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DEVELOPMENT AND VALIDATION OF THE MEASURE OF PERCEIVED
SAFETY IN THE COLLEGE CLASSROOM:
A MIXED METHODS PHENOMENOLOGICAL RESEARCH STUDY

by

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M.A., American University, 1998
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A Dissertation
Submitted to the Faculty of the
Raymond A. Kent School of Social Work
of the University of Louisville
in Partial Fulfillment of the Requirements
for the Degree of

Doctor of Philosophy
in Social Work

Kent School of Social Work
University of Louisville
Louisville, Kentucky

May 2020

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A Dissertation approved on

April 14, 2020

By the following Dissertation Committee:

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Emma Sterrett-Hong

Maurice Gattis

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DEDICATION

This dissertation is dedicated to my grandmother and grandfather,

Thomas and Wanda Mitchell,

who were my safety and shelter during the storms of life.

Whenever the world is too much to bear,

my mind takes me back to memories of my grandparents' home,

and I find peace.

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It has been a long and winding road to get to this destination, and my vehicle has broken down many times along the way. Without the help of some truly amazing people (my own personal roadside service team), I would never have made it. My mom, Linda, has been there to pick up my kids, drop off my kids, feed my kids, and, generally, be the best grandma in the history of grandmas. My dad, Robbie, and stepmom, Kathy, have shared their food and many other resources with me.

Whenever I ask for a favor, my dad always responds, “I’ll put it on your tab”; well, my tab is now about the size of Texas. Much love and appreciation to my kids, Lillie and Mitchell, who missed out on many fun activities and had to learn how to cook ramen because mom was “writing her paper”. I hope they will one day understand that they were my inspiration and, on bad days, the only motivation I could find to keep going. Gratitude and love to my partner-in-crime, Jason, who suffered the brunt of the dark side of the dissertation experience. Thank you for always being there with a listening ear, a shoulder to cry on, and for encouraging me to continue when I hit my rock bottom; I couldn’t have done this without you.

As for my academic roadside service team, there are so many who have helped along the way that I am sure to leave someone out; I apologize if I do. My doctoral instructors instilled in me the skills, knowledge and confidence to take on such a massive project. The Graduate School Council provided much needed funding for this unfunded project. Thanks to the many University of Louisville undergraduate instructors who allowed me to talk about my study and recruit for the qualitative

phase in their classes and to the University of Louisville Institutional Research department who provided the sample for the quantitative phase of the study. Much appreciation to the Doctoral program staff for administrative help throughout this process and to the members of my expert review panel and dissertation committee for sharing their expertise and pushing me to produce the highest quality product possible.

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ABSTRACT

DEVELOPMENT AND VALIDATION OF THE MEASURE OF PERCEIVED SAFETY IN THE COLLEGE CLASSROOM: A MIXED METHODS PHENOMENOLOGICAL RESEARCH STUDY

Jennifer Ballard-Kang

April 14, 2020

In recent years, safety has become a focus of discussion in the field of higher education as research indicates that college students' perceptions of safety are related to several indicators of student engagement. Despite increased recognition of the importance of safety, there remains a lack of consensus with regard to its definition and conceptualization in the higher education context. This lack of a conceptualization of safety that reflects the complexity of the construct within the postsecondary context has acted as a barrier to the development of quality measurement instruments that can be utilized by researchers and practitioners to understand and describe students' experiences. To fill that gap, a mixed methods phenomenological research study was conducted with the aim of creating a conceptualization of perceived safety in the college classroom and developing a valid and reliable instrument to measure that construct.

Results of the qualitative phase suggested a four-dimensional conceptualization of perceived safety, and these dimensions and five subdomains were used to create 80 initial items for the Measure of Perceived Safety in the College Classroom (MOPSICC). Factor analysis of data from administration of the MOPSICC

to a random sample of 516 undergraduate students supported a seven-factor solution for a 47-item instrument. Results indicated that perceived safety differs by course format and sexual orientation, anxiety is a significant predictor of perceived safety, and perceived safety is a significant predictor of engagement. Future confirmatory factor analysis with undergraduate students at other universities is necessary for further validation of the MOPSICC-47; however, this study provides promising initial evidence for the use of the MOPSICC-47 as a reliable and valid measure of perceived safety in the college classroom.

Keywords: perceived safety, college student engagement, college classroom climate, instrument development, instrument validation, educational assessment

TABLE OF CONTENTS

DEDICATION.....	iii
ACKNOWLEDGMENTS.....	iv
ABSTRACT.....	vi
LIST OF TABLES.....	xii
CHAPTER I: INTRODUCTION.....	1
Statement of the Problem.....	1
What is Safety?.....	3
Immediate Effects of a Lack of Perceived Safety.....	5
Short-term Effects of a Lack of Perceived Safety.....	6
Long-Term Effects of a Lack of Perceived Safety.....	6
Factors Contributing to Perceptions of Safety.....	7
Prevalence of the Problem.....	20
Subgroups most Affected by the Problem.....	21
Measuring Safety in the Learning Environment.....	24
Purpose Statement.....	26
Theoretical Framework.....	27
Rationale for Methodology.....	28
Significance of Study.....	29
Definition of Terms.....	30
CHAPTER II: LITERATURE REVIEW.....	33

Safety: An Overview.....	34
Climate: An Overview.....	41
Conceptualizations of Climate in the K-12 Context.....	48
Measures of School Climate and Safety in the K-12 Context.....	50
Conceptualizations of Climate in the Postsecondary Environment.....	55
Possible Domains/Dimensions of Safety in the Learning Environment.....	57
Measures of Campus Climate in the Postsecondary Context.....	67
Measures of Classroom Climate in the Postsecondary Context.....	70
Gaps in the Conceptualization and Measurement of Perceived Safety.....	73
Conservation of Resources Theory.....	74
CHAPTER III: METHODS.....	81
Mixed Methods Research.....	81
Sequential Exploratory Mixed Methods Design.....	82
Mixed Methods Phenomenological Research.....	83
The Role of Theory.....	85
Phase One: Descriptive Phenomenological Study.....	86
Research Questions.....	88
Study Context.....	88
Sample Population.....	89
Sampling Method.....	89
IRB Approval.....	90
Recruitment Procedures.....	91
Ensuring Participant Privacy.....	91
Interview Procedures.....	92
Data Analysis.....	92

Trustworthiness.....	96
Phase Two: Item Pool Generation and Pretesting.....	99
Item Generation.....	99
Pretesting.....	101
Cognitive Interviewing.....	102
Expert Review.....	105
Validation Measures.....	106
Phase Three: Instrument Administration and Validity Testing.....	107
Study Hypotheses.....	107
Study Design.....	109
Study Sample and Sampling Strategy.....	109
Administration Procedures.....	109
Compensation.....	112
Statistical Analysis.....	112
Reliability and Validity.....	114
CHAPTER IV: RESULTS.....	118
Phase One Results.....	118
Description of Study Sample.....	119
Bracketing.....	121
Coding Procedures.....	125
Interrater Reliability Results.....	125
Five Shared Themes.....	126
Narrative Description of the Phenomenon.....	138
Member Checking Results.....	141
External Inquiry Audit Result.....	148

Phase Two Results.....	149
Cognitive Interviewing.....	150
Expert Review.....	151
Survey and Item Revisions.....	152
Phase Three Results.....	154
Study Sample.....	154
Course Demographics.....	156
Missing Data Analysis.....	156
Item Descriptives.....	157
Bivariate Correlations.....	158
Results of Factor Analysis.....	159
Defining the Factors.....	171
Reliability Testing.....	173
Construct Validity.....	175
Criterion Validity.....	178
CHAPTER V: DISCUSSION/CONCLUSIONS.....	182
Discussion of Findings.....	182
Limitations.....	193
Implications for Practice.....	194
Implications for Research.....	199
Conclusions.....	202
REFERENCES.....	205
APPENDICES.....	230
CURRICULUM VITA.....	300

LIST OF TABLES

TABLE	PAGE
1. Phenomenological Study Sample Demographics.....	121
2. Member Checking Sample Demographics.....	143
3. Test Content Specification Table.....	150
4. MOPSICC Factors and Number of Items per Factor.....	173
5. Factor Correlations.....	173
6. Reliability of 7 MOPSICC Subscales.....	175
7. Perceived Safety as a Predictor of Student Course Engagement.....	177
8. MOPSICC Subscales as Predictors of Student Course Engagement.....	177
9. Anxiety as a Predictor of Perceived Safety.....	179
10. Results of Between Groups Analysis of Variance.....	180

CHAPTER I: INTRODUCTION

Statement of the Problem

In recent years, safety has increasingly become both a focus of concern and topic of controversy in the field of higher education. Nation-wide studies highlighting the dramatic increase in the occurrence of mass shootings since 2011 and the high rates of sexual violence on college campuses across the United States have brought the issue of threats to students' physical safety to the forefront (Citizens Crime Commission of New York City, 2016; National Center for Educational Statistics [NCES], 2017; The White House, 2014). In addition to a concern for the physical safety of college students, the term "safety" has also increasingly been used by federal policy makers in the field of higher education to refer to emotional, psychological and cultural threats to students within their postsecondary learning environments as studies reveal that students who identify with marginalized groups on campus face challenges in these areas (National Center on Safe Supportive Learning Environments [NCSSLE], 2018a; U.S. Department of Education, 2016). Based on the realization that the higher education environment may not be perceived as equally safe for all students, scholars, administrators, and community advocates have recommended the creation of safe spaces where students can speak of their experiences and voice opinions without fear of physical retaliation, verbal ridicule or social rejection (Gay, Lesbian & Straight Education Network [GLSEN], 2018; Quaye, Griffin, & Museus, 2012; U.S. Department of Education, 2016).

Recent survey data indicates that college students' perceptions of safety are related to several indicators of student engagement (National Survey of Student

Engagement [NSSE], 2016). This is a significant finding because student engagement is a primary predictor of persistence towards degree attainment in the postsecondary context (Laird, Chen & Kuh, 2008; NSSE, 2016). In fact, any break in continuous enrollment, known as “stopping out” is associated with lower rates of degree attainment (Shapiro et al., 2014). As student persistence and degree attainment are two of the primary measures by which higher education institutions are judged, perceived safety is a construct that impacts students, faculty and administrators alike (Reason, 2009). Because perceived safety acts as a necessary precondition for student engagement (Kahn, 1990) and, therefore, an early indicator of future problems with persistence, it is important that the construct be used in both program evaluation efforts and formative assessment practice by instructors.

Despite increased recognition of the importance of addressing both physical and non-physical aspects of perceived safety, there remains a lack of consensus with regard to the definition of the construct of safety and its conceptualization in the higher education context. Unlike more unified conceptualizations of safety that have been developed based on the K-12 context (NCSSLE, 2018b), the state of the literature with regard to safety in the postsecondary context demonstrates a disconnect between research in the area of campus safety and research in the area of diversity and inclusion. The campus safety literature reflects a narrow definition of safety that refers almost exclusively to threats to and the protection of physical safety (Jennings, Gover, & Pudrzynska, 2007; U.S. Department of Education, 2016b; Wilcox, Jordan, & Pritchard, 2007). On the other hand, the literature in the area of diversity and inclusion focuses more on threats to and protection of the psychological, emotional and cultural aspects of student well-being.

Even models of safety developed in the K-12 context that reflect a broader conceptualization including emotional safety are insufficient in that they lack the ability to differentiate between the threats in the environment and an individual's ability to manage those threats. Because of this, we are unable to distinguish between variations among students' perceptions of safety that are due to environmental factors and those due to individual factors. Without this distinction, it is not possible to create targeted programs and policies to address the problem.

This lack of a unified definition and conceptualization of safety that reflects the complexity of the construct within the postsecondary context has acted as a barrier to the development of quality measurement instruments that can be utilized by both researchers and practitioners to gain important information about students' experiences in the postsecondary learning environment. National surveys of campus safety and student engagement measure only the physical dimension of perceived safety and are too long to be used for assessment purposes by instructors. A measure that focuses on the classroom learning environment rather than the institution as a whole is valuable because classroom experiences have been found to have the greatest impact on students' perceptions of campus climate (Garvey, Taylor, & Rankin, 2015) and student persistence (Tinto, 1997). Though there is strong evidence that a lack of perceived safety has a negative impact on student engagement in the classroom, a measure that is sufficiently brief to be used as an assessment tool by instructors, provides information about both physical and non-physical domains of safety, and differentiates between perceived threat and the ability to manage threat does not currently exist.

What is Safety?

Safety has been defined as the absence of or freedom from threat or danger (Briere & Scott, 2013); however, Owen, Wells, and Pollock (2017) argue that this definition is insufficient in that safety is not merely a reflection of the level of threat. Instead, they define safety as “the state of being protected from harm, danger and other threats” (Owen, Wells, & Pollock, 2017, p. 68). The definition of safety utilized in this study is based on Owen et al.’s (2017) definition and further informed by Conservation of Resources Theory (Hobfoll, 1989); safety is the protection of valued resources, in the form of one’s physical, psychological, emotional well-being and identity, from harm, danger and other threats.

Safety has been identified as a basic need for humans, secondary only to the primary need for food, water, and shelter, as we seek out conditions that will allow us to fulfill higher level needs, such as a sense of belonging, being held in esteem by oneself and others, and the pursuit of self-actualization (Maslow, 1987). This five-dimensional hierarchical conceptualization of human needs developed by Maslow and shown in Figure 1 below categorizes safety as a basic need, along with physiological needs, that must be satisfied before higher level needs can be pursued. Maslow argues that all individuals are capable of self-actualization, or the fulfillment of one’s true potential; however, many individuals are unable to engage at that level due to barriers at more basic levels of need, such as the need for safety (Maslow, 1987; 1943).

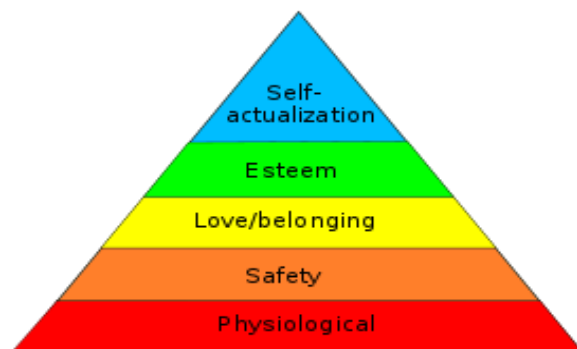


Figure 1. Maslow's hierarchy of needs.

Immediate Effects of a Lack of Perceived Safety

Though Maslow's hierarchy addresses general human needs, his theory also holds relevance for the educational environment as educators and researchers begin to understand that effectively serving students requires attention to more than just the cognitive domain (Dennis, 2008). As the state of knowledge has become more sophisticated in the field of neuroscience and technology now allows us to map areas of the brain, we have a greater understanding of the physical reaction of the body to threats, both real and perceived, that have supported the survival of humans in the face of danger for thousands of years.

In simplified terms, when an individual is faced with a perceived threat, the sympathetic nervous system enables the individual to "fight against the perceived threat, flee from the threat, or freeze in response to the threat" (Pickens & Tschopp, 2017, p. 4). Though this stress response serves an important purpose in managing threat, it is not conducive to the demands of the academic classroom. The stress-response that occurs when an individual perceives a threat to safety involves the release of cortisol and adrenaline/noradrenaline, which inhibits performance when a student is attempting to retrieve information (De Kloet, Joëls, & Holsboer, 2005). During these stress-responses, the autonomic nervous system is activated, and the student's access to the parts of the brain, such as the pre-frontal cortex, required for working memory and higher order cognitive functioning are inaccessible (Kim & Diamond, 2002). In addition, humans were not designed to remain in this stress-response state for long periods of time as it requires a great deal of energy and can have a detrimental effect on the body over time. As such, individuals will seek to avoid situations that are thought to have the potential to trigger a stress-response.

Short-term Effects of a Lack of Perceived Safety

For students who experience chronic threats in the educational environment and do not have access to the resources to manage those threats, avoidance in the form of disengagement, absenteeism and drop-out may be seen as a functional survival mechanism. Results of several studies over the past two decades have shown school safety to be positively correlated with several key educational outcomes, including academic performance, student engagement, attendance, and persistence (Bradshaw, Waasdorp, Debnam, & Johnson, 2014; Freudenberg & Ruglis, 2007; Glew, Fan, Katon, Rivara, & Kernic, 2005; Kitsantas, Ware, & Martinez-Arias, 2004; Ripski & Gregory, 2009). Though fewer studies have been conducted with college students, a recent nation-wide survey found that feeling physically safe and comfortable on campus correlates strongly with the quality of interactions with others on campus, the perception of institutional support and the perceived gains achieved related to their college experience (NSSE, 2016).

Long-Term Effects of a Lack of Perceived Safety

The perception of a lack of safety in the learning environment has not only a short-term negative impact on educational outcomes for the individual, but also longer-term consequences that contribute to inequalities at a societal level. Research has shown that the degree of educational attainment has a significant effect on the level of income achieved in later life (Gregorio & Lee, 2002); some studies have even gone so far as to argue a direct causal effect that is significant even when controlling for ability (Griliches & Mason, 1972). Because higher levels of education are associated with higher median incomes and lower levels of unemployment (U.S. Bureau of Labor Statistics, 2016), students who fail to obtain a degree are more likely to have a low socio-economic status as an adult and experience negative outcomes

associated with low-SES, including poor health and early death (Freudenberg & Ruglis, 2007; Molla, Madans, & Wagener, 2004). In addition to the importance of education for an individual's physical health, research has shown educational attainment to be positively related to measures of well-being, including subjective well-being (Diener & Ryan, 2009; Veenhoven, 2008), psychological well-being (Ryff & Keyes, 1995; Ryff & Singer, 2008) and social well-being (Keyes, 1998; Keyes & Shapiro, 2004). According to Keyes (1998), "social well-being is an achievement, facilitated by educational attainment and age" (p.121). From a social justice perspective, if educational outcomes have the potential to affect an individual's future economic security, physical health, and psychological well-being across their lifetime, it is imperative that barriers to educational success for individuals and groups of individuals be identified and eliminated.

