness and suicidal ideation, and acquired capability and suicidal behaviors. Such studies could offer greater insight into LGB college students’ heightened rates of suicidal ideation and behaviors.

Additionally, the relationship between acquired capability and suicidal behaviors among LGB individuals is the least empirically researched factor among Joiner’s (2005) three factors. Limited research has focused on the relationship between acquired capability and suicidal behaviors within LGB individuals, and no researchers specifically explored the relationship between acquired capability and suicidal behaviors in LGB college students. Furthermore, research has examined acquired capability solely in relation to suicide attempts. Thus, current studies do not account for the range of suicidal behaviors (e.g., superficial physical wounds associated with “practicing” suicidal behaviors, near-lethal suicide attempts that require medical attention) that exist. Additionally, some of the empirical literature used variables that could result in acquired capability (e.g., exposure to traumatic events, discrimination, harassment) as opposed to directly measuring individuals’ acquired capability. Therefore, although these studies’ findings offer a likely hypothesis regarding the relationship between acquired capability and suicidal behaviors, they do not offer direct evidence of the relationship between acquired capability and suicidal behaviors. Much research is needed regarding the
relationship between acquired capability and suicidal behaviors in LGB individuals, particularly in LGB college students, because acquired capability directly links to suicidal behaviors. Thus, understanding acquired capability in LGB college students may offer the greatest insight regarding LGB college students’ comparatively higher rates of suicidal behaviors and suicide completion when compared to their heterosexual peers.

Studies examining the relationships between perceived burdensomeness and thwarted belongingness with suicidal ideation have limitations. First, the empirical literature that explores the relationships between perceived burdensomeness and thwarted belongingness with suicidal ideation for LGB college students is minimal. Additionally, as referenced above, the few studies that have examined perceived burdensomeness in relation to suicidal ideation in LGB college students have focused on independent correlation analyses, which ignores the proposed conceptual interplay between perceived burdensomeness and thwarted belongingness (Van Orden et al., 2010). Thus, the complexities of the relationship between perceived burdensomeness, thwarted belongingness, and suicidal ideation have not been thoroughly investigated.

Finally, as highlighted above, existing research has only examined individuals’ global sense of belongingness. Thus, previous research using Joiner’s (2005) conceptualization of belongingness has not accounted for the possible differential relationships that various spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) may have on suicidal ideation in LGB college students.
Summary, Research Questions, and Hypotheses

The purpose of the present study was to use Joiner’s (2005) interpersonal psychological theory of suicide to investigate suicidal ideation and behaviors in LGB college students as compared to their heterosexual counterparts. Specifically, I examined whether or not LGB and heterosexual college students differed in their reported levels of perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors. I then examined whether or not sexual orientation (i.e., LGB or heterosexual) moderated the relationships between: (a) perceived burdensomeness and suicidal ideation, (b) the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation, and (c) acquired capability and suicidal behaviors.

Research Question #1. Do LGB and heterosexual college students differ with regard to their reported levels of perceived burdensomeness, belongingness for the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors?

Hypothesis 1 (H1): LGB college students will exhibit higher levels of perceived burdensomeness than their heterosexual counterparts.

Hypothesis 2 (H2): LGB college students will exhibit lower levels of belongingness for the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) than their heterosexual counterparts.
Hypothesis 3 (H3): LGB college students will exhibit higher levels of acquired capability than their heterosexual counterparts.

Hypothesis 4 (H4): LGB college students will exhibit higher levels of suicidal ideation than their heterosexual counterparts.

Hypothesis 5 (H5): LGB college students will exhibit higher levels of suicidal behaviors than their heterosexual counterparts.

**Research Question #2. Does sexual orientation (i.e., LGB or heterosexual) moderate the relationship between perceived burdensomeness and suicidal ideation?**

Hypothesis 6 (H6): The positive relationship between perceived burdensomeness and suicidal ideation will be greater for LGB college students than for their heterosexual counterparts.

**Research Question #3. Does sexual orientation (i.e., LGB or heterosexual) moderate the relationship between belongingness for the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation?**

Hypothesis 7 (H7): The negative relationship between belongingness for the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation will be greater for LGB college students than their heterosexual counterparts.
Research Question #4. Does sexual orientation (i.e., LGB or heterosexual) moderate the relationship between acquired capability and suicidal behaviors?

Hypothesis 8 (H8): The positive relationship between acquired capability and suicidal behaviors will be greater for LGB college students than their heterosexual counterparts.
CHAPTER 3: METHOD

This chapter offers information about the method for the present study. First, I give a description of the participant sample for this study, including my sample size and the participants’ demographic characteristics. I then describe the measures that I used and the procedures for collecting data.

Participants

Two-hundred and sixty-eight participants (100 LGB and 168 heterosexual) were included in the present study. This sample size met the minimum number needed to achieve adequate power for a path model analysis wherein 100 to 200 participants is considered to constitute a medium, adequate sample size (Kline, 2011). Additionally, having at least 100 participants per group met the minimum requirements to achieve adequate power for a MANCOVA analysis that includes two groups and eight dependent variables (Stevens, 2009). The participants were undergraduate students recruited using three separate methods of data collection (see Procedure section on p. 87). The only inclusion criteria was that participants needed to be undergraduate students between the ages of 18 and 25 years old in order to be representative of the traditional undergraduate student population (Pascarella & Terenzini, 2005). Participants were not excluded based on any other demographic characteristics, including but not limited to: gender, sex, race/ethnicity, etc. Participants’ sex and race/ethnicity percentages as compared to national demographic percentages of sex and race/ethnicity for college students from the United States Census Bureau (2012) are provided in Table 1.
Table 1

**Summary of Demographic Variables**

<table>
<thead>
<tr>
<th>Demographic</th>
<th>N</th>
<th>Sample %</th>
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</thead>
<tbody>
<tr>
<td>Gender</td>
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<tr>
<td>Man</td>
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Table 1

**Summary of Demographic Variables (Continued)**

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<td>Three organizations</td>
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<td>13</td>
<td>4.9</td>
<td></td>
</tr>
<tr>
<td><strong>Campus Leadership Involvement</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No leadership positions</td>
<td>172</td>
<td>64.2</td>
<td></td>
</tr>
<tr>
<td>One leadership position</td>
<td>60</td>
<td>22.4</td>
<td></td>
</tr>
<tr>
<td>Two leadership positions</td>
<td>31</td>
<td>11.6</td>
<td></td>
</tr>
<tr>
<td>Three leadership positions</td>
<td>4</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Four leadership positions</td>
<td>1</td>
<td>0.4</td>
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</tr>
</tbody>
</table>
Table 1

*Summary of Demographic Variables (Continued)*

<table>
<thead>
<tr>
<th>Demographic</th>
<th>N</th>
<th>Sample %</th>
<th>National %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiences of Discrimination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>87</td>
<td>32.5</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>66</td>
<td>24.6</td>
<td></td>
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<tr>
<td>Education/Income level</td>
<td>55</td>
<td>20.5</td>
<td></td>
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<tr>
<td>Race</td>
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<td>16.4</td>
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</tr>
<tr>
<td>Weight</td>
<td>36</td>
<td>13.4</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>33</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td>Sexual orientation</td>
<td>27</td>
<td>10.1</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>26</td>
<td>9.7</td>
<td></td>
</tr>
<tr>
<td>Physical appearance</td>
<td>25</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td>Ancestry/National origin</td>
<td>23</td>
<td>8.6</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td>22</td>
<td>8.2</td>
<td></td>
</tr>
<tr>
<td>Physical disability</td>
<td>3</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Mental Health Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counselor/Therapist/Psychologist</td>
<td>106</td>
<td>39.6</td>
<td></td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>37</td>
<td>13.8</td>
<td></td>
</tr>
<tr>
<td>Medical provider</td>
<td>27</td>
<td>10.1</td>
<td></td>
</tr>
<tr>
<td>Clergy/Religious leader</td>
<td>24</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>Considered Attempting Suicide in College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Considered attempting suicide</td>
<td>30</td>
<td>11.2</td>
<td></td>
</tr>
<tr>
<td>Shared with someone</td>
<td>21</td>
<td>7.8</td>
<td></td>
</tr>
<tr>
<td>Received psychological help</td>
<td>13</td>
<td>4.9</td>
<td></td>
</tr>
<tr>
<td>Attempted Suicide in College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attempted suicide</td>
<td>7</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>Shared with someone</td>
<td>3</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Received psychological help</td>
<td>3</td>
<td>1.1</td>
<td></td>
</tr>
</tbody>
</table>

A total of 268 (163 women; 97 men; five did not identify as man, woman, or transgender; three transgender) undergraduate students enrolled in universities across nine states in the United States were included in the present study. The gender distribution was 60.8% women, 36.2% men, 1.9% did not identify as man, woman, or transgender, and 1.1% transgender. Participants were between 18 and 25 years old ($M = 20.6; SD = 1.81$). Participants’ self-identified racial/ethnic identifications were: 210 (78.4%) Anglo American/White (not of Hispanic origin), 13 (4.9%) biracial/multiracial,
10 (3.7%) African American, nine (3.4%) international, nine (3.4%) other, eight (3.0%) Asian American, six (2.2%) Hispanic or Latino American, two (0.7%) Middle Eastern American, and one (0.4%) American Indian or Alaskan Native.

Reported sexual orientations were 168 (62.7%) heterosexual, 38 (14.2%) gay/lesbian, 36 (13.4%) bisexual, 13 (4.9%) questioning, and 13 (4.9%) other (i.e., pansexual, queer, asexual). Of those participants who identified as gay/lesbian, bisexual, questioning, or other, 85 (85.0%) indicated that others know about their sexual orientation identity. Educational statuses were 106 (39.6%) seniors, 101 (37.7%) first-years, 38 (14.2%) sophomores, and 23 (8.6%) juniors. Reported relationship statuses were 147 (54.9%) single, 87 (32.5%) in a relationship but not cohabitating, 13 (4.9%) single but cohabitating, 10 (3.7%) married, six (2.2%) partnered, and five (1.9%) engaged.

One-hundred and sixty-one (60.1%) participants reported that they experienced discrimination at least a few times per month or more. Of these participants, identities which they indicated as being the reason for their experiences of discrimination were: 87 (54.0%) gender, 66 (41.0%) age, 55 (34.2%) education or income level, 44 (27.3%) race, 36 (22.4%) weight, 33 (20.5%) height, 27 (16.8%) sexual orientation, 26 (16.1%) other (e.g., mental health, personality, mannerisms, unsure), 25 (15.5%) physical appearance (e.g., acne, body hair, facial features, “ugly”), 23 (14.3%) ancestry or national origin, 22 (13.7%) religion, and 3 (1.9%) physical disability. Participants were allowed to select more than one identity for which they experienced discrimination.

One-hundred and twenty-nine (48.1%) participants reported that they received mental health services. Reported reasons for receiving mental health services included,
but were not limited to: depression, anxiety, relationship issues, physical, emotional, and sexual abuse, bullying, stress management, and suicidal ideation. With regards to suicide attempts, 30 (11.2%) participants stated that they seriously considered attempting suicide while at college, and seven (2.6%) participants stated that they had attempted suicide while in college. Table 1 includes all of the demographic information collected for this study.

**Measures**

Table 2 provides a summary of the eight, Likert-type, quantitative measures (totaling 81 items) used in this study. Specifically, the table includes: the variable measured, the name of the measure for the respective variable, the author(s) of the measure, the number of items for the measure, the range of Cronbach’s alpha values for past studies, and the present study’s Cronbach’s alpha values.
Table 2

**Summary of Variables and Measures**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measure</th>
<th>Source</th>
<th>Items</th>
<th>Cronbach’s α Past (range)</th>
<th>Cronbach’s α Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Burdensomeness</td>
<td>Interpersonal Needs Questionnaire (INQ) – Perceived Burdensomeness Subscale</td>
<td>Van Orden et al. (2012b)</td>
<td>15</td>
<td>.88 - .90</td>
<td>.93</td>
</tr>
<tr>
<td>Family Belongingness</td>
<td>Milwaukee Youth Belongingness Scale – Family Subscale (MYBS – F)</td>
<td>Slaten et al. (2008)</td>
<td>8</td>
<td>.77 - .89</td>
<td>.91</td>
</tr>
<tr>
<td>Academic Institution</td>
<td>Psychological Sense of School Membership (PSSM)</td>
<td>Pittman &amp; Richmond (2007)</td>
<td>18</td>
<td>.82 - .97</td>
<td>.92</td>
</tr>
<tr>
<td>Belongingness</td>
<td>Connectedness to the LGBT Community Scale</td>
<td>Frost &amp; Meyer (2012)</td>
<td>8</td>
<td>.75 - .88</td>
<td>.92</td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td>Everyday Discrimination Scale</td>
<td>Williams, Yu, &amp; Anderson (1997)</td>
<td>9</td>
<td>.74 - .88</td>
<td>.86</td>
</tr>
<tr>
<td>Community Belongingness</td>
<td>Acquired Capability for Suicide Scale (ACSS)</td>
<td>Van Orden et al. (2008a)</td>
<td>5</td>
<td>.67 - .83</td>
<td>.73</td>
</tr>
<tr>
<td>Experiences of Discrimination</td>
<td>Revised Suicidal Ideation Scale – Suicidal Ideation Subscale</td>
<td>Rudd (1989)</td>
<td>10</td>
<td>.86 - .90</td>
<td>.91</td>
</tr>
<tr>
<td>Acquired Capability</td>
<td>Revised Suicidal Ideation Scale – Suicidal Behaviors Subscale</td>
<td>Rudd (1989)</td>
<td>10</td>
<td>.86 - .90</td>
<td>.83</td>
</tr>
</tbody>
</table>
Demographic Questionnaire

Participants answered 13 basic demographic questions (Appendix B). Demographic questions included: gender, sex, age, race/ethnicity, sexual orientation, educational status (i.e., year in school), student status (i.e., part-time or full-time), employment status, relationship status, living status (e.g., on or off campus, with whom they lived), campus organization involvement, and campus organization leadership.

Participants also responded to three mental health history questions (Appendix C). These questions included: mental health treatment history, serious thoughts of attempting suicide while in college, and attempting suicide while in college. Each of these three mental health history questions had two sub-questions that were only given to participants who responded affirmatively to the initial question.

Given that sexual orientation is a critical variable within this study, I explored various assessment strategies for sexual orientation identity. I ultimately chose to modify the sexual orientation identity question outlined with the *Best Practices for Asking Questions to Identify Transgender and Other Gender Minority Respondents on Population-Based Surveys* to measure sexual orientation (Appendix B; GenIUSS Group, 2014). The original sexual orientation identity question detailed within this document was developed by a multi-disciplinary and multi-institutional group of experts (GenIUSS Group, 2014). Additionally, the reported best practice sexual orientation identity question was tested across numerous diverse samples, including race/ethnicity, socioeconomic status, and age (GenIUSS Group, 2014). I made four modifications to the sexual orientation identity question for my study. First, I deleted the option of “transgender, transsexual, or gender-nonconforming.” I deleted this option because transgender,
transsexual, and gender-nonconforming are gender identities as opposed to sexual orientation identities (see Chapter 2, p. 36). Second, I added the option of “questioning” because college students are within a developmental period of identity exploration (Boratav, 2006; Diamond, 2005). The option of “questioning” accounted for participants who are still exploring their sexual orientation identity (Boratav, 2006; Diamond, 2005; Eliason, 1995; Fassinger, 2000; Fassinger & Miller, 1996; Morgan & Thompson, 2011). Thirdly, I added the option of “other (please specify: _____)” to account for individuals whose identities were not adequately captured by the provided sexual orientation identity categories. Finally, I provided definitions for each of the sexual orientation identity options in order to ensure standardization regarding participants’ understanding of the provided sexual orientation identity categories (see Appendix B, p. 238).

**Perceived Burdensomeness**

The Interpersonal Needs Questionnaire (INQ; Van Orden, Cukrowicz, Witte, & Joiner, 2012b; Appendix D) measures people’s current beliefs regarding the degree to which they hold beliefs and feelings that they are a burden to others in their lives (i.e., perceived burdensomeness) and the degree to which they feel connected to others (i.e., thwarted belongingness; Van Orden et al., 2008b). The INQ has two subscales, which are the perceived burdensomeness subscale and the thwarted belongingness subscale (Van Orden et al., 2012b).

I chose this measure because it was explicitly designed to measure Joiner’s (2005) factors of perceived burdensomeness and thwarted belongingness. For the purposes of the present study, I only used the perceived burdensomeness subscale. I did not use the thwarted belongingness subscale because this subscale is a global measure of
belongingness and the present study’s focus is the examination of multiple spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community; see measures of belongingness below).

The perceived burdensomeness subscale of the INQ consists of six self-report items (e.g., “These days, I think I have failed the people in my life”). The scale ranges from 1 (not at all true for me) to 7 (very true for me). Items for the perceived burdensomeness subscale are summed. Higher scores indicate higher levels of perceived burdensomeness.

Both the validity and reliability of scores on the perceived burdensomeness subscale of the INQ have been demonstrated. The construct validity of the perceived burdensomeness scale of the INQ was established through a confirmatory factor analysis. Specifically, the perceived burdensomeness subscale of the INQ emerged as a significant factor for three unique samples, which were undergraduate students, clients at an outpatient community mental health center, and psychologically healthy older adults (Van Orden et al., 2012b). Van Orden et al. (2012b) demonstrated the predictive validity of scores on the perceived burdensomeness subscale by administering a suicidal ideation measure to undergraduate participants one month after completing the perceived burdensomeness subscale with results indicating greater odds of reporting suicidal ideation for higher levels of perceived burdensomeness. The internal consistency of scores on the perceived burdensomeness subscale has ranged from .88 to .90 (Dutton, Bodell, Smith, & Joiner, 2013; Van Orden, Bamonti, King, & Duberstein, 2012). In this study, the internal consistency of scores was .93.
Family Belongingness and Peer Belongingness

The Milwaukee Youth Belongingness Scale (MYBS; Slaten, Thomas, & Baskin, 2008; Appendix E) measures individuals’ beliefs and feelings about being connected to, supported by, and cared for by others (i.e., sense of belonging) within three separate spheres, which are family (MYBS-F), peer (MYBS-P), and school (MYBS-S; Slaten & Baskin, 2014). This scale was developed for college students because previous measures of family, peer, and school belongingness were not designed for college students (Slaten & Baskin, 2014).

I chose this measure for two primary reasons. First, the authors of this measure conceptualized belongingness similarly to Joiner (2005) by including items that assess perceived social isolation (i.e., “I rarely feel a part of my family”) and actual social isolation (i.e., “I rarely hang out with my peers”). Second, the authors specifically designed the family and peer belongingness subscales to be used with college students. Third, this measure captures two key spheres of belongingness for college students (i.e., family and peer), which are not specifically measured by the thwarted belongingness subscale of the INQ. In this study, I did not use the school belongingness subscale because the items for this subscale had a low reliability in previous research (Slaten et al., 2008). I used an alternative measure, the Psychological Sense of School Membership (PSSM; Goodenow, 1993; Pittman & Richmond, 2007), to measure academic institution belongingness (see p. 80).

The MYBS consists of 24 items rated using a 4-point scale from 1 (disagree) to 4 (agree). There are eight items for each of the spheres of belongingness, which are (a) family (e.g., “I feel comfortable when I am around my family”), (b) peer (e.g., “My peers
care about my feelings”), and (c) school (e.g., “I rarely like my university”). Scoring of the scale involves reverse coding nine items. Specifically, four items on the family subscale (items 13, 14, 18, 23), three items on the peer subscale (items 3, 5, and 8), and two items on the school subscale (items 11 and 15) require reverse coding. The items of the subscales are totaled separately, resulting in a belongingness score for each sphere. Higher scores on the family and peer subscales indicate a higher sense of family and peer belongingness, respectively.

Given the minimal use of the measure, limited validity and reliability information on the MYBS is available. Content validity for the MYBS was established by administering a multitude of items in a pilot study, grouping items that fit together, and consulting experts in the field of belongingness (Slaten et al., 2008). Within this pilot study, the overall Cronbach’s alpha for the scores on the MYBS was .88. The internal consistency was .89 for the family belongingness subscale scores and .83 for peer belongingness subscale scores (Slaten et al., 2008). In a recent study using a sample of undergraduate students, the internal consistency for the scores of the family belongingness subscale was .77, and the internal consistency of the scores for the peer belongingness subscale was .93 (Slaten & Baskin, 2014). Within my pilot study, which examined suicidal ideation in relation to family, peer, academic institution, and sexual orientation community belongingness in a sample of college students, the internal consistency was .85 for scores on both the family and peer subscales (Ploskonka & Servaty-Seib, 2014). In the present study, the internal consistency for family belongingness scores was .91, and the internal consistency for peer belongingness scores was .85.
Academic Institution Belongingness

The Psychological Sense of School Membership (PSSM; Goodenow, 1993; Pittman & Richmond, 2007; Appendix F) assesses individuals’ perceived connectedness to their school environment. The PSSM was originally developed by Goodenow (1993) to measure adolescent students’ perceived acceptance, inclusion, and support (i.e., belongingness) within their school environment. More specifically, Goodenow (1993) developed the measure in order to examine the relationship between students’ school belongingness and their academic motivation and success. Pittman and Richmond (2007) adapted Goodenow’s (1993) measure such that it could be used with college students. Specifically, Pittman and Richmond (2007) changed the wording of Goodenow’s (1993) measure in order to be consistent with the terms used within colleges (e.g., changing the original scale term of “teachers” to “professors”). I chose the PSSM to measure academic institution belongingness for two reasons. First, the authors of the PSSM conceptualized belongingness similarly to Joiner (2005) by asserting that belongingness includes perceived (e.g., “I feel like a real part of this college/university”) and actual (e.g., “There’s at least one professor or staff member in this university I can talk to if I have a problem”) support. Second, the PSSM has been reliably adapted for use with college students.

The PSSM is an 18-item instrument with choices ranging from 1 (not at all true) to 5 (completely true). Scoring of the scale involves reverse coding five items (e.g., “I feel very different from most other students here”), which are items 3, 6, 9, 12, and 16. Reverse-coded items are then summed with all other scale items (e.g. “Other students..."
here like me the way I am”) to obtain a total scale score. Higher scores on the subscales indicate a higher sense of academic institution belongingness.

Previous research has suggested validity and reliability for the PSSM. Specifically, Goodenow (1993) established construct validity of the original scale using samples of middle and high school students by comparing PSSM scores to teachers’ ratings of students’ social standing with their peers. One-way ANOVA analyses supported the hypothesis that students rated by teachers as having high, medium, or low social standing would exhibit different levels of psychological school membership on the PSSM (Goodenow, 1993). Internal consistency of scale scores in studies associated with the original validation of the PSSM ranged from .82 to .88 (Goodenow, 1993).

Pittman and Richmond (2007, 2008) adapted the PSSM for two separate studies. They did not report validity information for their adapted version of the PSSM for these two studies. However, Pittman and Richmond (2007) reported that there were no significant gender or racial/ethnic differences in their adapted measure based on ANOVA analyses. Additionally, they found a statistically significant association between university belongingness and students’ academic adjustment in college (Pittman & Richmond, 2007). Pittman and Richmond (2008) also found that university belongingness was positively correlated to perceptions of social acceptance and scholastic competence. The alpha internal consistency of the scores for Pittman and Richmond’s (2007) adapted version of the original scale was .88. In another study, Pittman and Richmond (2008) asked university students to complete the PSSM once in the fall semester and again in the spring semester. The internal consistencies of the scores within this study were reported as .91 for the fall semester and .97 for the spring
semester. Within my pilot study, which examined suicidal ideation in relation to family, peer, academic institution, and sexual orientation community belongingness in a college student sample, the internal consistency was .88 (Ploskonka & Servaty-Seib, 2014). Internal consistency for the scores for the PSSM in this study was .92.

**Sexual Orientation Community Belongingness**

The Connectedness to the LGBT Community Scale (Frost & Meyer, 2012; Appendix G) assesses individuals’ desire to belong to and be connected with the LGBT community across three domains. However, only an overall score for LGBT community connectedness exists for this scale because these three domains are not subscales of the measure. Instead, they encapsulate the facets of the overall underlying construct of sexual orientation community belongingness. These three domains are (a) how close an individual feels to the LGBT community (e.g., “You feel a bond with the LGBT community”), (b) how positive an individual’s connections are with the LGBT community (e.g., “You are proud of the LGBT community”), and (c) whether an individual believes his/her connections are rewarding and have problem solving potential (e.g., “If we work together, gay, bisexual, and lesbian people can solve problems in the LGBT community;” Frost & Meyer, 2012).

I chose this measure to examine LGB belongingness because Frost and Meyer (2012) specifically designed this measure to capture the unique experience of LGBT individuals’ connectedness to the LGBT community. Although this measure assesses connectedness as opposed to belongingness, this measure captures Joiner’s (2005) conceptualization of belongingness as being both subjective (e.g., “You feel you’re a part of the LGBT community”) and objective (e.g., “Participating in the LGBT community is..."
a positive thing for you”). Additionally, although no previous research exists using this measure with heterosexual participants, for the present study, all participants completed Frost and Meyer’s (2012) Connectedness to the LGBT Community Scale. It is important to note that heterosexual participants completed this measure so that comparative analyses of sexual orientation community belongingness could be conducted for LGB and heterosexual participants. Heterosexual participants also completed this measure because heterosexual students’ connectedness to the LGBT community is possibly reflective of the degree to which they are inclusive of and serve as allies to LGBT individuals.

The Connectedness to the LGBT Community Scale is an 8-item instrument. Participants rate each item on a 4-point scale ranging from 1 (agree strongly) to 4 (disagree strongly), and items are summed. Higher scores indicate greater connectedness to the LGBT community. Given that all participants in the present study completed this measure, higher scores for both LGB and heterosexual participants indicated greater connectedness to the LGBT community.

Frost and Meyer (2012) studied the validity and reliability for scores on this measure. They demonstrated construct validity by finding statistically significant positive correlations between connectedness to the LGBT community and social and psychological well-being (Frost & Meyer, 2012). Frost and Meyer (2012) established convergent validity through the scale’s statistically significant positive correlations with related scales measuring collective self-esteem, strength of one’s gay group identity, behavioral connectedness to the LGBT community, and perceived number of LGB social supports (Frost & Meyer, 2012). Internal consistency for the scores of the Connectedness
to the LGBT Community Scale (Frost & Meyer, 2012) was reported as .81 for the entire sample and ranged from .75 to .88 within analyses based on gender and race (Frost & Meyer, 2012). The internal consistency for the scores in this study was .92.

**Experiences of Discrimination**

The Everyday Discrimination Scale (EDS; Williams, Yu, & Anderson, 1997; Appendix H) measures individuals’ experiences of unfair treatment within their daily lives. More specifically, this scale assesses individuals’ experiences of being treated with less courtesy and respect than others and also includes individuals’ experiences with harassment and threats. I chose this measure to examine participants’ experiences of discrimination because existing theoretical literature suggests that experiences of discrimination might contribute to LGB college students’ perceived burdensomeness, thwarted belongingness, acquired capability, and suicidal ideation and behaviors (D’Augelli, 1994; Haas et al., 2011; Halpert, 2002; Hilton & Szymanski, 2011; House et al., 2011; Matarazzo et al., 2014; Mays & Cochran, 2001; Ploderl et al., 2014). I selected this specific discrimination measure for this study because it has been reliably used to examine experiences of discrimination with numerous populations, including LGB individuals and college students (Huxley, 2013; McCabe, Bostwick, Hughes, West, & Boyd, 2010; Prelow, Mosher, & Bowman, 2006).

The Everyday Discrimination Scale is a 9-item instrument. Participants rate each item on a 6-point scale ranging from 1 (*almost every day*) to 6 (*never*). All items are reverse coded and summed. Higher scores indicate greater experiences of discrimination. The scale also includes a follow-up question for participants who respond to one or more of the nine items with 1 (*almost every day*), 2 (*at least once a week*), or 3 (*a few times a...*)
month). The follow-up question asks participants what personal identity or identities (e.g., ancestry or national origin, gender, race, age, religion) they think contribute to their experiences of discrimination.