Factors Contributing to Perceptions of Safety

In order to understand how perceptions of safety may vary between individual students, it is important to consider the situational, institutional and dispositional factors that may contribute to a student's perception of safety in the learning environment (Cross, 1981). These factors may either promote feelings of safety or contribute to a lack of perceived safety (Carroll et al., 2009). However, the impact of these factors across individuals is not likely to be uniform and may vary by individual or subgroups of individuals.

Situational Factors Contributing to Perceptions of Safety

Situational factors are variables that are external to the individual that the student may interact with directly in the learning environment, such as peers and instructors (Cross, 1981). It should be noted that these factors are unique to each context that the individual encounters, and each individual is impacted by these

factors to a different degree. Situational factors that are associated with perceptions of safety include the pedagogical style of the instructor and experiences of discrimination in the learning environment, including bullying, harassment, stereotype threat, and microaggressions.

Pedagogical Style

As postsecondary institutions become more diverse, various pedagogical approaches to addressing the challenges that come along with such diversity have been offered. Some come from a functional perspective in which students are expected to make modifications to fit into the role of university student. The institution may offer services that facilitate this transition, but ultimately it is seen as the responsibility of the student to adjust to the expectation of the higher education environment. Inflexible pedagogical styles that do not allow for multiple ways of knowing and the possibility of multiple truths have been shown to be associated with a lack of engagement among marginalized student groups (Grabinger, 2010; Holley & Steiner, 2005; Laird, Chen & Kuh, 2008). An over-reliance on the lecture format has been identified by students as a characteristic of an unsafe learning environment (Holley & Steiner, 2005, p. 58).

On the other hand, pedagogical approaches, such as critical multiculturalism, that acknowledge the structural causes of social inequalities and address the role of educational institutions in perpetuating these inequalities, have been associated with greater levels of engagement among more marginalized student groups and are likely to promote perceptions of safety for these individuals (McMahon, 2003; Vibert & Shields, 2003). Students perceived the learning environment as safe when the instructor was flexible, nonjudgmental and incorporated cultural content into the course (Holley & Steiner, 2005).

Discrimination in the Learning Environment

Bullying is a well-recognized threat to perceptions of safety in the learning environment. It has been defined by Olweus (1993) as “aggressive behavior or intentional harmdoing which is carried out repeatedly and over time in an interpersonal relationship characterized by an imbalance of power” (p. 10-11).

Bullying is a term that is more commonly spoken of in the K-12 context. However, there have been studies that have examined bullying in the college environment. In a study of 1,025 undergraduate students, Chapell et al. (2004) reported that 24.7% of students reported seeing students bully another student and 12.8% had seen a teacher bully a student. A study of 2,118 freshmen found even higher rates, with 43% of students reporting being bullied at school (Rospenda, Richman, Wolff, & Burke, 2013). The experience of being bullied has been associated with low self-esteem, school avoidance and mental health issues including anxiety and depression (Bond, Carlin, Thomas, Rubin, & Patton, 2001).

Like bullying, harassment is not only a threat to the safety of the individual who is being targeted but may also threaten the perception of safety for those who witness the harassment of others. The term harassment is more commonly used than bullying within the postsecondary context, though there is some overlap in their definitions. Harassment is defined as “unwelcome conduct that is based on race, color, religion, sex (including pregnancy), national origin, age (40 or older), disability or genetic information” (U.S. Equal Opportunity Employment Commission, n.d., “Harassment” section, para. 2). The prevalence of harassment in the higher education context has been reported at between 50-70% (AAUW, 2005). The double jeopardy theory posits that individuals who are members of multiple stigmatized groups are at double the risk of being victims of harassment than those who identify with only a

single stigmatized group (Beal, 1970). The experience of harassment has been linked to negative psychological, health and academic outcomes (Buchanan, Bergman, Bruce, Woods, & Lichty, 2009).

Stereotype threat is a type of discrimination and oppression that can impact a student's perception of safety in the classroom. Stereotype threat refers to a student's fear of being negatively stereotyped by fellow students and instructors and/or the fear of confirming negative stereotypes held about their group (Steele, 1997). Several studies have shown that stereotype threat has a negative influence on academic performance for minority students (Steele, Spencer & Aronson, 2002; Devos & Cruz Torres, 2007). Preoccupation with how you are being viewed by others can cause psychological distress, which can affect cognitive, emotional and social functioning. African-American and Latino/a students have been shown to be particularly vulnerable to this type of threat because of negative stereotypes that exist regarding the intellectual abilities of members of these groups and the assumption that members of their racial/ethnic group place less value on education (Mendoza-Denton & Aronson, 2007).

Microaggression is a term coined by the psychiatrist, Chester Pierce, in 1970 to refer to offensive mechanisms based on feelings of superiority that are used to "brutalize, degrade, abuse, and humiliate" a target group of individuals (p. 265). Pierce focused on the use of microaggressions within black-white inter-personal relations and highlighted the role of microaggressions as a tool for sustaining racism within American society. He argued that, rather than laws and programs, the study of microaggressions and the elimination of such offensive mechanisms from interpersonal interactions between majority and minority group members was essential for creating a more equitable society.

Microaggressions in the educational context have only been researched in the last two decades as the effect of less overt forms of harassment have begun to be recognized. Sue et al. (2007) define microaggressions as “brief and commonplace daily verbal, behavioral, or environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative ... slights and insults” (p. 271) and are often targeted towards devalued groups, including racial minorities, religious minorities, women, and members of the LGBTQ community. Though this field of research is in its infancy, a study by Suarez-Orozco et al. (2015) reported observed microaggressions in 30% of the community college classrooms and found that microaggressions were most often perpetrated by instructors. The occurrence of microaggressions is known to contribute to “a hostile and invalidating learning environment” (Sue, 2010a, p. 235), and exposure to microaggressions has been associated with disruption of attention, cognitive distraction and negative mental health outcomes, including anxiety and depression (Sue, 2010b).

Institutional Factors Contributing to Perceptions of Safety

Institutional factors can influence an individual student’s perception of safety in the learning environment in both practical and symbolic ways. Even though the measure being developed in this study is focused on the student’s perception of safety in the classroom, institutional factors cannot be ignored because the classroom is nested within the campus context and impacted by the mission, policies and procedures of the institution within which it is situated. Some of the most significant of these institutional factors are the institution’s legacy of inclusion/exclusion, the compositional diversity of the institution, and the prevalence of and institutional response to bias-based crime on campus.

Institutional History of Inclusion/Exclusion

Hurtado, Milem, Clayton-Pedersen and Allen (1998) developed a model of campus climate that included the consideration of the institute's historical legacy of including or excluding minorities; no doubt, such a legacy would have the potential to affect students' perceptions of safety as well. An institution's historical legacy refers to resistance to desegregation efforts in the surrounding community, the maintaining of institutional policies that serve to preserve the power of dominant groups within the postsecondary environment and other forms of institutional discrimination. One example of institutional discrimination that has been the subject of increased study in recent years is environmental microaggressions. Environmental microaggressions refer to settings within the university context that invalidate the experiences of individuals who do not belong to majority groups (Sue et al., 2007). Examples include the absence of gender neutral bathrooms or an academic calendar that only recognizes Christian holidays. Environmental microaggressions send a message that the experiences of individuals that do not fit in these groups are not valued by the institution and those that represent the institution, including faculty, and may contribute to lower levels of perceived safety among members of these groups.

Compositional Diversity of the Institution

Compositional diversity refers to the number and proportion of subgroups that are represented within the institution (Milem, Chang, & Antonio, 2005). The relationship between compositional diversity of the institution and student perceptions of safety is important yet complex. Several theories have been put forth to describe the potential impact of an increase in racial minority students on the climate of a college campus. Contact Theory posits that an increase in diversity brings with it greater tolerance of difference, provided that the situation gave the groups equal status (Allport, 1954). Several studies conducted over the last decade support this argument

(Antonio et al., 2004; Gottfredson et al., 2008; Pettigrew & Tropp, 2006; Stotzer & Hossellman, 2012).

In contrast to contact theory, conflict theory posits that, as the student body becomes more diverse, tensions on the campus will increase (U.S. Department of Justice, 2000). This tension would be manifest in both expressions of overt bias and more subtle forms of bias from both peers and instructors. This argument has been supported by studies that show that minority students experience bias more frequently than non-minority students (Rankin, 2003) and that subtle forms of bias are more common than overt expressions of bias (Boysen, Vogel, Cope, & Hubbard, 2009).

Another possibility, which seems most likely, is that there is a non-linear relationship between diversity and students' perceptions of safety. It may be that "as the population of a minority group increases, so does the sense of threat for the majority group" (Stotzer & Hossellman, 2012, p. 256). Then, as the minority group presence approaches that of the majority group, the incidents decrease because the risk of retaliation from the minority group increases. If this theory is accurate, it is likely that measuring students' perceptions of safety provides important information that cannot be assumed through statistics on diversity on campus and interventions aimed at promoting safety are a necessary complement to diversity and inclusion initiatives. This non-linear relationship between diversity and civic engagement at the community level is referred to by political scientist, Robert Putnam (2007), who asserts that social identity can change over time and that social divisions within multi-ethnic communities can evolve into a "new, more capacious sense of 'we'" (p. 164).

Crime on Campus

An individual's perception of the level of risk of being a victim of a crime has been shown to correlate with perceptions of safety. Though the overall level of crime

has decreased on college campuses from 2006 to 2014, the number of sexually-based offenses and bias-based offenses has increased during that time (NCES, 2017).

Women and ethnic minorities have reported being more likely to see themselves as potential victims of crime, while white males with higher incomes and higher education reported the least risk of being victimized (Grabosky 1995; Harris and Jensen 1998; Tulloch et al 1998; Pantazis 2000).

Though the occurrence of any type of crime can be seen as a threat to safety, hate crimes on campus are particularly impactful due to their targeted nature. The Hate Crimes Sentencing Act of 1990 defined hate crimes as acts in which individuals are victimized because of their race, religion, sexual orientation or ethnicity (Leadership Conference on Civil Rights, 2004). The Hate Crimes Sentencing Enhancement Act of 1994 added women and persons with disabilities to these categories (Leadership Conference on Civil Rights, 2004). In year 2015, the number of reported hate crimes on college campuses across America was 1,029 based on 6,701 institutions with 11,306 campuses (U.S. Department of Education, 2015). However, studies have shown that incidents of racially-motivated violent crime are underreported.

A study by Van Dyke and Tester (2014) found that hate crimes were more likely to be reported on “predominantly White campuses and those that have a large Greek population” (p. 290). In addition, a study by Stotzer and Hossellman (2012) found that schools that were successful in recruiting Black and Hispanic students had the lowest rates of campus hate crimes. The authors argue that this result is due to the fact that schools that prioritize the recruitment of these student groups are also better able to provide an inclusive environment for minority students.

As opposed to hate crimes which involve some type of physical assault, hate speech is a “generic term that has come to embrace the use of speech attacks based on race, ethnicity, religion, and sexual orientation or preference” (Smolla, 1992, p. 152). According to Cowan and Mettrick (2002), hate speech can include “racial slurs, symbols such as swastikas and burning crosses, and pictures such as those that sexualize the degradation or subordination of women” (p. 277). However, a 2002 study found that people judged the severity of hate speech by the emotional response from the target (Cowan & Mettrick, 2002). This same study also found that women found hate speech more offensive and more harmful than men, who were more likely to prioritize freedom of speech.

The issue of hate speech on college campus highlights the conflict between two critical values in American society—freedom of expression and freedom from harm—and gender differences related to these values. A 2003 study found that perceived harm of hate speech was higher among females and non-Caucasians and positively associated with “empathy, connected knowing, and interdependence”; freedom of speech was prioritized among male Caucasians and positively associated with “separate learning and negatively with empathy” (Cowan & Khatchadourian, p. 300).

Institutional Response to Hate Speech

Though hate crimes and hate speech have a strong negative impact on the perceptions of safety for members of the targeted groups, the institution’s reaction to such incidents can serve to moderate this effect. In reaction to a number of hate speech incidents on college campuses, the 1980s and 90s saw the passage of speech codes at schools across the country aimed at deterring these incidents (Chong, 2006). The implementation of these codes was controversial and some advocates of free

speech have argued that these codes have led to a repressive campus climate that overemphasizes “political correctness”. An analysis of the results of the General Social Survey between 1972 and 2000 found significantly reduced support for freedom of speech for racist groups among college students who were educated since the mid 1980’s (Chong, 2006). Yet this study also found that tolerance of a variety of other types of expression, not including racist hate speech, are highest among those who have attended college.

Dispositional Factors Contributing to Perceptions of Safety

Students come to the learning environment with their set of unique life experiences, personal resources, and challenges. These individual characteristics can either act as a protective factor or place the individual at greater risk of perceiving the environment as unsafe. Three of the most significant dispositional factors related to an individual’s perception of safety are academic self-efficacy, cultural identity developmental stage, and mental health symptoms, including those caused by exposure to trauma.

Academic Self-efficacy

A lack of academic self-efficacy can lead to an individual feeling less than safe in the learning environment, particularly if that learning environment requires active student participation. Students who have had negative past educational experiences may fear that they will be ridiculed for an incorrect answer by the instructor or peers. They may also lack confidence in their ability to communicate their ideas and opinions effectively and fear being misunderstood. First generation college students and non-white students have been shown to have lower levels of academic self-efficacy, and, therefore, these subgroups may also be at greater risk of

experiencing a lack of safety in their learning environment (NSSE, 2016; Ramos-Sanchez & Nichols, 2007).

Socio-cultural Identity Development Stage

The stage at which the student finds themselves in relation to their social-cultural identity development likely has an impact on their perception of safety in the learning environment. Hardiman and Jackson's social identity development theory (1997) describes the characteristics of individuals from both dominant and oppressed groups at five stages of identity development. In the first stage, known as the naïve stage, individuals from both dominant and oppressed groups are unaware of differences across social groups and lack awareness of the social groups to which they belong. This stage is only observed in very young children and is therefore not relevant for undergraduate students. In the second stage, known as acceptance, both dominant and oppressed group members have gained an understanding of their group membership and have accepted the views of the dominant group as legitimate. The third stage, known as resistance, is typically initiated by a life changing event which leads individuals to question the legitimacy of the oppressive system. In the fourth stage, individuals create a new identity "that is independent of an oppressive system based on hierarchical superiority and inferiority" (Hardiman & Jackson, 1997, p. 27). The final stage, known as internalization, is characterized by the integration of the new identity into all aspects of the individual's life.

The relationship between stages of identity development and perceptions of safety has not been studied directly, but it is likely that this relationship is complex. It is also likely that the direction of the relationship may differ according to group membership. For example, individuals from the dominant group who are at the stage of acceptance may be more likely to perceive individuals from other groups as

threatening based on stereotypes (Locks, Hurtado, Bowman, & Oseguera, 2008), but would likely see themselves as able to manage threat and would thus report relatively high levels of perceived safety. The lowest levels of safety for dominant group members would likely be at the resistance stage due to recognition of social injustices and feelings of shame and guilt (Hardiman & Jackson, 1997). The greatest perception of safety for dominant group members would be reported by those in the internalization phase because they would be less likely to view others as a threat and those in the acceptance phase who are in learning environments lacking diversity.

For individuals who identify with oppressed social groups, the perception of safety would be hypothesized to be highest for those in the integration phase and those who are past stage two and in a learning environment in which minorities comprise the majority (e.g. Historically Black Colleges and Universities, Hispanic Serving Institutions, etc.). For these students, perception of safety would likely be lowest for students at the acceptance phase due to internalization of negative stereotypes (Hardiman & Jackson, 1997). For students who identify with oppressed groups, moving from stages two through five would likely be associated with an increase in perceptions of safety in the learning environment as one's racial identity became stronger and more integrated.

Mental Health Issues

In addition to academic self-efficacy and socio-cultural identity, mental health issues, including stress and anxiety, can have a negative effect on an individual's perception of safety in the postsecondary learning environment. A new theory, Generalized Unsafety Theory of Stress (GUTS) offered by Brosschot, Verkuil, and Thayer (2016) points to the importance of perceived safety in understanding chronic anxiety and stress. Evidence points to the fact that intolerance for unsafety is the

default state for humans that is passed down genetically. This state of generalized unsafety is “only to be alleviated in situations where safety is learned” (Brosschot et al., 2016, p. 22). Based on this theory, students who have not learned through experience over time that educational contexts are safe and/or associate the educational environment with stressors will perceive the postsecondary learning environment as unsafe until safety cues are recognized and the stress response is inhibited. For students suffering from chronic anxiety and stress, the absence of threat is not sufficient to inhibit the stress response; rather, the active promotion of the recognition of safety is required.

Because “safety is a critical issue for trauma survivors” (Briere & Scott, 2013, p. 85), populations that experience higher rates of trauma are likely more vulnerable to the negative effects of an environment that is perceived as unsafe. A recent study at two U.S. public universities found that 66% of incoming college students had experienced a Criterion A traumatic event and 9% met the diagnostic criteria for PTSD (Read, Ouimette, White, Colder & Farrow, 2015). Groups within the student population that have been found to be at greater risk of experiencing trauma include females, racial/ethnic minorities, individuals with disabilities, and members of the LGBTQ community (Briere & Scott, 2013; Carter, 2007; Read et al., 2015).