Both the validity and reliability for scores on this measure have been demonstrated. Researchers demonstrated construct validity by finding statistically significant associations between the Everyday Discrimination Scale and measures of day-to-day experiences of psychological distress and other measures of discrimination (Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005; Taylor, Kamarck, & Shiffman, 2004). Convergent validity was established through the scale’s statistically significant positive correlations with measures of negative affect and social conflict (Taylor et al., 2004). Internal consistency for the scores of the Everyday Discrimination Scale was reported as ranging from .74 to .88 (Krieger et al., 2005; Taylor et al., 2004; Williams et al., 1997). The internal consistency for the scores in this study was .86.

**Acquired Capability**

The Acquired Capability for Suicide Scale (ACSS; Bender, Gordon, & Joiner, 2007; Van Orden, Witte, Gordon, Bender, & Joiner, 2008; Appendix I) measures Joiner’s (2005) factor of acquired capability, which is the loss of fear associated with completing suicide, and includes items that assess an elevated physical pain tolerance as well as a reduced fear of death (Joiner, 2005; Van Orden et al., 2010). I chose this measure because Bender et al. (2007) deliberately created it to assess Joiner’s (2005) factor of acquired capability. Additionally, this measure has been reliably used with college student samples (Anestis et al., 2011; Davidson, Wingate, Rasmussen, & Slish, 2009).
The ACSS is a 5-item scale with items ranging from 1 (not at all like me) to 5 (very much like me). Scoring of the scale involves reverse coding one item (item 4; “The pain involved in dying frightens me”) and summing the items. Higher scores indicate greater acquired capability.

Numerous researchers have examined validity and reliability of the ACSS. Specifically, Bender, Gordon, and Joiner (2007) demonstrated the construct validity of the ACSS by finding statistically significant, positive correlations between the ACSS and measures of fear of suicide, such as the Fear of Suicide subscale of the Reasons for Living Inventory (Linehan, Goodstein, Nielsen, & Chiles, 1983). Bender et al. (2007) also demonstrated construct validity of the ACSS by finding a statistically significant, positive correlation between the ACSS and suicidal behaviors, as measured by suicidal behavior items on the Beck Scale for Suicide Ideation (BSS; Beck & Steer, 1991; Bender et al., 2007). Concurrent validity was established through the statistically significant, positive correlation between the ACSS and measures of pain tolerance, impulsivity, and proclivity for painful and provocative events (Bender et al., 2007). The internal consistency of the scores of this scale has been reported as ranging between .67 and .83 (Bryan, Cukrowicz, West, & Morrow, 2010; Van Orden et al., 2008a). In the present study, the internal consistency of the scores was .73.

**Suicidal Ideation and Suicidal Behaviors**

The Revised Suicidal Ideation Scale (R-SIS; Rudd, 1989; Rudd & Rajab, 1995; Appendix J) is a measure for suicidal ideation and behaviors. Rudd (1989) developed this scale to assess the severity and intensity of suicidal ideation and behaviors, and he originally used this measure with college students. I chose this measure because it aligns
with Joiner’s (2005) conceptualization of suicidal ideation as thoughts, considerations, and plans for suicide completion. In addition, this measure was originally created using a college student sample. I also chose this measure because the R-SIS has two subscales, which measure: (a) suicidal ideation (6-items, e.g., “Life is so bad I feel like giving up”) and (b) suicidal behaviors (4-items, e.g., “I have come close to taking my own life”).

The R-SIS is a 10-item measure. Participants rate each item on a 5-point scale, which range from 1 (never) to 5 (always). Items are summed, and higher scores indicate greater suicidal ideation and/or behaviors. I separately summed the scores for the suicidal ideation items and the suicidal behaviors items in order to obtain a suicidal ideation subscale score and a suicidal behavior subscale score.

Researchers have examined the R-SIS’s validity and reliability. Construct validity has been demonstrated through the high correlations between the R-SIS and measures of hopelessness, such as the Beck Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974; Rudd, 1989). Retrospective validity was indicated by a high positive association between R-SIS scores and past suicide attempts ($r = .72$; Rudd, 1989). The internal consistency of the scores on the original scale was reported as ranging from .86 to .90 (Rudd, 1989). In this study, the alpha internal consistency of scores on the R-SIS suicidal ideation subscale was .91 and the alpha internal consistence of scores on the R-SIS suicidal behaviors subscale was .83.

**Procedure**

After receiving IRB approval from Purdue University, I recruited participants through three methods in order to ensure an adequate number of LGB participants. The first method involved obtaining a random sample of undergraduate students through
Webserv, which is the online information system for Purdue’s Office of the Registrar. I supplied the Office of the Registrar staff with the recruitment email (Appendix K). The recruitment email contained a brief description of the study and described the study’s purpose. The recruitment email also provided a web-link to the study’s survey, which I developed using Qualtrics Survey Software. A member of the Office of the Registrar sent the recruitment email to a random sample of 4,000 Purdue University undergraduate students of ages 18 to 25 years. The Office of the Registrar sent a follow-up email to these same students two weeks after the initial recruitment email (Appendix L). The second method involved using a snowball technique to recruit participants. I contacted LGB campus administrators and LGB office staff across the country, with whom I have professional relationships, and invited them to send a recruitment email with a web-link to the survey to their listservs (Appendix M). The final participant recruitment method involved Facebook. I contacted individuals via my Facebook page asking that they post a recruitment message that described the purpose of the study, requested people’s participation, and contained a web-link to the study’s survey (Appendix N).

Students who chose to participate in the study used the provided web-link to enter the survey and were presented with an online informed consent form (Appendix O). The online informed consent form included information about the purpose of the study, confidentiality of the data, voluntary nature of participation, and potential risks and benefits of the study. After reading the online informed consent, participants needed to actively consent to the survey by selecting that they wished to participate in the study (i.e., “I wish to participate in this study”) in order to access the survey questions.
Students who elected to participate in the study began the survey by completing the 13 demographic questions within the Demographic Questionnaire. Then, all participants completed the remaining quantitative measures. The quantitative measures were presented in the following order: INQ-Perceived Burdensomeness Subscale, MYBS-P, MYBS-F, PSSM, Connectedness to the LGBT Community Scale, EDS, ACSS, and R-SIS. The participants then completed the three mental health history questions (Appendix C) and ended the survey by having the opportunity to share any thoughts or feedback about the survey in an open-ended question. The measures were presented in an order consistent with this study’s pilot study (Ploskonka & Servaty-Seib, 2014). Because of difficulties with retention of individuals with a history of suicide attempts in research and psychological treatment, measures pertaining to acquired capability, suicidal ideation and behaviors, and mental health history were deliberately placed at the end of the study in an effort to reduce participant attrition (Gibbons, Stirman, Brown, & Beck, 2010).

Participants were provided with resources regarding suicidal ideation and risk (e.g., National Suicide Prevention Lifeline, campus counseling center; Appendix P) upon completion of the survey. Before exiting the survey, they were offered the option to enter a drawing for one of four $25 Amazon gift cards (Appendix P).

Participants who entered the survey were able to opt out of the study at any point during their participation. Specifically, at the bottom of each page of the survey, there was a place where participants could exit the survey, which ensured that participants could stop the survey at their discretion. Participants who chose to exit the survey were directed to a webpage that read, “Do you wish to exit this survey?” Participants were then be provided three response options: 1) Exit this survey and erase my anonymous
responses; 2) Exit this survey but my anonymous responses may be included in the research study; 3) No, continue with this survey. Participants who chose to exit the survey were taken to a screen that thanked them for their time and provided them resources for helping someone who could be at risk for suicide.

Participants were offered an incentive. Specifically, those who either partially or entirely completed the survey were able to enter into a random drawing for one of four $25 Amazon gift cards by sending an email to the researcher indicating that they had participated. Allowing participants who do not wish to complete the survey the opportunity to enter into the drawing likely reduced these participants from feeling unduly influenced to complete the survey as a result of the incentive. The names and email addresses of students who elected to participate in the gift card drawing were not linked to their responses in order to maintain the confidentiality of participants.

The confidentiality of participants was protected in several ways throughout the research process. Because the survey was completed online, students could choose a private location (e.g., bedroom, personal office) to take the survey. Additionally, participants were not asked to provide their names or any identifying information on the survey; all data collected from participants was submitted anonymously. With regard to possible confidentiality issues related to the Amazon gift card drawing, participants could enter the drawing at their discretion, and their email addresses were not associated with their survey responses. All data was stored on a password protected computer system and was only be accessible to my advisor, Purdue University’s IRB, and myself.
CHAPTER 4: RESULTS

I detail the results of the study in this chapter. First, I describe the data screening and preliminary analyses. Then, I explain the primary analyses that I used to examine the research questions and test the corresponding hypotheses. I used SPSS 23.0, AMOS 23.0, and Mplus 7.31 to conduct all data analyses (IBM AMOS Statistics for Windows, 2015; IBM SPSS Statistics for Windows, 2015; Mplus 7.31, 2015).

Data Screening and Preliminary Analyses

Before conducting the main analyses for the research questions and corresponding hypotheses, I conducted preliminary data screening and analyses. First, I checked the data to ensure that all participants who completed the survey met the inclusion criteria of being college students between 18 and 25 years old. Three participants were deleted for not meeting the inclusion criteria for age because they did not report their age. Next, I screened for missing data. Of the original 355 surveys, 84 surveys were removed because the participants did not complete an entire measure (excluding the demographic questionnaire). None of the participants were deleted due to not completing 5% or more of the study (Tabachnick & Fidell, 2012). I looked for patterns in the missing data via the Missing Values procedure in SPSS 23.0 and found no discernable pattern (Kline, 2011). The final sample size was 268 (168 heterosexual; 100 LGB) participants. After completing this initial data screening, I addressed missing data for those participants who had less than 5% of their data missing. I used linear-trend-at-point to impute data for the primary analysis method for Research Question #1, which was a MANCOVA. I used linear-trend-at-point to impute data for these analyses in order to retain maximum power
for the sample (Collins, Shafer, & Kam, 2001). I used Full Information Maximum Likelihood (FIML) to impute missing data for the primary analysis method for Research Questions #2-4, which was invariance testing via path analysis (Collins et al., 2001). FIML was chosen because this method allows for the maximum amount of data gathered to be used in the primary analyses and because this method addresses missing data while simultaneously analyzing the data (Collins et al., 2001). This method was also selected because it does not require the creation and utilization of imputed data sets (Collins et al., 2001). FIML was not used for Research Question #1 because it is not a statistical method within SPSS 23.0, which was the statistical software used to examine Research Question #1. FIML is a statistical feature within AMOS 23.0, which was used to examine Research Questions #2-4.

Then, I examined the assumptions for Multivariate Analysis of Covariance (MANCOVA) and path analysis, which relate to: univariate and multivariate outliers, homoscedasticity, skewness and kurtosis of the dependent variables (i.e., perceived burdensomeness, family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, acquired capability, suicidal ideation, and suicidal behaviors), and multicollinearity (Howell, 2010). I examined the data for the presence of univariate outliers by using box plots (Tabachnick & Fidell, 2012). Four outliers were detected with respect to suicidal ideation. Because the scores were within the possible range of the measure’s scores, were indicative of high-end scores for the measure, and were all associated with LGB participants, I chose not to delete the cases because deletion could have possibly resulted in a misrepresentation of a key aspect of the LGB sample (Tabachnick & Fidell, 2012). I examined for the presence
of multivariate outliers by using a Mahalonibis distance test (Tabachnick & Fidell, 2012). No cases were statistically significant.

I used scatter plots and histograms to examine homoscedasticity. Specifically, these scatter plots and histograms were of the relationships between the outcome variables, which are suicidal ideation and suicidal behaviors, and the independent variables, which are perceived burdensomeness, the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community), and acquired capability. The assumption of homoscedasticity was not met for the variables, which is expected when survey data deliberately oversamples a minority population (Winship & Radbill, 1994). In the case of this study, recruitment strategies deliberately targeted LGB participants (see Chapter 3, p. 87).

Heteroscedasticity is associated with the skewness of the variables and is commonly addressed by examining the transformations of the variables to reach normality (Davino, Furno, & Vistocco, 2013). Thus, I examined the skewness and kurtosis for the variables (i.e., perceived burdensomeness, family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, acquired capability, suicidal ideation, and suicidal behaviors) by using the descriptive statistics feature within SPSS 23.0 to determine how to best address the heteroscedasticity of the data. Skewness and kurtosis values larger than 3 and smaller than -3 were considered significant (Tabachnick & Fidell, 2012). Data were skewed and kurtotic for: perceived burdensomeness, peer belongingness, family belongingness, academic institution belongingness, suicidal ideation, and suicidal behaviors. I transformed these variables to reach normality and created a correlation matrix of the
original and transformed values for these variables to determine if the transformations significantly altered the correlations with other primary variables in terms of strength or significance (Tabachnick & Fidell, 2012). Correlational analyses indicated that the original variables did not substantially change the correlations or the significance values, so the original values were used in subsequent analyses (Davino et al., 2013; Osborne, 2002).

Finally, I examined the independent variables (i.e., perceived burdensomeness, family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, and acquired capability) for multicollinearity by using Pearson correlations. I also examined the correlations between experiences of discrimination and the independent variables. Multicollinearity was identified as correlations of .80 or above (Pallant, 2010). All of the correlations among the primary variables were below .80, indicating a minimal likelihood of multicollinearity existing among the variables (Pallant, 2010). The correlations among all of the variables are provided in Table 3.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Perceived Burdensomeness</th>
<th>Family Belongingness</th>
<th>Peer Belongingness</th>
<th>Academic Institution Belongingness</th>
<th>Sexual Orientation Community Belongingness</th>
<th>Experiences of Discrimination</th>
<th>Acquired Capability</th>
<th>Suicidal Ideation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Burdensomeness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Belongingness</td>
<td>-.38***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Belongingness</td>
<td>-.47***</td>
<td>.38***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Institution Belongingness</td>
<td>-.40***</td>
<td>.40***</td>
<td>.66***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Orientation Community Belongingness</td>
<td>.03</td>
<td>-.14*</td>
<td>.02</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experiences of Discrimination</td>
<td>.27***</td>
<td>-.24***</td>
<td>-.32***</td>
<td>-.40***</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquired Capability</td>
<td>.19**</td>
<td>-.14*</td>
<td>-.17**</td>
<td>-.14**</td>
<td>.00</td>
<td>.24***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>.65***</td>
<td>-.41***</td>
<td>-.46***</td>
<td>-.38***</td>
<td>.06</td>
<td>.25***</td>
<td>.14*</td>
<td></td>
</tr>
<tr>
<td>Suicidal Behaviors</td>
<td>.48***</td>
<td>-.37***</td>
<td>-.34***</td>
<td>-.26***</td>
<td>.04</td>
<td>.26***</td>
<td>.13*</td>
<td>.68***</td>
</tr>
</tbody>
</table>

*p < .05
**p < .01
***p < .001
I then obtained the means, standard deviations, and ranges for all of the primary study variables as well as experiences of discrimination (Table 4). I also obtained a summary of the demographic variables for the sample. The demographic variables included participants’ gender, sex, age, race/ethnicity, sexual orientation, educational status (i.e., year in school), student status (i.e., part-time or full-time), employment status, relationship status, living status (e.g., on or off campus, with whom they lived), campus organization involvement, and campus organization leadership (Chapter 3, Table 1, p. 69). When conducting these descriptive analyses, I also examined the internal consistency of the scores for all of the variables by calculating the Cronbach’s alpha for scores for each of the measures used (Chapter 3, Table 2, p. 74). Internal consistency of the scores for the variables ranged from .73 to .93, which all are above the acceptable value of .70 for internal consistency of scale scores (Tabachnick & Fidell, 2012).

Table 4

<table>
<thead>
<tr>
<th>Description of Data</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Burdensomeness</td>
<td>10.26</td>
<td>6.33</td>
<td>6</td>
<td>33</td>
</tr>
<tr>
<td>Family Belongingness</td>
<td>27.39</td>
<td>5.21</td>
<td>10</td>
<td>32</td>
</tr>
<tr>
<td>Peer Belongingness</td>
<td>26.46</td>
<td>4.57</td>
<td>13</td>
<td>32</td>
</tr>
<tr>
<td>Academic Institution Belongingness</td>
<td>68.09</td>
<td>11.97</td>
<td>25</td>
<td>90</td>
</tr>
<tr>
<td>Sexual Orientation Community Belongingness</td>
<td>18.59</td>
<td>6.24</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>Experiences of Discrimination</td>
<td>21.24</td>
<td>7.63</td>
<td>9</td>
<td>49</td>
</tr>
<tr>
<td>Acquired Capability</td>
<td>14.40</td>
<td>4.43</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>8.20</td>
<td>3.53</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>Suicidal Behaviors</td>
<td>5.25</td>
<td>2.35</td>
<td>4</td>
<td>19</td>
</tr>
</tbody>
</table>
After computing descriptive statistics for the participants’ demographic variables, I checked for significant associations between the participants’ demographic variables and the eight dependent variables of: perceived burdensomeness, family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, acquired capability, suicidal ideation, and suicidal behaviors. I also examined the relationship between the demographic variables and experiences of discrimination. Specifically, I conducted a correlational analysis for the continuous demographic variable (i.e., age). I conducted separate MANOVAs for each of the categorical demographic variables (i.e., gender, sex, race/ethnicity, year at school, educational status, employment status, relationship status, living situation, campus involvement, and campus leadership involvement). I also conducted separate MANOVAs for the three mental health history questions (i.e., have received psychological services, have had thoughts of suicide while in college, and have attempted suicide while in college).

The most notable significant variations with respect to some of the demographic variables and mental health history questions in relation to the dependent variables were associated with the demographic factors of: gender (Table 5), educational status (Table 6), and receipt of mental health services (Table 7). Specifically, perceived burdensomeness ($p = .005$), peer belongingness ($p = .002$), and suicidal ideation ($p < .001$) significantly varied based on gender. Participants who did not identify as a man, woman, or transgender (i.e., identified as “other”) had higher scores for perceived burdensomeness and suicidal ideation as compared to participants who identified as men, women, or transgender. Participants who identified as men had the highest scores for peer
belongingness as compared to participants who identified as women, transgender, or did not identify as a man, woman, or transgender. Suicidal ideation ($p = .02$) significantly varied based on educational status wherein first-year participants had higher scores on suicidal ideation as compared to sophomore, junior, and senior participants. Family belongingness ($p = .013$), peer belongingness ($p = .001$), academic institution belongingness ($p = .005$), suicidal ideation ($p = .028$), and suicidal behaviors ($p < .001$) significantly varied based on past receipt of psychological services. Participants who had previously received psychological services had higher scores for family belongingness, suicidal ideation, and suicidal behaviors as compared to participants who had not previously received psychological services. Participants who had not previously received psychological services had higher scores for peer belongingness and academic institution belongingness as compared to participants who had previously received psychological services. Additional significant variations with respect to some of the demographic variables and mental health history questions in relation to the dependent variables are presented in Appendix Q.
**Table 5**

*Means and Standard Deviations for Dependent Variables that Significantly Varied with Gender*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Man (n = 97)</th>
<th>Woman (n = 163)</th>
<th>Transgender (n = 3)</th>
<th>Do not identify (n = 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Perceived Burdensomeness</td>
<td>9.82</td>
<td>6.24</td>
<td>10.28</td>
<td>6.08</td>
</tr>
<tr>
<td>Peer Belongingness</td>
<td>26.94</td>
<td>4.41</td>
<td>26.48</td>
<td>4.53</td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>7.78</td>
<td>3.00</td>
<td>8.26</td>
<td>3.60</td>
</tr>
</tbody>
</table>

**Table 6**

*Means and Standard Deviations for Dependent Variables that Significantly Varied with Educational Status*

<table>
<thead>
<tr>
<th>Variable</th>
<th>First-Year (n = 101)</th>
<th>Sophomore (n = 38)</th>
<th>Junior (n = 23)</th>
<th>Senior (n = 106)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>8.78</td>
<td>3.96</td>
<td>8.50</td>
<td>3.78</td>
</tr>
</tbody>
</table>

**Table 7**

*Means and Standard Deviations for Dependent Variables that Significantly Varied with Receipt of Mental Health Services*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Received mental health services (n = 129)</th>
<th>Never received mental health services (n = 139)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Family Belongingness</td>
<td>11.07</td>
<td>6.30</td>
</tr>
<tr>
<td>Peer Belongingness</td>
<td>26.51</td>
<td>5.69</td>
</tr>
<tr>
<td>Academic Institution Belongingness</td>
<td>25.47</td>
<td>4.66</td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>8.68</td>
<td>3.73</td>
</tr>
<tr>
<td>Suicidal Behaviors</td>
<td>5.77</td>
<td>2.79</td>
</tr>
</tbody>
</table>
Although significant variations emerged with respect to some of the demographic variables and mental health history questions in relation to the dependent variables (see Appendix Q), these demographic variables were not included as covariates in the MANCOVA (Research Question #1) nor were they included as exogenous variables within the path model (Research Questions #2-4). Adding these demographic variables would have drastically reduced the power of the statistical models (Kline, 2011). Specifically, the reduction in power would likely have inhibited the detection of differences among the main variables across the two groups (i.e., LGB and heterosexual). Furthermore, inclusion of the demographic variables in the path model would likely have resulted in an inability to adequately fit the path model due to the presence of too many parameters (Kline, 2011). Finally, Schumacker and Lomax (2010) recommend that statistical analysis remain theory-driven and focused on the primary variables of interest when the power of statistical analysis would be compromised due to the addition of demographic variables not originally intended to be included in a research study. Not including the demographic variables in the primary data analysis is addressed in the discussion of the findings (p. 175).

Finally, I conducted an ANOVA to examine the potential difference in experiences of discrimination for LGB and heterosexual groups. Results of the ANOVA indicated that there was a statistically significant difference in experiences of discrimination across the two groups, $F(1, 266) = 8.30, p = .004$. I compared the mean scores for experiences of discrimination for LGB ($M = 22.96, SD = 22.96$) and heterosexual ($M = 20.22, SD = 6.84$) groups to determine the nature of the between-group
differences. Results indicated that LGB participants exhibited higher levels of experiences of discrimination as compared to heterosexual participants.

I included experiences of discrimination as a covariate in the primary analyses focused on examining potential group differences based on sexual orientation (Research Question #1; Hypotheses 1-5) to account for possible covariations between experiences of discrimination and the dependent variables (i.e., perceived burdensomeness, family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, acquired capability, suicidal ideation, and suicidal behaviors). Specifically, I included experiences of discrimination as a covariate because researchers and theorists have hypothesized that experiences of discrimination could explain LGB college students’ comparatively higher levels of perceived burdensomeness, thwarted belongingness, acquired capability, suicidal ideation, and suicidal behaviors (Haas et al., 2011; Halpert, 2002; McDermott et al., 2008; Ploderl et al., 2014; Sanlo, 2005; Silva et al., 2014; Westefeld et al., 2001; Worthen, 2012). However, experiences of discrimination has not been empirically examined in relation to perceived burdensomeness, thwarted belongingness, acquired capability, suicidal ideation, and suicidal behaviors. I did not include experiences of discrimination in the path model (Research Questions #2-4; Hypotheses 6-8) because inclusion of this variable would likely have resulted in an inability to adequately fit the path model due to the presence of too many parameters (Kline, 2011).
Primary Analyses

After completing the data screening and preliminary analyses, I conducted the primary analyses to test my hypotheses. I used MANCOVA and invariance testing via a path model as my primary analytic approaches.

Group Differences Based on Sexual Orientation

My first research question and the associated hypotheses focused on the possible group differences for perceived burdensomeness, belongingness for the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors between LGB college students and their heterosexual counterparts. Specifically, Research Question #1 was: Do LGB and heterosexual college students differ with regard to their reported levels of perceived burdensomeness, belongingness for the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors? Hypothesis 1 (H1) was: LGB college students will exhibit higher levels of perceived burdensomeness than their heterosexual counterparts. Hypothesis 2 (H2) was: LGB college students will exhibit lower levels of belongingness for the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) than their heterosexual counterparts. Hypothesis 3 (H3) was: LGB college students will exhibit higher levels of acquired capability than their heterosexual counterparts. Hypothesis 4 (H4) was: LGB college students will exhibit higher levels of suicidal ideation than their heterosexual counterparts. Hypothesis 5 (H5) was: LGB college students will exhibit higher levels of suicidal behaviors than their heterosexual counterparts.
I used a MANCOVA to address Research Question #1 because it allowed for simultaneous comparison of the eight dependent variables (i.e., perceived burdensomeness, family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, acquired capability, suicidal ideation, and suicidal behaviors) across the two groups (i.e., LGB and heterosexual) in order to identify potential group differences across the dependent variables (Heppner & Heppner, 2004). Additionally, a MANCOVA accounted for possible covariations between experiences of discrimination and the dependent variables.

Results of the MANCOVA indicated a statistically significant difference between the LGB group and the heterosexual group with respect to the dependent variables as a set, $F(8, 258) = 26.28, p < .001$, Wilks’ Lambda = .55, $\eta^2_p = .45$. When the results of the dependent variables were considered separately, statistically significant differences were present between the groups for the dependent variables of: perceived burdensomeness [$F(1, 265) = 72.29, p < .001; H1$], family belongingness [$F(1, 265) = 51.68, p < .001; H2$], peer belongingness [$F(1, 265) = 33.88, p < .001; H2$], academic institution belongingness [$F(1, 265) = 30.77, p < .001; H2$], sexual orientation community belongingness [$F(1, 265) = 13.82, p < .001; H2$], suicidal ideation [$F(1, 265) = 62.20, p < .001; H4$], and suicidal behaviors [$F(1, 265) = 106.90, p < .001; H4$]. Specifically, LGB college student participants had significantly higher levels of perceived burdensomeness (H1), sexual orientation community belongingness (H2), suicidal ideation (H4), and suicidal behaviors (H5) as compared heterosexual college student participants. LGB college student participants had significantly lower levels of family belongingness (H2), peer belongingness (H2), and academic institution belongingness (H2) as compared to
heterosexual college student participants. (See Table 8.) There was no statistically significant difference between the groups for the dependent variable of acquired capability \([F(1, 265) = .83, p = .36; H3]\).

Table 8

*Means and Standard Deviations for LGB and Heterosexual Groups for the Primary Variables*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Group</th>
<th>LGB (n = 100)</th>
<th>Heterosexual (n = 168)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(M) (SD)</td>
<td>(M) (SD)</td>
<td></td>
</tr>
<tr>
<td>Perceived Burdensomeness*</td>
<td>14.24 7.91</td>
<td>7.89 3.45</td>
<td></td>
</tr>
<tr>
<td>Family Belongingness*</td>
<td>24.51 5.77</td>
<td>29.11 3.97</td>
<td></td>
</tr>
<tr>
<td>Peer Belongingness*</td>
<td>24.27 4.58</td>
<td>27.76 4.06</td>
<td></td>
</tr>
<tr>
<td>Academic Institution Belongingness*</td>
<td>62.51 11.41</td>
<td>71.42 11.05</td>
<td></td>
</tr>
<tr>
<td>Sexual Orientation Community Belongingness*</td>
<td>20.44 6.34</td>
<td>17.49 5.94</td>
<td></td>
</tr>
<tr>
<td>Experiences of Discrimination*</td>
<td>22.96 8.57</td>
<td>20.22 6.84</td>
<td></td>
</tr>
<tr>
<td>Acquired Capability</td>
<td>14.94 4.76</td>
<td>14.07 4.19</td>
<td></td>
</tr>
<tr>
<td>Suicidal Ideation*</td>
<td>10.29 4.58</td>
<td>6.95 1.81</td>
<td></td>
</tr>
<tr>
<td>Suicidal Behaviors*</td>
<td>6.94 3.10</td>
<td>4.24 .64</td>
<td></td>
</tr>
</tbody>
</table>

\*\(p < .001\)

Overall, the results indicated that H1 was supported, H2 was partially supported, H3 was not supported, H4 was supported, and H5 was supported. H1 was supported because LGB participants exhibited higher levels of perceived burdensomeness as compared to heterosexual participants. H2 was partially supported because LGB participants exhibited low levels of belongingness for family belongingness, peer belongingness, and academic institution belongingness as compared to heterosexual participants; however, LGB participants exhibited higher levels of sexual orientation community belongingness as compared to heterosexual participants. H3 was not supported because there was no statistically significant difference between the levels of acquired capability for LGB and heterosexual participants. H4 and H5 were supported.
because LGB participants exhibited higher levels of suicidal ideation (H4) and suicidal behaviors (H5) as compared to heterosexual participants. The section “Hypotheses Testing Results Summary” at the end of this chapter (p. 123) and Table 11 (p. 124) provide a summary of the results for all of the hypotheses tested within this study.

Results of the MANCOVA also indicated a statistically significant difference with respect to experiences of discrimination as a covariate for the primary variables of the study, $F(8, 258) = 8.53, p < .001$, Wilks’ Lambda = .79, $\eta^2_p = .21$. Experiences of discrimination significantly covaried with the dependent variables of: perceived burdensomeness [$F(1, 265) = 13.19, p < .001$], family belongingness [$F(1, 265) = 9.80, p = .001$], peer belongingness [$F(1, 265) = 22.66, p < .001$], academic institution belongingness [$F(1, 265) = 41.22, p < .001$], acquired capability [$F(1, 265) = 14.40, p < .001$], suicidal ideation [$F(1, 265) = 10.28, p = .002$], and suicidal behaviors [$F(1, 265) = 11.61, p = .001$]. There was no statistically significant difference for sexual orientation community belongingness [$F(1, 265) = .12, p = .73$]. Covariations for experiences of discrimination with the dependent variables are presented in Table 9.

**Table 9**

*Covariations for Experiences of Discrimination and the Dependent Variables*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Covariance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Burdensomeness</td>
<td>13.15**</td>
</tr>
<tr>
<td>Family Belongingness</td>
<td>-9.65*</td>
</tr>
<tr>
<td>Peer Belongingness</td>
<td>11.21**</td>
</tr>
<tr>
<td>Academic Institution Belongingness</td>
<td>-36.52**</td>
</tr>
<tr>
<td>Sexual Orientation Community Belongingness</td>
<td>2.89</td>
</tr>
<tr>
<td>Acquired Capability</td>
<td>8.08**</td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>6.71*</td>
</tr>
<tr>
<td>Suicidal Behaviors</td>
<td>4.75*</td>
</tr>
</tbody>
</table>

Note. $N = 268$

*p < .01

**p < .001
Differential Relationships Among Joiner’s (2005) Factors Based on Sexual Orientation

My second and third research questions and associated hypotheses focused on the possibility of sexual orientation (i.e., LGB or heterosexual) moderating the relationship between perceived burdensomeness, the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community), and suicidal ideation for LGB college students and their heterosexual counterparts. The fourth research question and the associated hypothesis addressed the possibility of sexual orientation (i.e., LGB or heterosexual) moderating the relationship between acquired capability and suicidal behaviors for LGB college students and their heterosexual counterparts.

Specifically, Research Question #2 was: Does sexual orientation (i.e., LGB or heterosexual) moderate the relationship between perceived burdensomeness and suicidal ideation? Hypothesis 6 (H6) was: The positive relationship between perceived burdensomeness and suicidal ideation will be greater for LGB college students than their heterosexual counterparts. Research Question #3 was: Does sexual orientation (i.e., LGB or heterosexual) moderate the relationship between thwarted belongingness for the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation? Hypothesis 7 (H7) was: The negative relationship between belongingness for the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation will be greater for LGB college students than their heterosexual counterparts. Research Question #4 was: Does sexual orientation (i.e., LGB or heterosexual) moderate the relationship between acquired capability and suicidal behaviors? Hypothesis 8 (H8) was: The positive
relationship between acquired capability and suicidal behaviors will be greater for LGB college students than their heterosexual counterparts.

I used invariance testing via a path model in order to address these questions. Path analysis is a statistical technique that is an extension of multiple regression (Steele, Tinmouth, & Lu, 2006). Specifically, path analysis determines the comparative strength and direction (i.e., positive or negative) of the relationships between independent and dependent variables as well as the interrelationships between dependent variables by depicting pathways between the variables (Lleras, 2005; Steele et al., 2006). The strength and direction of the relationships among variables are reported as path coefficients (Lleras, 2005; Tabachnick & Fidell, 2012). Path coefficients are standardized regression coefficients that are expressed as correlations and reflect the direct effect of an independent variable on a dependent variable while controlling for the other variables (Lleras, 2005; Tabachnick & Fidell, 2012). Invariance testing via a path model is used to determine if parameters (i.e., paths) within a path model are equivalent (i.e., invariant) or non-equivalent (i.e., noninvariant) across different groups (Byrne, 2004).

I selected invariance testing via a path model as the primary analytic technique for these research questions for several reasons. First, path analysis allows for the examination of multiple independent and dependent variables simultaneously (Lleras, 2005). Thus, path analysis is appropriate for my second, third, and fourth research questions because they include several independent variables, one simultaneously mediating and dependent variable (i.e., suicidal ideation), and one dependent variable (i.e., suicidal behaviors). Second, path analysis accounts for overlapping relationships between variables by exploring the interrelationships among variables (Lleras, 2005).
Given the suggested conceptual interplay between perceived burdensomeness and thwarted belongingness, path analysis adequately accounted for the impact of the possible relationships between perceived burdensomeness and the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community). Third, path analysis models are generally theory-driven (Lleras, 2005). Finally, invariance testing via a path model allows for the detection of differences for the relationships between variables across LGB and heterosexual groups (Byrne, 2004). My second, third, and fourth research questions are theory-driven through their direct application of Joiner’s (2005) interpersonal psychological theory of suicide to develop the research questions. Finally, path analysis has been effectively used within counseling psychology research regarding sexual orientation and psychological health and well-being. Specifically, path analysis has been used to capture the relationships between sexual orientation and psychological distress (Borders, Guillen, & Meyer, 2014), LGB people of color and psychological outcome variables (DeBlaere, Brewster, Sarkees, & Moradi, 2010), and social support and suicide in gay male youth (Friedman et al., 2006).

I used the procedures outlined in Kline (2011) to conduct the path analysis. Kline’s (2011) approach is considered among the most comprehensive and popular approaches for conducting a path analysis within psychological research (Markus, 2012). Specifically, I followed Kline’s broad steps of: model specification, model identification, model estimation, model fit and interpretation, model modification, full model results, and testing for invariance, which I have detailed in individual sections below.

**Model specification.** My model consisted of six independent variables, which are perceived burdensomeness, the four spheres of belongingness (i.e., family, peer,
academic institution, and sexual orientation community), and acquired capability. The model has one simultaneously mediating and dependent variable, which is suicidal ideation, one dependent variable, which is suicidal behaviors, and two endogenous error variances. Experiences of discrimination was not included in the path model because the addition of this variable would have significantly reduced the power of the analysis, resulting in an unstable path model. Figure 1 depicts the model.

Within the depicted path model (see Figure 1), each of the independent and dependent variables are represented within rectangles. The two endogenous error variances are represented within circles. The paths are represented via single-headed and double-headed arrows.

Figure 1. Proposed path model.

First, there are single-headed arrows that depict the relationships between the independent variables and the dependent variables (Kline, 2011). The one-way
directional paths are between perceived burdensomeness and suicidal ideation, the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation, acquired capability and suicidal behaviors, and suicidal ideation and suicidal behaviors. These unidirectional paths are consistent with Joiner’s (2005) assertions that perceived burdensomeness and thwarted belongingness influence suicidal ideation, acquired capability influences suicidal behaviors, and suicidal ideation influences suicidal behaviors.

Second, the double-headed arrows connect the independent variables. Specifically, perceived burdensomeness and the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) are interrelated constructs (Van Orden et al., 2012a; Van Orden et al., 2012b). Although Joiner’s (2005) theory proposes a conceptual interplay between perceived burdensomeness and thwarted belongingness but not for perceived burdensomeness and acquired capability or thwarted belongingness and acquired capability, relationships between all of these variables were included in the path model. Relationships between all of these variables were included because research has not empirically explored Joiner’s (2005) supposition that there are no conceptual interplays between acquired capability and perceived burdensomeness or acquired capability and thwarted belongingness. Thus, including the bidirectional paths between perceived burdensomeness, the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community), and acquired capability accounts for the degree to which these variables may or may not be interrelated.

Finally, two endogenous error variances (i.e., e1 and e2) are represented within circles. The paths are represented via single-headed that links the endogenous error
variance to its respective dependent variable. The number 1 next to this arrow represents a constant unit loading identification (ULI) constraint that is fixed to equal one (Kline, 2011).

Both exogenous and endogenous variables were expected to create disturbances in the path model. Exogenous variables are variables that explain other variables in a path model (i.e., independent variables), and endogenous variables are variables that are influenced by other variables within the model (i.e., dependent variables; Kline, 2011). Exogenous variables’ disturbances were not depicted in the path model because exogenous variables represent implicit measurement error (Kline, 2011).

**Model identification.** After specifying the model, I identified the model. Model identification is determined by calculating the degrees of freedom (Kline, 2011; Weston & Gore, 2006). In order to calculate degrees of freedom, I first calculated the number of known elements using the formula v(v + 1)/2, wherein v represents the number of observed variables (Kline, 2011; Weston & Gore, 2006). Within a path model, all variables in the model are considered to be observed variables (Kline, 2011). Figure 1 depicts eight observed variables (i.e., family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, perceived burdensomeness, acquired capability, suicidal ideation, and suicidal behaviors). Thus, there are 36 elements in the model [8(8 + 1)/2 = 36]. Then, I determined the number of free parameters. Within the model for this study, there are seven direct paths, two error variances, fifteen covariances, and six exogenous variances (i.e., variances from the independent variables), which resulted in 30 free parameters (Schumacker & Lomax, 2010). By subtracting 30 from 36, I determined that the model has six degrees of
freedom. Given the degrees of freedom is greater than zero, the model is considered to be over-identified. Because the model is over-identified, the model can be estimated (Kline, 2011). To ensure the most accurate, just-identified model, I used Maximum Likelihood (ML) during the model estimation step (see section below; Kline, 2011).

**Model estimation.** I used ML estimation in AMOS 23.0 to estimate the parameters of the full model. ML is an iterative estimation process and was selected as the estimation method because it maximizes the likelihood that the estimates of the parameters are derived from the sample (Kline, 2011).

I estimated the relationships between the variables that are represented by a single-headed arrow (i.e., direct path free parameters), and I estimated the relationships between the independent variables that are represented by a double-headed variable (i.e., covariances). Although single-headed arrows visually imply causality, the correlational nature of this statistical analysis technique does not allow for causal inference. Figure 2 depicts the standardized output of the estimated model.
Model fit and interpretation. I evaluated the model’s fit with the data by examining the model’s chi-square ($\chi^2$) value as well as multiple fit indices, including the Comparative Fit Index (CFI), Normed Fit Index (NFI), Tucker-Lewis Index (TLI), and root mean square error of approximation (RMSEA). With respect to model fit, a nonsignificant ($p > .05$) chi-square ($\chi^2$) is reflective of adequate model fit (Kline, 2011). The model had a nonsignificant chi-square [$\chi^2 = 5.05, p = .54$], indicating adequate model fit. The model’s CFI value of 1.00 also indicated good model fit wherein values greater than .95 are reflective of good-fitting models (Tabachnick & Fidell, 2012). NFI values greater than .90 suggest a good-fitting model, and the NFI value for this model was .992 (Kline, 2011). The model’s TLI value of 1.007 also is reflective of adequate model fit wherein values greater than .95 are considered acceptable model fit (Schreiber, Nora,
Stage, Barlow, & King, 2006). Finally, RMSEA values less than .06 are considered acceptable model fit (Kline, 2011). Within this model, the RMSEA value was .000.

**Model modification.** Because the various fit indices indicated that the hypothesized model adequately fit, I did not modify the model (Kline, 2011; Martens, 2005). Thus, the originally proposed model was used to test the hypotheses.

Although the model adequately fit, I tested one alternative model (see Appendix R). I chose to test an alternative model because Joiner’s (2005) theory asserts that a conceptual interplay exists between perceived burdensomeness and thwarted belongingness *but not* between perceived burdensomeness and acquired capability or thwarted belongingness and acquired capability. The alternative model had the covariations between acquired capability and perceived burdensomeness and acquired capability and the spheres of belongingness (i.e., family belongingness, peer belongingness, academic institution belongingness, and sexual orientation community belongingness) held constant at zero.

The model fit indices for the alternative model were relatively consistent with the primary model. The notable differences were (a) the primary model had a chi-square value of 5.05 and a p-value of .54, whereas the alternative model had a chi-square value of 18.29 and a p-value of .075 and (b) the primary model had an RMSEA of .000, whereas the alternative model had an RMSEA value of .050.

Hypotheses-related findings for the alternative and primary models were also consistent. Specifically, the proportion of variance ($R^2$) for suicidal ideation explained by the dependent variables of family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, and perceived
burdensomeness was consistent across the alternative and primary models. Additionally, proportion of variance ($R^2$) for suicidal behaviors explained for by suicidal ideation and acquired capability was consistent across the alternative and primary models. Finally, results for the primary hypotheses (H6 – H8) were consistent across the alternative and primary models. I provide a more comprehensive overview for the specific results of the alternative model in Appendix R.

Although I tested an alternative model, I chose to use the current model to test the hypotheses. The current model included the estimation of covariances between acquired capability and the other dependent variables. This model was chosen as the main model for this study because research has not empirically explored Joiner’s (2005) supposition that there are no conceptual interplays between acquired capability and perceived burdensomeness or acquired capability and thwarted belongingness. Additionally, there were no significant differences in the hypotheses-related findings when comparing the current model to the alternative model.

**Results of the full model.** Figure 2 displays the results of the full model, which includes all of the participants ($N = 268$). For the full model, family belongingness ($\beta = -.148, p = .004$) and peer belongingness ($\beta = -.145, p = .02$) were significantly, negatively associated with suicidal ideation. Perceived burdensomeness was significantly, positively associated with suicidal ideation ($\beta = .519, p < .001$), and suicidal ideation was significantly, positively associated with suicidal behaviors ($\beta = .692, p < .001$). There were no statistically significant associations between academic institution belongingness and suicidal ideation ($\beta = -.019, p = .76$), sexual orientation community belongingness
and suicidal ideation (β = .027, p = .54), or acquired capability and suicidal behaviors (β = .037, p = .41).

There were several statistically significant covariances within the model. Specifically, family belongingness significantly covaried with peer belongingness (β = .379, p < .001), academic institution belongingness (β = .396, p < .001), sexual orientation community belongingness (β = -.136, p = .027), perceived burdensomeness (β = -.379, p < .001), and acquired capability (β = -.141, p = .023). Peer belongingness significantly covaried with academic institution belongingness (β = .663, p < .001), perceived burdensomeness (β = -.465, p < .001), and acquired capability (β = -.174, p = .005). Academic institution belongingness significantly covaried with perceived burdensomeness (β = -.403, p < .001) and acquired capability (β = -.136, p = .028). Finally, perceived burdensomeness significantly covaried with acquired capability (β = .19, p = .002).

There were four nonsignificant covariances. Specifically, sexual orientation community belongingness did not significantly covary with peer belongingness (β = .019, p = .756), academic institution belongingness (β = .008, p = .898), perceived burdensomeness (β = .027, p = .657), or acquired capability (β = -.001, p = .984).

The proportion of variance (R²) for suicidal ideation explained by the dependent variables of family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, and perceived burdensomeness was .473. The proportion of the variance (R²) for suicidal behaviors explained for by suicidal ideation and acquired capability was .487. More specifically, the proportion of variance (R²) for suicidal behaviors explained for by suicidal ideation
was .473, and the proportion of variance ($R^2$) for suicidal behaviors explained for by acquired capability was .014.

**Testing for invariance.** Testing for invariance is used to determine if parameters within a path model are equivalent (i.e., invariant) or non-equivalent (i.e., noninvariant) across different groups. Invariance of parameters suggests that those parameters are not statistically significantly different between groups (Byrne, 2004). Noninvariance of parameters indicates that those parameters are statistically significantly different between groups (Byrne, 2004). For this study, I tested for invariance of the parameters across LGB and heterosexual groups.

Testing for invariance involved multiple steps. First, I tested for invariance across a fully constrained multi-group (i.e., LGB and heterosexual) model as compared to an unconstrained multi-group model (Byrne, 2004). Within the fully constrained multi-group model, all of the factor loadings, factor variances, factor covariances, and error covariances were set as equal for LGB and heterosexual groups (Byrne, 2004). Within the unconstrained multi-group model, all of the parameters were free. To test for invariance across the two models (i.e., fully constrained and unconstrained), I conducted a chi-square ratio test using the chi-square values for the constrained ($\chi^2 = 527.833$, $df = 43$, $p < .001$) and unconstrained ($\chi^2 = 9.854$, $df = 12$, $p = .629$) models. The chi-square ratio test indicated a statistically significant difference ($\chi^2 = 517.979$, $df = 31$, $p < .001$) between the constrained and unconstrained models. Thus, results indicated noninvariant (i.e., non-equivalent) paths for LGB and heterosexual groups.

Next, because the chi-square test indicated that there were differences in parameters across LGB and heterosexual groups, I determined the nature of the
noninvariance by examining the comparative factor loadings of the parameters for LGB and heterosexual groups. First, I individually examined the statistical significance and valence of the relationships for the parameters for each of the groups. Then, I conducted Wald chi-square tests to determine which parameters’ invariances were statistically significant across the LGB and heterosexual groups. Figures 3 and 4 depict the path models for LGB and heterosexual groups, respectively.

Figure 3. Standardized LGB group path model.
Figure 4. Standardized heterosexual group path model.

First, I examined the statistical significance of the relationships for the parameters for the LGB group. Relationships were statistically significant for perceived burdensomeness and suicidal ideation ($\beta = .446; p < .001; H6$), family belongingness and suicidal ideation ($\beta = -.221; p = .007; H7$), peer belongingness and suicidal ideation ($\beta = -.258; p = .009; H7$), and suicidal ideation and suicidal behaviors ($\beta = .644; p < .001$).

Second, I examined the valence of the relationships for the parameters for the LGB group. The parameters with a negative valence were family belongingness and suicidal ideation ($\beta = -.221; H7$), peer belongingness and suicidal ideation ($\beta = -.258; H7$), and sexual orientation community belongingness and suicidal ideation ($\beta = -.001; H7$). The parameters with a positive valence were perceived burdensomeness and suicidal ideation ($\beta = .446; H6$), academic institution belongingness and suicidal ideation ($\beta$...
Third, I examined the statistical significance of the relationships for the parameters for the heterosexual group. Relationships were statistically significant for perceived burdensomeness and suicidal ideation ($\beta = .424; p < .001; H6$) and suicidal ideation and suicidal behaviors ($\beta = .323; p < .001$).

Fourth, I examined the valence of the relationships for the parameters for the heterosexual group. The parameters with a negative valence were peer belongingness and suicidal ideation ($\beta = -.05; H7$), academic institution belongingness and suicidal ideation ($\beta = -.14; H7$), and acquired capability and suicidal behaviors ($\beta = -.038; H8$). The parameters with a positive valence were perceived burdensomeness and suicidal ideation ($\beta = .424; H6$), family belongingness and suicidal ideation ($\beta = .031; H7$), sexual orientation community belongingness and suicidal ideation ($\beta = .023; H7$), and suicidal ideation and suicidal behaviors ($\beta = .323$). Table 10 contains the parameter estimate coefficients and significance values for the LGB and heterosexual groups.
Table 10

Parameter Estimate Coefficients (β) and Significance Values for LGB and Heterosexual Groups

<table>
<thead>
<tr>
<th>Parameter</th>
<th>LGB</th>
<th>Heterosexual</th>
<th>LGB</th>
<th>Heterosexual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Burdensomeness – Suicidal Ideation</td>
<td>.446***</td>
<td>.000</td>
<td>.424***</td>
<td>.000</td>
</tr>
<tr>
<td>Family Belongingness – Suicidal Ideation</td>
<td>-.221**</td>
<td>.007</td>
<td>.031</td>
<td>.668</td>
</tr>
<tr>
<td>Peer Belongingness – Suicidal Ideation</td>
<td>-.258**</td>
<td>.009</td>
<td>-.05</td>
<td>.578</td>
</tr>
<tr>
<td>Academic Institution Belongingness – Suicidal Ideation</td>
<td>.063</td>
<td>.525</td>
<td>-.14</td>
<td>.108</td>
</tr>
<tr>
<td>Sexual Orientation Community Belongingness – Suicidal Ideation</td>
<td>-.001</td>
<td>.991</td>
<td>.023</td>
<td>.726</td>
</tr>
<tr>
<td>Acquired Capability – Suicidal Behaviors</td>
<td>.062</td>
<td>.414</td>
<td>-.038</td>
<td>.611</td>
</tr>
<tr>
<td>Suicidal Ideation – Suicidal Behaviors</td>
<td>.644***</td>
<td>.000</td>
<td>.323***</td>
<td>.000</td>
</tr>
</tbody>
</table>

*p < .05  
**p < .01  
***p < .001

Finally, I conducted Wald chi-square tests in Mplus 7.31 to determine which parameters’ invariances were statistically significant across the LGB and heterosexual groups. The statistically significant parameter invariances were for the relationships between: (a) family belongingness and suicidal ideation ($\chi^2 = 6.48, df = 1, p = .011; H7$) and (b) peer belongingness and suicidal ideation ($\chi^2 = 4.28, df = 1, p = .039; H7$).

LGB participants’ negative relationship between family belongingness and suicidal ideation was significantly greater as compared to heterosexual participants’ nonsignificant relationship between family belongingness and suicidal ideation (H7). Additionally, LGB participants’ negative relationship between peer belongingness and suicidal ideation was significantly greater as compared to heterosexual participants’ nonsignificant relationship between peer belongingness and suicidal ideation (H7).

Parameter invariances were not statistically significant for the relationships between: (a) perceived burdensomeness and suicidal ideation ($\chi^2 = .180, df = 1, p = .672$;
(b) academic institution belongingness and suicidal ideation ($\chi^2 = 1.03, df = 1, p = .311; \text{H6}$), (c) sexual orientation community belongingness and suicidal ideation ($\chi^2 = .06, df = 1, p = .806; \text{H6}$), and (d) acquired capability and suicidal behaviors ($\chi^2 = .808, df = 1, p = .369; \text{H8}$).

Overall, the results indicated that H6 was not supported, H7 was partially supported, and H8 not supported. Specifically, H6, which was that the positive relationship between perceived burdensomeness and suicidal ideation would be greater for LGB college students than for their heterosexual counterparts, was not supported. The results indicated that the relationship between perceived burdensomeness and suicidal ideation was not significantly different for LGB college students and their heterosexual counterparts.

H7, which was that the negative relationship between belongingness for the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation would be greater for LGB college students than their heterosexual counterparts, was supported. There was a statistically significant difference for the relationship between family belongingness and suicidal ideation across LGB and heterosexual college students. Specifically, LGB participants’ *negative* relationship between family belongingness and suicidal ideation was significantly greater than heterosexual participants’ *nonsignificant* relationship between family belongingness and suicidal ideation. This finding supported H7. Additionally, there was a statistically significant difference for the relationship between peer belongingness and suicidal ideation across LGB and heterosexual college students. Specifically, LGB participants’ *negative* relationship between peer belongingness and suicidal ideation was significantly
greater than heterosexual participants’ *nonsignificant* relationship between peer
belongingness and suicidal ideation. This finding supported H7. There was no
statistically significant difference for the relationship between academic institution
belongingness and suicidal ideation across LGB and heterosexual college students. This
finding did not support H7. Finally, there was no statistically significant difference for
the relationship between sexual orientation community belongingness and suicidal
ideation across LGB and heterosexual college students. This finding did not support H7.

H8, which was that the positive relationship between acquired capability and
suicidal behaviors would be greater for LGB college students than their heterosexual
counterparts, was not supported. The results indicated that the relationship between
acquired capability and suicidal behaviors was not significantly different across LGB
college students and their heterosexual counterparts.

**Hypotheses Testing Results Summary**

In the subsequent sections, I offer a summary of the specific results related to
each of the hypotheses. Table 11 provides a list of all of the hypotheses.
Table 11

**Summary of Hypotheses Testing**

<table>
<thead>
<tr>
<th>Hypothesis Number</th>
<th>Hypothesis</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LGB college students will exhibit higher levels of perceived burdensomeness than their heterosexual counterparts.</td>
<td>Supported</td>
</tr>
<tr>
<td>2</td>
<td>LGB college students will exhibit lower levels of belongingness for the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) than their heterosexual counterparts.</td>
<td>Partially Supported</td>
</tr>
<tr>
<td>3</td>
<td>LGB college students will exhibit higher levels of acquired capability than their heterosexual counterparts.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>4</td>
<td>LGB college students will exhibit higher levels of suicidal ideation than their heterosexual counterparts.</td>
<td>Supported</td>
</tr>
<tr>
<td>5</td>
<td>LGB college students will exhibit higher levels of suicidal behaviors than their heterosexual counterparts.</td>
<td>Supported</td>
</tr>
<tr>
<td>6</td>
<td>The positive relationship between perceived burdensomeness and suicidal ideation will be greater for LGB college students than for their heterosexual counterparts.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>7</td>
<td>The negative relationship between belongingness for the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation will be greater for LGB college students than their heterosexual counterparts.</td>
<td>Partially Supported</td>
</tr>
<tr>
<td>8</td>
<td>The positive relationship between acquired capability and suicidal behavior will be greater for LGB college students than their heterosexual counterparts.</td>
<td>Not Supported</td>
</tr>
</tbody>
</table>
Hypothesis 1. Hypothesis 1 (H1) was supported. LGB college students exhibited higher levels of perceived burdensomeness than their heterosexual counterparts.

Hypothesis 2. Hypothesis 2 (H2) was partially supported. As hypothesized, LGB college students exhibited significantly lower levels of belongingness for family belongingness, peer belongingness, and academic institution belongingness as compared to their heterosexual counterparts. However, contrary to the hypothesized lower levels of sexual orientation community belongingness for LGB college students as compared to heterosexual college students, LGB college students exhibited significantly higher levels of sexual orientation community belongingness than their heterosexual counterparts.

Hypothesis 3. Hypothesis 3 (H3) was not supported. There was no statistically significant difference in LGB college students’ levels of acquired capability as compared to their heterosexual counterparts.

Hypothesis 4. Hypothesis 4 (H4) was supported. LGB college students exhibited higher levels of suicidal ideation than their heterosexual counterparts.

Hypothesis 5. Hypothesis 5 (H5) was supported. LGB college students exhibited higher levels of suicidal behaviors than their heterosexual counterparts.

Hypothesis 6. Hypothesis 6 (H6) was not supported. There was no statistically significant difference for relationship between perceived burdensomeness and suicidal ideation across LGB and heterosexual college students.

Hypothesis 7. Hypothesis 7 (H7) was partially supported. There was a statistically significant difference between family belongingness and suicidal ideation across LGB college students and their heterosexual counterparts wherein LGB participants’ negative relationship between family belongingness and suicidal ideation
was significantly greater than heterosexual participants’ nonsignificant relationship between family belongingness and suicidal ideation. This finding supported H7. Additionally, there was a statistically significant difference between peer belongingness and suicidal ideation across LGB college students and their heterosexual counterparts wherein LGB participants’ negative relationship between peer belongingness and suicidal ideation was significantly greater than heterosexual participants’ nonsignificant relationship between peer belongingness and suicidal ideation. This finding supported H7. There was not a significant difference in the relationships between (a) academic institution belongingness and suicidal ideation and (b) sexual orientation community belongingness and suicidal ideation across LGB college students and their heterosexual counterparts. These findings did not support H7.