Though the experience of trauma may place individuals more at risk of perceiving their environment as unsafe, research suggests that it is the severity of psychological symptoms rather than the traumatic experience itself that is associated with negative education-related outcomes. In studies that compared individuals who had experienced trauma and did not have a mental disorder with those who had experienced trauma and had been diagnosed with a mental disorder, results demonstrated a significant difference between these groups with regard to educational

outcomes (Barry, Whiteman, & Wadworth, 2012; Boyraz, Granda, Baker, Tidwell, & Waits, 2016; Boyraz, Horne, Owens, & Armstrong, 2013; Broberg, Dyregrov, & Lilled, 2005; Bryan, Bryan, Hinkson, Bichrest, & Ahern, 2014; Porche, Fortuna, Lin, & Alegria, 2011; Rosenthal & Wilson, 2003; Rutkowski, Vasterling, Proctor, & Anderson, 2010; Sondergaard & Theorell, 2004). Therefore, it is likely that one's perception of safety is negatively associated with symptoms of traumatic stress rather than the experience of trauma itself.

For example, an individual may have a history of trauma, but have been able to cope with that trauma effectively by using their personal, social, and/or economic capital and did not develop or was able to resolve their mental health symptoms related to that traumatic event. They would then not be considered more vulnerable to feeling unsafe than an individual who had not experienced a traumatic event. In fact, they may have built up personal resources as a result of that experience that make them less vulnerable than an individual who has not experienced trauma. Because instructors and administrators may be reluctant to assess levels of traumatic stress due to the sensitive nature of this topic, a measure of perceived safety offers important information about students that may be vulnerable to a lack of engagement and persistence in a format that is less threatening.

Prevalence of the Problem

Though the results of the NSSE (2016) showed that 93% of college students reported feeling physically safe at their institution, this statistic does not provide a complete picture of the prevalence of the issue of safety in the postsecondary context. Studies examining the prevalence of bullying victimization in college by peers have reported findings ranging from a low of 21%-25% (Chapell et al., 2004) to a high of 43% (Rospenda et al., 2013). In addition to victimization by peers, 12.8% of students

reported seeing other students bullied by instructors (Rospenda et al., 2013). In a survey of 27 universities, 50-75% of students reported experiencing some form of sexual harassment (Hill & Silva, 2005).

Subgroups Most Affected by the Problem

Though the perception of safety in the postsecondary learning environment has the potential to affect all students and their learning outcomes, it is of particular concern for a number of subgroups within the greater student population. Subgroups that have reported feeling less safe within the college context include females, racial/ethnic minorities, individuals with disabilities and members of the LGBTQ community (NSSE, 2016). Because these groups align with many of the same marginalized populations served by social workers in working towards social justice, the topic of perceived safety in the postsecondary learning environment holds significance for the field of social work, with particular relevance for the area of social work education.

Research has shown that the experiences of students with regard to safety vary by race. The National Survey of Student Engagement (2016) found that African-American, American Indian, and multi-racial college students felt less physically safe and less comfortable being themselves on campus than White students. In addition to being an outcome itself, we can hypothesize that perceived safety may also act as a mediating factor between stress symptoms and other educational outcomes based on the overlap in groups that report feeling less safe and those that experience more negative educational outcomes. Several studies have shown that African-American/Black students experience greater negative educational outcomes as a result of symptoms of traumatic stress than other ethnic groups (Porche, Fortuna, Lin, & Alegria, 2011; Rosenthal & Wilson, 2003;). Research has also demonstrated that

racial/ethnic minority students who have negative experiences in the postsecondary environment are less likely to persist (Cabrera, Nora, Terenzini, Pascarella & Hagedorn, 1999; Hurtado, 1992; Nettles & Perna, 1997). The impact on persistence in the postsecondary context can be seen in the finding that only 51% of African-American students who began a four-year college graduated within six years compared to 73% of White students (NCES, 2012a). A lack of perceived safety may be an important early indicator of future failure to persist towards educational goals.

Several studies have shown significant differences by gender with females and individuals who do not identify as either male or female reporting feeling less safe (NSSE, 2016). In a survey of 10 colleges, female students reported harassment at significantly higher rates than males (Reason & Rankin, 2006). A descriptive study of self-reported victimization found “significant gender differences in perceptions of fear, safety, perceived risk, and involvement in constrained behavior” (Jennings, Gover & Pudrzynska, 2007).

Minority females often experience the learning environment as unsafe in both K-12 and higher education contexts. A qualitative study of minority females who had left school early reported that school was viewed as problematic due to social ostracism, bullying by peers, and parental non-support (Frederick & Goddard, 2010). In addition, school was viewed as “unsafe” when subjects reported abuse to school staff and were not believed. Subjects reported leaving school early due to pregnancy, social and learning difficulties, and substance abuse problems (Frederick & Goddard, 2010). Studies have shown higher rates of depression and an increased prevalence of suicidal ideation among Latina students in postsecondary contexts, and institutional dissatisfaction and discrimination have been identified as risk factors for mental health problems among this group (Torres, 2009).

In addition to gender and ethnicity, students with disabilities are also vulnerable to perceiving a lack of safety in the learning environment. In postsecondary education, the number of students who qualify for accommodations for psychiatric disabilities has increased by 85% over the past five years (NCES, 2016). Despite this increase, students with psychiatric disabilities, unlike their physically disabled peers, often do not feel safe to disclose their disability to either their instructor or their peers. A study conducted by NAMI (2012) found that stigma was the most common reason given by students for not accessing accommodations and mental health services provided by the institution. Students feared that disclosing their mental health disorder in order to gain access to accommodations would negatively affect the instructor's opinion of them, and they also feared that this information would not remain confidential (Mowbray et al., 2006; NAMI, 2012).

For LGBTQ and gender-non-conforming students, concerns for both physical safety and emotional safety have been shown to interfere with the ability to persist towards educational goals. A nation-wide survey of LGBTQ college students by Rankin (2003) found that “almost a fifth of the respondents had feared for their physical safety over the last year because of their sexual orientation or gender identity” and more than a third reported experiencing harassment (p. vi). Similarly, results of the NSSE (2016) showed that students who identified as neither male nor female reported feeling the least safe and comfortable being themselves in their postsecondary environment. In a survey of students at 27 universities across the U.S., 75% of students that identified as part of the LGBTQ community reported experiencing sexual harassment (Rankin, 2005).

Issues of intersectionality also have an important effect on students' perceptions of safety and belonging. For example, in Rankin's study (2003), LGBTQ

students of color were most likely to conceal their sexual orientation or gender identity. They also reported feeling uncomfortable in “predominantly straight people of color venues” and “predominantly White GLBT settings” (Rankin, 2003, p. 25).

Measuring Safety in the Learning Environment

In the field of education, measurement instruments are often used to provide information to inform decisions about instruction, curriculum development, student selection, and placement. The quality of information provided by these measures can have an impact on the experiences of students in the learning environment and their ability to succeed in meeting their educational goals (Anderson & Bourke, 2000). Measurement instruments are abundant in the K-12 context due to the federal and state regulations that hold districts, schools, and teachers accountable for student achievement (NCSSLE, 2018c). Though fewer measurement outcomes are mandated in the postsecondary environment, the information provided by measurement instruments can prove useful for administrators and instructors who want to understand the beliefs, attitudes, and needs of the students that they serve in order to improve the quality of education.

According to Thorndike, measurement involves first “defining the quality or attribute that is to be measured” (1997, p. 9). For abstract constructs, creating a definition that is agreed upon by scholars in the field can be a challenging task because of the subjective nature of each individual’s experience. Disagreement with regard to the definition of a construct is likely to result in disagreement about the procedures for measuring that construct. Despite the challenges involved, a solid conceptualization of the construct being measured is the foundation for the development of a quality instrument. Without a conceptualization that is grounded in

empirical data, the validity of the results obtained through use of the instrument can be called into question.

In response to the growing evidence of the connection between safety and learning, the U.S. Department of Education (USDOE) established the National Center on Safe and Supportive Learning Environments (NCSSLE), which is aimed at improving research in this area and providing information and resources to K-16 schools across the United States (NCSSLE, 2018b). In the DOE’s Safe and Supportive Schools Model shown in Figure 2 below, school climate is conceptualized as consisting of three domains: engagement, safety, and environment (NCSSLE, 2018b). The school climate sub-domain of “safety” is described as consisting of three factors: physical safety, emotional safety, and substance use (NCSSLE, 2018b).

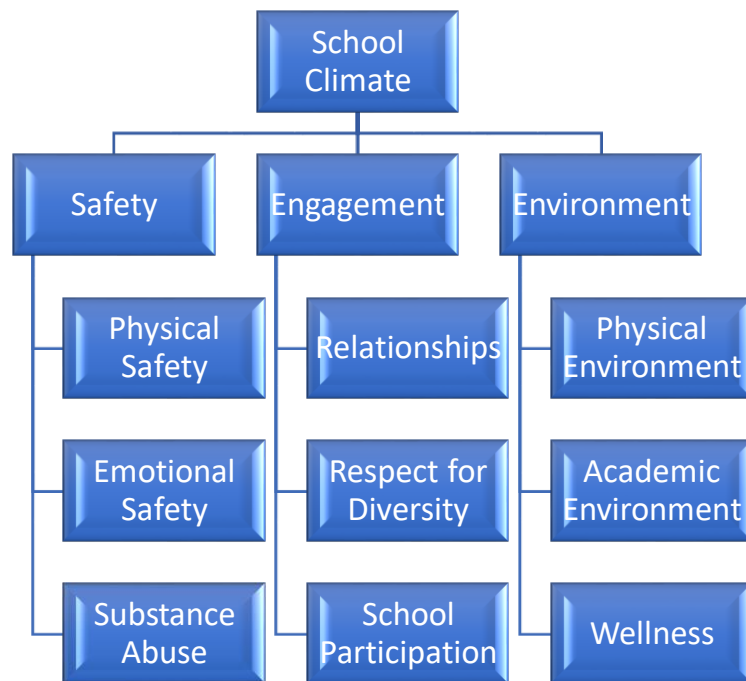


Figure 2. Safe and supportive schools model of school climate.

NCSSLE. (2018). Retrieved from <https://safesupportivelearning.ed.gov/safe-and-healthy-students/school-climate>.

One study of the USDOE school climate model, utilizing the MDS3 Student Survey, found support for a three-factor solution for “safety”, which included “bullying and aggression”, “perceived physical safety” and “general drug use”

(Bradshaw, Waasdorp, Debnam, & Johnson, 2014). However, no studies have been conducted to examine the validity of the DOE conceptualization of climate and safety within the postsecondary context. If, as argued by the NCSSE (2018a), safety is necessary for successful learning in higher education, it should be the focus of future research, which necessitates empirically testing the validity of the USDOE conceptualization in various postsecondary contexts.

Due to the lack of research examining the conceptualization of climate and safety outside of the K-12 context, it is difficult to find validated instruments that higher education administrators and educators can use to improve the learning environment for undergraduate students. An examination of the School Climate Survey Compendium (NCSSE, 2018c), which lists valid and reliable measures of school climate, reveals 47 instruments developed for use in the K-12 context and only one postsecondary measure, which does not include any items related to safety (NCES, 2012b). Though it is critical that valid instruments be developed to examine safety in the postsecondary environment, it is equally important that we avoid making assumptions about the relevance of conceptualizations that are based on the K-12 context. In order to support the development of valid and practical instruments that can be used for both research and development purposes, we must take the time to explore and describe the concepts of climate and safety through thoughtful examination of the lived experience of postsecondary students themselves.

Purpose Statement

The purpose of this three-phase, sequential mixed methods study was to explore student perceptions of safety with the intent of using this information to develop and test a measurement instrument with a larger sample of undergraduate students. The first phase was a qualitative exploration of the perceptions of safety of

undergraduate students in a higher education context. The qualitative data was analyzed to determine if it provided evidence in support of the USDOE model's conceptualization of the construct of safety or an alternative conceptualization. The model that was supported by the qualitative data and the essential structure of the construct that emerged from the qualitative analysis were then used as the framework for the item construction process. The ultimate goal of this mixed methods study was the development of an instrument that demonstrates strong reliability and validity with undergraduate students and can be used by program administrators, course instructors and students themselves as part of the assessment of an important sub-domain of climate – perceived safety in the higher education learning environment.

A conceptualization of safety specific to the higher education context that unifies both physical and non-physical aspects of safety and is based on student experience is necessary to move the state of the literature forward. The current practice of measuring perceptions of safety using a single-item indicator within a larger survey is insufficient to provide information that instructors can use to make evidence-based changes to the learning environment. The current study seeks to fill this gap by creating a measurement instrument that is parsimonious while reflecting the complexities of the construct of perceived safety.

Theoretical Framework

This study was informed by conservation of resources (COR) theory in its focus on both the factors that threaten and factors that protect against threat (Hobfoll, 1989; Hobfoll, Freedy, Green, & Solomon, 1996). Drawing on the COR theory, it is proposed that one's perception of safety reflects the perception of risk of loss of resources and the perception of one's available resources to manage that risk. Distinguishing between the perception of risk or threat and one's ability to manage

that threat allows for greater insight into the complexity and variation among individuals in their experience of assessing the level of safety. For example, a student may perceive a risk to their physical body if a fellow student raises their fist, but their overall perception of safety may still be relatively high if they have a great deal of personal or social capital in the form of friends willing to come to their aid or training in defensive skills. As such, it is predicted that the construct of perceived safety is on a continuum and individuals who report a high level of threat and a low level of resources would endorse the lowest levels of perceived safety, followed by individuals who report high levels of threat and high levels of resources. Conversely, individuals who report low levels of threat and high levels of resources would be predicted to endorse the highest level of perceived safety, followed by individuals who report low levels of threat and low levels of resources.

Rationale for Methodology

A three-phase sequential exploratory mixed methods research design was chosen as the most appropriate methodology for this study due to the lack of an empirically-supported conceptualization of perceived safety in the postsecondary learning environment on which to base the development of a measurement instrument. According to Creswell, a sequential, exploratory mixed methods design is “especially advantageous when a researcher is building a new instrument” (Creswell, 2013, p. 216). The two key motivations for the use of a mixed methods approach in the current study are triangulation, which seeks to “increase the validity of the data and minimize bias” and development, in which researchers “use the results of one method to enhance the other” (Mayoh & Onwuegbuzie, 2015, p. 91-92). Within the larger category of mixed methods, a mixed methods phenomenological research (MMPR) approach was be utilized because descriptive phenomenology’s method of

phenomenological reduction and its focus on universal structures within a shared human experience allowed for the development of a solid conceptualization of perceived safety. Because the item construction process was based on this conceptualization, grounded in the experiences of participants from the target sample, it is argued that the resulting instrument has greater validity in measuring the construct of perceived safety for undergraduate students.

Significance of the Study

Currently, discussions of safety in the postsecondary learning environment are hampered by the disconnection between the areas of diversity and inclusion and campus safety. Instruments used to measure campus safety tend to focus exclusively on threats to physical safety (U.S. Department of Education, 2015), while those examining issues related to diversity and inclusion tend to focus more on issues related to psychological and emotional safety. In the K-12 arena, conceptualizations of safety have begun to incorporate both physical and non-physical dimensions of safety; however, these conceptualizations are based on the experiences of K-12 students and have not been validated with postsecondary students. In addition, survey instruments at the postsecondary level are typically lengthy and are administered as part of a campus-wide initiative. As a result, there is a scarcity of brief instruments available for instructors to use as a formative assessment tool in the classroom to gain information about their students' perceptions of safety.

Through this study, we gain a meaningful conceptualization of the construct of safety grounded in the lived experience of the students themselves that acknowledges the potential relevance of both physical and non-physical dimensions of safety and reflects the complexity of the interaction between resources and threat in the perception of safety. From this conceptualization, a measurement instrument was

developed that can serve as a valuable tool for connecting discussions around campus safety and diversity/inclusion and supporting the creation of safe learning environments. For academic fields, such as social work, in which students are increasingly expected to engage with their peers in discussion around challenging, emotional, and value-laden course content, the ability to assess students' perceptions of safety in the learning environment is critical for promoting equity in postsecondary education for vulnerable members of the student population.

Definition of Terms

Postsecondary Education

In the United States, postsecondary education is any education after high school. Postsecondary education is not required by law and is provided by colleges, universities, institutes of technology, seminaries and trade schools. The term is used synonymously with higher education.

Learning Environment

In this study, the learning environment is used to refer primarily to the on-campus college classroom. However, it should be noted that on-line learning communities may also be learning environments, though they were not the focus of this study.

Perceived Safety

In this study, Owen, Wells, and Pollock's (2017) definition of safety was further informed by Conservation of Resources Theory and adapted to reflect the perspective of the individual; perceived safety was defined as one's perception of the degree to which one's valued resources, in the form of physical, psychological, emotional well-being and identity, are "being protected from potential harm, danger or other threats" (Owen, Wells, & Pollock, 2017, p. 68).

Physical Safety

According to NCSSLE (2017), physical safety “refers to the protection of all stakeholders, including families, caregivers, students, school staff, and the community, from violence, theft, and exposure to weapons and threats, in order to establish a secure learning environment” (Physical Safety section, para. 1). In this study, physical safety was conceptualized from the perspective of the student and defined as the perception of the degree to which one’s physical well-being is being protected from potential harm, danger or other threats.