**Hypothesis 8.** Hypothesis 8 (H8) was not supported. The relationship between acquired capability and suicidal behaviors was not significantly different across LGB college students and their heterosexual counterparts.
CHAPTER 5: DISCUSSION

The purpose of the present study was to use Joiner’s (2005) interpersonal psychological theory of suicide to investigate suicidal ideation and behaviors in LGB college students as compared to their heterosexual counterparts. Specifically, I examined whether or not LGB and heterosexual college students differed in their reported levels of perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors. I also examined whether or not sexual orientation (i.e., LGB or heterosexual) moderated the relationships between: (a) perceived burdensomeness and suicidal ideation, (b) the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation, and (c) acquired capability and suicidal behaviors.

To achieve my purpose, I analyzed the data from 268 college students (100 LGB; 168 heterosexual). These participants answered survey items measuring their degree of: perceived burdensomeness, family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, acquired capability, suicidal ideation, and suicidal behaviors. I also asked participants about their experiences of discrimination, and I gathered additional mental health information through a mental health history questionnaire. I used two quantitative analyses methods, which were a MANCOVA and testing for invariance via path analysis, to answer four research questions and test their associated hypotheses. Hypotheses 1, 4, and 5 were
supported, Hypotheses 2 and 7 were partially supported, and Hypotheses 3, 6, and 8 were not supported.

In this chapter, I first review the overarching findings related to differences in experiences of discrimination across groups (i.e., LGB and heterosexual) and the covariations between experiences of discrimination and the primary variables. Next, I detail the primary findings of the study, which are the results from the hypotheses testing. Then, I provide theoretical, empirical, and clinical implications of the findings followed by a review of the study’s limitations. Finally, I offer suggestions for future research and close with a conclusion. The conclusion serves as a summary of the study’s primary findings and describes how this study contributes to the research literature.

**Discrimination**

**Group Differences for Experiences of Discrimination**

In this section, I briefly review the results for my examination of experiences of discrimination for LGB and heterosexual college students. Specifically, LGB college students had higher levels of experiences of discrimination as compared to heterosexual participants. Thus, LGB college students may experience discrimination more frequently than their heterosexual peers.

This finding could be explained by the highly visible societal discrimination toward LGBT individuals. Specifically, there are over 100 anti-LGBT laws across 22 states that have either passed or are pending in these state legislatures (Bendery & Signorile, 2016). One notable law is North Carolina’s “bathroom bill” law, which includes provisions that eliminated previously existing non-discrimination protections for individuals based on sexual orientation and gender identity (Bendery & Signorile, 2016).
Another notable law includes Tennessee’s provision that allows mental health professionals to deny services to LGBT clients based on “sincerely held beliefs” (Bendery & Signorile, 2016). Additionally, there have been recent public displays of marginalization toward LGBT individuals, including an Alabama county commissioner’s refusal to obey presidential orders to lower the U.S. flag to half-mast in honor of the victims killed during a mass shooting at a gay nightclub in Florida (D’Angelo, 2016).

Furthermore, discrimination toward LGBT individuals is openly supported by numerous, large-sized societal groups (Haas et al., 2011; Halpert, 2002; McDermott et al., 2008). Specifically, there are 13 national organizations classified as LGBT hate groups (e.g., American Family Association, Americans for Truth about Homosexuality, Family Research Council, Family Research Institute, National Organization for Marriage, Traditional Values Coalition). These organizations frequently and publicly promote anti-LGBT rhetoric, and they actively work with politicians to develop anti-LGBT legislation (Schlatter, 2010).

These laws, public displays of marginalization, and anti-LGBT groups could contribute to LGB college students’ higher levels of experiences of discrimination as compared to their heterosexual peers by making discrimination toward LGBT individuals socially acceptable. Specifically, these laws, public displays of marginalization, and anti-LGBT groups could provide others with both internal justifications (e.g., “Others hold this same belief and behave in accordance with this belief, so it is ok if I do, too.”) and legal support (e.g., “If I am open about not wanting to hire an LGBT individual because they are LGBT, I am legally protected.”) for discriminatory behaviors toward LGB college students. Consequently, individuals may openly treat LGB college students in a
discriminatory manner, resulting in LGB college students experiencing discrimination more frequently than their heterosexual peers.

These findings are consistent with research that has indicated that LGBTQ participants, as compared to heterosexual participants, were twice as likely to report experiencing harassment and seven times more likely to indicate that their experiences of harassment were associated with their sexual orientation identity (Haas et al., 2011; Oswalt & Wyatt, 2011; Rankin et al., 2010). These findings are also consistent with previous research that has suggested that LGBTQ participants are approximately twice as likely to report being called a derogatory remark due to their sexual orientation identity (Rankin et al., 2010).

**Discrimination and the Primary Variables**

In this section, I review the results for the covariations between experiences of discrimination and the primary variables. Specifically, I review the results for the covariations between experiences of discrimination and: perceived burdensomeness, family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, acquired capability, suicidal ideation, and suicidal behaviors. Within each section, I offer interpretations for the covariations in relation to LGB college students because the results indicated that LGB college student participants had significantly higher levels of experiences of discrimination as compared to heterosexual participants.

**Experiences of Discrimination and Perceived Burdensomeness.** Experiences of discrimination significantly, positively covaried with perceived burdensomeness. This finding seems consistent with previous researchers’ assertions that discrimination is
associated with perceived burdensomeness (Haas et al., 2011; Halpert, 2002; McDermott et al., 2008; Silva et al., 2014; Westefeld, Maples, Buford, & Taylor, 2001). Specifically, previous researchers have posited that experiences of discrimination are often internalized, which could contribute to the development of negative self-concepts (Haas et al., 2011; Halpert, 2002; Hilton & Szymanski, 2011; McDermott et al., 2008; Silva et al., 2014). These negative self-concepts could lead individuals to develop feelings of self-hatred and a belief that they are a liability to others, which are the two facets of perceived burdensomeness.

Specifically for LGB college students, researchers have posited that LGB college students experience discrimination to a greater degree than their heterosexual peers because of their many LGB-specific environmental (e.g., heterosexism, homophobia) and social experiences (e.g., “coming out,” being “outed;” Haas et al., 2011; Halpert, 2002; Hilton & Szymanski, 2011; McDermott et al., 2008; Silva et al., 2014). Consequently, LGB college students may be more likely to internalize experiences of discrimination, which could contribute to the development of negative self-concepts and contribute to feelings of perceived burdensomeness.

**Experiences of Discrimination and Family Belongingness.** Experiences of discrimination significantly, negatively covaried with family belongingness. This finding seems consistent with previous researchers’ assertions that discrimination is associated with family relationship quality (Blosnich & Bossarte, 2012; Ryan et al., 2009). Specifically for LGB college students, previous researchers and theorists have suggested that LGB college students’ experiences of discrimination by family members may contribute to their thwarted family belongingness (Ryan et al., 2009). Indeed, some LGB
college students are actively rejected by their family members because of their sexual orientation identity (Ryan et al., 2009). This rejection could be internalized and may lead to the belief that they are unloved or unwanted by their family members, which could generate feelings of thwarted family belongingness. Furthermore, research suggests that LGB college students may internalize feelings of rejection and disconnectedness from family members even if family relationships are rejecting and distant throughout LGB individuals’ lives (Lea, de Wit, & Reynolds, 2014; Meyer, 1995; Meyer, 2003; Meyer & Frost, 2013; Michaels, Parent, & Torrey, 2015). Thus, LGB college students may experience thwarted family belongingness even if they experience lifelong rejection or disconnectedness from family members. Alternatively, LGB individuals with thwarted family belongingness may experience discrimination to a higher degree because their family members may not offer adequate emotional support when they experience discrimination from others or from society at-large.

**Experiences of Discrimination and Peer Belongingness.** Experiences of discrimination significantly, negatively covaried with peer belongingness. This finding seems consistent with previous research findings wherein discrimination has been negatively associated with perceived quality of peer relationships and satisfaction within peer relationships (D’Augelli, 1989; D’Augelli & Rose, 1990; Engstrom & Sedlacek, 1997; Liang & Alimo, 2005). Of note, this study did not explicitly identify the reference group for peers. Instead this study broadly defined peer as referring to individuals within their age group and/or social group. Although this study did not explicitly identify the reference group for peers, this study’s findings could possibly reflect LGB college students’ experiences with their heterosexual peers because heterosexual peers are part of
their age group and can be part of their social group. Specifically for LGB college students, past research findings indicate that LGB college students are negatively perceived by their heterosexual peers, and some researchers have found that heterosexual college students would prefer that their campuses only had heterosexual students (D’Augelli, 1989; D’Augelli & Rose, 1990; Engstrom & Seducnik, 1997; Liang & Alimo, 2005). Consequently, LGB college students could be less likely to experience accepting and respectful peer interactions, particularly with heterosexual peers, and become socially isolated because of their heterosexual peers’ negative attitudes, stereotypes, and prejudices toward them (Lucozzi, 1998; Sanlo, 2005; Worthen, 2012). These experiences of discrimination from their heterosexual peers could contribute to their thwarted peer belongingness. However, because this study did not explicitly identify the reference group for peers, this interpretation of the findings is a tentative possibility, and further research is needed wherein the reference group for peers is explicitly defined (see Implications for Future Research, p. 181).

Because this study did not explicitly identify the reference group for peers, this study’s finding could possibly reflect within-group discrimination, particularly discrimination against bisexual individuals by lesbian and gay individuals. Specifically, bisexual individuals often experience discrimination from heterosexual individuals as well as lesbian and gay individuals (Li et al., 2012). Given that approximately one-third of this study’s LGB sample identified as bisexual, it is possible that bisexual students were identifying experiences from heterosexual, gay, and lesbian individuals when answering questions about both experiences of discrimination and peer belongingness.
However, this is a tentative interpretation of the findings given that the reference group for peers was not explicitly defined.

**Experiences of Discrimination and Academic Institution Belongingness.**

Experiences of discrimination significantly, negatively covaried with academic institution belongingness. This finding could be consistent with previous theorists’ assertions that academic institutions are microcosms of the broader society wherein individuals experience the prejudices, biases, and discrimination that are apparent within society at-large (Bieschke et al., 2000; Dilley, 2002; Harley et al., 2002; Rankin, 2003; Sanlo, 2005). Specifically for LGB college students, these experiences of prejudice, bias, and discrimination could possibly lead LGB college students developing distrust or fear of members of their academic institution. These feelings of distrust or fear could prompt LGB college students to emotionally and socially detach from their academic institution and possibly lead to the development of thwarted academic institution belongingness (Bieschke et al., 2000; Dilley, 2002; Harley et al., 2002; Rankin, 2003; Sanlo, 2005).

**Experiences of Discrimination and Sexual Orientation Community Belongingness.**

Experiences of discrimination did not covary with sexual orientation community belongingness. Thus, experiences of discrimination likely do not affect LGB and heterosexual college students’ level of belongingness with the LGBT community. Therefore, other factors aside from experiences of discrimination likely contribute to LGB and heterosexual college students’ feelings of belongingness with the LGBT sexual orientation community.

**Experiences of Discrimination and Acquired Capability.** Experiences of discrimination significantly, positively covaried with acquired capability. This finding
seems to affirm researchers’ suggestion that acquired capability could be associated with traumatic experiences of discrimination (Balsam et al., 2005; Ryan et al., 2010; Saewyc et al., 2006). Specifically for LGB college students, researchers and theorists have suggested that LGB college students may be at an increased susceptibility to develop acquired capability because of their increased likelihood of experiencing physical harm, including traumatic antigay hate crimes such as physical assault (Balsam et al., 2005; Herek, Gillis, & Cogan, 1999; Ploderl et al., 2014; Ryan et al., 2010; Saewyc et al., 2006).

**Experiences of Discrimination and Suicidal Ideation.** Experiences of discrimination significantly, positively covaried with suicidal ideation. This finding seemingly affirms previous assertions that discrimination and marginalization could be associated with suicidal ideation (de Graaf et al., 2006; Haas et al., 2011; King et al., 2008). Specifically for LGB college students, research has indicated that LGB college students who reported experiencing suicidal ideation also reported experiencing discrimination due to their sexual orientation identity (de Graaf et al., 2006; Haas et al., 2011; King et al., 2008).

**Experiences of Discrimination and Suicidal Behaviors.** Experiences of discrimination significantly, positively covaried with suicidal behaviors. This finding seemingly affirms previous assertions that discrimination and marginalization could be associated with suicidal behaviors (de Graaf et al., 2006; Haas et al., 2011; King et al., 2008). Specifically for LGB college students, research has indicated that LGB college students with past suicide attempts also reported experiencing discrimination due to their sexual orientation identity (de Graaf et al., 2006; Haas et al., 2011; King et al., 2008).
Primary Study Findings

Group Differences Based on Sexual Orientation

In this section, I review the results of my examination for possible group differences based on sexual orientation (i.e., LGB and heterosexual). Specifically, I review possible group differences for: perceived burdensomeness, the spheres of belongingness (i.e., family belongingness, peer belongingness, academic institution belongingness, and sexual orientation community belongingness), acquired capability, suicidal ideation, and suicidal behaviors. For those variables with significant group differences, I offer interpretations for these findings that are above-and-beyond the possible impact of experiences of discrimination because I controlled for experiences of discrimination (i.e., had experiences of discrimination as a covariate) when examining group differences.

Perceived Burdensomeness. I hypothesized that LGB college students would exhibit higher levels of perceived burdensomeness than their heterosexual counterparts. H1 was supported. LGB college student participants exhibited higher levels of perceived burdensomeness as compared to heterosexual participants. This finding suggests that LGB college students appear to experience perceived burdensomeness, which includes feelings of self-hatred and a belief that they are a liability to others, to a greater degree than their heterosexual peers (Joiner, 2005; Van Orden et al., 2010).

The result that LGB college students exhibited higher levels of perceived burdensomeness than their heterosexual counterparts, could be explained by previous theorists and researchers’ assertion that LGB college students’ sexual orientation identity could lead to additional unique developmental challenges beyond those of heterosexual
college students (Spencer & Patrick, 2009; Zubernis et al., 2011). Specifically, LGB college students have to navigate oftentimes stressful LGB-specific experiences (e.g., “coming out,” being intentionally or unintentionally “outed,” determining if and how to disclose sexual orientation to employers) while simultaneously facing the normative transitional experiences associated with college (e.g., adapting to the academic workload, moving away from home, determining a career path; Drum et al., 2009; Hunt & Eisenberg, 2010; Oswalt & Wyatt, 2011; Rankin et al., 2010). Because LGB college students have these LGB-specific experiences, they may require additional interpersonal and emotional support as compared to their heterosexual peers (Bohan, 1996; DiPlacido, 1998; Spencer & Patrick, 2009). LGB college students may perceive themselves as being a burden to close others (e.g., family, friends) for needing interpersonal and emotional support for their LGB-specific experiences, possibly leading to them having a significantly higher level of perceived burdensomeness as compared to their heterosexual peers.

This finding regarding perceived burdensomeness is consistent with limited previous research that has explicitly conducted comparative analyses on perceived burdensomeness for LGB and heterosexual college students. Specifically, Hill and Pettit (2012) and Silva et al. (2014) found that LGB college students had higher perceived burdensomeness than their heterosexual counterparts and that perceived burdensomeness was significantly, positively associated with LGB college students’ suicidal ideation. However, this study differs from these previous studies because these researchers did not examine or control for experiences of discrimination and explained their findings as
being primarily associated with sexual orientation-related personal and/or institutional discrimination (Hill & Pettit, 2012; Silva et al., 2014).

**Spheres of Belongingness.** I hypothesized that LGB college students would exhibit lower levels of belongingness for all four of the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) than their heterosexual counterparts. H2 was partially supported. LGB participants exhibited lower levels of family belongingness, peer belongingness, and academic institution belongingness as compared to heterosexual participants; however, LGB participants had higher levels of sexual orientation community belongingness as compared to heterosexual participants. These findings suggest that LGB college students may experience greater perceived and/or actual social isolation within their relationships with family and peers and at their academic institution as compared to heterosexual college students (Joiner, 2005; Van Orden et al., 2008b; Van Orden et al., 2010). Additionally, these findings suggest that LGB college students may either perceive and/or actually experience less reciprocally caring, positive, supportive relationships with family, peers, and individuals at their academic institution as compared to heterosexual college students (Joiner, 2005; Van Orden et al., 2008b; Van Orden et al., 2010). Finally, these findings suggest that LGB college students may either perceive and/or actually experience more social connectedness with and may also either perceive and/or actually experience more reciprocally caring, positive, supportive relationships with the LGBT community than heterosexual college students have with the LGBT community (Joiner, 2005; Van Orden et al., 2008b; Van Orden et al., 2010). In the following subsections, I offer individualized
explanations for the group differences regarding the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community).

**Family belongingness.** LGB college students may have lower levels of family belongingness as compared to heterosexual college students because LGB college students often do not have parents or other family members who share their minority sexual orientation identity status (Blum & Pfetzing, 1997). Thus, LGB college students may feel disconnected from their family members because their family members cannot directly identify with a key aspect of their overall identity, which is their sexual orientation identity. Additionally, LGB college students may feel disconnected from their family members because their family members may not be able to fully empathize with their LGB-specific experiences (Blum & Pfetzing, 1997; Ryan et al., 2009). Specifically, the lack of shared sexual orientation identity may inhibit family members from fully empathizing with LGB college students’ experiences, even if family members’ efforts are sincere (Blum & Pfetzing, 1997; Ryan et al., 2009). Thus, LGB college students may not obtain necessary familial support and could feel isolated from their family members, which could explain their lower levels of family belongingness as compared to heterosexual college students. Finally, LGB college students who have felt disconnected from their family members throughout their life may internalize these distant relationships as being associated with their sexual orientation identity, regardless of when they disclosed their sexual orientation to their family (Lea et al., 2014; Meyer, 1995; Meyer, 2003; Meyer & Frost, 2013; Michaels et al., 2015). Thus, even LGB college students who have had distant relationships with family throughout their lives may
similarly feel isolated from their family members and experience *thwarted* family belongingness.

Although research has not explicitly examined LGB and heterosexual college students’ comparative levels of family belongingness, this finding that LGB college students have lower family belongingness as compared to heterosexual college students closely parallels existing research. Specifically, Darling, et al. (2007) and Haas et al. (2011) found that relationships with parents are positively associated with mental health resilience in LGB college students. Additionally, Blosnich and Bossarte (2012) and Ryan et al. (2009) suggested that parental and familial rejection because sexual orientation is associated with LGB college students’ mental health.

**Peer belongingness.** Because this study did not explicitly identify the reference group for peers and instead broadly defined peers as referring to individuals within participants’ age group and/or social group, this study’s findings can only offer tentative interpretations regarding LGB college students’ lower levels of peer belongingness as compared to heterosexual college students. Because the reference group for peers was not explicitly defined, four tentative interpretations of the findings are offered below. These interpretations attempt to capture various possible perspectives that participants may have had when answering peer belongingness questions given that the reference group was not explicitly defined within this study.

First, LGB college students who have not had close peer relationships throughout their life may internalize the lack of peer relationships as being associated with their sexual orientation identity (Lea, de Wit, & Reynolds, 2014; Meyer, 1995; Meyer, 2003; Meyer & Frost, 2013; Michaels, Parent, & Torrey, 2015). Specifically, minority stress
theory suggests that social interactions can be internalized for individuals with marginalized identities, and this theory has been extensively applied to LGB individuals (Brooks, 1981; Meyer, 1995; Meyer, 2003). Thus, LGB college students who have not had close peer relationships may attribute their lack of close relationships to their sexual orientation identity. Consequently, LGB college students may have lower levels of peer belongingness as compared to their heterosexual peers because they have never experienced a sense of peer belongingness due to not having close peer connections throughout their lives.

Second, although this study did not explicitly identify heterosexual college students as the reference group for peers, it is possible that participants were thinking of heterosexual peers when answering questions about peer belongingness. If participants were thinking of heterosexual college peers when answering questions about peer belongingness, LGB college students may have lower levels of peer belongingness as compared to heterosexual college students because LGB college students’ heterosexual peers may be unable to fully support LGB college students because of their sexual orientation identity. Specifically, LGB college students often face LGB-specific experiences for which they require peer support (e.g., “coming out;” Drum et al., 2009; Hunt & Eisenberg, 2010; Oswalt & Wyatt, 2011; Rankin et al., 2010). Because LGB college students’ heterosexual peers are not able to fully identify with LGB college students’ experiences, LGB college students may not fully receive the necessary emotional support and guidance needed to navigate LGB-specific experiences. Because LGB college students may not obtain necessary heterosexual peer support, they could feel socially and emotionally isolated from their heterosexual peers, which could explain
their lower levels of peer belongingness as compared to heterosexual college students. However, this possible interpretation is tentative given that the reference group for peers was not explicitly defined as referring to heterosexual peers.

Third, because this study did not explicitly identify a reference group for peers, it is possible that LGB participants were thinking of LGB peers when answering questions about peer belongingness. If LGB participants were thinking of LGB college peers when answering questions about peer belongingness, LGB college students may have lower levels of peer belongingness as compared to their heterosexual peers because LGB college students may not be able to fully support their LGB peers. Specifically, LGB college students may not have the emotional resources needed to offer support to their LGB peers. LGB college students may not have the emotional resources needed to support their LGB peers because they may be using their emotional resources for their own self-coping. In particular, their own heightened need for emotional and social support as a result of their LGB-specific experiences may require LGB college students to use their emotional resources for themselves. However, this possible interpretation is tentative given that the reference group for peers was not explicitly defined.

Finally, because this study did not explicitly identify a reference group for peers, this study’s finding could be reflective of approximately one-third of this study’s LGB sample identifying as bisexual wherein bisexual participants may have interpreted peer as referring to lesbian, gay, and heterosexual peers. Specifically, because bisexuals’ identity is unique from heterosexual, lesbian, and gay individuals’ identity because they are not romantically and sexually attracted to only one gender, they may not feel as though they belong with heterosexual peers or lesbian and gay peers (Li et al., 2012). Consequently,
bisexual college students may feel socially isolated from heterosexual, lesbian, and gay peers. Thus, this study’s finding that LGB college students may have lower levels of peer belongingness as compared to heterosexual college students could be because of the number of bisexual participants within this study. However, this possible interpretation is tentative given that the reference group for peers was not explicitly defined.

Although research has not comparatively examined LGB and heterosexual college students’ levels of peer belongingness, these findings parallel research that indicated that the absence of peer relationships was positively correlated with depressive symptoms for LGB college students (Friedman et al., 2006; Ploderl & Fartacek, 2007). These findings also parallel research that indicated that the presence of positive peer relationships was positively associated with mental health resilience for LGB college students (Goodenow et al., 2006; Haas, et al., 2011).

**Academic institution belongingness.** LGB college students may have lower levels of academic institution belongingness as compared to heterosexual college students because LGB college students may feel under-recognized and underappreciated by their academic institutions (Renn, 2000). Specifically, LGB college students may feel as though they are under-recognized because most academic institutions only have one or a few, often small-sized, LGB offices, clubs, and organizations (Epstein, 1994; Harley et al., 2002; Rankin et al., 2010). Additionally, although most academic institutions have one or a few LGB-specific offices or organizations through which LGB college students can receive support, LGB college students may lack support outside of these groups. Specifically, they may not be openly supported or empowered by other, non-LGB-specific offices and organizations at their academic institution (e.g., academic advising,
career services, health services; Epstein, 1994; Harley et al., 2002; Rankin et al., 2010; Renn, 2000). LGB college students may emotionally and socially detach from their academic institution because of these possible feelings of under-recognition and underappreciation (Bieschke et al., 2000; Dilley, 2002; Harley et al., 2002; Rankin, 2003; Sanlo, 2005). LGB college students’ potential emotional and social detachment from their academic institution could possibly lead to feelings of social isolation and loneliness as well as a lack of caring, supportive relationships within their academic institution.

Although research has not comparatively examined LGB and heterosexual college students’ levels of academic institution belongingness, these findings are consistent with research that has suggested that LGB college students generally perceive colleges and universities as less welcoming than their heterosexual peers (Brown et al., 2004; Evans & D’Augelli, 1996; Franklin, 2000; Rankin, 1998; Rankin 2003). The results of this study also seemingly parallel results from studies that indicated LGB college students’ lack of connectedness to their academic institution was positively correlated with depressive symptoms (Friedman et al., 2006; Ploderl & Fartacek, 2007); whereas, comfort within their academic institution was positively correlated with mental health resilience (Goodenow et al., 2006; Haas, et al., 2011).

**Sexual orientation community belongingness.** LGB college students may have exhibited higher levels of LGBT sexual orientation community belongingness because LGBT community belongingness offers LGB college students necessary emotional support through complex and challenging situations that heterosexual college students do not encounter (e.g., “coming out;” developing same-gender romantic relationships; Meyer, 2003). Specifically, LGBT community belongingness may provide LGB college
students a safe environment in which they can feel validated and supported by sharing experiences associated with their sexual orientation minority status (Ashmore et al., 2004; Baumeister & Leary, 1995; Corrigan & Matthews, 2003; Frost & Meyer, 2012; Galatzer-Levy & Cohler, 2002; Whitlock, 2007). The validation and support that can be obtained through these shared experiences could result in the development of authentic, reciprocally caring relationships as well as feelings of social connectedness for LGB college students. Additionally, LGBT community belongingness may provide LGB college students with LGB role models who can serve as resources and mentors to LGB college students as they navigate the unique challenges associated with being an LGB college student (Crocker & Major, 1989; Herek & Glunt, 1995; Meyer, 2003; Sanlo, 2005). These role modeling and mentoring relationships could lead to the development of meaningful relationships with members of their sexual orientation community, which may heighten LGB college students’ connectedness with their sexual orientation community.

In contrast, heterosexual college students do not similarly need emotional and social support from the LGBT community (Meyer, 2003). Specifically, heterosexual college students do not encounter LGB-specific experiences that require emotional and social support (Meyer, 2003). Additionally, there are no particularly unique experiences associated with a heterosexual identity because a heterosexual identity is the majority sexual orientation identity (Meyer, 2003). Thus, heterosexual college students are not likely to require specialized support for their sexual orientation identity nor are they likely to require support from the LGBT community.
Although no research exists comparatively examining LGBT sexual orientation community belongingness for LGB and heterosexual college students, this finding is consistent with related research that suggested LGB community connectedness was positively associated with mental health and well-being in LGB individuals (Kertzner et al., 2009; Ramirez-Valles et al., 2005). This finding also parallels research that indicated that LGB college students’ mental health was positively correlated with both LGB community social contact and LGB community social support (D’Augelli, 2006; Shilo & Savaya, 2012; Ueno et al., 2009).

**Acquired Capability.** I hypothesized that LGB college students would exhibit higher levels of acquired capability than their heterosexual counterparts. H3 was not supported. There was no statistically significant difference for acquired capability across the LGB and heterosexual groups. Thus, there is likely no difference between LGB and heterosexual college students with respect acquired capability (Van Orden et al., 2010).

This finding that acquired capability did not differ for LGB and heterosexual college students could be because college students tend to engage in risk-taking behaviors (Burnett, Kerr, Sabato, Smith, Wagner, & Walter, 2013; Rolison & Scherman, 2002). Specifically, college students, as an overall developmental group, tend to frequently engage in risk-taking behaviors (e.g., alcohol/drug intoxication, unsafe driving practices such as speeding or texting; Burnett et al., 2013; Rolison & Scherman, 2002). These risk-taking behaviors could result in increased physical pain tolerance and/or reduced fear of death, which are the two components of acquired capability. Engagement in risk-taking behaviors is likely independent of individuals’ sexual orientation identity. Specifically, risk-taking behaviors are perceived as normative behaviors by college students wherein
engaging in risk-taking behaviors is normalized as being an expected component of individuals’ college experience (Burnett et al., 2013; Rolison & Scherman, 2002). Relatedly, engaging in new life experiences is normative for college students (Burnett et al., 2013; Rolison & Scherman, 2002). Risk-taking behaviors, such as drinking, are likely new experiences for college students and perceived as being a component of fully experiencing college life (Burnett et al., 2013; Rolison & Scherman, 2002). Because risk-taking behaviors are likely perceived as normative, expected aspects of college development for all students regardless of their sexual orientation, there is no difference in LGB and heterosexual college students’ levels of acquired capability.