Psychological Safety

The concept of psychological and more recently psychosocial safety has been discussed for decades in the fields of management, group dynamics and organizational studies (Edmondson, 1999; Edmondson & Lei, 2014). In this organizational context, psychological safety has been defined as "being able to show and employ one's self without fear of negative consequences of self-image, status or career" (Kahn, 1990, p.708). In this study, psychological safety was defined as the perception of the degree to which one’s psychological well-being is being protected from potential harm, danger or other threats.

Emotional Safety

Within the USDOE model, emotional safety is defined as “an experience in which one feels safe to express emotions, security, and confidence to take risks and feel challenged and excited to try something new” (NCSSLE, 2017, Emotional Safety section, para. 1). However, in this study, emotional safety was not defined as an experience, but, rather, as the perception of the degree to which one’s emotional well-being is protected from harm, danger, or other threats.

Cultural Safety

Cultural safety has been defined from the perspective of members of marginalized populations as “an environment in which there is no assault, challenge or denial of their identity, of who they are and what they need” (Williams, 1995, p. 213).

Identity Safety

Identity safety is defined as the perception that an individual “can function in [a given] setting without fear that [his or her] social identity will evoke devaluation and interference” (Steele, Spencer, & Aronson, 2002, p. 425).

Socio-Cultural Identity Safety

Because of the similarities and overlap in the concepts of cultural safety and identity safety, the two are combined in this study and referred to as socio-cultural identity safety. Socio-cultural identity safety was defined by the study author as the perception that one’s social or cultural identity is protected from threat of assault, devaluation, denial and/or interference.

CHAPTER II: LITERATURE REVIEW

Because safety is so fundamental to the human experience, it is a topic that has been studied across a wide variety of disciplines, including social work. It is of particular concern for social work educators, and all educators concerned with issues of social justice, as they work to engage students from increasingly diverse backgrounds (Jones, 2006). The study described in this paper focuses on the issue of safety within a particular context—the postsecondary learning environment. However, because the ways in which safety is conceptualized and addressed in higher education has been influenced by work in other disciplines, it is necessary to begin with a broad overview of safety as a subject of study across disciplines and then move towards a narrower review of the phenomenon within the field of education.

The following chapter is guided by the principles of an integrative literature review and the methodology for constructing a nomological network outlined by Durand (2016). This approach allows for a description of the evolution of the topic, including the degree to which the topic has been studied in various fields. Creating a nomological network as part of the literature review facilitates the discussion of the evidence with regard to relationships between constructs, in particular antecedents and outcomes of the phenomenon being examined (Durand, 2016).

The integrative literature review of the phenomenon of perceived safety in the learning environment began with a search of Web of Science, the largest accessible citation database service providing access to multiple databases that reference cross-disciplinary research (Clarivate Analytics, 2017). Additional databases searched include

PsycInfo and ERIC, which allowed for examination of the literature specific to the fields of psychology/social work and education, respectively, and the inclusion of formats other than journal articles. A table detailing the search process and results can be found in Appendix A.

Safety: An Overview

In order to provide an overview of the cross-disciplinary nature of the topic of safety, a query was conducted of articles with “safety” in the title in Web of Science, PsycInfo, and ERIC. This query resulted in 212,797 (Web of Science), 11,215 (PsycInfo), and 3,116 (ERIC) citations respectively. The top ten research areas represented among these citations were pharmacology, public/occupational health, health care, toxicology, engineering, biochemistry/biology, medicine, psychology and business. Search results indicate that citations on the topic of safety have increased steadily since 1950 with 2015 showing the greatest percentage increase over the previous year. Based on this query, it is clear that the topic of safety is a relevant issue across a broad range of disciplines, and, based on an examination of past trends, interest in safety as an area of research is likely to continue to grow in the near future.

Perceived Safety

This study focused on the individual’s perception of safety rather than on measurement of the safety of the environment through observable measures. If we acknowledge that similar situations are often characterized quite differently and responded to differently by individuals based on a number of variables, it is difficult to achieve an accurate reflection of such a phenomenon as safety using only objective indicators, such as environmental characteristics or individual behaviors. Though the study of affective characteristics of the individual, such as perception, has been criticized

for being overly subjective, it is arguably the most valid method for measuring that which is unobservable (Anderson & Bourke, 2000).

The construct of perceived safety is often used in the field of criminal justice in studies of crime and victimization and, within this context, reflects a focus on the domain of physical safety. These studies most often measure perceived safety using the single-item indicator, “How safe do you feel walking alone in your neighborhood at night?” (Hinkle, 2015). Evidence from these studies indicate that social and physical disorder are associated with lower perceived safety (Hinkle, 2015). Other studies in the area of crime and victimization have shown that reassuring social connections have a positive effect on perceptions of safety (Drakulich, 2015). Though these studies focus on neighborhood contexts, their findings hold relevance for the physical and social environment of the classroom and the role of disorder and social support.

The concept of perceived safety has also been utilized extensively in the field of psychology in research focusing on victims of terrorist attacks. Results of these studies provide evidence of the impact of trauma on perceptions of safety and the association between perceptions of safety and symptoms of psychological distress. A study by Fullerton, Mash, Benevides, Morganstein and Ursano (2015) that was conducted three weeks after the Washington, DC sniper attacks found that distress related to a decrease in perceived safety was associated with an increase in PTSD symptoms and depression. Similarly, a 2006 study by Fullerton, Ursano, Reeves, Shigemura and Greiger, conducted two weeks after the 9/11 terror attacks found that perceived safety was negatively associated with direct exposure to the traumatic event. Perceived safety was also negatively associated with depression and symptoms of PTSD including dissociation, intrusion, and hyperarousal. A follow-up study conducted seven months after the attacks found that “those with lower perceived safety were more like to have PTSD, have

increased alcohol use and be female” (Greiger, Fullerton, & Ursano, 2003, p. 1380). In an additional follow-up study, direct trauma exposure was associated with the development of PTSD symptoms 13 months-post-exposure, and PTSD was associated with lower perceived safety at both home and work (Grieger, Waldrep, Lovasz, & Ursano, 2005). It should be noted that, in these studies, perceived safety was not measured by a validated instrument, but, rather, by a single-item indicator (“How safe do you feel at work/home?”).

School Safety/Perceived School Safety

Though studies of perceived safety in relation to neighborhood crime and terror provide some insight into possible contributing factors and consequences of a lack of perceived safety, research conducted within an education context holds the most relevance for this study. Before moving to a review of the literature specific to higher education, it is important to understand the state of the K-12 literature due to the fact that research findings in the K-12 context have influenced theories and models that have been suggested as applying to both K-12 and higher education (NCSSLE, 2017). School safety has been defined by Kitsantas, Ware, & Martinez-Arias (2004) as “perceived instances of threats to or actions against one’s well-being” (p. 416), though many actual studies do not measure school safety from the perspective of the student. In a 2010 article, Astor, Guerra, and Van Acker point to the lack of contextually sound frameworks in the area of school safety. They highlight the need for research that recognizes “the contributions of school context to school safety outcomes” (p. 69). As a more diverse array of behaviors have come to be addressed under school safety, including aggression, bullying and violence, the authors point to the need to understand “how they are empirically situated within the concept of school safety as a whole” (p. 69). Finally, they call for more precise

definitions of these concepts and valid instruments designed specifically to measure safety and related constructs.

Several studies have demonstrated evidence of the negative effect of a lack of inclusion and diversity on perceptions of school safety. A study by Garver and Noguera (2015) examined the relationship between educational structures and school safety for immigrant students and found that physical separation of immigrant students increased racial stereotypes and had a negative effect on school safety. A 2012 study by Toomey, McGuire and Russell, which focused on the relationship between heteronormativity, school climate and perceived safety for gender non-conforming peers, found that students who attended schools that included LGBTQ issues in the curriculum and had a Gay-Straight Alliance reported higher perceived safety for their gender nonconforming male peers.

Both low-level aggression and physical violence can also have a negative impact on students' perceptions of safety. In a 2012 study by Toomey, McGuire & Russell, students who had experienced school violence perceived their school as less safe for their gender nonconforming peers. In a study of elementary students, greater exposure to low-level aggression was associated with lower levels of perceived safety and less positive expectations for the future (Boxer, Edwards-Leeper, Goldstein, Musher-Eizenman, & Dubow, 2003).

It is important to note that the perception of safety can be affected by both the characteristics of the environment and characteristics of the individual. A qualitative study (Biag, 2014) of low-income students at a high-minority urban middle school in the U.S. sought to examine how students characterized safe and unsafe spaces using participatory visual research methods. Students reported that "remote or congested areas provoke anxiety" and felt unsafe, while safe spaces offered "informational, social and

emotional support” (Biag, 2014, p. 179). However, there was indication of variation among students’ perceptions of spaces as either safe or unsafe based on their social status. This study highlighted the importance of creating physical spaces where students at all social status levels feel protected from physical and psychological harm.

A lack of school safety has also been associated with negative behaviors including early sexual activity. A 2010 study by March and Atav found that higher levels of perceived school safety were associated with older age at sexual debut. In this study, more males (60%) than females (46.2%) perceived school as unsafe, and rural students reported higher levels of positive perceived school safety than either urban or suburban students. In this study, “perceived school safety” was operationalized by creating an index which combined responses to the following questions: “felt unsafe at school or on way to or from school”; “while on school property, used marijuana, smoked cigarettes, used other tobacco products, drank alcohol, or carried a weapon”; “have you been injured or threatened by someone, someone stole or damaged your property, or had a physical fight” (March & Atav, 2010, p. 125).

The consequences of a lack of school safety include increased mental health issues among students. A study of Dutch adolescents by Nijs et al. (2014) found that school safety was associated with mental health problems after controlling for numerous confounding variables. More specifically, school safety was strongly associated with emotional symptoms, peer problems, and conduct problems. The greatest effect of school safety on psychological problems was seen in females and younger adolescent students. The authors of the study argue that perceived school safety is a “strong, simple and intuitive risk factor for mental health problems” (Nils et al., 2014, p. 132). However, in this study as in most others, “perceived school safety” was measured by a single-item

indicator, “Do you ever feel unsafe at school?”, and not a validated measure (Nils et al., 2014, p. 129).

Perceptions of school safety have also been shown to predict future violence among students (Goldstein, Young, & Boyd., 2008; Nansel, Craig, Overpeck, Saluja, & Ruan, 2004). In a study of students in grades 6-10 (Esselmont, 2014), male students were more likely to perceive school as unsafe than females, and perceptions of safety mediated the relationship between bullying experience and carrying a weapon into the learning environment. These findings highlight the serious consequences of a learning environment that is perceived by students as unsafe and the measures that they may take to protect themselves when protection from harm is not perceived to be sufficient.

Campus Safety

In the higher education setting, the term “campus safety” is used rather than “school safety”, though it typically only refers to threats to physical safety. Whereas school safety is conceptualized as a dimension of school climate in the K-12 context, the relationship between campus safety and campus climate has not been clearly articulated in the literature. In their examination of the experiences of women students, Kelly and Torres (2006) studied campus safety as “a subtle aspect of campus climate” (p. 21). From their focus group data, the concept of worrying about safety even in safe environments came through as a theme from the women. Participants reported an overwhelming lack of power over their personal safety on campus and a reluctance to avail themselves of campus safety resources. Because of the connection between sexism and victimization of women, the authors argue that “efforts to enhance campus safety must be done in conjunction with efforts to fight sexism” (Kelly & Torres, p. 34).

The most frequently cited article on campus safety is an examination of the many threats to safety for college women (Wilcox, Jordan & Pritchard, 2007). In this study,

campus safety was conceptualized as the risk of being a victim of sexual assault, physical assault, or stalking, and a loose association was found between actual risk of victimization and subjective perception of risk. Similarly, a study by Hites et al. (2013) found no association between a student's perceived risk and actual incidents of crime. However, the qualitative data was able to provide important information about the impact of the environment, particularly the built environment (e.g. lighting, signage, call boxes, etc.) on student's perception of risk and safety.

In addition to victimization related to sexual and physical assault, research within the area of campus safety also addresses the prevalence and impact of hate crimes, or "crimes that manifest evidence of prejudice based on race, religion, sexual orientation or ethnicity (Federal Bureau of Investigation, n.d., "Defining a Hate Crime" section). A study by Stotzer and Hossellmann (2012) reported that colleges that successfully recruit the most African-American and Hispanic students report the fewest hate crimes. Although Asian students have not been identified as being at risk of experiencing a lack of safety, a study of Asian-American and Asian international students found a significant association between experiencing verbal threats and mental health problems, including anxiety, depression and suicidality (Maffini, 2017). Stotzer and Hossellmann argue for "racial/ethnic minorities' presence on campus as an important starting point for considering how diversity is related to campus safety", although they acknowledge that concept of diversity is more complex than student body composition (2012, p. 656).

Understanding of the factors affecting campus safety and the most appropriate methods of enhancing campus safety also differ according to one's role within the campus system. For example, dialogue around campus safety often assumes that enhanced police presence results in increased perception of safety, despite mixed findings in the research literature (Salmi, Gronroos & Keskinen, 2004). In a study focusing on the

co-production of campus safety between students and university police (Williams, LePere-Schloop, Silk, & Hebdon, 2016), both groups reported a lack of engagement with the other due to an asymmetrical power dynamic. Because of this asymmetry, students did not recognize their role as co-producers of campus safety. A study by Kyle, Shafer, Burruss, and Giblin (2017) found that females and white students, faculty and staff were more likely than males and non-white students, faculty and staff to support enhanced campus safety measures. Overall, all groups preferred policies focused on information sharing over allowing weapons on campus. This study demonstrates that fear of victimization does not necessarily predict support for enhanced campus safety and security policies due to concern about potential adverse effects of such enhanced security measures on campus climate.

Climate: An Overview

Campus Climate

Because the campus safety literature focuses predominantly on threats to physical safety, it is necessary to examine campus climate studies for results related to non-physical aspects of safety. Campus climate has been defined as “the current attitudes, behaviors and standards of faculty, staff, administrators and students concerning the level of respect for individual needs, abilities and potential” (Rankin & Reason, 2008, p. 264). A qualitative content analysis of the campus climate research by Hart and Fellabaum (2008) found that there was no agreed-upon definition of campus climate being utilized across studies and no standardization of design or instrumentation across the field. The studies represented various perspectives on the issue, including in-class, outside-of-class, and in the working environment for faculty, staff and students. They highlight that these types of studies are frequently conducted by institutional staff to meet their own internal goals and requirements rather than for scholarly purposes. A quasi meta-analysis by de

Heer and Jones (2017) highlighted this confusion by pointing out that the term campus climate is used to describe both measures focused solely on sexual victimization on college campuses and more general surveys of campus climate that may include items related to sexual victimization. They point out that the increase in surveys specifically focused on sexual victimization was based on recommendations by the White House Task Force in response to the National Science Foundation's *Not Alone* report (Center for Changing Our Campus Culture, 2016).

Since the American Association of Colleges and Universities challenged institutions of higher education to focus on the development of inclusive environments that would value and promote diversity in 1995, scholars have begun to examine the role of diversity and its impact on student perceptions of the campus climate. Several studies have found that Whites perceive the campus climate more positively than students of color and report fewer experiences of racial-ethnic harassment (Ancis, Sedlacek, & Mohr, 2000; Cabrera, Nora, Terenzini, Pascarella & Hagedorn, 1999; Cress & Ikeda, 2003; Gloria, Hird, & Navarro, 2001; Hurtado, 1994; Johnson, 2003; Navarro, Worthington, Hart & Khairallah, 2009). In fact, experiences of racial-ethnic harassment have been shown to mediate the relationship between race and student perceptions of the general campus climate (Navarro et al., 2009).

Another frequently-cited study by Worthington, Navarro, Loewy and Hart (2008) examined the relationships between attitudes about race and two distinct types of campus climate—general campus climate and racial-ethnic campus climate. In this study, general campus climate was defined as the extent to which “the campus is ‘open’, ‘friendly’, ‘respectful’, ‘concerned’, ‘communicative’ and ‘improving’” (p. 9). Campus climate for racial-ethnic minorities was defined as “the perception of ‘campus acceptance’ of African-Americans, Asian-Americans, Middle Easterners, Native Americans and

Latinos” (p. 9). The study found that “both general campus climate and racial-ethnic campus climate are predicted by color-blind racial attitudes” (Worthington et al., 2008). Color-blind attitudes included unawareness of racial privilege, covert denial of institutional racism, and overt denial of blatant racial discrimination (Worthington et al., 2008). In addition, unawareness of racial privilege partially moderated the relationship between race and racial-ethnic campus climate and moderated the relationship between race and general campus climate.

A heavily-cited study by Locks, Hurtado, Bowman, and Oseguera (2008) examined the effects of a campus climate for diversity on students who were transitioning to college. They found that greater opportunity to interact with diverse peers was associated with a greater sense of belonging to the campus community for both White students and students of color (Locks et al., 2008). In addition to race, Park, Denson and Bowman (2013) argue that socio-economic status is an important factor to consider for promoting a positive racial climate on campus. The authors found that socioeconomic diversity was associated with greater cross-class interaction, which was related to greater interactions across race and higher levels of engagement in curricular and co-curricular diversity activities (Park et al., 2013). These findings highlight the importance of considering intersectionality of identities within the issue of campus climate.

Several studies have reported that students who identify as members of the LGBTQ community perceive the campus climate as more negative (Brown, Clarke, Gortmaker, Robinson-Keilig, 2004; Yost & Gilmore, 2011). Campus climate has also been found to be a mediating factor in LGBTQ student persistence (Blumenfeld, Weber, Rankin, 2017). On the other hand, the implementation of explicitly inclusive programs and policies, such as Safe Zones, have been associated with more positive perceptions of

the campus climate (Black, Fedewa, & Gonzalez, 2012; Katz, Federici, Ciavacco, & Cropsey, 2016).