**Suicidal Ideation.** I hypothesized that LGB college students would exhibit higher levels of suicidal ideation than their heterosexual counterparts. H4 was supported. LGB college student participants exhibited higher levels of suicidal ideation than heterosexual college student participants. Consequently, LGB college students may experience suicidal ideation to a greater degree (i.e., frequency, duration, severity) than heterosexual college students.

This result could be reflective of LGB college students potentially feeling isolated in connection with their sexual orientation identity. Specifically, LGB college students face LGB-specific experiences (e.g., “coming out,” being “outed,” developing same-gender romantic relationships; Drum et al., 2009; Hunt & Eisenberg, 2010; Oswalt & Wyatt, 2011; Rankin et al., 2010; Zubernis et al., 2011). LGB college students may feel isolated from other individuals, as well as society at-large, because of their unique experiences associated with their sexual orientation identity (Blum & Pfetzing, 1997; Ryan et al., 2009). These possible feelings of isolation could potentially contribute to
LGB college students’ higher levels of suicidal ideation as compared to heterosexual college students. Indeed, social isolation has prevailed within notable suicide theories throughout centuries as being integrally linked with suicidal ideation (e.g., Durkheim, 1879; Shneidman, 1996). Current research continues to support these long-standing theories that connect social isolation to suicidal ideation. Previous research has suggested that isolation is associated with suicidal ideation in numerous populations (e.g., adolescents, older adults; Conwell, 2014; Halpert, 2002; Kaminski & Fang, 2009; Trout, 1980), including college students (Arria et al., 2009) and LGB college students (Johnson, Oxendine, Taub, Robertson, 2013). Relatedly, my pilot study supports the possible association between social isolation and suicidal ideation because the findings indicated that thwarted belongingness across the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) was significantly, negatively associated with suicidal ideation (Ploskonka & Servaty-Seib, 2014).

This finding is empirically consistent with extensive research that suggests that LGB college students experience suicidal ideation more frequently and with greater severity than their heterosexual peers (Bostwick et al., 2010; Haas et al., 2011; King et al., 2008; Suicide Prevention Resource Center, 2008). Additionally, this finding is consistent with more specific research estimates that suggest LGB college students are twice as likely to report suicidal ideation when compared to heterosexual college students (Bostwick et al., 2010; Haas et al., 2011; King et al., 2008; Suicide Prevention Resource Center, 2008).

**Suicidal Behaviors.** I hypothesized that LGB college students would exhibit higher levels of suicidal behaviors than their heterosexual counterparts. H5 was
supported. LGB college student participants exhibited higher levels of suicidal behaviors than heterosexual college student participants. Consequently, LGB college students may experience greater frequency and severity of suicidal behaviors as well as more near-lethal suicidal behaviors than heterosexual college students.

These findings could be explained by LGB college students possibly experiencing persistent, chronic stress to a greater degree than their heterosexual peers. Specifically, LGB college students have additional, unique developmental experiences and challenges as compared to their heterosexual counterparts because of their sexual orientation identity (e.g., “coming out,” being “outed,” developing same-gender romantic relationships; Drum et al., 2009; Hunt & Eisenberg, 2010; Oswalt & Wyatt, 2011; Rankin et al., 2010; Zubernis et al., 2011). Because of these additional developmental experiences and challenges, LGB college students may experience higher levels of persistent, chronic stress as compared to their heterosexual peers. These possible higher levels of persistent, chronic stress could result in LGB college students comparatively higher levels of suicidal behaviors. Indeed, autopsy studies of individuals who have completed suicide seemingly affirm the possible relationship between persistent, chronic stress exposure and suicide (Miller et al., 2007; Roy, 1992). Specifically, these studies found that individuals who completed suicide have elevated cortisol levels and enlarged adrenal glands, suggesting that these individuals experienced persistent, chronic stress (Miller et al., 2007; Roy, 1992). Additionally, these potentially higher levels of persistent, chronic stress could result in LGB college students having a heightened susceptibility to mental illnesses associated with engagement in suicidal behaviors (e.g., depression, substance abuse; Nock et al., 2008). Indeed, research has suggested that LGB college students have
higher rates of depression (Eisenberg, Gollust, Golberstein, & Hefner, 2007; King et al., 2008), substance abuse (Cochran & Cauce, 2006; McCabe, Boyd, Hughes, & d'Arcy, 2003; McCabe, Hughes, Bostwick, & Boyd, 2005), and other mental health issues (e.g., anxiety; Eisenberg et al., 2007; King et al., 2008) as compared to heterosexual college students.

The current finding of higher suicidal behaviors for LGB versus heterosexual students is empirically consistent with prior research (Bostwick et al., 2010; Haas et al., 2011; King et al., 2008). Additionally, this finding is consistent with more specific research estimates that LGB college students are three times more likely to report a suicide attempt when compared to heterosexual college students (U.S. Department of Health and Human Services Office of the Surgeon General & National Action Alliance for Suicide Prevention, 2012).

**Differential Relationships Among Joiner’s (2005) Factors Based on Sexual Orientation**

In this section, I review the results of my examination for the possible differential relationships among Joiner’s (2005) factors across LGB and heterosexual college students. Specifically, I review my examination of sexual orientation (i.e., LGB or heterosexual) as a moderator for the relationships between: (a) perceived burdensomeness and suicidal ideation, (b) the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation, and (c) acquired capability and suicidal behaviors.

**Perceived Burdensomeness and Suicidal Ideation.** I hypothesized that the positive relationship between perceived burdensomeness and suicidal ideation would be
greater for LGB college students than for their heterosexual counterparts. H6 was not supported. There was no statistically significant difference in the relationship between perceived burdensomeness and suicidal ideation across LGB and heterosexual college students. However, the positive relationship between perceived burdensomeness and suicidal ideation was statistically significant for both LGB and heterosexual college students. This finding suggests that perceived burdensomeness is similarly and significantly associated with suicidal ideation for both LGB and heterosexual college students.

The significant, positive relationship between perceived burdensomeness and suicidal ideation for both LGB and heterosexual college students could be because perceived burdensomeness may be substantially and negatively related to individuals’ cognitive-affective states (Van Orden et al., 2010). Specifically, perceived burdensomeness is comprised of individuals’ feelings of self-hatred as well as a belief that they are a liability to others (Van Orden et al., 2010). These feelings of self-hatred and the belief that they are a liability to others could contribute to individuals’ feelings and thoughts associated with hopelessness and/or shame, which could result in suicidal ideation. Indeed, previous research has indicated that hopelessness and shame are significantly associated with suicidal ideation (Chatard, Selimbegovi, & Konan, 2009; Huth-Bocks et al., 2007; McMillan, Gilbody, Beresford, & Neilly, 2007; Pompili et al., 2009).

Although there was a significant, positive relationship between perceived burdensomeness and suicidal ideation for both LGB and heterosexual college students, there was not a significant difference in the relationship between suicidal ideation and
perceived burdensomeness across LGB and heterosexual college students. The lack of statistical significance across LGB and heterosexual college students could be because the relationship between perceived burdensomeness and suicidal ideation is most connected to intrapersonal factors that are independent of individuals’ identities, including sexual orientation identity. In particular, the relationship between perceived burdensomeness and suicidal ideation may be grounded in individuals’ internal cognitive-affective processing abilities (Van Orden et al., 2010). Individuals’ abilities to cognitively-affectively process experiences that could contribute to perceived burdensomeness (e.g., financial dependency, need for interpersonal or practical support) may be associated with the degree to which individuals feel hopelessness and/or shame regarding these experiences (Van Orden et al., 2010). These feelings of hopelessness and/or shame may contribute to individuals’ suicidal ideation. Thus, lack of difference in the relationship between perceived burdensomeness and suicidal ideation across LGB and heterosexual college students may be because individuals’ internal cognitive-affective processing abilities explain the relationship between perceived burdensomeness and suicidal ideation. Therefore, there was not a significant difference in the relationship between perceived burdensomeness and suicidal ideation across LGB and heterosexual college students.

Although no research has comparatively examined the relationship between perceived burdensomeness and suicidal ideation across LGB and heterosexual college students, the present results parallel the findings of limited previous research examining the relationship between perceived burdensomeness and suicidal ideation in LGB populations. Specifically, Cramer et al., (2014) found a statistically significant positive
correlation between suicide proneness (i.e., suicide-related thoughts) and perceived burdensomeness for LGB adults. These findings are also parallel to Ploderl et al.’s (2014) study examining LGB emerging adults in which results indicated that perceived burdensomeness was significantly correlated with suicidal ideation.

**Spheres of Belongingness and Suicidal Ideation.** I hypothesized that the negative relationship between belongingness for the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation would be greater for LGB college students than their heterosexual counterparts. H7 was partially supported. There was a significant difference between LGB college students’ significant, negative relationship between family belongingness and suicidal ideation as compared to heterosexual college students’ nonsignificant relationship between family belongingness and suicidal ideation. This finding supports H7. Additionally, there was a significant difference between LGB college students’ significant, negative relationship between peer belongingness and suicidal ideation and heterosexual college students’ nonsignificant relationship between peer belongingness and suicidal ideation. This finding supports H7. There was not a significant difference in the nonsignificant relationships between (a) academic institution belongingness and suicidal ideation and (b) sexual orientation community belongingness and suicidal ideation across LGB college students and their heterosexual counterparts. These findings do not support H7. The below subsections offer individualized explanations for the results regarding the relationships between the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation.
**Family belongingness and suicidal ideation.** I hypothesized that the negative relationship between family belongingness and suicidal ideation would be greater for LGB college students than their heterosexual counterparts. This hypothesis was supported. There was a statistically significant difference for relationship between family belongingness and suicidal ideation across LGB and heterosexual college students. Specifically, LGB college students exhibited a *significant, negative* relationship between family belongingness and suicidal ideation as compared to heterosexual college students’ *nonsignificant* relationship between family belongingness and suicidal ideation. These findings suggest that *thwarted* family belongingness for LGB college students may significantly relate to their suicidal ideation; however, family belongingness may not relate to heterosexual college students’ suicidal ideation.

The finding that LGB college students exhibited a *significant, negative* relationship between family belongingness and suicidal ideation; whereas, heterosexual college students had a *nonsignificant* relationship between family belongingness and suicidal ideation could be because family relationships may be more central to LGB college students’ psychological and emotional well-being as compared to heterosexual college students. Specifically, family relationships may be central to LGB college students’ psychological and emotional well-being because LGB college students may rely on the support of family members when they experience interpersonal rejection from others (e.g., peers, community members) because of their sexual orientation identity (Blum & Pfetzing, 1997; Hershberger & D’Augelli, 1995; Ryan et al., 2009). Additionally, LGB college students may rely on family relationships for support as they face LGB-specific experiences. Thus, LGB college students may perceive family
relationships as being essential in order to obtain necessary interpersonal and emotional support (Hunt & Eisenberg, 2010; Oswalt & Wyatt, 2011; Rankin et al., 2010; Spencer & Patrick, 2009). In contrast, heterosexual college students do not face LGB-specific challenges. Thus, they do not require family support for LGB-specific experiences. Additionally, they may utilize other intimate relationships (e.g., friends, romantic partners) as their primary means for interpersonal and emotional support.

The finding that LGB college students exhibited a significant, negative relationship between family belongingness and suicidal ideation could be explained by researchers and theorists’ assertion that family relationships are integral and essential for LGB college students’ mental health (Bohan, 1996; DiPlacido, 1998; Spencer & Patrick, 2009). Specifically, family relationships are universal, stable relationships through which LGB college students receive emotional support (Bohan, 1996; DiPlacido, 1998; Spencer & Patrick, 2009). Additionally, family relationships likely mitigate the psychological and emotional distress that arises from interpersonal rejection from others (e.g., peers, community members) and experiences of discrimination (Blum & Pfetzing, 1997; Hershberger & D’Augelli, 1995; Ryan et al., 2009). Furthermore, LGB college students may internalize strained, distant, or rejecting family relationships as being associated with their sexual orientation identity even if family relationships were always strained, distant, or rejecting throughout LGB individuals’ lives (Lea, de Wit, & Reynolds, 2014; Meyer, 1995; Meyer, 2003; Meyer & Frost, 2013; Michaels, Parent, & Torrey, 2015). This internalization may result in LGB college students developing negative self-concepts associated with their sexual orientation identity and consequently impact their suicidal ideation. Thus, thwarted family belongingness could significantly contribute to
suicidal ideation for LGB college students because family relationships may be LGB college students’ primary source for psychological and emotional support.

Alternatively, LGB college students’ suicidal ideation may contribute to their thwarted family belongingness. Specifically, suicidal ideation is associated with individuals’ disengagement and detachment from relationships (Joiner, 2005; Van Orden et al., 2010; Van Orden et al., 2008a). Additionally, suicidal ideation can negatively affect individuals’ perceptions of their relationships wherein individuals may perceive close relationships as being more distant or less emotionally supportive than they actually are (Joiner, 2005; Van Orden et al., 2010; Van Orden et al., 2008a). Consequently, LGB college students may have lower family belongingness because their higher levels of suicidal ideation may result in them disengaging or detaching from their close family relationships. Additionally, LGB college students may have lower family belongingness because their higher levels of suicidal ideation could impact their perceptions of their family belongingness wherein they perceive their close family members as being more distant or less emotionally supportive than they actually are.

The finding that heterosexual college students exhibited a nonsignificant relationship between family belongingness and suicidal ideation could be because heterosexual college students may utilize other intimate relationships (e.g., friends, romantic partners) as their primary means for interpersonal and emotional support. Specifically, college students are within a developmental period that includes establishing intimate adult relationships (e.g., friendships, romantic relationships; Arnett, 2014; Chickering & Reisser, 1993). Because heterosexual college students do not risk interpersonal rejection because of their sexual orientation identity, heterosexual college
students may more readily develop relationships outside of their family. And, they may utilize these other relationships for social and emotional support as opposed to relying on their family.

Research has not explicitly examined LGB and heterosexual college students’ comparative relationships between family belongingness and suicidal ideation; however, the present finding is somewhat consistent with existing research that suggests that positive, supportive parental relationships are positively correlated to mental health resilience in LGB college students (Darling, et al., 2007; Haas et al., 2011) and that parental and familial rejection because of sexual orientation is associated with mental health issues in LGB college students (Blosnich & Bossarte, 2012; Ryan et al., 2009). This result is also consistent with research indicating that LGB college students who reported high parental and family rejection because of their sexual orientation were more likely to report history of a past suicide attempt (Blosnich & Bossarte, 2012; Ryan et al., 2009).

Peer belongingness and suicidal ideation. I hypothesized that the negative relationship between peer belongingness and suicidal ideation would be greater for LGB college students than their heterosexual counterparts. This hypothesis was supported. Specifically, LGB college students exhibited a significant, negative relationship between peer belongingness and suicidal ideation as compared to heterosexual college students’ nonsignificant relationship between peer belongingness and suicidal ideation. These findings suggest that thwarted peer belongingness for LGB college students may significantly relate to their suicidal ideation; however, peer belongingness may not relate to heterosexual college students’ suicidal ideation.
The finding that LGB college students exhibited a significant, negative relationship between peer belongingness and suicidal ideation as compared to heterosexual college students’ nonsignificant relationship could be because LGB college students may be more likely to internalize negative interactions with peers; whereas, heterosexual college students may not similarly internalize negative interactions with peers. Specifically, minority stress theory suggests that negative social interactions have significant psychological consequences for individuals with marginalized identities (Brooks, 1981; Meyer, 1995; Meyer, 2003). This theory has been extensively applied to LGB individuals' mental health, including suicidality, wherein theorists and researchers have emphasized that LGB individuals develop an internal association between negative social interactions and their sexual orientation identity (Baams, Grossman, & Russell, 2015; Lea, de Wit, & Reynolds, 2014; Meyer, 1995; Meyer, 2003; Meyer & Frost, 2013; Michaels, Parent, & Torrey, 2015). Specifically, researchers and theorists posit that this internal association contributes to feelings of social alienation, which can lead to suicidal ideation (Baams et al., 2015; Lea et al., 2014; Meyer, 1995; Meyer, 2003; Meyer & Frost, 2013; Michaels et al., 2015). Consequently, LGB college students may attribute actual or perceived difficulties within peer relationships to their sexual orientation identity. This attribution could result in internalized feelings of isolation and loneliness and consequently contribute to their suicidal ideation. In contrast, heterosexual college students do not experience minority stress due to their sexual orientation identity. Therefore, they may be less likely to internalize negative social interactions and instead perceive peer relational difficulties as peer-specific or situational.
The finding that LGB college students exhibited a *significant, negative* relationship between peer belongingness and suicidal ideation could be because peer relationships are critical for LGB college students but can be difficult to establish and maintain because of their sexual orientation identity. Specifically, peer relationships are critical because peers offer social support, give assistance in coping with difficult situations, and provide opportunities to engage in social activities (Astin, 1993; Dennis et al., 2005; Freeman et al., 2007; Pittman & Richmond, 2008; Rodriguez et al., 2003). LGB college students may require additional peer support as compared to their heterosexual peers because of their unique experiences associated with their sexual orientation identity (Lucozzi, 1998; Sanlo, 2005; Worthen, 2012). Additionally, LGB college students may require additional peer support as compared to their heterosexual peers because they may have a reduced likelihood of experiencing respectful and accepting peer interactions because of their sexual orientation identity (Liang & Alimo, 2005; Sanlo, 2005; Worthen, 2012). Specifically, LGB college students may need more peer support than their heterosexual peers in order to emotionally cope with negative peer interactions. Because LGB college students may require additional peer support as compared to their heterosexual peers, peer relationships may be critical relationships for LGB college students to obtain emotional and social support. Consequently, lacking peers’ emotional and social support could contribute to their suicidal ideation. Finally, LGB college students who have never had close peer relationships throughout their life may internalize the lack of peer relationships as being associated with their sexual orientation identity and consequently develop a negative self-concept or feelings of worthlessness (Lea, de Wit, & Reynolds, 2014; Meyer, 1995; Meyer, 2003; Meyer & Frost, 2013; Michaels, Parent,
& Torrey, 2015). These possible negative self-concepts or feelings of worthlessness may contribute to their suicidal ideation. Indeed, previous research has linked social isolation, particularly from peers, with suicidal ideation for LGB individuals and college students (Baams et al., 2015; Johnson et al., 2013; Lea et al., 2014; Michaels et al., 2015).

Alternatively, and similar to family belongingness, LGB college students’ suicidal ideation may contribute to their thwarted peer belongingness. Specifically, suicidal ideation is associated with individuals’ disengagement and detachment from relationships (Joiner, 2005; Van Orden et al., 2010; Van Orden et al., 2008a). Additionally, suicidal ideation can negatively affect individuals’ perceptions of their relationships wherein individuals may perceive close relationships as being more distant or less emotionally supportive than they actually are (Joiner, 2005; Van Orden et al., 2010; Van Orden et al., 2008a). Consequently, LGB college students may have lower peer belongingness because their higher levels of suicidal ideation may result in them disengaging or detaching from their close peer relationships. Additionally, LGB college students may have lower peer belongingness because their higher levels of suicidal ideation could impact their perceptions of their peer belongingness wherein they perceive their close peers as being more distant or less emotionally supportive than they actually are.

The finding that heterosexual college students exhibited a nonsignificant relationship between peer belongingness and suicidal ideation could be because the feelings of loneliness or isolation that heterosexual college students may experience with respect to thwarted peer belongingness may be more fleeting or less intense. Specifically, heterosexual college students’ experiences of peer relational difficulties may be associated with more superficial factors (e.g., personal interests, personal preferences) as
opposed to stable identity characteristics. Heterosexual college students may have these perceptions about peer relational difficulties because they do not risk interpersonal rejection due to their sexual orientation identity. Consequently, peer belongingness does not significantly contribute to heterosexual college students’ suicidal ideation.

Although research has not comparatively examined LGB and heterosexual college students’ relationships between peer belongingness and suicidal ideation, the present findings seem in alignment with research that has suggested that the lack of peer relationships positively correlates with depressive symptoms (Friedman et al., 2006; Ploderl & Fartacek, 2007), and the presence of peer relationships postively correlates with mental health resilience in LGB college students (Goodenow et al., 2006; Haas, et al., 2011). Relatedly, these findings are also consistent with research that has indicated LGB college students who self-report higher friendship quality had lower levels of perceived distress than LGB college students with lower self-reported friendship quality (Sanlo, 2005).

Academic institution belongingness and suicidal ideation. I hypothesized that the negative relationship between academic institution belongingness and suicidal ideation would be greater for LGB college students than their heterosexual counterparts. This hypothesis was not supported. There was not a statistically significant difference for the relationship between academic institution belongingness and suicidal ideation across LGB and heterosexual college students. Additionally, the relationship between academic institution belongingness and suicidal ideation was nonsignificant for both LGB and heterosexual college students. These results suggest that the relationship between academic institution belongingness and suicidal ideation is not significantly different
across LGB and heterosexual college students. Additionally, these results suggest that academic institution belongingness does not significantly contribute to suicidal ideation for LGB and heterosexual college students.

The finding that LGB and heterosexual college students exhibited a nonsignificant relationship between academic institution belongingness and suicidal ideation could be because relationships with university faculty, staff, and administrators may not be relationships which LGB and heterosexual college students rely on for social or emotional support. Specifically, academic institution belongingness is predominantly comprised of relationships with university faculty, staff, and administrators. However, academic institutions often emphasize students’ development of relationships with peers (e.g., connecting students within small groups orientation sessions, focusing on fostering student-led organizations) over other members of the university community (Pascarella & Terenzini, 2005). Alternatively, this nonsignificant relationship could be because relationships with university faculty, staff, and administrators are more connected with college students’ academic outcomes (e.g., GPA, career goal development and achievement) than their psychological or interpersonal well-being (Kuh et al., 2005; Titus, 2004). Specifically, research examining programs that were intentionally designed to facilitate student-faculty interaction found that relationships with faculty were only associated with students’ academic competence and skills (Graunke & Woosley 2005; Pascarella & Terenzini, 2005; Reason, Terenzini, & Domingo 2005).

*Sexual orientation community belongingness and suicidal ideation.* I hypothesized that the negative relationship between sexual orientation community belongingness and suicidal ideation would be greater for LGB college students than their
heterosexual counterparts. This hypothesis was not supported. There was not a statistically significant difference for the relationship between sexual orientation community belongingness and suicidal ideation across LGB and heterosexual college students. Additionally, the relationship between sexual orientation community belongingness and suicidal ideation was *nonsignificant* for both LGB and heterosexual college students. These results suggest that the relationship between LGBT sexual orientation community belongingness and suicidal ideation is not significantly different across LGB and heterosexual college students. Additionally, these results suggest that LGBT sexual orientation community belongingness does not significantly contribute to suicidal ideation for LGB and heterosexual college students.

The finding that LGB and heterosexual college students exhibited a *nonsignificant* relationship between LGBT sexual orientation community belongingness and suicidal ideation could be because both LGB and heterosexual college students may primarily view members of the LGBT community as part of another interpersonal group (e.g., peers, academic institution) as opposed to primarily viewing them as part of the LGBT community. Indeed, research has suggested that college students view others’ interpersonal group memberships (e.g., classmate, club member, teammate) singularly wherein they perceive others as being a member of only one interpersonal group (Renn & Ozaki, 2005; Renn 2007). Because LGB and heterosexual college students are likely to have connections with members of the LGBT community who are also their peers, both LGB and heterosexual college may perceive LGBT individuals as first-and-foremost being peers as opposed to primarily being members of the LGBT community. Therefore, there is no relationship between LGBT sexual orientation community belongingness and
suicidal ideation because they perceive LGBT individuals as being members of their peer group as opposed to viewing them as members of the LGBT community.

**Acquired Capability and Suicidal Behaviors.** I hypothesized that the positive relationship between acquired capability and suicidal behaviors would be greater for LGB college students than their heterosexual counterparts. This hypothesis was not supported. There was not a statistically significant difference for the relationship between acquired capability and suicidal behaviors across LGB and heterosexual college students. Additionally, the relationship between acquired capability and suicidal behaviors was *nonsignificant* for both LGB and heterosexual college students. These results suggest that the relationship between acquired capability and suicidal behaviors is not significantly different across LGB and heterosexual college students. Additionally, these results suggest that acquired capability does not significantly contribute to suicidal behaviors for LGB and heterosexual college students.

The finding that LGB and heterosexual college students exhibited a *nonsignificant* relationship between acquired capability and suicidal behaviors could be because college students tend to frequently engage in risk-taking behaviors (Burnett et al., 2013; Rolison & Scherman, 2002). These risk-taking behaviors could result in increased physical pain tolerance and/or reduced fear of death, which are the two components of acquired capability. However, college students may perceive risk-taking behaviors as normative to their college experience. Therefore, the physical pain and/or reduced fear of death that develops from these risk-taking experiences is not associated with suicidal behaviors. Consequently, acquired capability is not associated with suicidal behaviors in LGB or heterosexual college students. Relatedly, this nonsignificant finding may be because the
experiences that could contribute to the development of a relationship between acquired capability and suicidal behaviors are often not directly associated with suicidal behavior. Therefore, individuals need to actively create a cognitive association between these experiences and suicidal behaviors. Because college students frequently engage in risk-taking behaviors, experiences that could contribute to the development of a relationship between acquired capability and suicidal behavior (e.g., alcohol/drug intoxication, unsafe driving practices such as speeding or texting) may instead be perceived as normative college experiences.

Although these findings seem inconsistent with previous research, these findings may not actually contradict previous research. Specifically, previous research has examined the association between acquired capability and suicide attempts (Klonsky & May, 2013; Smith et al., 2010; Van Orden et al., 2008). In the present study, I examined suicidal behaviors, which encompasses a broad range of suicide-related behaviors, including suicide attempts. In contrast, previous studies focused on suicide attempts, which is a specific suicidal behavior. Therefore, these findings may differ from the findings of previous research because previous research explored the relationship between acquired capability and suicide attempts as opposed to the relationship between acquired capability and suicidal behaviors (Klonsky & May, 2013; Smith et al., 2010; Van Orden et al., 2008). Thus, acquired capability may be associated with suicide attempts but not with suicidal behaviors. Furthermore, previous research on the relationship between acquired capability and suicide attempts is limited and studied small samples wherein participants had a history of engaging in suicide attempts (Klonsky & May, 2013; Smith et al., 2010; Van Orden et al., 2008). Finally, there are no studies
explicitly examining the relationship between acquired capability and suicidal behaviors in college students or LGB college students. The most closely related study by Ploderl et al. (2014) examined LGB adults and found a correlation between acquired capability and suicide attempts within a population of LGB individuals who previously attempted suicide.

**Theoretical and Empirical Implications**

This study makes notable contributions to the theoretical literature on Joiner’s (2005) interpersonal psychological theory of suicide as well as the empirical literature on LGB college students’ suicidal ideation and behaviors. Specifically, this study contributes to existing research on Joiner’s (2005) interpersonal theory of suicide in two primary ways. First, no study simultaneously examined the relationships among Joiner’s (2005) three factors (i.e., perceived burdensomeness, thwarted belongingness, acquired capability) in relation to suicidal ideation and behaviors. Specifically, some studies have simultaneously examined perceived burdensomeness and thwarted belongingness in relation to suicidal ideation (Conner, Britton, Sworts, & Joiner, 2007; Joiner et al., 2002; Lamis & Malone, 2011; Van Orden et al., 2008b; You, Van Orden, & Conner, 2011), and some researchers have studied the relationship between acquired capability and suicidal behaviors (House et al., 2011; Ploderl et al., 2014). However, no study has simultaneously examined perceived burdensomeness, thwarted belongingness, and acquired capability in relation to suicidal ideation and behaviors. Specifically, no study has used one sample to examine perceived burdensomeness, thwarted belongingness, and acquired capability in relation to suicidal ideation and behaviors. The studies that included more than one of Joiner’s (2005) three factors only included perceived
burdensomeness and thwarted belongingness; they did not include acquired capability (Hill & Petit, 2012; Ploderl et al., 2014). Studying Joiner’s (2005) three factors simultaneously is critical because all three factors theoretically inform individuals’ suicide risk. Second, previous research using Joiner’s (2005) theory has only examined thwarted belongingness from a global perspective; whereas, this study examines four distinct spheres of belongingness (i.e., family, peer, academic institution, sexual orientation community) and the relationship between these four spheres of belongingness and suicidal ideation.