Qualitative data from a recent study of generations of LGBTQ students who had graduated over the past 70 years reported that experiences with faculty both as instructors and as mentors had a strong influence on students' perceptions of the campus climate and the perception of safety in particular courses and majors (Garvey, Sanders, & Flint, 2017). Instructors and majors also served as a buffer from a generally hostile atmosphere. As one participant stated with regard to his major, "While the campus climate was not extremely welcoming, they managed to create and foster a safe environment" (Garvey, Sanders & Flint, 2017, p. 806). A 2015 study by Garvey, Taylor and Rankin of LGBTQ community college students found that "classroom climate plays a large role in determining students' perceptions of campus climate" (p. 527). Qualitative data in this same study supported this finding as participants highlighted the classroom context as having the most potential to impact their experience through both the curriculum and the behavior and attitudes of peers and teachers.

Classroom Climate

Classroom climate (CC) is defined as "a global summary of the psycho/social/emotional and organizational/managerial state of the classroom" (Babad, 2009, p. 54) and is a concept that has been studied extensively in educational psychology, both in the K-12 and higher education contexts. Classroom climate is used interchangeably with "classroom culture" and "learning environment" and has been described as consisting of three dimensions: the relationship dimension, the personal development dimension, and the system management and system change dimension (Moos, 1974). The relationship dimension focuses on the student's feelings about themselves, their interaction with peers and their interaction with teachers. The personal

development dimension is more academically-focused. Finally, the system management and system change dimension is related to the teacher's style and management of the classroom.

Though some of the earliest research on classroom climate in the United States was focused on K-12 science teaching, Babad (2009) argues in *Social Psychology of the Classroom* that "the concept of CC is highly relevant to all classrooms and all educational environments, regardless of age level, content discipline or any other dimension" (p. 53). Originally, classroom climate was conceptualized from the point of view of the teacher using behaviors that were observable and, therefore, considered objective. More recent conceptualizations have moved towards a more subjective, student-centered perspective because of the challenges of interpreting the meaning of behaviors within a particular context. However, there is still disagreement whether the summation of subjective student reports constitutes a valid classroom-level conceptualization of the classroom climate.

Though classroom climate has been more frequently studied in the K-12 context, several studies have also been conducted in the postsecondary environment. A study by Haukoos and Penick (1983) examined classroom climate in community college as measured by behavior of the teacher, which was defined as either "Discovery" or "Non-Discovery". "Discovery" behavior was characterized by less directive behavior on the part of the instructor and more freedom in both verbal and non-verbal classroom interactions. Results showed that a "discovery" climate resulted in the same amount of content learning and greater student achievement in learning the science process than the "non-discovery" climate. Follow-up studies by the same authors supported the finding that classroom climate effects the students' learning of higher level processes in the community college context (Haukoos & Penick, 1985; 1987).

Teacher communication behaviors have been argued to be a critical element in constructing the classroom climate (Myers, 1995). Supportive communication, including affinity-seeking behavior, have been shown to correlate with positive assessment of classroom climate (Myers, 1995). Trustworthiness of the instructor, including credibility also had a positive impact on student assessment of classroom climate. Other studies have found instructor organization and support to be associated with lower levels of academic procrastination among students (Corkin, Shirley, Wolters, & Wiesner, 2014).

Classroom Environment/Safe Spaces

Safe spaces in academic environments have been suggested as awareness of the wide-spread prevalence of trauma among the undergraduate student populations at community colleges and universities has increased. The idea of a safe space can be traced back to the feminist movement in the 60s and 70s and the need to discuss issues in women-only spaces. In the last two decades, the idea of a safe space does not always refer to a separate physical space, but rather to an environment with ground rules for behavior in order to promote “inclusive and effective learning environment in which opportunities for complex cognitive, intrapersonal, and interpersonal development exist for *all* students” (Magodla, 1999, p. 94).

As more experiential forms of learning are gaining popularity in higher education, the content being processed becomes more emotional rather than only cognitive in nature. In these situations, unconscious reactions to the material may result in defensive or resistant behaviors. It is argued that by discussing both the conscious and unconscious processes that students will go through during experiential learning activities, a safe classroom climate is created, allowing for learning at a deeper level (Kisfalvi & Oliver, 2015).

A frequently-cited exploratory study of undergraduate social work students “examined the perspective of social work students on the creation, importance, and utility of safe space in the classroom” (Holly & Steiner, 2005, p. 49). The study utilized a convenience sampling method with a total of 121 students and gathered data in the form of questionnaires. Students were asked to think of a class in which they felt able to share their thoughts and opinions and then list up to six words or phrases describing the characteristics and actions of the instructor, peers, themselves and the environment of that class. They were then asked to do the same for an unsafe class. Students were also asked how important a safe classroom climate is and what was learned in such an environment.

Results demonstrated that 97% of students felt that a safe classroom climate was either important or very important and that this type of environment changed what was learned. Characteristics of instructors in a safe environment included being “non-judgmental, developing ground rules, comfortable with conflict, respectful of opinions, and supportive of participation” (Holley & Steiner, 2005, p. 56). Characteristics of peers in a safe environment included “good discussion skills, honestly sharing thoughts, and being nonjudgmental” (Holley & Steiner, 2005, p. 56). Characteristics of the individual included trying to be open-minded, honestly sharing ideas, and actively participating in discussions” (Holley & Steiner, 2005, p. 56). Characteristics of the physical environment that was described as safe included seating so that everyone could be seen, good lighting, and appropriate room size.

The promotion of the idea of safe spaces within the higher education environment have been met with strong resistance based on a concern that students will engage in self-infantilization and lack the ability to deal with challenging ideas. In 1998, Boostrom wrote an article analyzing the use of “safe space” as a metaphor for classroom life. He analyzed the use of the metaphor and found that its use was based on four common

assumptions: “we are all isolated; our isolation is both physical and psychic; we can become less isolated by expressing our diverse individuality; and students thrive in a classroom in which individuality is freely expressed” (Boostrom, 1998, p. 404). Though he acknowledged the appeal of the metaphor, Boostrom warned against the unintended use of the metaphor to stifle critical thinking and rule out conflict in the classroom.

In a recent article, Byron argued that such criticisms “conflate the desire for safety with the desire for comfort or freedom from offense or challenge” (2017, p. 116). Due to this conflation, in 2014, the Roestone Collective suggested a reconceptualization of “safe space” using queer and feminist theory. They suggest moving away from the conceptualization of safe spaces as only a response to spaces that are unsafe. Instead, safe space is redefined as “relational work” (The Roestone Collective, 2014, p. 1347) rather than a rigid recipe. They suggest reconceptualizing the safe space as “object-enabled porous intervention in paradoxical space” (The Roestone Collective, 2014, p. 1359) as they highlight the potential for objects to transform unsafe spaces into spaces that are never completely safe.

Conceptualizations of Climate and Safety in the K-12 Context

Though the focus of this study was on perception of safety in the postsecondary environment, it is important to understand how safety has been conceptualized in the K-12 literature due to the recent focus on bridging the historical divide between the two contexts (Kirst & Usdan, 2007). The following section provides a description and critique of the ways in which safety has been conceptualized within the K-12 literature. This discussion is followed by a review of the measurement instruments developed to measure safety, or constructs closely related to safety, within the K-12 context.

USDOE Conceptualization

School climate has increasingly become a topic of research over the past two decades as it has been shown to be associated with a number of important educational outcomes, including dropout rates and teacher retention (Bradshaw, Waasdorp, Debnam, & Johnson, 2014). In response to the growing evidence of the potential impact that school climate has on student achievement and staff performance, the U.S. Department of Education (USDOE) established the National Center on Safe and Supportive Learning Environments (NCSSLE) to support research in the field and provide information and resources to K-16 schools across the United States (NCSSLE, 2017). In an effort to clarify the construct of “school climate”, the United States Department of Education (USDOE) National Center on Safe Supportive Learning Environments (NCSSLE) developed the Safe and Supportive Schools Model of School Climate, which conceptualized school climate as consisting of three domains: safety, engagement, and environment (National Center for Safe Supportive Learning Environments, 2018b).

According to the USDOE model, the school climate sub-domain of “safety” is described as consisting of three factors: emotional safety, physical safety, and substance use. One study examining the validity of the USDOE school climate model with high school students utilized the Maryland Department of Safe and Supportive Schools (MDS₃) Student Survey developed by Johns Hopkins Center for Youth Violence Prevention. Results supported a three-factor solution for “safety”, which included “bullying and aggression”, “perceived physical safety” and “general drug use” (Bradshaw, Waasdorp, Debnam, & Johnson, 2014). The USDOE model, shown previously in Figure 2, has been identified as the most influential existing model for this study because it has been supported by empirical evidence, though only with high school students, and it has been promoted as relevant for both K-12 and higher education settings.

Growing to Greatness Conceptualization

Another model of school climate that was identified in the K-12 literature that includes the concept of safety is the Growing to Greatness model. This model was developed as part of a strategic plan for the Moore County School System in North Carolina (Moore County Schools, 2011). The strategic plan identifies school culture as one of the key areas of focus of their change efforts and describes school culture as consisting of three dimensions: academic safety, emotional safety and physical safety (Moore County Schools, 2011). Because the theoretical basis for this conceptualization of school culture was not stated and no empirical evidence was provided, this model was not influential in this study.

Bluestein's Conceptualization

In order to better reflect the many aspects of safety that are relevant to the learning experience, Bluestein developed a model of safety in which safety is defined as a classroom or school-level construct that describes an environment with particular characteristics that are quite detailed (Bluestein, 2001). Bluestein's model is the only model that focuses solely on the construct of safety within the K-12 educational context. She conceptualizes safety as consisting of five domains: academic safety, emotional safety, social safety, behavioral safety, and physical safety. Despite its appeal as a model focusing on the construct of safety, the theoretical basis for this conceptualization of safety is not articulated, and no empirical evidence supporting such a conceptualization has been provided. For these reasons, Bluestein's conceptualization was not influential in this study.

Measures of School Climate and Safety in the K-12 Context

Measurement and assessment is the first step in any change effort; without a clear understanding of the perceptions, needs, and strengths of the school and its students,

change efforts cannot be considered to be based in evidence and are likely to be ineffective. According to the NCSSLE, “measurement of school climate provides educators with the necessary data to identify school needs, set goals, and track progress to improvement” (School Climate Measurement section, para. 1). As such, school climate has been the focus of recent federal initiatives, making it necessary for researchers to define and measure this construct.

Numerous survey instruments have been developed to measure climate within the K-12 context. An examination of the School Climate Survey Compendium (NCSSLE, 2017), which lists valid and reliable measures of school climate, reveals 47 instruments developed for use in the K-12 context and only one developed for the postsecondary environment (NCES, 2012a). Despite the large number of instruments, most do not include safety in the measurement of climate, and those that do are problematic based on their narrow conceptualization of safety or their failure to reflect the students’ perspective.

For example, the School Survey on Crime and Safety (SSOCS) conducted by the National Center for Education Statistics (NCES) in 2009-2010 measures the concept of school safety from the perspective of the school administrator and does not address the perceptions of the students (National Center for Education Statistics, 2016). The High School Youth Risk Behavior Survey reflects the perspective of students but focuses only on threats to physical safety (CDC, 2016). In this survey, school safety is measured by student endorsement of particular behaviors, including carrying a weapon on school property, being threatened or injured with a weapon on school property, was in a physical fight on school property, did not go to school due to feeling unsafe, were bullied at school (CDC, 2016). It also measures mental health constructs that have been found to be related

to feeling unsafe, including symptoms of depression, suicidal ideation and suicide attempts (CDC, 2016).

Until recently, the measurement of school safety and school climate has not been well integrated. Skiba, Simmons, Peterson, and Forde (2006) reviewed the literature on school climate surveys and found that only one, the Effective School Battery (Gottfredson, 1999), of the five surveys included major safety issues. In addition, the Effective School Battery offered the results of a factor analysis to support the identification of safety as a subscale (Skiba et al., 2006). The same review examined school safety surveys and found that only two of the five included climate variables. Of these two, only the California School Climate and Safety Survey (Furlong et al., 2005) reported results of a factor analysis (Skiba et al., 2006).

To respond to this lack of integration of climate and safety, the SRS Safe School Survey (Skiba et al., 2004), was developed to be a comprehensive measure of school safety that assessed both school violence and school climate. The survey was a self-report scale consisting of 45 items for secondary students and 25 items for elementary students. The survey was administered over three years to a sample of Midwest students and factor analysis of the secondary survey revealed four underlying factors: connection/climate; incivility and disruption; personal safety; and delinquency/major safety. In this survey, the climate subscale focuses on the student's perception of teacher and administrator behavior; the incivility and disruption subscale relates to the behavior of other students; the personal safety subscale asks about the student's feelings of safety in different contexts within the school (e.g. lunchroom, bathroom, hallways, etc.). Similarly, the major safety subscale asks about the frequency of illegal activities on school grounds (Skiba et al., 2006). Though the SRS integrates safety into the measurement of climate, it focuses solely on threats to students' physical safety.

Another problem in the measurement of safety is the practice of using single-item indicators, which does not allow for the possibility of variance within and between the domains of safety. As Bluestein points out in her 2001 book, over half of respondents to a 1992 survey disagreed with the statement, “The school is a safe place” (Bluestein, 2001, p. 8); however, because of the use of the single item indicator to measure a complex construct, it is not possible to know what students meant by the word safe. Responding to this problem, Bluestein (2001) developed a survey to reflect the complexity of creating an emotionally-safe classroom. The survey includes the following categories: need for meaningful outcomes; need for respect, belonging and dignity; need for autonomy; need for recognition, attention and emotional safety; need for options; and need for success (Bluestein, 2001). Despite the face validity of some of these categories, it is unclear how they align with the five domains of safety in Bluestein’s conceptualization, and no factor analysis of the survey could be found in the peer-reviewed literature. Another limitation of this measure is that it examines the degree of safety of the school environment from the staff perspective and does not reflect student’s experience of safety.

The *Growing to Greatness* survey developed by Moore County Schools in North Carolina measures the construct of school culture as consisting of three dimensions: academic safety, emotional safety, and physical safety (Moore County Schools, 2011). In the survey, academic safety is operationalized as three questions: 1. I am encouraged to take academic risks in my classes. 2. My teachers encourage me to take honors and advance level classes. 3. My teachers grade my work in a fair way. Emotional safety is operationalized using the following three questions: 1. Everyone in my school is treated fairly. 2. I believe that adults in my school care about the students. 3. I know strategies to prevent bullying, and I take a stand when needed. Physical safety is operationalized using the following two items: 1. I feel physically safe at school. 2. I feel safe while riding on

the school bus. (Moore County Schools, 2011). A limitation of this instrument is that no psychometric information was found for the instrument or its items.

Recognizing the limitations of the available measures of climate and safety, the U.S. Department of Education developed a school climate survey (EDSCLS) for states and school districts to use free-of-charge. In 2017, the survey was administered to “a nationally-representative sample of schools to create school climate benchmark scores” (American Institutes for Research, 2016, “ED School Climate Surveys” section). The survey is based on a variation of the USDOE Safe and Supportive Schools Model, which conceptualizes school climate as consisting of three factors: safety, engagement, and environment. Within this model, safety is described as consisting of five dimensions: emotional safety, physical safety, bullying and harassment, substance abuse, and emergency readiness/management. However, the NCSSLE website notes that Emergency Management/Readiness was “not designed to produce a scale; thus, EMR data should be examined at only the item level (NCSSLE, 2017, “ED School Climate Surveys” section).

In 2015, a pilot test of the student survey was administered at 50 public schools including grades 5-12 (NCES, 2015). The total number of items was 127, with 50 items operationalizing the safety domain. After elimination of problematic items, 63 items were retained, with the final safety scale consisting of 23 items for grades 5-8 and 24 items for grades 9-12. Factor analysis supported a three-factor model of school climate. However, factor analysis was not conducted for the safety subscale. Differential item functioning (DIF) analysis revealed that items did not function differently across gender, race, and domain representation order. However, substance abuse items functioned differently across school level (NCES, 2015).

Because the EDSCLS is based on a conceptualization of climate that includes safety and is supported by empirical evidence, it is the measure that holds the greatest

relevance for the instrument being developed in this study. However, because the EDSCLS instrument was designed for use in the K-12 environment, administration in the postsecondary context is not appropriate without first examining the validity of the conceptualization and operationalization with postsecondary students. In addition, the use of the safety subscale as an independent measure has not yet been supported by the results of factor analysis. Because of their relevance to this study, the EDSCLS conceptualization of safety and the items of the EDSCLS safety subscale were referenced and discussed as points of comparison in the item construction phase of the study.

Conceptualizations of Climate in the Postsecondary Context

Though the measure developed in this study is focused on students' perceptions of safety within the postsecondary classroom environment, it is necessary to review influential conceptualizations of campus climate due to the fact that classroom climate has been shown to be closely related to campus climate (Garvey, Taylor, & Rankin, 2015). It should be noted that research on climate in the higher education context is nested within a larger field of research on organizational behavior, which has an extensive history that began in the 1950s and gained popularity in the 1960s and 70s. Though there is recognition that the higher education context is a unique type of organization, many concepts, such as climate and culture, that have become influential in the greater organizational behavior literature have also become important for understanding the postsecondary context.