This study also contributes to the theoretical and empirical literature that specifically examines LGB college students’ suicidal ideation and behaviors. First, few studies have explicitly applied Joiner’s (2005) theory to LGB college students, and minimal existing research examines the relationship between acquired capability and suicidal behaviors within LGB individuals. Second, no previous research has comparatively examined LGB and heterosexual college students’ perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors. Finally, and relatedly, no previous research has comparatively examined LGB and heterosexual college students’ possible differential relationships among (a) perceived burdensomeness and suicidal ideation, (b) the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation, and (c) acquired capability and suicidal behaviors.
Clinical Implications

This study offers new insights into prevention and intervention strategies for LGB college students who may be at risk of or exhibit suicidal ideation and/or behaviors. In the subsequent paragraphs, I review several practical applications of these findings. First, I describe how these findings can be applied to therapy with LGB college students. Then, I offer how these findings can be used as the basis for outreach efforts for LGB college students. Next, I provide strategies on how these findings can be used to establish educational and advocacy programs for LGB college students’ family members and peers. Finally, I review broader, institutional efforts that can be created to support LGB college students.

With regard to therapy with LGB college students, counseling psychologists could consider conducting thorough suicide assessments with LGB college students, attending to key interpersonal factors, and implementing strategies to address the relationships between suicidal ideation and key interpersonal factors. The findings of this study indicated that LGB college students likely experience suicidal ideation and behaviors to a greater degree than heterosexual college students; therefore, counseling psychologists need to be intentional about conducting comprehensive and thorough suicide assessments for LGB college student clients. Additionally, since findings of this study suggest that LGB college students likely experience perceived burdensomeness, thwarted family belongingness, thwarted peer belongingness, and thwarted academic institution belongingness to a greater degree than heterosexual college students, counseling psychologists could be attentive to directly and deliberately assessing these key interpersonal factors and offer individualized resources that can reduce their feelings
of burdensomeness and increase their feelings of belongingness. For example, counseling psychologists could assess feelings of burdensomeness by either directly asking LGB college students if they believe they are a burden to others or indirectly asking them if they believe that they are excessively relying on close others for practical and emotional support. Counseling psychologists could implement cognitive reframing strategies to mitigate feelings of burdensomeness. With respect to thwarted belongingness, counseling psychologists could intentionally attend to LGB college students’ actual as well as perceived social isolation. For example, counseling psychologists could work to identify the number of family members and peers whom LGB clients confide in and rely on for emotional support (i.e., actual social isolation) as well as assess the degree to which clients feel comfortable confiding in or receiving support from close others (i.e., perceived social isolation). Additionally, for LGB clients who may have supportive family and peer relationships but do not perceive these relationships as being supportive, counseling psychologists may want to work with these clients to reframe their perspectives on their supportive relationships such that these clients can more accurately perceive the actual support that they receive within these relationships. Furthermore, the results indicated that there were significant relationships between suicidal ideation and: perceived burdensomeness, family belongingness, and peer belongingness for LGB college students. These results may suggest that LGB college students who are exhibiting perceived burdensomeness (e.g., “I am just a problem to everyone”), thwarted family belongingness (e.g., “No one in my family cares about me”), or thwarted peer belongingness (e.g., “I have no close friends”) could be experiencing suicidal ideation or be at risk of experiencing suicidal ideation. Alternatively, these findings could suggest
that LGB college students who are exhibiting suicidal ideation may be experiencing perceived burdensomeness, thwarted family belongingness, and/or thwarted peer belongingness. Thus, counseling psychologists who are working with LGB college students could incorporate strategies that reduce LGB college students’ feelings of perceived burdensomeness (i.e., identify accomplishments, foster independent decision-making, highlight unique personal strengths) and facilitate LGB college students’ development of relationships with supportive, affirming family members and peers in order to prevent or mitigate possible suicidal ideation. Counseling psychologists may want to be particularly attentive to assessing as well as fostering family belongingness and peer belongingness in LGB college students because of the relationships between these spheres of belongingness and suicidal ideation. Furthermore, perceived burdensomeness, thwarted family belongingness, and thwarted peer belongingness may have an additive effect with respect to experiencing suicidal ideation. For example, LGB college students who are experiencing perceived burdensomeness, thwarted family belongingness, and thwarted peer belongingness may experience suicidal ideation more chronically or more acutely than LGB college students who are only experiencing one of these three factors. Additionally, they may be at greater risk for suicidal ideation than LGB college students who are only experiencing one of these three factors. Finally, college counseling centers could consider developing interpersonal process groups specifically for LGB college students in order to provide these students with an environment in which they can process possible feelings of perceived burdensomeness, thwarted family belongingness, and thwarted peer belongingness as well as garner a sense of peer belongingness.
With regard to outreach for LGB college students, counseling psychologists could design outreach efforts that mitigate thwarted family and peer belongingness as well as implement university-based strategies to enhance family and peer belongingness. Specifically, since family belongingness and peer belongingness seem to significantly relate to LGB college students’ suicidal ideation, the development of outreach efforts associated with increasing LGB college students’ family belongingness and peer belongingness could potentially help in preventing or mitigating their suicidal risk. In order to potentially enhance LGB college students’ family belongingness, universities’ family relations offices could coordinate with LGBT offices to develop outreach activities and support groups designed for LGB college students and their family members. Additionally, universities could establish alumni-based networking and support programs wherein LGB college students who lack supportive, affirming family relationships could garner family-like support from older alumni. Indeed, several universities (e.g., Cornell, University of Pennsylvania, University of Southern California) have LGBT alumni organizations that make efforts to connect current LGBT students with LGBT alumni (Cotrupi & DeStefano, 2011). Relatedly, universities could consider establishing LGB mentorship programs wherein university faculty, staff, and administrators serve as mentors to LGB college students and provide these students with the interpersonal and emotional support often obtained through family relationships. Finally, universities could develop outreach efforts in order to enhance LGB college students’ peer belongingness. Specifically, universities could not simply maintain currently existing LGB clubs, organizations, and campus offices but could also expand these clubs, organizations, and campus offices. In particular, LGB clubs, organizations,
and campus offices could continue to attend to offering various support and social opportunities for LGB college students as well as expand existing efforts to connect them with heterosexual college student allies by partnering with other student services offices (e.g., women’s centers, multicultural centers). Heterosexual allies are particularly critical because, although they are not members of the LGB community, they may be integral in fostering LGB college students’ belongingness with heterosexual peers by educating and advocating for and with LGB college students. Specifically, university clubs, organizations, and campus offices could collaborate with LGB-specific clubs, organizations, and offices in order to jointly sponsor and/or co-host campus events (e.g., campus-wide social events, speaker series events, workshops, trainings). Such collaborations can serve as active, open displays of allyhood for LGB college students, foster community among LGB college students and their heterosexual allies, and provide opportunities for education and advocacy regarding LGB college students’ issues and needs.

With regard to educational and advocacy programs, counseling psychologists could develop interventions for family members and heterosexual peers. Programs for family members could focus on teaching family members strategies on how to offer LGB college students emotional support and affirmation. Additionally, family-oriented advocacy programs could include strategies regarding how supportive family members can effectively educate less affirming or non-affirming family members. Educational programs designed for heterosexual college students could parallel family-oriented outreach efforts by similarly offering strategies regarding how to provide emotional support and affirmation to their LGB peers. Additionally, peer-oriented advocacy
programs could offer strategies on how heterosexual peers can be inclusive of their LGB peers, serve as allies, and effectively intervene during instances of heterosexism and homophobia. Specifically, heterosexual allies could potentially reduce the amount and intensity of discrimination that LGB college students encounter as well as foster peer belongingness with heterosexual peers.

With regard to institutional efforts that could support LGB college students, strategies could include developing trainings for university faculty and staff as well as actively addressing individual and institutional discrimination. Campus offices, particularly residential life, academic advising, and student activities, could collaborate with campus LGBTQ centers to develop trainings for university faculty and staff. Specifically, trainings could provide introductory knowledge on the unique experiences and challenges LGB college students face that may contribute to their higher levels of perceived burdensomeness, thwarted family belongingness, thwarted peer belongingness, and thwarted academic institution belongingness as compared to heterosexual college students. Additionally, given that this study found that LGB college students exhibited significantly higher levels of experiences of discrimination as compared to their heterosexual peers, academic institutions could facilitate LGBTQ office administrators’ distribution of resources (e.g., educational pamphlets, information about campus and community LGB organizations and events) to university faculty and staff. Academic institutions could also facilitate LGBTQ office administrators’ efforts to develop policies on how to reduce and ideally eliminate discrimination on individual and institutional levels. For example, university administrators could actively promote LGBTQ center trainings focused on how to intervene when students, faculty, or staff may be exhibiting
heterosexist or homophobic attitudes. University administrators could also actively collaborate with LGBTQ office administrators to develop clearly delineated policies to respond to LGB college students’ reports of discrimination or harassment.

**Threats to Validity and Limitations**

This study had certain limitations that were related to research design, sampling, and measurement. I provide details regarding each area below.

**Research Design**

The first limitation area related to the research design. First, due to the correlational nature of the study, causal statements regarding the relationships between the constructs could not be made. Specifically, this study was correlational in nature because participants were not randomly assigned to particular research conditions. Second, this study was cross-sectional. Only students’ current thoughts and feelings related to the constructs were measured, and the students were not followed over the course of a period of time. Thus, possible longitudinal trends related to these constructs was not captured. Third, the data analyses examined LGB students collectively. However, empirical literature has indicated that the LGB population has within-group differences and that subgroups exist within lesbian, gay, and bisexual orientations (Worthington & Reynolds, 2009). Thus, there may be within-group and subgroup differences with respect to suicidal ideation in relation to perceived burdensomeness and the four spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) as well as suicidal behaviors and acquired capability. Fourth, and relatedly, approximately one-third of this study’s LGB participants identified as bisexual. Research has suggested that bisexual individuals have higher rates of mental health issues
as compared to lesbian, gay, and heterosexual individuals (Balsam et al., 2005; Brennan et al., 2010; Steele et al., 2009; Tjepkema, 2008). Consequently, the sizable proportion of bisexual participants in this study may have impacted this study’s results wherein significant differences across groups (i.e., LGB or heterosexual) were detected. More specifically, it is possible that a greater degree of significance (i.e., \(p\)-value) was detected when examining perceived burdensomeness, family belongingness, peer belongingness, academic institution belongingness, suicidal ideation, and suicidal behaviors across groups (i.e., LGB and heterosexual) than if the sample had only included lesbian and gay college students. Similarly, LGB college students’ relationships between (a) family belongingness and suicidal ideation and (b) peer belongingness and suicidal ideation may not have been as strong if the sample had only included lesbian and gay college students. Relatedly, LGB college students’ relationships between (a) family belongingness and suicidal ideation and (b) peer belongingness and suicidal ideation may not have been significantly different as compared to these relationships for heterosexual participants if the sample had only included lesbian and gay college students. Fifth, this study focused on exploring suicidal ideation and behaviors for one specific identity (i.e., sexual orientation). Thus, this study did not explore potential differences in suicidal ideation and behaviors with respect to intersecting identities and the potential unique differences in suicidal ideation and behaviors for college students with multiple marginalized identities (Cole, 2009). Sixth, and relatedly, demographic variables that were significantly associated with the primary study variables were not included in the main data analyses. Thus, this study did not explore the potential interactions that these demographic variables may have had on the primary variables. Seventh, other variables that are highly
correlated with suicide were not included, such as hopelessness and other depressive symptoms (Beck, Brown, Berchick, Stewart, & Steer, 2014). Eighth, this study focused solely on the relationship between interpersonal factors and suicidal ideation and behaviors; however, previous research has suggested that intrapersonal factors (e.g., meaning-making, cognitive-affective processing abilities) can inform suicidal ideation and behaviors (Rogers, 2001; Wenzel & Beck, 2008). Finally, although Joiner’s (2005) theory was designed to be generalized to all populations, it is a Western-based theory. Specifically, much of the previous research used to validate the theory has focused on Western, particularly U.S., populations. However, one study has validated Joiner’s (2005) factors of perceived burdensomeness and thwarted belongingness with an international college student population (Servaty-Seib et al., 2015).

**Sampling**

The second area of limitations related to sampling. First, data was collected using internet-based methods, including emails, snowballing, and Facebook. Thus, the sample may be biased to include those with greater access to computers, which could be associated with higher socioeconomic status (Fenner et al., 2012). Second, the sample exclusively focused on LGB college students. Thus, the findings likely do not generalize to other age groups within the broader LGB population who also experience suicidal ideation, risk, and behaviors. Third, because I used snowballing to recruit participants, the sample may be biased to include more cooperative individuals or those with a larger social network (Baltar & Brunet, 2012). Finally, because the majority of heterosexual participants were from one university whereas LGB participants were recruited from
various universities, there may be unobserved geographic differences for heterosexual participants with respect to the primary variables.

**Measurement**

The final area of limitations was the measurement. First, this study relied exclusively on self-report data; thus, the sample may be biased and there may be group differences between those who chose to participate versus those chose not to participate. Second, the term peer was defined broadly and referred to individuals within participants’ age group and/or social group. Although it is possible that all participants interpreted peers as meaning heterosexual peers, this broad definition did not explicitly request that participants answer questions in relation to heterosexual peers. Thus, it is unknown if heterosexual participants responded to peer belongingness questions in relation to heterosexual peers or another peer group (e.g., classmates, friends). Relatedly, it is unknown if LGB participants responded to peer belongingness questions in reference to heterosexual peers, LGB peers, or another peer group (e.g., classmates, friends). Similarly, it is unclear if bisexual individuals were thinking of lesbian and gay peers, bisexual peers, heterosexual peers, both LGB and heterosexual peers, or some other specific peer category (e.g., classmates) when responding to peer belongingness questions. Furthermore, because the definition of peers included age and/or social group, it is possible that participants were answering peer belongingness questions in reference to non-university affiliated peers, such individuals who are in their social group but do not attend college or non-college students who are of similar age. Consequently, the reference group whom participants were thinking of (e.g., heterosexual peers, friends, classmates) when answering questions about peer belongingness is ultimately unknown.
Thus, future research studies should explicitly define the reference group when examining peer belongingness. Third, the LGBT Community Connectedness Scale (Frost & Meyer, 2012) is not explicitly a belongingness measure. Thus, the measure may not have fully measured the construct of sexual orientation community belongingness. Third, due to the scale’s relatively recent development, it has not been extensively used in research, including research related to suicidal ideation, behaviors, and risk. However, the LGBT Community Connectedness Scale (Frost & Meyer, 2012) is the only existing measure that assesses individuals’ relationship with the LGBT community. I used an alternative scale to measure sexual orientation community belongingness (The Sense of Belonging Instrument – Psychological Subscale; Hagerty & Patusky, 1995) in my pilot study. Although The Sense of Belonging Instrument – Psychological Subscale (Hagerty & Patusky, 1995) was more directly focused on belongingness, the items were global in nature (e.g., “I generally feel that people accept me”) and, therefore, did not specifically or adequately capture LGBT community belongingness (Ploskonka & Servaty-Seib, 2014). Finally, the LGBT Community Connectedness Scale (Frost & Meyer, 2012) may not have fully captured sexual orientation community belongingness for participants who identified as questioning (n = 13). Specifically, because individuals who identify as questioning are exploring their sexual orientation identity, they may not feel the same sense of belonging to the LGBT community as those who identify as gay, lesbian, or bisexual.

**Implications for Future Research**

This study has several implications for future research. These implications include recommendations for research design, sampling, and measurement.
**Research Design**

With respect to research design, future researchers could consider conducting studies with methodologies that either directly replicate or are similar to the methodology of the current study in order to further support or expand upon the findings. Given that this study is the first study to simultaneously examine all three of Joiner’s (2005) factors (i.e., perceived burdensomeness, thwarted belongingness, and acquired capability), future research is needed to further explore as well as substantiate the present findings. Furthermore, because the current results indicated differential relationships between family belongingness and suicidal ideation as well as peer belongingness and suicidal ideation across LGB and heterosexual college students, future research could further examine the relationships between Joiner’s (2005) three factors and suicidal ideation and behaviors across other diverse identities (i.e., race/ethnicity, gender, religion, ability), intersecting identities (e.g., sexual orientation and age, sexual orientation and race, sexual orientation and religion), and clinical populations (i.e., non-clinical populations, outpatient, inpatient). Specifically, given this study’s preliminary analyses findings, future studies should attend to the intersecting identities of sexual orientation and gender, sexual orientation and educational status, and sexual orientation and receipt of psychological services. Such research could aid in the understanding of how Joiner’s (2005) theory may be differentially applied across diverse identities and various clinical populations. Additionally, given that acquired capability was not significantly associated with suicidal behaviors for LGB or heterosexual college students, future research could further examine acquired capability as a construct, its relationship to suicidal behaviors, and its potential conceptual interplay with perceived burdensomeness and thwarted
belongingness. Finally, because this study solely focused on the relationship between interpersonal factors and suicidal ideation and behaviors, future research should also include the examination of the relationship between intrapersonal factors (e.g., meaning-making, cognitive-affective processing abilities) and suicidal ideation and behaviors (Rogers, 2001; Wenzel & Beck, 2008).

Future research efforts could also incorporate longitudinal research designs. Specifically, this particular study was focused on college students’ current, present-moment responses to survey items. However, perceived burdensomeness, thwarted belongingness, acquired capability, suicidal ideation, and suicidal behaviors are all dynamic constructs that can change across time (Joiner, 2005; Van Orden et al., 2010). A longitudinal design could assess if LGB college students’ perceived burdensomeness, thwarted belongingness, acquired capability, suicidal ideation, and suicidal behaviors change across their time in college. Alternatively, a longitudinal design could begin with assessing LGB individuals in high school and continue assessing these individuals throughout their college experience or begin assessing LGB individuals during college and continue assessing them for a period of time post-graduation.

**Sampling**

The most critical area that future researchers could examine with respect to sampling is increasing the heterogeneity of future research samples. Given the significant correlations between several of the demographic variables (i.e., age, gender, race/ethnicity, student status, educational status, relationship status, campus organization involvement) and dependent variables, future researchers could explicitly examine the possible unique contributions that these demographic variables have on the relationships
between and among perceived burdensomeness, thwarted belongingness, acquired capability, suicidal ideation, and suicidal behaviors. Additionally, although the current sample included participants from institutions across several states, this study did not adequately capture a national sample of LGB and heterosexual college students. Thus, future researchers could work to obtain a national sample of LGB and heterosexual college students in order to adequately assess the generalizability of these findings.

Future researchers could also examine the potential interrelatedness of diverse identities (i.e., race/ethnicity, religion, ability) with individuals’ LGB identity in order to determine if and how diverse identities are differentially associated with perceived burdensomeness, thwarted belongingness, acquired capability, suicidal ideation, and suicidal behaviors for LGB college students. Relatedly, future researchers could examine for potential differences in perceived burdensomeness, thwarted belongingness, acquired capability, suicidal ideation, and suicidal behaviors across gay, lesbian, and bisexual college students to determine if possible differences exist across these three sexual orientation identity groups. Finally, future researchers could consider examining college-age LGB individuals who are not attending college as compared to college-age LGB individuals who are attending college to determine if possible differences exist across college-age LGB individuals who are not attending college as compared to those who are attending college.

**Measurement**

Measurement could be improved in future studies in several ways. First, the term peer belongingness was broadly defined as referring to individuals within participants’ age group and/or social group. Thus, the reference group whom participants were
thinking of (e.g., heterosexual peers, LGB peers, friends, classmates) when answering questions about peer belongingness is unknown. Consequently, future research studies should explicitly define the reference group when examining peer belongingness in order to best identify potential differences in peer belongingness across LGB and heterosexual college students and most accurately examine the relationship between peer belongingness and suicidal ideation for LGB and heterosexual college students. Second, the measure used to assess sexual orientation community belongingness (LGBT Community Connectedness Scale; Frost & Meyer, 2012) was not explicitly designed to measure sexual orientation community belongingness. Thus, future researchers could consider other possible measurements to assess sexual orientation community belongingness or develop a measure for sexual orientation community belongingness that is grounded in Joiner’s (2005) conceptualization of belongingness. Additionally, all participants in this study answered items regarding sexual orientation community belongingness with respect to their sense of belongingness to the LGBT community. Thus, future researchers could consider comparatively examining LGB and heterosexual individuals’ perceived belongingness to their own sexual orientation community. Alternatively, future researchers could consider examining LGB and heterosexual individuals’ perceived belongingness to both LGB and heterosexual sexual orientation groups.

Second, future research could conduct in-depth examination of family, peer, and academic institution belongingness in order to gain further insight into these spheres of belongingness. Specifically, in this study, family and peers referred to a wide range of relationships, and academic institution included various individuals associated with
academic institutions. Given that LGB college students had comparatively lower levels of family belongingness, peer belongingness, and academic institution belongingness, future researchers could consider asking participants to indicate the specific individuals whom they are thinking of when responding to belongingness measures. These specified, qualitative responses could offer insight into the nuances of what specific relationships uniquely contribute to LGB college students’ comparatively lower levels of family belongingness, peer belongingness, and academic institution belongingness. Finally, further research is needed regarding the relationship between acquired capability and suicidal behaviors because that this study contradicts Joiner’s (2005) theory based on the nonsignificant associations between acquired capability and suicidal behaviors for both LGB and heterosexual college students.

**Conclusion**

Through this study, I empirically examined whether or not LGB and heterosexual college students \((N = 268; \text{100 LGB and 168 heterosexual})\) differed with respect to their reported levels of perceived burdensomeness, thwarted belongingness (i.e., family, peer, academic institution, and sexual orientation community), acquired capability, suicidal ideation, and suicidal behaviors. I also examined whether or not sexual orientation (i.e., LGB or heterosexual) moderated the relationships between: (a) perceived burdensomeness and suicidal ideation, (b) the spheres of belongingness (i.e., family, peer, academic institution, and sexual orientation community) and suicidal ideation, and (c) acquired capability and suicidal behaviors. The current findings contribute to the understanding of suicidal ideation and behaviors in LGB college students, which could result in the development of therapeutic interventions and university outreach efforts to
support LGB college students as well as possibly prevent and/or mitigate suicidal ideation and behaviors in this population.

The results suggest that LGB college students may experience higher levels of discrimination as compared to heterosexual participants. Additionally, the results indicated that experiences of discrimination positively covaried with perceived burdensomeness, acquired capability, suicidal ideation, and suicidal behaviors. Experiences of discrimination negatively covaried with family belongingness, peer belongingness, and academic institution belongingness.

The results also suggest that LGB college students may experience higher levels of perceived burdensomeness, sexual orientation community belongingness, suicidal ideation, and suicidal behaviors as compared to heterosexual participants. LGB participants exhibited lower levels of family belongingness, peer belongingness, and academic institution belongingness as compared to heterosexual participants. Additionally, the results indicated that the positive relationship between perceived burdensomeness and suicidal ideation was statistically significant for both LGB and heterosexual college students. However, there was no statistically significant difference in the relationship between perceived burdensomeness and suicidal ideation across LGB and heterosexual college students. Additionally, sexual orientation (i.e., LGB or heterosexual) moderated the relationships between: (a) family belongingness and suicidal ideation and (b) peer belongingness and suicidal ideation. Specifically, the significant negative relationships between (a) family belongingness and suicidal ideation and (b) peer belongingness and suicidal ideation for LGB participants were not present for their heterosexual peers.
Given the higher rates of suicide for LGB college students, further studies examining the risk and protective factors for suicidal ideation is essential in order to better detect at-risk individuals and create intentional prevention and intervention strategies. Future research could continue to examine the relationships between Joiner’s (2005) factors (i.e., perceived burdensomeness, thwarted belongingness, and acquired capability) and suicidal ideation and behaviors in LGB college students and counseling psychologists can use this research as the basis for developing LGB-specific therapeutic interventions, outreach efforts, educational and advocacy programs, and institutional trainings and policies.
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APPENDIX A. CHICKERING AND REISSER’S (1993) SEVEN VECTORS IN RELATION TO LGB COLLEGE STUDENTS’ DEVELOPMENT

Scholars have detailed their hypotheses regarding the specific additional difficulties that LGB college students may face with respect to each of the seven vectors. The first vector, developing competence, may be additionally complex for LGB college students when compared to heterosexual college students because LGB college students experience multiple, unique stressors (e.g., harassment, heterosexism, discrimination). Because of these additional stressors, LGB college students have to cognitively and practically attend to these stressors (e.g., determining how to respond to verbal harassment from a classmate) as opposed to focusing on developing competence in areas such as intellectual, physical, and social competence, as well as attaining confidence in these areas of competence (Zubernis et al., 2011).

Managing emotions, which is the second vector, may be more complex for LGB college students. The unique stressors (e.g., harassment, heterosexism, discrimination) that could affect LGB college students’ developing competence may also be related to their managing emotions. Specifically, LGB college students likely have to manage the negative emotions associated with these stressors, such as anxiety, sadness, fear, and anger (Zubernis et al., 2011). Managing these emotions is often compounded for LGB college students because experiences of discrimination and harassment may be linked to LGB college students suppressing, denying, or feeling uncomfortable with expressing their emotions due to concerns of additional discrimination or harassment (Zubernis et al., 2011). Thus, LGB college students’ emotional management could require more emotional energy and attention than that of their heterosexual peers.
The third vector, moving from autonomy to interdependence, is possibly more difficult for LGB college students than heterosexual college students because LGB college students may experience a lack of acceptance and approval by close others, such as family, to a greater degree than their heterosexual peers (Zubernis et al., 2011). Additionally, they generally lack LGB role models and mentors (Zubernis et al., 2011). Thus, LGB college students may not have experienced interactions with others that offer the external validation and assurance needed to develop internal confidence related to their judgment and feelings (Zubernis et al., 2011). Additionally, this lack of accepting interactions could be associated with LGB college students struggling with establishing healthy interdependence within relationships (Zubernis et al., 2011).

The fourth vector, developing mature interpersonal relationships, could be more difficult for LGB college students because of the harassment, discrimination, and heterosexism that they experience and because of the lack of exposure to LGB relationships that could serve as relationships to model within their own lives (Zubernis et al., 2011). This harassment, discrimination, and heterosexism combined with the lack of exposure to LGB relationships to model may be associated with LGB college students’ fearing interpersonal rejection, which could inhibit their development of mature interpersonal relationships (Zubernis et al., 2011).

Establishing identity, which is the fifth vector, refers to the integration of experiences and aspects of self into broader personality constructs and a cohesive sense of self (Chickering & Reisser, 1993). Establishing identity may be a more complicated and longer process for LGB college students because they need to consolidate their sexual orientation identity amidst prejudice, stigma, and stereotypes and integrate their
sexual orientation identity into their overall sense of self (Zubernis et al., 2011). Establishing identity could also more complex for LGB college students because identity development often occurs within the context of relationships (Zubernis et al., 2011). Specifically for LGB college students, they may be unable to explore their sexual orientation identity due to heterosexism and discrimination and frequently hide this aspect of their identity (Zubernis et al., 2011). The lack of exploration and concealment of their sexual orientation identity may lead to a disconnection not only with their sexual orientation identity but also with their overall sense of self (Zubernis et al., 2011). Thus, LGB college students may have difficulties with establishing identity because of a lack of integration of their sexual orientation identity with their overall identity.

The sixth vector, developing purpose, may be comparatively more difficult for LGB college students than for heterosexual college students. Specifically, developing purpose includes establishing clear vocational goals, developing decision-making skills, and maintaining a commitment to personal goals and interpersonal relationships (Chickering & Reisser, 1993). LGB college students’ experiences of heterosexism and discrimination within the university environment could result in LGB college students having to divert their cognitive and emotional resources to attend to these experiences as opposed to focusing on career and personal goals (Zubernis et al., 2011). Additionally, exposure to heterosexism and discrimination may lead to LGB college students feeling hesitant to become involved in clubs or organizations related to their personal interests and feeling discouraged about pursuing more competitive academic programs or career goals (Zubernis et al., 2011).
The final vector, developing integrity, entails establishing personal values as well as developing congruence between personal values and others’ values (Chickering & Reisser, 1993). Developing integrity could be a struggle for LGB college students because they must establish their personal values system within a culture in which their sexual orientation is a minority. Thus, LGB college students may feel inauthentic and uncomfortable as they develop their personal values systems that often seem inconsistent with heterosexual cultural norms (Zubernis et al., 2011).
APPENDIX B. DEMOGRAPHIC AND BACKGROUND QUESTIONNAIRE

1. Age: ______ years

2. Current gender identity:
   ___ Man
   ___ Woman
   ___ Transgender
   ___ Do not identify as female, male, or transgender

3. Sex
   ___ Male
   ___ Female

4. Race/Ethnicity (Select one or more):
   ___ African American
   ___ American Indian or Alaskan Native
   ___ Anglo American/White (not of Hispanic origin)
   ___ Asian American
   ___ Hispanic or Latino American
   ___ Native Hawaiian or Other Pacific Islander
   ___ Middle Eastern American
   ___ Biracial/Multiracial (Please specify: _________________)
   ___ International Student (National origin: _________)
   ___ Other: (Please specify: ______________________)

5a. Do you think of yourself as (please check all that apply):
   ___ Heterosexual (i.e., you identify as someone who experiences sexual, romantic, and/or physical attraction to people of your opposite gender)
   ___ Gay or Lesbian (i.e., you identify as someone who experiences sexual, romantic, and/or physical attraction to people of your same gender)
   ___ Bisexual (i.e., you identify as someone who experiences sexual, romantic, and/or physical attraction to people of your own gender and your opposite gender)
   ___ Questioning (i.e., you are exploring your sexual orientation identity)
   ___ Other (i.e., none of the categories above adequately captures your sexual orientation identity) (please specify: ______)

5b. If you selected gay, lesbian, bisexual, questioning, or other, do others know about your sexual orientation identity?
   ___ Yes (Please specify who knows (e.g., family members, friends, teachers, classmates, etc.):__________)
   ___ No
6. Year at school:
   ___ First year undergraduate
   ___ Sophomore
   ___ Junior
   ___ Senior
   ___ Masters
   ___ Doctoral

7. Current Student Status:
   ___ Full-time student
   ___ Part-time student

8. In what state do you attend college: ___________

9. Current Employment Status:
   ___ Unemployed
   ___ Not in labor force
   ___ Part-time employed
   ___ Full-time employed
   ___ Retired
   ___ Disabled

10. Current Relationship Status:
    Single, please specify:
        ___ Not in a relationship
        ___ In a relationship but not cohabitating
        ___ Cohabitating
        ___ Married
        ___ Engaged
        ___ Partnered
        ___ Divorced
        ___ Married and separated
        ___ Widowed

11. Current Living Situation:
    ___ On campus with roommates (please specify number of roommates: ___)
    ___ On campus without roommates
    ___ Off campus with roommates (please specify number of roommates: ___;
       please specify approximate distance from campus in miles: ____)
    ___ Off campus without roommates (please specify approximate distance from
       campus in miles: ____)
12. Current Campus Involvement:
   I am currently involved in the below number of campus organizations:
   ___ 0
   ___ 1
   ___ 2
   ___ 3
   ___ 4
   ___ 5 or more

13. Current Campus Leadership Involvement:
   I currently hold leadership position(s) within the below number of campus organizations:
   ___ 0
   ___ 1
   ___ 2
   ___ 3
   ___ 4
   ___ 5 or more
APPENDIX C. MENTAL HEALTH HISTORY QUESTIONNAIRE

1a. From whom have you ever received psychological or mental health services? (Check all that apply.)
   ___ Counselor/Therapist/Psychologist
   ___ Psychiatrist
   ___ Other Medical Provider (e.g., physician, nurse)
   ___ Clergy
   ___ None

1b.* If you have ever received psychological or mental health services, have you ever received these services from a college/university counseling center?
   ___ Yes
   ___ No

1c.* If you have ever received psychological or mental health services, briefly describe your reason for seeking services:
   __________________________________________________________

2a. Have you ever seriously considered attempting suicide during your time at college?
   ___ Yes
   ___ No

2b.* Have you ever shared with anyone that you considered attempting suicide?
   ___ Yes (Please specify whom you shared with: _____________)
   ___ No

2c.* Did you receive psychological help to address your considering suicide?
   ___ Yes
   ___ No

3a. Have you ever attempted suicide during your time in college?
   ___ Yes
   ___ No

3b.* Have you ever shared with anyone that you have attempted suicide?
   ___ Yes (Please specify whom you shared with: _____________)
   ___ No

3c.* Did you receive psychological help to address your attempted suicide?
   ___ Yes
   ___ No

*Items marked with an asterisk were only asked to participants who affirmatively respond to the “a” question for the corresponding question number.
APPENDIX D. PERCEIVED BURDENSOMENESS
QUESTIONNAIRE

Interpersonal Needs Questionnaire (INQ)
(Van Orden et al., 2008b)

The following questions ask you to think about yourself and other people. Please respond to each question by using your own current beliefs and experiences, NOT what you think is true in general, or what might be true for other people. Please base your responses on how you’ve been feeling recently. Use the rating scale to find the number that best matches how you feel and circle that number. There are no right or wrong answers: we are interested in what you think and feel.

**Rating Scale:**

<table>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all true for me</td>
<td>Somewhat true for me</td>
<td>Very true for me</td>
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1. These days the people in my life would be better off if I were gone.*
2. These days the people in my life would be happier without me.*
3. These days I think I am a burden on society.*
4. These days I think my death would be a relief to the people in my life.*
5. These days I think the people in my life wish they could be rid of me.*
6. These days I think I make things worse for the people in my life.*
7. These days, other people care about me.**
8. These days, I feel like I belong.**
9. These days, I rarely interact with people who care about me.**
10. These days, I am fortunate to have many caring and supportive friends.**
11. These days, I feel disconnected from other people.**
12. These days, I often feel like an outsider in social gatherings.**
13. These days, I feel that there are people I can turn to in times of need.**
14. These days, I am close to other people.**
15. These days, I have at least one satisfying interaction every day.**

*Perceived Burdensomeness
**Thwarted Belongingness

*Note. Items 7, 8, 10, 13, 14, and 15 are reverse coded*
APPENDIX E. FAMILY AND PEER BELONGINGNESS QUESTIONNAIRE

Milwaukee Youth Belongingness Scale (MYBS)  
(Slaten et al., 2008)

These sentences are about your feelings. Respond to the statements to the best of your ability. Below are a few definitions for certain words in the statements:

- **Adult** includes a university faculty or staff member.
- **Family** includes anyone in your immediate and extended family (i.e., uncles/aunts, grandparents, cousins) as well as non-biologically related family members (i.e., sibling in-laws, step-parents).
- **Peers** include individuals within your age group and/or social group.
- **University** is the university that you are currently attending.

For each numbered item below, please select the number that best describes your level of agreement with each statement.

**Rating Scale:**
1: Disagree; 2: Somewhat Disagree; 3: Somewhat Agree; 4: Agree

**Statements:**
1. There is an adult at this university that cares about me.
2. My peers care about my feelings.
3. I rarely hang out with my peers.
4. There is an adult at this university that I can talk to.
5. I have very few friends that are my age.
6. I feel comfortable being at this university.
7. I enjoy spending time with peers.
8. Few of my peers like me the way I am.
9. I feel comfortable when I am around my family.
10. I enjoy going to my university.
11. I rarely like my university.
12. I get along well with my peers.
13. My family rarely allows me to be myself.
14. I rarely can express my feelings to anyone in my family.
15. There is rarely an adult at my university that listens to me.
16. I like my family.
17. The adults at school like me as much as they like other students.
18. I rarely feel a part of my family.
19. There is a peer that I can talk to about anything.
20. There is someone at my university that makes me feel good.
21. My family members like to spend time with me.
22. Someone in my family accepts me for who I am.
23. I rarely like spending time with my family.
24. I am liked by my peers.
APPENDIX F. ACADEMIC INSTITUTION BELONGINGNESS QUESTIONNAIRE

The Psychological Sense of School Membership (PSSM) Scale – Adapted (Goodenow, 1993; Pittman & Richmond, 2007)

The following statements are about your thoughts and feelings during your time at your college or university. Please respond to each question by using your own current beliefs and experiences, NOT what you think is true in general or what might be true for other people.

Please base your responses on how you’ve been feeling recently. Use the rating scale to find the number that best matches how you feel and type that number in the space next to the corresponding statement. There are no right or wrong answers; we are interested in what you think and feel.

**Rating Scale:**

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<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>Not at All true</td>
<td>Somewhat true</td>
<td>Completely true</td>
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**Statements:**

1. I feel like a real part of this college/university. _____
2. People here notice when I’m good at something. _____
3. It is hard for people like me to be accepted here. _____
4. Other students in this school take my opinions seriously. _____
5. Most professors at this college/university are interested in me. _____
6. Sometimes I feel as if I don’t belong here. _____
7. There’s at least one professor or staff member in this university I can talk to if I have a problem. _____
8. People at this college/university are friendly to me. _____
9. Professors here are not interested in people like me. _____
10. I am included in lots of activities at this college/university. _____
11. I am treated with as much respect as other students. _____
12. I feel very different from most other students here. _____
13. I can really be myself at this school. _____
14. The professors here respect me. _____
15. People here know I can do good work. _____
16. I wish I were at a different college/university. _____
17. I feel proud of belonging to this college/university. _____
18. Other students here like me the way I am. _____
APPENDIX G. SEXUAL ORIENTATION COMMUNITY BELONGINGNESS QUESTIONNAIRE

Connectedness to the LGBT Community Scale
(Frost & Meyer, 2012)

Please respond to each question by using your own current beliefs and experiences and how you have been feeling recently, NOT what you think is true in general or what might be true for other people.

Use the rating scale to select the number that best matches how you feel for the corresponding statement.

Rating Scale:
1: Agree Strongly
2: Agree
3: Disagree
4: Disagree Strongly

Statements:
1. You feel you’re a part of the LGBT community.
2. Participating in the LGBT community is a positive thing for you.
3. You feel a bond with the LGBT community.
4. You are proud of the LGBT community.
5. It is important for you to be politically active in the LGBT community.
6. If we work together, gay, bisexual, and lesbian people can solve problems in the LGBT community.
7. You really feel that any problems faced by the LGBT community are also your own problems.
8. You feel a bond with other same gender similar others.
APPENDIX H. EXPERIENCES OF DISCRIMINATION
QUESTIONNAIRE

Everyday Discrimination Scale
(Williams, Yu, & Anderson, 1997)

Using the rating scale below, please answer the statements below with respect to the question of: In your day-to-day life, how often do any of the following things happen to you?

**Rating Scale:**
1: Almost every day
2: At least once a week
3: A few times a month
4: A few times a year
5: Less than once a year
6: Never

**Statements:**
1. You are treated with less courtesy than other people are.
2. You are treated with less respect than other people are.
3. You receive poorer service than other people at restaurants or stores.
4. People act as if they think you are not smart.
5. People act as if they are afraid of you.
6. People act as if they think you are dishonest.
7. People act as if they're better than you are.
8. You are called names or Insulted.
9. You are threatened or harassed.

**Follow-Up Questions:** *(For each of the 9 statements above, if a participant responds with 1, 2, or 3 to a statement, they will be prompted to answer the below question.)*

What do you think is the main reason for these experiences? (Check all that apply.)
___ Your ancestry or national origins
___ Your gender
___ Your race
___ Your age
___ Your religion
___ Your height
___ Your weight
___ Some other aspect of your physical appearance
___ Your sexual orientation
___ Your education or income level
___ A physical disability
___ Other (Please specify): _____________________________
APPENDIX I. ACQUIRED CAPABILITY QUESTIONNAIRE

Acquired Capability for Suicide Scale (ACSS)  
(Van Orden et al., 2008a)

Please read each item below and indicate to what extent you feel the statement describes you. Rate each statement using the scale below and indicate your responses on your answer sheet.

Rating Scale:

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<th>5</th>
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</thead>
<tbody>
<tr>
<td>Not at all like me</td>
<td>Somewhat like me</td>
<td>Very much like me</td>
<td></td>
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</tbody>
</table>

_____ 1. Things that scare most people do not scare me.  
_____ 2. I can tolerate a lot more pain than most people.  
_____ 3. People describe me as fearless.  
_____ 4. The pain involved in dying frightens me.  
_____ 5. I am not at all afraid to die.
APPENDIX J. SUICIDAL IDEATION AND SUICIDAL BEHAVIORS QUESTIONNAIRE

Suicidal Ideation Scale – Revised (SIS-R)
(Rudd, 1989)

Please answer the questions below according to how you feel at this moment in time. We are interested in what you think, experience, and believe.

Use the rating scale to find the number that best matches how you feel and type that number in the space next to the corresponding statement. There are no right or wrong answers; we are interested in what you think and feel.

Rating Scale:
1: Never
2: Occasionally
3: Some of the time
4: Most of the time
5: Always

Question Items:
1. I just wish my life would end.*
2. I feel life just isn’t worth living.*
3. Life is so bad I feel like giving up.*
4. It would be better for everyone involved if I were to die.*
5. I have come close to taking my own life.**
6. I have made attempts to kill myself.**
7. I believe my life will end in suicide.*
8. I have been thinking of ways to kill myself.**
9. I feel there is no solution to my problems other than to take my own life.*
10. I have told someone I want to kill myself.**

*Suicidal Ideation
**Suicidal Behaviors
APPENDIX K. RECRUITMENT EMAIL

FROM: Rachel Ploskonka (rploskon@purdue.edu)
REPLY TO: Rachel Ploskonka (rploskon@purdue.edu)
SUBJECT: Participants Needed for Relationship Quality and Distress Experience Study

Dear Purdue Student,

My name is Rachel Ploskonka, and I am a doctoral student in Counseling Psychology at Purdue University. I am currently working on my dissertation research under the direction of my advisor, Dr. Heather L. Servaty-Seib, with the purpose of exploring how college students’ relationships with others and feelings about themselves and others may be related to distress (including thoughts of self-harm and/or suicide). Even if you have never experienced intense distress, your survey answers are still important and relevant to this study. The outcomes of this survey will help inform college staff of effective ways of supporting students. This study is approved by the Purdue University IRB Board (IRB Research Project Number: 1407015032).

This study will be conducted through an on-line survey and should take about 20-30 minutes to complete. Participation is voluntary, so you can stop the survey at any time or skip questions at your discretion. If you choose to participate, you will provide all information anonymously. Your answers will be kept completely private, and no will be able to trace your survey responses back to you. Four participants will be chosen at random to receive a $25 gift card to Amazon.com. Electing to participate in the drawing does not impact the anonymity of your responses; your survey answers are not connected to the information you provide to enter into the drawing. The odds of winning are dependent on the number of responses received, but are expected to be 1 in 200 or better. To be entered into the drawing for one of four Amazon gift cards, follow the directions provided at the end of the survey.

In order to participate in this survey, you MUST be between the ages of 18 and 25 years old and be an undergraduate student. If you would like to participate in this study please click on the link below.

(Link inserted here)

If you have any questions, please feel free to contact me at rploskon@purdue.edu or my advisor Dr. Heather Servaty-Seib at servaty@purdue.edu.

Thank you for your help,
Rachel Ploskonka, M.S.
Counseling Psychology Doctoral Student
Department of Educational Studies
Purdue University
APPENDIX L. FOLLOW-UP EMAIL

FROM: Rachel Ploskonka (rploskon@purdue.edu)
REPLY TO: Rachel Ploskonka (rploskon@purdue.edu)
SUBJECT: Survey Participation Request: Participants Needed for College Student Experiences Survey

Dear Purdue Student,

My name is Rachel Ploskonka. I am emailing to follow up regarding an email I sent you last week about a study I am conducting. If you have completed the survey – thank you very much, and you need not read further. If you have not yet completed the survey, please consider taking part in my study.

I am a graduate student in Counseling Psychology at Purdue University, and I am currently working on a research project (under the direction of my advisor Dr. Heather L. Servaty-Seib) with the purpose of exploring how college students’ personal experiences, relationships with others, and feelings about themselves and others may be related to distress (including thoughts of self-harm and/or suicide). This study is approved by Purdue University’s Institutional Review Board (IRB Research Project Number: 1407015032).

This study will be conducted through an online survey and should take about 20 to 30 minutes to complete. Participation is voluntary, so you can stop the survey at any time or skip questions at your discretion. If you choose to participate, you will provide all information anonymously. Your survey answers will be kept completely private, and your survey responses will not be traceable back to you.

In order to participate in this survey, you MUST be between the ages of 18 and 25 years old and be an undergraduate student. If you would like to participate in this study please click on the link below.

(Link inserted here)

If you have any questions, please feel free to contact me at rploskon@purdue.edu or my advisor Dr. Heather Servaty-Seib at servaty@purdue.edu.

Thank you for your help,
Rachel Ploskonka, M.S.
Counseling Psychology Doctoral Student
Department of Educational Studies
Purdue University
APPENDIX M. RECRUITMENT EMAIL TO CAMPUS ADMINISTRATORS AND LGB OFFICES AT OTHER UNIVERSITIES

FROM: Rachel Ploskonka (rploskon@purdue.edu)
REPLY TO: Rachel Ploskonka (rploskon@purdue.edu)
SUBJECT: Dissertation Research Assistance

(Name of Contact Individual),

I am currently working on my dissertation research under the direction of my advisor, Dr. Heather L. Servaty-Seib. The purpose of my research is to explore how college students’, particularly LGB students’, personal experiences, relationships with others, and feelings about themselves and others may be related to distress (including thoughts of self-harm and/or suicide) as well as how these factors compare with their heterosexual peers. Because my research is focused on similarities and differences between heterosexual students and LGB students, I am requesting that you please forward the recruitment email (below my email signature) to your LGB student organizations and groups in order to ensure enough LGB student participation for data analyses.

This research is much needed in order to better understand LGB college students’ experience and mental health. LGB college students are at a greater risk for many mental health issues, including suicide, with research indicating that LGB college students are three times more likely to report a suicide attempt when compared to heterosexual students (U.S. Department of Health and Human Services Office of the Surgeon General & National Action Alliance for Suicide Prevention, 2012). However, understanding this phenomenon has been challenging due to difficulties with garnering adequate sample sizes in order to produce meaningful findings. Thus, your help is essential in an area that is in critical need of research.

If you have any questions, please feel free to contact me at rploskon@purdue.edu or my advisor Dr. Heather Servaty-Seib at servaty@purdue.edu.

Thank you for your help,
Rachel Ploskonka, M.S.
Counseling Psychology Doctoral Student
Department of Educational Studies
Purdue University

[Information in Appendix K embedded in email]
Hello! I am conducting research on undergraduate college students, particularly LGB college students, and I am hoping that you could help me out by taking a short 20-30 minute survey! My purpose for this study is to explore how college students’ personal experiences, relationships with others, and feelings about themselves and others may be related to distress (including thoughts of self-harm and/or suicide). This study has been approved by Purdue University’s Institutional Review Board. Responses are anonymous, and you can skip any questions or leave the survey at any time. In order to be in this survey, you must be a college student between 18 and 25 years old. Thanks for your help! [Survey link embedded here.]
APPENDIX O. ONLINE CONSENT FORM

RESEARCH PARTICIPANT CONSENT FORM
College Students’ Relationship Quality and Experiences of Distress
(IRB Research Project Number: 1407015032)
Heather L. Servaty-Seib, Ph.D.
Educational Studies
Purdue University

Please Print this Information Sheet for Your Records

What is the purpose of this study?
The purpose of the present study is to gather information on how college students’ personal experiences, relationships with others, and feelings about themselves and others may be related to distress (including thoughts of self-harm and/or suicide). Even if you have never experienced intense distress, your survey answers are still important and relevant to this study. For the purpose of this study, you must be an undergraduate student between the ages of 18 and 25. The maximum number of participants to be included is 1,000 college students.

What will I do if I choose to be in this study?
Participation consists of completing an online survey that includes questions focused on your background information, personal experiences, connections felt with certain groups of people, feelings about yourself, and distress (including thoughts of self-harm and/or suicide). Your information is relevant to this study, even if you have not recently experienced psychological distress. Once you have completed the survey, click this submit button. All survey answers will be collected anonymously.

How long will I be in the study?
This survey will take approximately 20 to 30 minutes to complete.

What are the possible risks or discomforts?
There are no foreseeable risks or adverse effects associated with this study. The risk of participating in this study is considered minimal and no greater than you would encounter in everyday life. Some of the questions in this study ask directly about self-harming thoughts and behaviors such as suicide. It is possible that these questions may be connected with some emotional discomfort for you. If you would like or need emotional support and related assistance, you can contact a psychologist near you by logging on to: http://locator.apa.org/index.cfm?event=search.text. If you need immediate assistance, you can receive assistance by contacting the National Suicide Prevention Lifeline by contacting 1-800-273-TALK or by visiting http://suicidehotlines.com/national.html. Additionally, there is minimal risk of a breach of confidentiality due to the electronic nature of the survey. However, several safeguards are in place to minimize the risk of a breach in confidentiality, which can be found below in the section entitled “Will information about me and my participation be kept confidential.”
Are there any potential benefits?
There are no obvious personal benefits from participating in this study.

Will I receive payment or other incentive?
By participating in this survey, you will become eligible to participate in a drawing for one of four $25 Amazon.com gift cards. At the end of this survey, you will be given the opportunity to send an email to rploskon@purdue.edu with the subject line “Participated in Study” and no additional text. Electing to participate in the drawing does not impact the anonymity of your responses; your survey answers are not connected to the email you send to enter into the drawing. If you choose to send this email, you will be entered into a random drawing for this incentive. At the end of this study, five email addresses will be randomly chosen to receive a $25 gift card. The odds of winning are dependent on the number of responses received, but are expected to be 1 in 250 or better. The persons chosen from this random drawing will receive an email directly from Amazon.com with their gift card information included.

Will information about me and my participation be kept confidential?
The privacy and confidentiality of your responses will be protected through multiple methods. We will collect your survey responses anonymously. You are not asked to provide your name or any identifying material other than general demographic information. Your survey answers will not be able to be traced directly to you or your email address. All completed forms will be kept in a secure computer database. Only the co-investigators of this study will be able to access the data. While a complete guarantee of confidentiality cannot be promised when completing and submitting an electronic survey, the risk of the security of the anonymous data submitted being breached is minimal. The data from this study will be analyzed collectively, including all responses to this survey. The data will be kept indefinitely, but any reports, publications, or related documents will be reported on an aggregate (not individual) level. The project’s research records may be reviewed by the Institutional Review Board at Purdue University to ensure that your data is being properly protected.

What are my rights if I take part in this study?
Your participation in this study is voluntary. You may choose not to participate or, if you agree to participate, you can withdraw your participation at any time without penalty or loss of benefits to which you are otherwise entitled.
Who can I contact if I have questions about the study?
If you have questions, comments or concerns about this research project, you can talk to one of the researchers. Please contact Heather L. Servaty-Seib at (765) 494-0837 or servaty@purdue.edu or Rachel Ploskonka at rploskon@purdue.edu. If you have questions about your rights while taking part in the study or have concerns about the treatment of research participants, please call the Human Research Protection Program at (765) 494-5942, email (irb@purdue.edu) or write to:

Human Research Protection Program - Purdue University
Ernest C. Young Hall, Room 1032
155 S. Grant St.
West Lafayette, IN 47907-2114

Documentation of Informed Consent

I have had the opportunity to read this consent form and have the research study explained. I have had the opportunity to ask questions about the research study, and my questions have been answered. I am prepared to participate in the research study described above. I can print a copy of this consent form for my records.

(Participants will have the option to select: 1) I wish to participate in this study or 2) I do not wish to participate in this study.)

Please Print this Information Sheet for Your Records
APPENDIX P. LOG-OUT MESSAGE WITH SUICIDE PREVENTION AND COUNSELING RESOURCES AND GIFT CARD DRAWING INFORMATION

Thank you for Participating in this Survey!

Please Print this Information Sheet for Your Records

Directions for Entering the Amazon.com Gift Card Drawing:
By participating in this survey, you have become eligible to participate in a drawing for one of four $25 Amazon.com gift cards. If you would like to be entered into the drawing, please send an email to rploskon@purdue.edu with the subject line “Participated in Study” and no additional text. Your email is not connected to your survey responses, and your email address will be stored in a password protected excel file that will be permanently deleted at the end of the spring semester (May 2016). Your email address will only be used for the purposes of this Amazon.com gift card drawing. If you choose to send this email, you will be entered into a random drawing for one of the four gift cards. At the end of this study, four email addresses will be randomly chosen to receive a $25 gift card. The odds of winning are dependent on the number of responses received, but are expected to be 1 in 250 or better. The individuals chosen from this random drawing will receive an email directly from Amazon.com with their gift card information included.

Distress and Suicide Prevention Resources:
If some of the questions on this survey were stressful for you, or if someone you know is experiencing intense distress or risk for suicide, the following resources may be helpful to you. Trained professionals at each of these organizations can provide a listening ear and/or professional advice. If you feel more comfortable, you may contact these resources anonymously and then provide your identifying information at your discretion. People at these organizations care about assisting you find the resources you need.

Local (Central Indiana)

A) Purdue University Counseling and Psychological Services (CAPS)
   • Located on Campus at Purdue University
   • Contacting CAPS is confidential and will not be part of your Academic Record
   • Contact Number: 765-494-6995

B) Lafayette Crisis Center
   • Personnel on call 24 hours per day, seven days per week
   • Contact Number: 742-0244
C) Cummins Behavioral Health System, Inc.
- Students or individuals from the community
- Hours: M-Th 9a.m. - 8 p.m.; Closed Friday
- Sliding scale on gross income and number of individuals in household
- 24 Hour Emergency Line (888-244-6083)
- Contact Number: 420-0938; 427 N. 6th Street, Lafayette, IN 47901

D) Family Services, Inc.
- Students or individuals from the community
- Hours: MWF 8 a.m. - 5 p.m., T& TH 8 a.m. – 8 p.m.
- $20-$100 per session (sliding scale on gross income and number of people in household)
- Contact Number: 423-5361

E) Wabash Valley Hospital – Outpatient
- Students or individuals from the community
- $16-$160 per session (sliding scale on gross income and number of people in the household)
- Hours vary (open Monday – Friday)
- Emergency Walk-Ins accepted
- Contact Number: 423-2638

National

A) National Suicide Prevention Lifeline
- Call for yourself or someone you are concerned about
- Free and confidential
- A network of more than 140 crisis centers nationwide; Available 24/7
- Contact Number: 1-800-273-TALK (8255)

B) American Counseling Association
- Search for a counselor near you
- http://www.counseling.org/aca-community/learn-about-counseling/what-is-counseling/find-a-counselor

C) American Psychological Association
- Search for a psychologist near you
- http://locator.apa.org/

D) National Board for Certified Counselors
- Search for a counselor near you
- http://www.nbcc.org/counselorfind
- Contact Hours: M-F 8:30 am – 5 pm (EST)
- Contact Number: 336-547-0607
E) Mental Health America

- Search for a specific mental health service or support program in your community
- http://www.mentalhealthamerica.net/
- Contact Number: 1-800-969-6264
APPENDIX Q. ASSOCIATIONS BETWEEN THE DEMOGRAPHIC VARIABLES AND DEPENDENT VARIABLES

The continuous demographic variable of age was significantly related to sexual orientation community belongingness \( (r = .16, p = .009) \) and suicidal behaviors \( (r = -.13, p = .034) \). All of the categorical demographic variables, except for sex, employment status, living situation, and campus leadership involvement, emerged as significantly associated with one or more of the dependent variables.