In their chapter entitled, "Understanding Academic Culture and Climate", Peterson and Spencer (1990) offer a clarification of the concepts of culture and climate, which are often used interchangeably in the postsecondary context, and examine issues related to researching these concepts. They argue that these concepts provide a "reasonable framework for making sense of the nonrational and informal aspects of an

organization” (Peterson & Spencer, 1990, p. 4). According to Peterson and Spencer (1990), climate is defined as “the current common patterns of important patterns of organizational life or its members’ perceptions of and attitudes towards those dimensions” (p. 7). Climate is considered more amenable to change efforts than culture and can be examined either broadly or with a focus on one aspect of the organization. By contrast, culture relates to deeply-held beliefs and values that are embedded and enduring within the organization and research on this construct typically takes a holistic view of the organization (Peterson & Spencer, 1990). The term climate is more frequently utilized in this study to reflect an intentional focus on variables that are more amenable to change.

Research on organizational climate typically falls into one of three broad categories: objective climate, perceived climate, and psychological or felt climate. The objective climate focuses on observable behaviors, the identification of patterns of behavior, and the consequences of any differences in patterns of behavior. Research focused on perceived climate examines participants’ views of the patterns and behaviors within the organization and important differences between “perceived reality and expectations” (Peterson & Spencer, 1990, p. 13). The psychological or felt climate involves motivational dimensions, including sense of belonging and commitment to the organization. Though safety is not explicitly articulated within Peterson and Spencer’s conceptualization of climate, it is reasonable to hypothesize that safety is a component of perceived climate or an indirect or direct outcome of perceived climate.

In 1999, Hurtado, Milem, Clayton-Pederson, and Allen offered a conceptualization of campus climate that focused on diversity and the experience of traditionally-marginalized students. Their conceptualization of the campus climate for racial diversity consisted of four dimensions: the institutional historical legacy of inclusion or exclusion, structural diversity, the psychological dimension, and the

behavioral dimension. Institutional historical legacy of inclusion or exclusion refers to a campus or surrounding community's resistance to desegregation at predominantly White institutions (PWI). An institution's initial response to inclusion efforts is thought to have long-lasting effects on campus racial climate.

Structural diversity refers to the proportional representation of traditionally marginalized student groups within the student population and the prioritization of policies to promote diversity. The psychological domain refers to "individuals' views of group relations, institutional responses to diversity, perceptions of discrimination or racial conflict, and attitudes toward those from other racial/ethnic backgrounds than one's own" (Hurtado et al., 1999, p. 289). The behavioral dimension focuses on the interactions "between and among individuals from different racial/ethnic backgrounds (Hurtado et al., 1999, p. 293). Again, safety is not identified as a domain in this conceptual framework so it may be that, within the postsecondary context, perceived safety is better understood as a potential outcome of climate rather than as a component of climate.

More recently, Rankin and Reason (2008) have put forward a tapestry model of campus climate that conceptualizes campus climate as consisting of six domains: access/retention, research/scholarship, inter and intra-group relations, curriculum and pedagogy, university policies and services, and external relations. Again, in Rankin & Reason's conceptualization, safety is not considered to be a component of climate within the postsecondary context. Based on this review of the literature, it is clear that the definition and conceptualization of climate in the postsecondary context differ significantly from the conceptualization of climate offered by the National Center on Safe and Supportive Learning Environments, which considers safety to be one of the three domains of climate (NCSSLE, 2017). It is possible that the omission of safety in the conceptualization of climate reflects the lack of integration between the areas of campus

safety and diversity/inclusion within the postsecondary context, resulting from the silo mentality that pervades higher education (Keeling, Underhile, & Wall, 2007).

Possible Domains/Dimensions of Safety in the Learning Environment

The following section presents a review of the domains/dimensions of safety that have been identified in a cross-disciplinary search of the literature. Because any of these domains could emerge from the qualitative data in this study, it is valuable to gain a clear understanding of how each has been defined and used in various fields of study. An in-depth understanding of all potential domains is necessary to inform the qualitative data analysis process and the development of a solid conceptualization of perceived safety in the postsecondary learning environment.

Physical Safety

According to NCSSLE (2017), physical safety “refers to the protection of all stakeholders, including families, caregivers, students, school staff, and the community, from violence, theft, and exposure to weapons and threats, in order to establish a secure learning environment” (“Physical Safety” section). Over the past two decades, discussion of the issue of safety on college campuses has increased substantially with concerns over mass shootings and sexual assault at institutions across the country. These discussions typically focus on physical safety and studies that examine student perceptions of safety reflect this unidimensional conceptualization (Jennings, Gover, & Pudrzynska, 2007; Wilcox, Jordan, & Pritchard, 2007).

In Bluestein’s book, she uses a broad conceptualization of physical safety that expands on a traditional focus on protection from violence or threat by peers and staff within the educational environment. Bluestein includes the ability to have one’s physiological needs met (e.g. access to hydration, physical activity, nutritious food, etc.), be protected from environmental hazards and have one’s unique sensory and neurological

issues acknowledged and accommodated (Bluestein, 2001). Explaining her justification for this broad conceptualization of physical safety, Bluestein states, “Anything that has an impact on kids’ bodies can ultimately translate to the emotional climate of the classroom, as many of these factors directly affect the students’ behavior, attitude and ability to learn” (Bluestein, 2001, p. 309).

A study of the perception of physical threats posed by heterosexuals towards LGBTQ individuals found that 23-29% of respondents perceived heterosexual men to be a threat to their physical safety and elicited the greatest anger and fear responses (Pirlott, Rusten, & Butterfuss, 2016). Perceptions of physical safety, as measured by perceived risk of crime and fear of crime, has been shown to predict psychological distress (Evans-Polce, Hulbert, & Latikin, 2013). A study of female undergraduates found that African-American females “reported more sexual objectification experiences and fear of crime than White women” (Watson, Marszalek, Dispenza, & Davids, 2015, p. 91). Results also showed that the relationship between sexual objectifications experiences and fear of crime was mediated by perceived risk of crime for both African-American and White females. This finding supported Fredrickson and Roberts’ (1997) theory of objectification theory, which argues that the accumulation of sexual objectification experiences results in persistent physical safety concerns.

Emotional Safety

Within the USDOE model, emotional safety is defined as “an experience in which one feels safe to express emotions, security, and confidence to take risks and feel challenged and excited to try something new” (NCSSLE, 2017, Emotional safety section). Emotional safety is described as a state that can be achieved by students’ acquiring social and emotional learning skills including the ability to “recognize and manage their emotions, feel and show empathy to others, establish positive relationships,

and make responsible decisions” (NCCSLE, 2017, Emotional safety section). The focus of Bluestein’s book is emotional safety, though she addresses other aspects of safety. In her book, she surveys educators about their definition of emotional safety and provides many of these quotes, but does not offer a definition of her own. Rather than provide a concise definition, she chooses to highlight the numerous factors that contribute to creating an emotionally safe environment, including a sense of belonging, the freedom to make mistakes, clarity of expectations, freedom from harassment, freedom from discrimination, and “the freedom to have (and express) one’s own feelings opinions without fear of recrimination” (Bluestein, 2001, p. 10).

Emotional safety has been shown to be positively related to other important educational constructs, including diversity and social capital. An exploratory study of emotional safety in a middle school by Munniksma and Juvonen (2012) found that the number of cross-ethnic friendships was associated with a greater sense of emotional safety for Latino students but not for White students. These findings provide additional evidence of the positive relationship between social capital, specifically majority social capital, and perceived safety, particularly for ethnic minority students.

Psychological Safety

The concept of psychological safety has been discussed in the field of organizational studies since the 1960s and has been examined at the individual, group and organizational level of analysis (Edmondson & Lei, 2014). Psychological safety has been defined at the individual level as "being able to show and employ one's self without fear of negative consequences of self-image, status or career" (Kahn, 1990, p.708). At the team/group level, psychological safety is conceptualized as a group-level phenomenon that describes the degree to which the team is safe for the individuals within the team (Edmondson, 1999).

The most frequently cited article in the field was a 1999 study of the relationship between learning behavior and psychological safety on work teams (Edmondson, 1999). In a study of 51 work teams, Edmondson found that team psychological safety was associated with learning behavior and learning behavior mediated the relationship between psychological safety and performance. An interesting finding was that team efficacy was not found to be associated with learning behavior when controlling for psychological safety. In a 2014 review of the concept, Edmondson and Lei outline the empirical evidence for psychological safety to be considered as a factor when examining issues of teamwork and team learning.

Though psychological safety has been linked to teamwork and learning, few studies have examined psychological safety within an educational context. One such study of organizational learning (OL) within a school context found psychological safety to be a subdomain of the underlying condition OL. Another recent study focusing on teachers' perceptions of psychological safety within a school environment found that less hierarchical organizational structures and greater leadership effectiveness had a positive effect on psychological safety (Edmondson, Higgins, Singer, & Weiner, 2016).

Because the concept of psychological safety has its origins in organizational studies, fewer studies focus on psychological safety from the student perspective. A study of the use of group collaboration technologies among university students reported that social support was associated with greater psychological safety and psychological safety was positively related to groupware use (Schepers, de Jong, Wetzels, & de Ruyter, 2008). An exploratory study of 9th graders examined the relationship between racial identity linked risks and threats and psychological safety (Williams, Woodson, & Wallace, 2016) and found that psychological safety is co-constructed through classroom peer-peer interactions and student-instructor interactions. The following instructor behaviors were

identified as promoting psychological safety during discussions related to race: “a) support or inhibit power sharing, b) indicate high or low levels of teacher attunement, and c) demonstrate or mask the teacher’s authenticity” (Williams, Woodson, & Wallace, 2016, p. 15). These study findings point to an important association between racial identity development and psychological safety in the classroom.

Cultural Safety

The concept of cultural safety was first developed by Maori nurses in the 1980s as a “political response to the long-term negative impact and effects of colonization on the health of Maori people in Aotearoa New Zealand” (Johnstone & Kanitsaki, 2007). It is, therefore, grounded in the experience of a marginalized population and rejects the ethnospecific approach to knowledge found in the concept of cultural competence (Coup, 1996; Ellison-Loschmann, 2001; Papps, 2005; Polaschek, 1998; Wepa, 2005). Cultural safety has been defined as “an environment which is safe for people; where there is no assault, challenge or denial of their identity, of who they are and what they need” (Williams, 1999, p. 213) and conceptualized as a continuous process that begins with cultural awareness, moves to cultural sensitivity and culminates in cultural safety (Ramsden, 1992).

Most of the research on cultural safety has been conducted in the health care field where it has been identified as a method of eliminating barriers to accessing care and treatment adherence when working with marginalized populations (Josewski, 2012; Ka'opua et al., 2014; McCall & Lauridsen-Hough, 2014). However, since the Australian government initiated the Higher Education Participation and Partnerships Program in 2008, more studies have been conducted that examine cultural safety within an educational context. A study by Rigby et al. (2011) used focus group interviews to explore the experiences of indigenous students in a mental health university degree

program and concluded that the promotion of indigenous students' perceptions of cultural safety is important for reducing program attrition rates. Another larger study aimed at describing the level of cultural safety for Aboriginal students at four institutions of higher education in Australia found that a "lack of cultural competence among current staff and students contributes to poor cultural safety" (RocheCouste, Oliver, & Bennell, 2014, p. 161).

Though the concept has yet to be utilized within the U.S. higher education context, it has gained some influence in Canada. A dissertation examining the experiences of Aboriginal students in a Canadian undergraduate social work program found that the concept of cultural safety "helped graduates to name and locate nuances in relationships that otherwise went unnamed" (Milliken, 2008, p. ii). Students reported that differences between the world of the university and their Aboriginal culture forced a "partializing of their experience" and that silence played both a protective role and a "means of resistance" when faced with overt and covert forms of racism (Milliken, 2008, p. iii).

The process of establishing a sense of cultural safety within an educational context involves acknowledging that we are all bearers of culture and recognizing that learning cannot be removed from the historical, political and social contexts in which it takes place (Aboriginal Nurses Association of Canada, 2009). Through this process, difficult concepts such as racism, prejudice and discrimination are brought to the forefront and the consequences of these social realities are not ignored nor is it implied that they do not exist within the walls of the academic institution. However, to date, cultural safety has only been measured from the perspective of individuals from marginalized groups, particularly indigenous and aboriginal peoples (Papps, 2005). Because of this, it is unclear if this aspect of safety is appropriate for inclusion in a

measure proposed to be used with the general undergraduate population. This issue becomes even more complex when we consider that individuals often identify at the intersection of multiple cultures and/or identities.

Identity Safety

Identity development has been highlighted as a critical issue in the “late adolescence” (Erikson, 1964) or “emerging adulthood” (Arnett, 2000) stage that is typical of traditional-aged undergraduate students. Erikson’s psychosocial development theory (1964) posits that identity stabilization is the primary developmental task for individuals to move successfully through this stage of life. Despite being quite influential, Erikson’s theory has been criticized for failing to account for the role of race and culture in identity development (Arnett, 2000; Chickering & Reisser, 1993).

More recent research within the higher education context has begun to reflect the idea that students bring with them multiple social identities relative to socially constructed categories, including gender, race/ethnicity, sexual orientation, and disability status. It has been hypothesized that, for members of non-dominant groups, the identity development process involves both the development of identity in relation to the dominant group and their identity in relation to the non-dominant group (Taub & McEwen, 1992). As these processes are unique, development in one area may not always support development in the other area. For example, a study of African-American female students at a predominantly White university (Taub & McEwen, 1992) found that the environment delayed their racial identity development because they were forced to devote much of their energy to their social and academic survival.

Social identity threat theory was developed by Steele (1997) to explain how the same environment may be interpreted differently by members of different social groups due to the historical legacy of social exclusion. As a result of this legacy, members of

minority groups have been forced to be vigilant for evidence of blatant and subtle threats to identity in the environment. From the work on social identity threat theory, the concept of identity safety has evolved and has been defined as the belief that a person “can function in [a given] setting without fear that [his or her] social identity will evoke devaluation and interference” (Steele, Spencer, & Aronson, 2002, p. 425).

Within the social psychology literature, cues that have been identified as promoting identity safety in organizations include organizational diversity structures such as diversity training programs, diversity awards, and diversity reflected in the language and images used in the organization’s materials. These identity safety cues have shown to relate to positive outcomes such as psychological engagement (Plaut, Thomas, & Goren, 2009), performance (Cohen & Steele, 2002), feelings of acceptance (Meeussen, Otten, & Phalet, 2014) and leadership aspirations (Davies, Spencer & Steele, 2005). In addition, the effects of diversity efforts aimed at one stigmatized group were found to have positive effects not only for members of that particular group but for members of other stigmatized groups as well (Chaney, Sanchez, & Remedios, 2016).

In their studies of mixed-racial groups in work environments, Foldy, Rivard, and Buckley found that identity safety is a necessary precursor to psychological safety, which is positively related to team learning. Without identity safety, power inequalities within the group lead to “conflict, withdrawal, and assimilation” (Foldy, Rivard, & Buckley, 2009, p. 25). In order to cultivate identity safety, members of the work team must adopt an integration-and-learning perspective, which views varied cultural backgrounds within the group as “fertile material for thinking about how we organize and carry out the breadth and depth of the work we do together” (Foldy, Rivard, & Buckley, 2009, p. 30). The authors point to the relevance of these findings for classroom environments.

Within the education literature, the concept of identity safety has been cited as a critical factor in education equity for minority students. In their book, *Identity-Safe Classrooms: Places to Belong and Learn*, Steele and Cohn-Vargas (2013) describe identity-safe classrooms as “those in which teachers strive to ensure students that their social identities are an asset rather than a barrier to success in the classroom” (p. 4). Results from the Stanford Integrated Schools Project showed identity safety to be positively related to several educational outcomes, including students’ sense of belonging, motivation, and satisfaction with school (Steele & Cohn-Vargas, 2013). For African-American students, identity safety has been correlated with higher standardized test scores (Steele & Aronson, 1995). A qualitative study by Gamarel, Walker, Rivera, and Golub (2014) found that identity safety was necessary for LGBTQ youth to “surface ideas about themselves and ways of being in the world that they might otherwise have been forced to keep to themselves (p. 307).

Academic Safety

According to the Growing to Greatness framework of school culture, academic safety is defined as “the freedom to participate in challenging learning experiences while feeling safe to take risks and even fail” (Growing to Greatness, 2013). Bluestein (2001) states, “Academic safety is about our willingness to stimulate and encourage students, starting where they are, and providing the ingredients necessary to each to learn and grow (p. 210). An important aspect of academic safety is an acceptance of the possibility of multiple perspectives and the rejection of one right answer to a problem or issue. Some instructional practices that have been identified as a threat to academic safety include “a lack of clarity about what is required” and “feedback that is too infrequent and comes too late” (Bluestein, 2001, p. 224). No empirical studies utilizing the concept of academic safety could be identified for inclusion in this literature review.

Social Safety

Though Bluestein (2001) suggests that social safety is a dimension of school safety, she fails to offer a definition. Her discussion of social safety centers around the development of emotional intelligence and the threat of peer aggression in the form of bullying and harassment, which overlaps with the dimension of emotional safety (Bluestein, 2001). From this discussion of social safety, we gain little understanding of social safety as a separate domain of school safety. A search of the peer-reviewed literature also does not provide evidence of its relevance as a construct in the educational research. The majority of research using the construct of social safety is in the field of criminal justice in which it is used to measure neighborhood or community level safety and refers to the level of crime in a particular neighborhood (objective safety) and the fear of becoming a victim of crime in one's neighborhood/community (subjective safety) (Ruijsbroek, Droomers, Greonewegen, Hardyns, & Stronks, 2015). No empirical studies of the concept of social safety in an educational context could be found for inclusion in the literature review.