Specifically, perceived burdensomeness \( (p = .005) \), peer belongingness \( (p = .002) \), and suicidal ideation \( (p < .001) \) significantly varied based on gender (Table 5). Participants who did not identify as a man, woman, or transgender (i.e., identified as “other”) had higher scores for perceived burdensomeness and suicidal ideation as compared to participants who identified as men, women, or transgender. Participants who identified as men had the highest scores for peer belongingness as compared to participants who identified as women, transgender, or did not identify as a man, woman, or transgender. Sexual orientation community belongingness \( (p = .002) \) significantly varied based on race/ethnicity wherein participants who identified as Middle Eastern American had the highest scores for sexual orientation community belongingness as compared to participants of other races/ethnicities. Suicidal ideation \( (p = .02) \) significantly varied based on educational status wherein first-year participants had higher scores on suicidal ideation as compared to sophomore, junior, and senior participants (Table 6). Family belongingness \( (p = .04) \) significantly varied based on student status wherein full-time student participants had higher scores for family belongingness as compared to part-time students. Sexual orientation community belongingness \( (p = .001) \) significantly varied based on relationship status wherein participants who identified as
partnered had higher scores for sexual orientation community belongingness as compared to participants of other relationship statuses (e.g., single, engaged, married).

Perceived burdensomeness ($p < .001$), family belongingness ($p = .04$), peer belongingness ($p = .04$), suicidal ideation ($p < .001$), and suicidal behaviors ($p = .01$) significantly varied based on campus organization involvement. Participants involved in four organizations had the highest scores for perceived burdensomeness and suicidal ideation as compared to participants with other organizational involvement levels (i.e., zero, one, two, three, and five or more). Participants involved in five or more organizations had the highest scores for family belongingness as compared to participants with other organizational involvement levels levels (i.e., zero, one, two, three, and four). Participants involved in three organizations had the highest scores for peer belongingness as compared to participants with other organizational involvement levels (i.e., zero, one, two, four, and five or more). Participants involved in two organizations had the highest scores for suicidal behaviors as compared to participants with other organizational involvement levels (i.e., zero, one, three, four and five or more).

Family belongingness ($p = .013$), peer belongingness ($p = .001$), academic institution belongingness ($p = .005$), suicidal ideation ($p = .028$), and suicidal behaviors ($p < .001$) significantly varied based on past receipt of psychological services (Table 7). Participants who had previously received psychological services had higher scores for family belongingness, suicidal ideation, and suicidal behaviors as compared to participants who had not previously received psychological services. Participants who had not previously received psychological services had higher scores for peer
belongingness and academic institution belongingness as compared to participants who had previously received psychological services.

Perceived burdensomeness ($p < .001$), family belongingness ($p = .003$), peer belongingness ($p = .001$), academic institution belongingness ($p = .007$), acquired capability ($p = .002$), suicidal ideation ($p < .001$), and suicidal behaviors ($p < .001$) significantly varied based on thoughts of suicide while in college. Participants who had thoughts of suicide while in college had higher scores for perceived burdensomeness, acquired capability, suicidal ideation, and suicidal behaviors as compared to participants who did not have thoughts of suicide while in college. Participants who did not have thoughts of suicide while in college had higher scores for family belongingness, peer belongingness, and academic institution belongingness as compared to participants who had thoughts of suicide while in college.

Peer belongingness ($p = .011$), academic institution belongingness ($p = .033$), sexual orientation community belongingness ($p = .017$), suicidal ideation ($p < .001$), and suicidal behaviors ($p < .001$) significantly varied based on past suicide attempts. Participants who did have past suicide attempts had higher scores for sexual orientation community belongingness, suicidal ideation, and suicidal ideation as compared to participants who did not have past suicide attempts. Participants who did not have past suicide attempts had higher scores for peer belongingness and academic institution belongingness as compared to participants who did have past suicide attempts.
Table 12

*Correlations, Means, and Standard Deviations for Age and the Primary Variables*

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>20.06</td>
<td>1.81</td>
<td>—</td>
</tr>
<tr>
<td>Perceived Burdensomeness</td>
<td>10.26</td>
<td>6.33</td>
<td>-.09</td>
</tr>
<tr>
<td>Family Belongingness</td>
<td>27.39</td>
<td>5.21</td>
<td>-.02</td>
</tr>
<tr>
<td>Peer Belongingness</td>
<td>26.46</td>
<td>4.57</td>
<td>-.06</td>
</tr>
<tr>
<td>Academic Institution Belongingness</td>
<td>68.09</td>
<td>11.97</td>
<td>-.06</td>
</tr>
<tr>
<td>Sexual Orientation Community Belongingness</td>
<td>18.59</td>
<td>6.24</td>
<td>.16***</td>
</tr>
<tr>
<td>Experiences of Discrimination</td>
<td>21.24</td>
<td>7.63</td>
<td>-.09</td>
</tr>
<tr>
<td>Acquired Capability</td>
<td>14.40</td>
<td>4.43</td>
<td>.05</td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>8.20</td>
<td>3.53</td>
<td>-.10</td>
</tr>
<tr>
<td>Suicidal Behaviors</td>
<td>5.25</td>
<td>2.35</td>
<td>-.13*</td>
</tr>
</tbody>
</table>

Note. N = 268

*p < .05

**p < .01

***p < .001
Table 13

Multivariate Analysis of Variance (MANOVA) Between the Demographic Variables and the Dependent Variables of Perceived Burdensomeness, Family Belongingness, Peer Belongingness, and Academic Institution Belongingness

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Perceived Burdensomeness</th>
<th>Family Belongingness</th>
<th>Peer Belongingness</th>
<th>Academic Institution Belongingness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F(df)</td>
<td>p</td>
<td>F(df)</td>
<td>p</td>
</tr>
<tr>
<td>Gender</td>
<td>4.45(3)**</td>
<td>.005</td>
<td>2.03(3)</td>
<td>.11</td>
</tr>
<tr>
<td>Sex</td>
<td>1.17(1)</td>
<td>.28</td>
<td>1.88(1)</td>
<td>.17</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>.39(8)</td>
<td>.92</td>
<td>1.33(8)</td>
<td>.23</td>
</tr>
<tr>
<td>Student Status</td>
<td>1.41(1)</td>
<td>.24</td>
<td>4.33(1)*</td>
<td>.04</td>
</tr>
<tr>
<td>Educational Status</td>
<td>1.44(3)</td>
<td>.23</td>
<td>.80(3)</td>
<td>.50</td>
</tr>
<tr>
<td>Employment Status</td>
<td>.65(3)</td>
<td>.58</td>
<td>1.30(3)</td>
<td>.28</td>
</tr>
<tr>
<td>Relationship Status</td>
<td>.62(5)</td>
<td>.68</td>
<td>.78(5)</td>
<td>.57</td>
</tr>
<tr>
<td>Living Situation</td>
<td>.75(3)</td>
<td>.52</td>
<td>1.61(3)</td>
<td>.19</td>
</tr>
<tr>
<td>Campus Organization Involvement</td>
<td>4.58(5)***</td>
<td>.001</td>
<td>2.43(5)*</td>
<td>.04</td>
</tr>
<tr>
<td>Campus Leadership Involvement</td>
<td>.55(4)</td>
<td>.70</td>
<td>1.28(4)</td>
<td>.28</td>
</tr>
</tbody>
</table>

Note. N = 268

*p < .05

**p < .01

***p < .001
Table 14

Multivariate Analysis of Variance (MANOVA) Between the Demographic Variables and the Dependent Variables of Sexual Orientation Community Belongingness, Experiences of Discrimination, Acquired Capability, Suicidal Ideation, and Suicidal Behaviors

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Sexual Orientation Community Belongingness</th>
<th>Experiences of Discrimination</th>
<th>Acquired Capability</th>
<th>Suicidal Ideation</th>
<th>Suicidal Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F(df)</td>
<td>p</td>
<td>F(df)</td>
<td>p</td>
<td>F(df)</td>
</tr>
<tr>
<td>Gender</td>
<td>1.93(3)</td>
<td>.15</td>
<td>.56(3)</td>
<td>.64</td>
<td>.51(3)</td>
</tr>
<tr>
<td>Sex</td>
<td>.51(1)</td>
<td>.48</td>
<td>1.17(1)</td>
<td>.28</td>
<td>.06(1)</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>3.24(8)**</td>
<td>.002</td>
<td>.67(8)</td>
<td>.72</td>
<td>.82(8)</td>
</tr>
<tr>
<td>Educational Status</td>
<td>2.06(3)</td>
<td>.11</td>
<td>.16(3)</td>
<td>.93</td>
<td>.29(3)</td>
</tr>
<tr>
<td>Student Status</td>
<td>.56(1)</td>
<td>.45</td>
<td>.94(1)</td>
<td>.34</td>
<td>.62(1)</td>
</tr>
<tr>
<td>Employment Status</td>
<td>1.86(3)</td>
<td>.14</td>
<td>.17(3)</td>
<td>.92</td>
<td>1.57(3)</td>
</tr>
<tr>
<td>Relationship Status</td>
<td>4.53(5)**</td>
<td>.001</td>
<td>1.08(5)</td>
<td>.38</td>
<td>.94(5)</td>
</tr>
<tr>
<td>Living Situation</td>
<td>1.40(3)</td>
<td>.24</td>
<td>.41(3)</td>
<td>.75</td>
<td>.21(3)</td>
</tr>
<tr>
<td>Campus Organization</td>
<td>.98(5)</td>
<td>.43</td>
<td>1.57(5)</td>
<td>.17</td>
<td>.81(5)</td>
</tr>
<tr>
<td>Leadership Involvement</td>
<td>1.46(4)</td>
<td>.21</td>
<td>1.45(4)</td>
<td>.22</td>
<td>1.16(4)</td>
</tr>
</tbody>
</table>

Note. N = 268

*p < .05

**p < .01

***p < .001
Table 15

Multivariate Analysis of Variance (MANOVA) Between the Mental Health History Questions and the Dependent Variables

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Mental Health Services</th>
<th>Considered Attempting Suicide in College</th>
<th>Attempted Suicide in College</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$F(df)$</td>
<td>$p$</td>
<td>$F(df)$</td>
</tr>
<tr>
<td>Perceived Burdensomeness</td>
<td>3.79(1)</td>
<td>.053</td>
<td>24.55(1)**</td>
</tr>
<tr>
<td>Family Belongingness</td>
<td>6.20(1)*</td>
<td>.013</td>
<td>9.07(1)**</td>
</tr>
<tr>
<td>Peer Belongingness</td>
<td>11.30(1)**</td>
<td>.001</td>
<td>11.46(1)**</td>
</tr>
<tr>
<td>Academic Institution Belongingness</td>
<td>7.93(1)**</td>
<td>.005</td>
<td>7.37(1)**</td>
</tr>
<tr>
<td>Sexual Orientation Community Belongingness</td>
<td>2.86(1)</td>
<td>.092</td>
<td>1.62(1)</td>
</tr>
<tr>
<td>Experiences of Discrimination</td>
<td>4.28(1)*</td>
<td>.039</td>
<td>3.26(1)</td>
</tr>
<tr>
<td>Acquired Capability</td>
<td>.68(1)</td>
<td>.412</td>
<td>9.45(1)**</td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>4.90(1)*</td>
<td>.028</td>
<td>71.68(1)**</td>
</tr>
<tr>
<td>Suicidal Behaviors</td>
<td>13.17(1)**</td>
<td>.000</td>
<td>73.83(1)**</td>
</tr>
</tbody>
</table>

Note. $N = 268$

*p $< .05$

**p $< .01$

***p $< .001$
Table 16

Means and Standard Deviations for Dependent Variables that Significantly Varied with Race/Ethnicity

<table>
<thead>
<tr>
<th>Demographic</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>10</td>
<td>14.10</td>
<td>4.93</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>1</td>
<td>22.00</td>
<td>.0</td>
</tr>
<tr>
<td>Anglo American/White (not of Hispanic origin)</td>
<td>210</td>
<td>18.54</td>
<td>6.07</td>
</tr>
<tr>
<td>Hispanic origin</td>
<td>8</td>
<td>21.25</td>
<td>5.29</td>
</tr>
<tr>
<td>Asian American</td>
<td>6</td>
<td>22.00</td>
<td>6.93</td>
</tr>
<tr>
<td>Hispanic or Latino American</td>
<td>2</td>
<td>28.00</td>
<td>1.41</td>
</tr>
<tr>
<td>Middle Eastern American</td>
<td>13</td>
<td>23.23</td>
<td>4.46</td>
</tr>
<tr>
<td>Biracial/Multiracial</td>
<td>9</td>
<td>17.00</td>
<td>6.95</td>
</tr>
<tr>
<td>International</td>
<td>9</td>
<td>12.44</td>
<td>5.62</td>
</tr>
</tbody>
</table>

Table 17

Means and Standard Deviations for Dependent Variables that Significantly Varied with Student Status

<table>
<thead>
<tr>
<th>Demographic</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time student</td>
<td>248</td>
<td>27.62</td>
<td>5.08</td>
</tr>
<tr>
<td>Part-time student</td>
<td>20</td>
<td>24.55</td>
<td>6.13</td>
</tr>
</tbody>
</table>

Table 18

Means and Standard Deviations for Dependent Variables that Significantly Varied with Relationship Status

<table>
<thead>
<tr>
<th>Demographic</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>147</td>
<td>18.80</td>
<td>6.28</td>
</tr>
<tr>
<td>Single but cohabitating</td>
<td>13</td>
<td>21.15</td>
<td>5.34</td>
</tr>
<tr>
<td>In a relationship but not cohabitating</td>
<td>87</td>
<td>17.79</td>
<td>5.96</td>
</tr>
<tr>
<td>Engaged</td>
<td>5</td>
<td>24.00</td>
<td>5.83</td>
</tr>
<tr>
<td>Partnered</td>
<td>6</td>
<td>24.60</td>
<td>6.06</td>
</tr>
<tr>
<td>Married</td>
<td>10</td>
<td>12.80</td>
<td>3.36</td>
</tr>
</tbody>
</table>
Table 19

Means and Standard Deviations for Dependent Variables that Significantly Varied with Campus Organization Involvement

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Perceived Burdensomeness</th>
<th>Family Belongingness</th>
<th>Peer Belongingness</th>
<th>Suicidal Ideation</th>
<th>Suicidal Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Zero organizations</td>
<td>35</td>
<td>11.94</td>
<td>7.04</td>
<td>25.46</td>
<td>6.14</td>
</tr>
<tr>
<td>One organization</td>
<td>66</td>
<td>8.24</td>
<td>3.36</td>
<td>28.67</td>
<td>4.31</td>
</tr>
<tr>
<td>Two organizations</td>
<td>84</td>
<td>11.17</td>
<td>6.95</td>
<td>26.83</td>
<td>5.57</td>
</tr>
<tr>
<td>Three organizations</td>
<td>52</td>
<td>9.15</td>
<td>5.26</td>
<td>27.91</td>
<td>4.75</td>
</tr>
<tr>
<td>Four organizations</td>
<td>18</td>
<td>14.17</td>
<td>10.18</td>
<td>26.67</td>
<td>5.39</td>
</tr>
<tr>
<td>Five or more</td>
<td>13</td>
<td>9.08</td>
<td>5.16</td>
<td>28.77</td>
<td>4.40</td>
</tr>
</tbody>
</table>
Table 20

Means and Standard Deviations for Dependent Variables that Significantly Varied with Thoughts of Suicide

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Perceived Burdensomeness</th>
<th>Family Belongingness</th>
<th>Peer Belongingness</th>
<th>Academic Institution Belongingness</th>
<th>Acquired Capability</th>
<th>Suicidal Ideation</th>
<th>Suicidal Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Thoughts of suicide in college</td>
<td>30</td>
<td>15.43</td>
<td>8.33</td>
<td>24.73</td>
<td>6.02</td>
<td>23.85</td>
<td>5.06</td>
</tr>
<tr>
<td>No thoughts of suicide in college</td>
<td>238</td>
<td>9.61</td>
<td>5.73</td>
<td>27.73</td>
<td>5.02</td>
<td>26.79</td>
<td>4.41</td>
</tr>
</tbody>
</table>

Table 21

Means and Standard Deviations for Dependent Variables that Significantly Varied with Past Suicide Attempts

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Peer Belongingness</th>
<th>Academic Institution Belongingness</th>
<th>Sexual Orientation Community Belongingness</th>
<th>Suicidal Ideation</th>
<th>Suicidal Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Did not attempt suicide in college</td>
<td>261</td>
<td>26.58</td>
<td>4.55</td>
<td>68.35</td>
<td>11.83</td>
</tr>
</tbody>
</table>
APPENDIX R. ALTERNATIVE PATH MODEL

Because Joiner’s (2005) theory asserts that a conceptual interplay exists between perceived burdensomeness and thwarted belongingness but not between perceived burdensomeness and acquired capability or thwarted belongingness and acquired capability, I tested an alternative models. The alternative model (i.e., Alternative Path Model; Figure 5) had the covariations between acquired capability and perceived burdensomeness and acquired capability and the spheres of belongingness (i.e., family belongingness, peer belongingness, academic institution belongingness, and sexual orientation community belongingness) held constant at zero.

Figure 5. Alternative path model.
Note. $\chi^2 = 18.29, p = .075, CFI = .989, NFI = .973, TLI = .971, RMSEA = .050$

Figure 5 displays the results of Alternative Path Model 2, which includes all of the participants ($N = 268$). The model had a nonsignificant chi-square ($\chi^2 = 18.29, p$
= .075), indicating adequate model fit. The model’s CFI value of .989 also indicated good
model fit wherein values greater than .95 are reflective of good-fitting models
(Tabachnick & Fidell, 2012). NFI values greater than .90 suggest a good-fitting model,
and the NFI value for this model was .973 (Kline, 2011). The model’s TLI value of .971
also is reflective of adequate model fit wherein values greater than .95 are considered
acceptable model fit (Schreiber, Nora, Stage, Barlow, & King, 2006). Finally, RMSEA
values less than .06 are considered acceptable model fit (Kline, 2011). Within this model,
the RMSEA value was .050. The model fit indices of the alternative model are relatively
consistent with the primary model. The notable differences are (a) the primary model had
a chi-square value of 5.05 and a p-value of .54 whereas the alternative model had a chi-
square value of 18.29 and a p-value of .075 and (b) the primary model had an RMSEA
of .000 whereas the alternative model had a RMSEA value of .050.

For the full model, family belongingness (β = -.148, p = .004) and peer
belongingness (β = -.145, p = .02) were significantly, negatively associated with suicidal
ideation. Perceived burdensomeness was significantly, positively associated with suicidal
ideation (β = .519, p < .001), and suicidal ideation was significantly, positively associated
with suicidal behaviors (β = .694, p < .001). There was no statistically significant
association for academic institution belongingness and suicidal ideation (β = -.019, p
= .757), sexual orientation community belongingness and suicidal ideation (β = .027, p
= .541), or acquired capability and suicidal behaviors (β = .037, p = .403). These results
are consistent with the results for the full primary model of the study.

There were several statistically significant covariances within this alternative path
model. Specifically, family belongingness significantly covaried with peer belongingness
(β = .379, p < .001), academic institution belongingness (β = .396, p < .001), sexual orientation community belongingness (β = -.136, p = .027), and perceived burdensomeness (β = -.379, p < .001). Peer belongingness significantly covaried with academic institution belongingness (β = .663, p < .001) and perceived burdensomeness (β = -.465, p < .001). Finally, academic institution belongingness significantly covaried with perceived burdensomeness (β = -.403, p < .001). These results are consistent with the results of the primary model with the exception of acquired capability significantly covarying with family belongingness, peer belongingness, academic institution belongingness, and perceived burdensomeness within this study’s primary model. These four covariations with acquired capability (i.e., family belongingness, peer belongingness, academic institution belongingness, and perceived burdensomeness) were not present in this alternative model because all covariations with acquired capability were held constant at zero in the alternative model but were estimated in the primary model.

There were three nonsignificant covariances. Specifically, sexual orientation community belongingness did not significantly covary with peer belongingness (β = .019, p = .756), academic institution belongingness (β = .008, p = .898), and perceived burdensomeness (β = .027, p = .657). These results are consistent with the results of the primary model.

The proportion of variance ($R^2$) for suicidal ideation explained by the dependent variables of family belongingness, peer belongingness, academic institution belongingness, sexual orientation community belongingness, and perceived burdensomeness was .473. The proportion of the variance ($R^2$) for suicidal behaviors
explained for by suicidal ideation and acquired capability was .484. More specifically, the proportion of variance \( R^2 \) for suicidal behaviors explained for by suicidal ideation was .473, and the proportion of variance \( R^2 \) for suicidal behaviors explained for by acquired capability was .011. These results are consistent with the results of the primary model with only minor notable differences. Specifically, the proportion of the variance \( R^2 \) for suicidal behaviors explained for by suicidal ideation and acquired capability was .487 in the primary model; whereas, the proportion of the variance \( R^2 \) for suicidal behaviors explained for by suicidal ideation and acquired capability in the alternative model was .484. Additionally, the proportion of variance \( R^2 \) for suicidal behaviors explained for by acquired capability was .014; whereas, the proportion of variance \( R^2 \) for suicidal behaviors explained for by acquired capability in the alternative model was .011.

I also tested for invariance across LGB and heterosexual groups using this alternative model. First, I conducted a chi-square ratio test across the fully constrained \( \chi^2 = 527.833, df = 43, p < .001 \) and unconstrained models \( \chi^2 = 28.376, df = 22, p = .164 \). The chi-square ratio test indicated a statistically significant difference \( p < .001 \) between the constrained and unconstrained models. Thus, results indicated noninvariant (i.e., non-equivalent) paths across LGB and heterosexual groups.

Next, because the chi-square test indicated that there were differences in parameters across LGB and heterosexual groups, I determined the nature of the noninvariance by examining the comparative factor loadings of the parameters for LGB and heterosexual groups. First, I individually examined the valence and statistical significance of the relationships for the parameters for each of the groups. Then, I
conducted Wald chi-square tests to determine which parameters’ invariances were statistically significant across the LGB and heterosexual groups. Figures 6 and 7 depict the path models for LGB and heterosexual groups, respectively.

Figure 6. Standardized LGB group alternative path model.
I first examined the statistical significance of the relationships for the parameters for the LGB group. Relationships were statistically significant for perceived burdensomeness and suicidal ideation ($\beta = .446; p < .001; H6$), family belongingness and suicidal ideation ($\beta = -.221; p = .007; H7$), peer belongingness and suicidal ideation ($\beta = -.258; p = .009; H7$), and suicidal ideation and suicidal behaviors ($\beta = .647; p < .001$).

These results are consistent with the results of the primary model.

Then, I examined the valence of the relationships for the parameters for the LGB group. The parameters with a negative valence were family belongingness and suicidal ideation ($\beta = -.221; H7$), peer belongingness and suicidal ideation ($\beta = -.258; H7$), and sexual orientation community belongingness and suicidal ideation ($\beta = -.001; H7$). The parameters with a positive valence were perceived burdensomeness and suicidal ideation ($\beta = .446; H6$), academic institution belongingness and suicidal ideation ($\beta = .063; H7$),
acquired capability and suicidal behaviors ($\beta = .063; H8$), and suicidal ideation and suicidal behaviors ($\beta = .647$). These results are consistent with the results of the primary model.

Next, I examined the statistical significance of the relationships for the parameters for the heterosexual group. Relationships were statistically significant for perceived burdensomeness and suicidal ideation ($\beta = .424; p < .001; H6$) and suicidal ideation and suicidal behaviors ($\beta = .323; p < .001$). These results are consistent with the results of the primary model.

I then examined the valence of the relationships for the parameters for the heterosexual group. The parameters with a negative valence were peer belongingness and suicidal ideation ($\beta = -.05; H7$), academic institution belongingness and suicidal ideation ($\beta = -.14; H7$), and acquired capability and suicidal behaviors ($\beta = -.038; H8$). The parameters with a positive valence were perceived burdensomeness and suicidal ideation ($\beta = .424; H6$), family belongingness and suicidal ideation ($\beta = .031; H7$), sexual orientation community belongingness and suicidal ideation ($\beta = .023; H7$), and suicidal ideation and suicidal behaviors ($\beta = .323$). These results are consistent with the results of the primary model. Table 22 contains the parameter estimate coefficients and significance values for the LGB and heterosexual groups.
Table 22

Parameter Estimate Coefficients (β) and Significance Values for LGB and Heterosexual Groups for the Alternative Model

<table>
<thead>
<tr>
<th>Parameter</th>
<th>LGB</th>
<th>Heterosexual</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>β</td>
<td>p</td>
<td>β</td>
<td>P</td>
</tr>
<tr>
<td>Perceived Burdensomeness – Suicidal Ideation</td>
<td>.446***</td>
<td>.000</td>
<td>.424***</td>
</tr>
<tr>
<td>Family Belongingness – Suicidal Ideation</td>
<td>-.221**</td>
<td>.007</td>
<td>.031</td>
</tr>
<tr>
<td>Peer Belongingness – Suicidal Ideation</td>
<td>-.258**</td>
<td>.009</td>
<td>-.05</td>
</tr>
<tr>
<td>Academic Institution Belongingness – Suicidal Ideation</td>
<td>.063</td>
<td>.525</td>
<td>-.14</td>
</tr>
<tr>
<td>Sexual Orientation Community Belongingness – Suicidal Ideation</td>
<td>-.001</td>
<td>.991</td>
<td>.023</td>
</tr>
<tr>
<td>Acquired Capability – Suicidal Behaviors</td>
<td>.063</td>
<td>.412</td>
<td>-.038</td>
</tr>
<tr>
<td>Suicidal Ideation – Suicidal Behaviors</td>
<td>.647***</td>
<td>.000</td>
<td>.323***</td>
</tr>
</tbody>
</table>

*p < .05  
**p < .01  
***p < .001

Finally, I conducted Wald chi-square tests in Mplus 7.31 to determine which parameters’ invariances were statistically significant across the LGB and heterosexual groups. The statistically significant parameter invariances were for the relationships between family belongingness and suicidal ideation ($\chi^2 = 6.48, df = 1, p = .011$), peer belongingness and suicidal ideation ($\chi^2 = 4.28, df = 1, p = .039$). Specifically, LGB participants’ *negative* relationship between family belongingness and suicidal ideation was significantly greater as compared to heterosexual participants’ *positive* relationship between family belongingness and suicidal ideation. Additionally, LGB participants’ *negative* relationship between peer belongingness and suicidal ideation was significantly greater as compared to heterosexual participants’ *negative* relationship between peer belongingness and suicidal ideation. These results are consistent with the results of the primary model.
Parameter invariances were not statistically significant for the relationships
between perceived burdensomeness and suicidal ideation ($\chi^2 = .180$, $df = 1$, $p = .672$),
academic institution belongingness and suicidal ideation ($\chi^2 = 1.03$, $df = 1$, $p = .311$),
sexual orientation community belongingness and suicidal ideation ($\chi^2 = .06$, $df = 1$, $p = .806$), and acquired capability and suicidal behaviors ($\chi^2 = .808$, $df = 1$, $p = .369$). These results are consistent with the results of the primary model.

Ultimately, the results of the alternative model were consistent with the results of the primary model. The consistency of the findings of the alternative model with the primary model may suggest some validity to Joiner’s (2005) theoretical assertion that a significant conceptual interplay does not exist between acquired capability and perceived burdensomeness and acquired capability and thwarted belongingness. Alternatively, these results may suggest that acquired capability is not as instrumental in suicidal behavior as Joiner’s (2005) theory asserts. These results could also be reflective of this study’s focus on examining suicidal behaviors, which encompasses a broad range of suicide-related behaviors, including suicide attempts; whereas, previous studies examined suicide attempts, which is a specific suicidal behavior. Specifically, acquired capability may be associated with suicide attempts but not associated with the broader range of suicidal behaviors.