Behavioral Safety

Bluestein also discusses behavioral safety as a dimension of school safety but does not provide a definition of the construct. Her discussion of behavioral safety centers around behavioral issues and the use of discipline within the school. However, it is unclear how behavior safety is different from physical safety or emotional safety as harsh or inappropriate disciplines seems to be a threat to both of these areas. A review of the literature provides further evidence that behavioral safety is not a construct commonly used in the area of educational research. Research using the construct of behavioral safety is primarily focused on workplace or occupational safety and the prevention of accidents

that would cause physical harm to employees. For these reasons, no empirical studies using behavioral safety in an educational context are included in this literature review.

Measures of Campus Climate in the Postsecondary Context

Researchers in the field of education have commented on the lack of agreement with regard to the definition and conceptualization of climate within the postsecondary context and how this lack of agreement negatively impacts the ability to compare results across studies and assess their validity (Hutchinson, Raymond, & Black, 2008; Worthington, 2008). Many campus climate surveys were developed in response to recommendation made by the White House Task Force to Protect Students from Sexual Assault and focus narrowly on that particular aspect of safety (Center for Creating a Campus Culture, 2016). In the area of campus safety, several studies have been conducted using surveys that measure various aspects of campus safety (Seo, Blair, Torabi, & Kaldahl, 2004; Fisher & May, 2009; Janosik, 2004; Jennings, Gover, & Pudrzynska, 2007; Reed & Ainsworth, 2007; Tomsich, Gover, & Jennings, 2011; Wilcox, Jordan, & Pritchard, 2007; Woolnough, 2009); however, these measures typically provide information on threats to physical safety, including theft, assault, and other crimes on campus (National Campus Safety Initiative, 2016; USDOE, n.d.), with a few exceptions also examining psychological safety (Butler-Kisber, 1993).

Responding to the lack of an interdisciplinary conceptual frameworks in the higher education context, the NCSSLE (2017) argues that “(c)ampuses must measure the real and perceived comfort, safety, and membership of students to assess the climate” and connect diversity and inclusiveness to campus safety (“Assessing climate” section). A few large-scale survey instruments have begun to include items that relate to both physical and non-physical aspects of safety. Beginning in 2009, the Diverse Learning Environments Survey (Hurtado & Ruiz, 2012) was administered at 31 college campuses

to understand the experiences of underrepresented minority (URM) students and evaluate the racial campus climate. The survey includes items that assess experiences with discrimination, cross-racial interactions, validation, and sense of belonging (Higher Education Research Institute, 2017). The survey also asks about incidents of sexual assault on campus. The National Survey on Student Engagement (2016) now includes four questions on “Safety and Belonging”; however, these questions only address the student’s perceptions at the campus level and provide no information about how safety may vary according to different environments within the campus.

In addition to problems with the conceptualization of climate and safety within the higher education context, developers of existing climate measurement instruments have been criticized for failing to examine and report their psychometric properties. Responding to the lack of studies analyzing the psychometric properties of measure of campus climate, Hutchinson, Raymond and Black (2008) examined the Virginia Tech University Undergraduate Assessment of Campus Climate and Graduate Assessment of Campus Climate, which are both based on the model developed by Hurtado et al. (1999). Results supported a multidimensional model consisting of psychological and behavioral dimensions. The data demonstrated invariance across race/ethnicity and gender (Hutchinson, Raymond, & Black, 2008).

One instrument that measures safety as a domain of the college campus environment is the College Campus Environment Scale (CCES), which was developed by Fish, Gefen, Kaczetow, Winograd, & Fattersak-Goldberg (2016). The CCES measures “the campus characteristics valued by students” (p. 153), and the college campus environment is conceptualized as consisting of six factors: academic and career expectations, athletics, health, role models and mentors, safety, and social and extracurricular activities (Fish et al., 2016). In this instrument, safety is conceptualized

only as physical safety and is operationalized by ten items. Interestingly, the authors found that items that loaded on the safety factor also loaded on academic and career expectations (Fish et al., 2016). Because the items on the academic and career expectations factor refer to concepts related to psychological safety, this finding provides some indication that safety is a construct that consists of more dimensions than simply physical safety.

A nation-wide study of campus climate for LGBTQ college students by Garvey, Taylor and Rankin (2015) utilized a survey developed by Rankin (2003), which conceptualized campus climate as consisting of six dimensions: friendliness, concern, cooperation, improvement, welcoming and respect. The survey measured two additional factors shown to be related to campus climate—the campus context and the classroom context. The campus context included campus responses and campus resource use, and classroom context included classroom climate and curricular issues. Classroom climate was operationalized as students' perceived safety in classroom buildings, overall comfort with classroom climate, and feeling welcome in the classroom as an LGBTQ student. Cronbach alpha values for the factors ranged from .89 to .96 (Garvey et al., 2015). Results demonstrated that classroom climate was the strongest predictor of overall campus climate.

Measuring Classroom Climate in the Postsecondary Context

The following section presents a review of the measurement of classroom climate in the postsecondary context. An understanding of the various measures that have been developed and their limitations is necessary because the construct of perceived safety in the learning environment, which was the focus of this study, may be conceptualized as either a domain of classroom climate or an outcome of classroom climate. Classroom climate has been defined as the “intellectual, social, emotional, and physical

environments in which students learn” (Ambrose, Bridges, DiPietro, & Lovett, 2010, p. 170). It is important to note that safety is identified as a domain of classroom climate in only one of the measures in this review (McKinney, McKinney, Franiuk & Schweitzer, 2006).

Several limitations have been identified in the measurement of classroom climate, including the lack of interpretability of overall scores, the non-linear nature of many of the factors, variation within each classroom, and the subjective nature of self-reports (Babad, 2009). Though it is common to speak of classroom climate as a global construct, it is argued that the dimensions of classroom climate measured in existing instruments should be examined separately due to the fact that some factors can be conceptualized dichotomously while others cannot. Because some of these factors behave in a non-linear fashion, it becomes challenging to describe the nature of the classrooms at the middle of the continuum. The use of means in classroom climate research also tends to ignore variance within the classroom and does not typically examine whether variance is systematic rather than random in nature. Finally, the practice of averaging individual student self-reports to measure classroom climate at the classroom level has been criticized for its lack of objectivity (Babad, 2009).

At the postsecondary level, relatively few measures of classroom climate exist. The College and University Classroom Environment Inventory (CUCEI) was developed by Fraser, Treagust, and Dennis (1986) in order to give instructors information to make improvements to the learning environment. It is a 49-item measure that identifies seven aspects of classroom climate including: personalization, involvement, student cohesiveness, satisfaction, task orientation, innovation, and individualization. Subscales had Cronbach Alpha coefficients ranging from .70-.90. (Fraser, 1998).

Another measure of classroom environment, the College Classroom Environment Scale (CCES) was developed specifically for the postsecondary context (Winston et al., 1994). The measure conceptualizes classroom climate as consisting of the following 6 subscales: cathectic learning climate (CLC), professorial concern, inimical ambiance, academic rigor, affiliation and structure. Factor analysis of the instrument was conducted in a study of 1112 university students and results supported a six-factor solution. Coefficient alpha for the six subscales ranged from a low of .6 for inimical ambiance to a high of .92 for CLC; Pearson product moment coefficients ranged from .38 for the structure subscale to .81 for CLC. All subscales except for the structure subscale was found to be significantly correlated with the seven CUCEI subscales. The CLC subscale correlated highest with students' assessment of the course value and the effectiveness of the instructor, and group discussions were the instructional method most highly correlated with CLC (Winston et al., 1994).

The Classroom Community Scale was developed by Rovai (2002) for use with university students taking online classes. The twenty-item scale was constructed to reflect the following characteristics of sense of community: feelings of connectedness, cohesion, trust, and interdependence among members. A panel of three university professors evaluated the items for content validity. Factor analysis of the data did not support a four-factor solution as expected, but revealed two factors that the author identified as connectedness and learning (Rovai, 2002).

The Sense of Classroom Community Questionnaire (SCCQ) was developed based on the Sense of Community Questionnaire used to measure the sense of community in neighborhoods and has been found to correlate with performance on exams and perceptions of learning (McKinney, McKinney, Franiuk & Schweitzer, 2006). It consists of 33 items measured on Likert scale of 1 to 5. The measure was constructed to reflect the

following six variables: connection, participation, safety, support, belonging, and empowerment. The reliability of the instrument was $\alpha = .91$ at the first administration and $\alpha = .92$ at the second administration. However, the sample size used to analyze the reliability of the measure was only 40 participants and the factor structure of the instrument was not examined. Because the factor structure was not examined, the safety-related items are not able to be utilized as an independent subscale; however, based on their relevance for the construct of safety within the classroom context, the safety-related items from the SCCQ were used as a point of comparison during the item construction phase.

Gaps in the Conceptualization and Measurement of Perceived Safety

From this review of the literature related to perceived safety, it is clear that there is a lack of clarity around its conceptualization and measurement within the postsecondary context. There is also significant differences with regard to how safety is conceptualized within the K-12 context and the postsecondary context. Within the K-12 literature, safety is described as a domain of school climate and/or culture; within the postsecondary context, safety is not recognized as a domain of campus climate and is only addressed in one measure of the classroom environment. Within the K-12 literature, both physical and non-physical aspects of safety are recognized as components of safety; however, in the postsecondary context, safety is more commonly used to refer to only threats to physical safety. Due to these limitations of the conceptualization of safety within the postsecondary context, it is necessary to utilize a mixed methods approach that begins with examination of qualitative data gathered directly from the target population.

In addition to the lack of a conceptualization of perceived safety specific to the postsecondary context that addressed both physical and non-physical aspects of safety, there is a need for a measure that provides information from the student's perspective and

is brief enough to be used both in research and as a formative assessment tool for instructors. As has been demonstrated by the literature review, no measures currently exist that focus solely on the construct of perceived safety in the college classroom, and the only instrument (SCCQ) that includes safety as a domain of the classroom environment is limited due to its ecological focus.

Though information about student perceptions of the classroom environment is valuable, measuring characteristics of the environment alone does not allow for variation with regard to students' ability to manage threats or receive protection from the environment. For example, students may agree that a judgmental instructor contributes to an unsafe learning environment; however, some students may still perceive that environment as relatively safe because they have a strong sense of self-efficacy and/or identity. To fill this gap in measurement, an instrument that is grounded in the experiences of postsecondary students, reflects the domains of safety (both physical and non-physical) that are most salient to these students' experiences, and captures the complexity of the construct of perceived safety is needed. Such an instrument will provide educators, including social work educators, with a tool to inform pedagogical decisions and provide appropriate, targeted support for all students.

Conservation of Resources Theory

The critical analysis of the limitations of current conceptualizations and measurement of the perception of safety for postsecondary students in the learning environment was informed by consideration of the Conservation of Resources Theory. Due to the influence of this theory on the formulation of this study, the following section will include a brief description of this theory and its place within the larger literature on stress and motivation. This description will be followed by a review of studies that utilize

COR theory as an organizing framework and hold relevance for this study of perceived safety.

Because students at both universities (Towbes & Cohen, 1996) and community colleges (Pierceall, & Keim, 2007) report higher than average levels of stress, conceptualizing learning as a stress process that is unique to the individual is useful for understanding student motivation to engage within the classroom and/or the larger campus environment and persist towards their educational goals. For example, encountering stressors in the form of challenge within a supportive environment that promotes that management of those stressors may be an opportunity for growth. However, stressors experienced within an unsupportive or hostile environment or by an individual who is more vulnerable to the negative effects of those stressors may result in physical and/or psychological distress.

Theories that attempt to explain the stress process include those that define stress according to the stimulus, those that focus on the appraisal of the event and those that present a transactional view of stress. Theories that focus on stimulus define stressors as those events that are most commonly associated with physiological or psychological distress. The advantage of this environmental view of stressors is that it allows for the study of the stress process prospectively and the division between stress response and neurotic symptoms (Dohrenwend, Dohrenwend, Dodson & Shrout, 1984). However, this approach has been criticized for failing to recognize the importance of internal psychological processes in the perception of stress.

Theories that focus on the perception of events define stressors as those events that present threats to the physical or phenomenological self (Spielberger, 1966, 1972). Spielberger found similarities in the way that individuals responded to physical threats and variation in the response to phenomenological, or ego, threats according to

personality traits. This three-part conceptualization of stress as an interaction between appraisal, known environmental threats, and personality traits has been criticized for its complexity and has not often been utilized by stress researchers for that reason (Hobfoll, 1989).

The homeostatic model of stress has become influential and defines stress as “a substantial imbalance between environmental demand and the response capability of the focal organism” (McGrath, 1970). Within this theory, perception is key in that it is the perception of an imbalance between the two factors that is important rather than any objective measure of the factors. However, the homeostatic model has been criticized “because it does not separately define demand or coping capacity” and therefore is tautological and cannot be rejected (Hobfoll, 1989, p. 515).

In response to these deficits in stress theory, Hobfoll (1989) developed the model of conservation of resources (COR), which provides a testable compromise between the environmental and cognitive approaches previously outlined. Hobfoll’s model is based on the premise that “people strive to retain, protect and build resources and that what is threatening to them is the potential or actual loss of those valued resources” (1989, p. 516). Hobfoll’s theory is strongly influenced by and builds on Bandura’s social learning theory in its recognition that the goal of human interaction with the environment is to gain positive reinforcement. COR theory posits that this goal is achieved by maintaining “personal characteristics and social circumstances that will increase the likelihood of receipt of reinforcement and to avoid the loss of such characteristics and circumstances” (Hobfoll, 1989, p. 516).

In this way, the conservation of existing resources can be viewed as a key motivating factor for any behavior and one that takes primacy over the acquisition of new resources. In fact, a large body of research has demonstrated the association between

resource loss and burnout, depression and physiological outcomes. Due to the negative outcomes associated with resource loss, COR theory predicts that individuals will take actions to preserve existing resources even if those actions limit their ability to acquire new resources. This prioritization of the conservation of existing resources can be important to understand the behavior of students within the postsecondary learning environment who may choose to disengage physically, mentally, or emotionally from the environment in order to preserve valued resources.

The model can be used to predict behavior both when individuals are encountering stressors and when they are not. When individuals are not currently encountering stressors, they become focused on accumulating resources that can help them better manage a future loss of resources. In this way, those who encounter stressors more frequently are less able to accumulate resources for the future and are often described as operating in a self-protective style of behavior due to their perceived and actual vulnerable state (Arkin, 1981). This idea can also be used to explain widening gaps in educational achievement between groups that report different rates of exposure to environmental stressors due to the compounding effect of the threat of resource loss the consequent focus on protection over acquisition of new resources. Hobfoll describes this phenomenon as the resource loss spiral (Hobfoll, 1989); this phenomenon and its correlate, the resource gain spiral, have been supported in several empirical studies (Demerouti, Bakker, & Bulters, 2004; Makikangas, Bakker, Aunola, & Demerouti, 2010; Whitman, Halbesleben & Holmes, 2014).

In order to utilize the COR theory appropriately, an understanding of the definition of resources is first necessary. Hobfoll defines resources as “those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or

energies” (1989, p. 516). This conceptualization of resources in COR theory has been criticized in the organizational behavior literature because of the assumption that a resource must result in a positive outcome, which conflicts with studies that have shown that bad outcomes may result from factors that were considered resources (Halbesleben, Harvey & Bolino, 2009). In an effort to extricate the conceptualization of resources from any potential outcome, Halbesleben, Neveu, Paustian-Underdahl and Westman (2014) offer an alternative definition of resources as “anything perceived by the individual to help attain his or her goals” (p. 1338). They also emphasized that what is considered valuable may change with time and according to context.

Ten Brummelhuis and Bakker (2012) built on the four categories of resources (objects, personal characteristics, conditions and energies) described by Hobfoll and offer a six category matrix of resources divided into internal versus external, stable versus volatile, and macro versus key resources. They also describe how both cultural/societal value and personal value determine the assessed value of a resource for the individual. They argue that a resource must hold value within the societal context in order to be invested; yet the personal value that it holds for the individual within an idiosyncratic context may increase or decrease that value. For example, within the postsecondary education environment, a student may come to understand that assertiveness is valued in the classroom; however, they may hold a personal value instilled by family that group harmony is important, which would lessen the perceived value of the resource of assertiveness.

COR has also been utilized in research in the field of postsecondary education to explore predictors of academic burnout and engagement among college students. A study by Alarcon, Edwards, and Menke (2010) examined the resources of conscientiousness and social support and their relationship with academic burnout and engagement and

hypothesized that individuals with more resources would perceive less threat from the environment and have higher levels of engagement. Results showed that perceived demands partially mediated the relationship between resources and problem-focused coping strategies, and coping partially mediated the relationship between demands and engagement.

Several studies have provided evidence that higher levels of resources are associated with higher levels of engagement (Hobfoll, 2002). A study of Dutch university students by Ouweneel, Le Blanc and Schaufeli (2011) examined the relationship between personal resources, namely hope, self-efficacy and optimism, and engagement. Results supported Hobfoll's description of a resource gain spiral in that students' personal resources predicted engagement and engagement had an influence on resource levels. An evaluation study by Feldman, Davidson, and Margalit (2015) of an intervention aimed at increasing the personal resource of hope reported that increased personal resources were associated with higher grades in the semester following the intervention. Students with higher levels of personal resources also reported the intention to invest greater effort in achieving their academic goals (Feldman, Davidson, Margalit, 2015).

An important recent study by Kennedy-Lightsey (2017) used COR theory to predict the relationship between emotional exhaustion, anger, emotion work, emotional support and instructional dissent among university students at the end of the semester. Kennedy-Lightsey argues that students experience emotional exhaustion when they feel unable to engage in their schoolwork due to depleted emotional resources. Anger, then, is a self-preserving reaction to a perceived threat to valued resources when one is in a vulnerable state. In this study, emotion work refers to "students' monitoring and managing undesirable emotions in the classroom" (Kennedy-Lightsey, 2017, p. 192) due to a lack of perceived power and fear of retribution (Goodboy, 2011). Study results

indicated that emotional exhaustion predicted anger and anger predicted expressive dissent, which was used as a mechanism for regaining emotional resources that had been lost. The study highlights the importance of encouraging and modeling appropriate communication with the instructor and social support networks as a way of managing anger and preventing emotionally exhausted students from experiencing burnout.

The current study was informed by COR theory in its conceptualization of safety as the protection of valued resources, in the form of one's physical, psychological, emotional well-being and identity. It is hypothesized that individuals with lower levels of resources that are perceived to be valuable to protect oneself from a threat will experience lower levels of perceived safety. In this way, perceived safety as a variable would play a similar role as anger in the study by Kennedy-Lightsey (2017) and stress as outlined by Hobfoll (1998), though it could be argued that anger and stress would be an outcome of perceived safety. In the opposite direction but similar to anger, perceived safety would be hypothesized to have a strong positive relationship with emotional support and a negative relationship with emotion work, which reflects an environment that is unsafe to express one's opinion and feelings. From a COR perspective, a lack of engagement in the classroom that results from low levels of perceived safety can be seen as an adaptive response utilized to prevent loss of valued resources and protect one's physical, psychological, and emotional well-being and identity. In this way, COR theory is useful for hypothesizing predicted relationships between perceived safety and other known variables, which were used to examine the validity of the measure of perceived safety developed as a result of this study.

CHAPTER III: METHODS

The following chapter consists of a detailed description of the methodology that was utilized in the research study and a rationale for its use. Because this is a mixed methods study, the particular type of mixed methodology that was chosen is first described along with the rationale for that decision. This is followed by a description of the methods that were used in the qualitative phase, and the chapter ends with a description of the methodology that was used in the quantitative phase. It should be noted that, because the purpose of the study is the development of a measurement instrument, there is an intermediate phase between the qualitative and quantitative phases of the study during which the items of the measurement instrument were constructed, reviewed and revised. This phase is also described in the following chapter.

Mixed Methods Research

Because qualitative and quantitative research methods are typically associated with disparate ontological viewpoints, there has been much debate between these philosophical camps over the legitimacy of each methodology (Sandelowski, 1986). While some researchers remain staunchly convinced of the inherent superiority of one methodological perspective over the other, more pragmatically-minded scholars have described ways in which the two methodologies might be used to complement one another in the pursuit of knowledge (Haase & Myers, 1988; Howe, 1992; Reichardt & Rallis, 1994). Qualitative methods typically take an idiographic approach to a subject and can produce thick, rich data that is not possible with quantitative methods. On the other hand, quantitative methods offer us the possibility to generalize to larger populations,

which is not the purpose of qualitative methods. By combining the two, it becomes possible to gain a more thorough understanding of a phenomenon from both a subjective and objective perspective. From this pragmatic approach to research, mixed methods research was born and has developed into its own field of study over the past thirty years (Creswell & Plano, 2011; Greene, 2008).

Mixed methods research refers to studies that involve the collection of both quantitative and qualitative forms of data (Creswell, 2009). Greene, Caracelli and Graham (1989) outline five motivations for using multiple methods within a study, namely triangulation, complementarity, development, initiation and expansion. The two key motivations for the use of a mixed methods approach in the current study are triangulation, which seeks to “increase the validity of the data and minimize bias” and development, in which researchers “use the results of one method to enhance the other” (Mayoh & Onwuegbuzie, 2015, p. 91-92). A mixed methods design was chosen because it is argued to be the most effective way to improve validity estimates when developing a measurement instrument (Creswell & Plano Clark, 2011; Onwuegbuzie, Bustamante & Nelson, 2010; Teddlie & Tashakkori, 2009). It is particularly beneficial in cases, such as the case of the construct of perceived safety in the learning environment, where no measurement instruments exist and/or conceptualizations of constructs are found to be lacking (Creswell & Plano Clark, 2011). By grounding the creation of items of the measurement instrument in the experience of participants from the target population of undergraduate students, the validity of the resulting instrument to measure the construct of perceived safety in the learning environment with that population is strengthened.

Sequential Exploratory Mixed Methods Design

Though all mixed methods studies contain both a qualitative and quantitative component, the order in which these phases of the study are conducted varies by type of

mixed methods design. Depending on the research question and purpose of the study, the qualitative and quantitative phases may be conducted either sequentially or concurrently with emphasis placed on either the quantitative or qualitative component (Creswell, 2009). Because the purpose of the current study was to develop a measurement instrument, the current study utilized a three-phase sequential exploratory mixed methods design described by Creswell and Plano Clark (2011) in which the qualitative phase is conducted first, followed by the item development phase, and concluding with the quantitative phase. According to Creswell, this three-phase, sequential, exploratory mixed methods design is “especially advantageous when a researcher is building a new instrument” (Creswell, 2013, p. 216). When using this mixed methods design in scale development, the findings of the qualitative phase are used to ground and inform the item generation process, thus supporting the internal validity of the measure. Though the initial qualitative phase is typically given priority in this design, it is the researcher’s position that all phases were equally important in the development of the measurement instrument. A graphic illustration of the design sequence is shown in Figure 3 below.



Figure 3. Three phase sequential exploratory study design for instrument development.

Mixed Methods Phenomenological Research

Mixed methods research has been criticized by scholars who argue that qualitative methods and quantitative methods are incompatible due to their different ontological and epistemological foundations; quantitative methods are typically based on a postpositivist

perspective, while qualitative methods are generally based on a constructivist perspective. Yet, it is possible to acknowledge the inherent subjectivity of all human knowledge while also acknowledging the potential for scientific examination, however imperfect, of some aspects of the human experience that are shared.

Though it is possible to combine any type of qualitative and quantitative methods within a study, some approaches are more conducive to mixed methods because they do not represent the most extreme points on the quantitative-qualitative methodological continuum. Descriptive phenomenology is an example of a qualitative methodology that shares some characteristics and objectives of more postpositivist methodologies. Mayoh and Onwuegbuzie (2015) use the term mixed methods phenomenological research (MMPR) to refer to any mixed methods study that incorporates phenomenology as one of its components. They argue that there are two key characteristics of descriptive phenomenology that make it particularly compatible with quantitative methods: its focus on universal structures and the nature of phenomenological reduction (Mayoh & Onwuegbuzie, 2015). An MMPR design was determined to be the most appropriate choice of methodologies for the current study because it offers a process through which the subjectivity of each individual's experience can be honored, while elucidating the structure of a shared experience across individuals to inform the conceptualization of perceived safety in the postsecondary learning environment.

The eight steps of scale development outlined by DeVellis (2016) were completed within the above described mixed methods framework. According to DeVellis (2016), the first stage of scale development involves specifying a "theoretical model that will serve as a guide to scale development (p. 61). In Chapter 2, several theoretical models of safety within an educational context are described and particular emphasis was given to the model outlined by NCSSLE (2016). However, because none of the theoretical models

were developed based on empirical data from postsecondary students, it was necessary to design a qualitative study that would provide such data and develop an original conceptualization based on the data. For this reason, step 1 of the scale development process described by DeVellis (2016) aligns with the qualitative phase of the mixed methods study.

The intermediate phase between the qualitative and quantitative phases aligns with DeVellis's (2016) steps two through five. Step two involves generating an item pool. In step three, the researcher determines the format for the instrument. In step four, the initial item pool is reviewed by a panel of experts. This study included an additional step of cognitive interviewing with undergraduate students after the expert review in order to strengthen the quality of the test instrument prior to administration. Step five involves considering which validation measures will be included with the instrument. These steps are described in detail as part of the intermediate item construction phase in this chapter.

The final quantitative phase of the mixed methods study aligns with steps six through eight described by DeVellis (2016). Step six involves the administration of the final item pool to a development sample. In step seven, the items are evaluated based on the quantitative data from the development sample. The final step involves optimizing scale length by eliminating items that do not offer unique information at any level of the construct or duplicate the information provided by other items. This final step was outside of the scope of this study and will be the focus of future studies.

The Role of Theory

In this study, COR theory was utilized during the analysis phase of the qualitative study, in the creation of the measurement instrument items, and during both the hypotheses formulation phase and the analysis phase of the quantitative study. Qualitative

data gathered from study subjects was analyzed and the narrative description of the structure of the phenomenon was compared to the elements of COR theory. At this stage, the degree of congruence between the theory and the data and the particular areas in which the data contradicted the theory was discussed. In particular, the degree to which the two constructs of protection and threat posited by COR theory are reflected in the narrative description of the phenomenological structure was determined, and this determination impacted the formulation of the conceptualization that was the basis for the creation of the measurement instrument. Therefore, the findings from the qualitative study determined the degree to which COR theory was utilized in the consequent phases of measurement development and testing.

Phase One: Descriptive Phenomenological Study

Phenomenology was chosen as the research methodology for the qualitative phase of the study because it allows us to gain a rich description of the construct of safety and its dimensions from the perspective of the student. Phenomenology is a philosophy that has its origins in the work of Husserl (1962) at the beginning of the twentieth century and addresses the essential epistemological issues related to our understanding of the world and the ways in which knowledge is gained. A phenomenological approach to science and knowledge-building rejects the subject-object dichotomy that dominates empirical perspectives and is instead interested in the reality of an object as it is perceived and described by the individual who has experienced the phenomenon (Husserl, 1970a, 1970b, 1983, 1989). A study utilizing a phenomenological research perspective acknowledges that “nothing can be known or spoken about that does not come through consciousness” (Giorgi, 2009, p. 4); thus, the relationship between knowledge and the consciousness of the experiencer is of primary concern in a phenomenological study. Though all phenomenological research shares this focus on consciousness, a distinction

must be made between the two primary schools of thought within phenomenology, namely interpretive phenomenology and descriptive phenomenology.

Descriptive phenomenology remains closely tied to the work of Husserl who, breaking from the positivists, asserted that knowledge was subjective; despite the subjective nature of all knowledge, Husserl believed that through the process of bracketing, it was possible to describe the essence of a phenomenon by suspending one's preconceived ideas about the phenomenon. The purpose of a descriptive phenomenological study is the development of descriptions of the essence of lived experiences, which is accomplished by suspending judgements about what is real (Moustakas, 1994; Stewart & Mickunas, 1990). On the other hand, the interpretive approach to phenomenology developed by Heidegger rejects the possibility of bracketing one's biases or separating a phenomenon from its contextual features. It is the contextualized meaning as interpreted by both the participant and the researcher that is of interest in an interpretive phenomenological study.

Despite these very important differences between the two major phenomenological schools of thought, researchers often fail to articulate the type of phenomenology being utilized and the rationale for this choice. The current study utilized a descriptive phenomenological approach, rather than an interpretive approach, to the research question because the purpose of the qualitative phase of the study was to describe the essence and structure of the phenomenon of perceived safety, which is based on the post-positivist assumption that it is both possible and valuable to understand the human experience in this way (Husserl, 1962). Following the philosophical principles of descriptive phenomenology, the qualitative phase of this study took both a subjective and objective approach to exploring the phenomenon of safety within the learning environment for undergraduate students by describing the subjective experience of

individuals and highlighting the structure of the common essence of their shared experience. Descriptive phenomenology was the appropriate choice for the qualitative phase of the study because the result was detailed description of the structure of the phenomenon, which directly correlates to DeVellis's phase one requiring specification of a model to be used to guide the scale development process.

Research Questions

Because a sequential mixed methods research design was employed in the current study, the research questions for the first phase of the study directly influenced the research questions and hypotheses for the second phase. As highlighted by Creswell (2009), it is problematic to state the research question for the second phase of a sequential mixed methods study because the results of the first phase are used to inform the direction of the second phase. The following research questions refer only to the qualitative phase of the study.

1. How do students describe their experiences of safety in the postsecondary learning environment?
2. Which dimensions of safety (e.g. physical, psychological, socio-cultural) are most salient in students' perceptions of safety in the postsecondary learning environment?
3. How does one's perception of threat and the ability to manage that threat affect the student's perception of safety in the college classroom?

Study Context

The study was conducted at the University of Louisville (U of L), which is a medium-sized, urban, public postsecondary institution located in Louisville, Kentucky. U of L is a four-year research I level university offering bachelor's degrees as well as

graduate degrees. The freshman retention rate at U of L is 80% (U of L, 2016) and approximately 68% of students live off-campus (U of L, 2016).

Sample Population

The University of Louisville has an undergraduate student body of approximately 16,000 students (U of L, 2016). The U of L student body is 51% female and 49% male. With regard to racial diversity, the U of L student population is 73.6% White, 10.6% Black or African-American, 4.3% Hispanic or Latino, 3.8% Asian, 0.1% Alaskan Native or Native American, 0.1% Native Hawaiian or Pacific Islander, 4.2% two or more races and 3.1% non-resident alien (U of L, 2016). The vast majority (94%) of full-time undergraduate students at U of L receive some type of financial aid (U of L, 2016) and 76.6% of students attend school full-time.

Sampling Method

As is typical in phenomenology, a criterion sampling method combined with maximum variation sampling was utilized. The criterion for selection was the experience of being an undergraduate student at a postsecondary institution. In alignment with sample size of 5-25 individuals recommended by Polkinghorne (1989) for a phenomenological research study, 11 total participants were recruited from the undergraduate student population of the University of Louisville (U of L).

Participants were recruited through several sections of four general education courses (Cardinal Core) at the University of Louisville. These courses were chosen to maximize variability in the sample because they fulfill requirements that all students must meet to move towards degree at this institution. Maximum variation in the sample was sought with regard to the perception of safety in the learning environment through the use of demographic characteristics shown in the literature to be associated with variation relative to the construct. These demographic characteristics include: race/ethnicity,

gender, sexual orientation, and disability status. By maximizing variation in the study sample, “it increases the likelihood that the findings will reflect differences or different perspectives” (Creswell, 2009, p. 157). It is argued that maximum variation sampling in the qualitative phase supports the creation of a measurement instrument that is valid for use across all levels of the construct of perceived safety.

Goals for maximum variation in the sample were stated as follows prior to recruitment: at least 50% of the participants will identify as non-male (female, transgender female, transgender male, gender non-conforming), at least 30% will be non-White, at least 20% will identify as non-heterosexual and at least 10% will have a documented disability. These percentages were chosen to reflect the demographics of the student population at U of L (U of L, 2016). When sufficient variation was not achieved on each demographic variable through the initial sampling procedure, additional study subjects were recruited from additional sections of the four courses until the perspectives of the targeted subgroups within the undergraduate population were represented.

Exclusion criteria for the study included not being enrolled at U of L during the current semester and lacking sufficient English language ability to comprehend and respond to the interview questions. Because recruitment took place during class time, it was assumed that all participants were currently-enrolled students. It was also assumed that the English language ability of students in these courses would be sufficient for the study because of the English language proficiency requirements at the university.

IRB Approval

The phenomenological study and subsequent member checking was approved by the Institutional Review Board at the University of Louisville. Permission from the department chairs and the individual instructors was sought and received for each class in

which recruitment took place. Institutional Review Board approval documentation for Phase One of the study can be found in Appendix B.

Recruitment Procedures

Potential study participants were recruited by giving a short verbal description of the study and distributing one-page written study descriptions during one class session. During the same class session, study interest forms were distributed that asked the student to indicate their desire to be contacted about participation by writing their email or cell phone number on the interest form. All recruitment forms were then collected. This recruitment method has been suggested as a promising practice for maintaining the privacy of participants and guarding against any possible undue influence because classmates and the instructor do not know the student's response (Miller & Kreiner, 2008). The study description and study interest form can be found in Appendix C and Appendix D.

Ensuring Participant Privacy

Participant contact information, including first name and phone number, was stored in a locked cabinet in a locked office at the University of Louisville and destroyed after the interviews were complete. Signed consent documents were stored in a locked file cabinet in an office that is only accessible to the study investigators. Interviews were audio recorded and these audio recordings were transferred to an encrypted USB at the completion of each interview. The encrypted USB was stored in a locked file cabinet in a secure office accessible only to the principal investigators. Recorded interviews were transcribed and transcripts stored in a locked file cabinet accessible only to the primary investigators. Transcripts were labeled using a numerical system and all possible identifying information removed. Consent forms were stored separately from interview transcripts. Participant contact information was destroyed after completion of the

interviews. Informed consent documents for this study can be found in Appendix E. It should be noted that this study was audited by the University of Louisville IRB and the study was found to be in compliance with all IRB requirements.

Interview Procedures

Interviews began with informed consent procedures and participants were provided with contact information should they have future questions or concerns regarding their participation in the study. Participants then completed a short demographic questionnaire including the following items: age, years in postsecondary education, race/ethnicity, gender, sexual orientation, and disability status. Semi-structured interviews, approximately 60 minutes in length, were used in this study and conducted in group study rooms in the university library. The interview consisted primarily of questions outlined on the interview protocol; follow-up questions closely related to the phenomenon were added as appropriate. When interviews moved towards topics not related to the phenomenon, participants were directed back to the experience under examination and care was taken to avoid leading the participant to provide answers that the researcher was seeking. The interview guide can be found in Appendix F.

The interview questions were formulated to reflect Giorgi's assertion that retrospective description on the part of participants can be considered analogue of the lifeworld situation in human science research. In order to understand experiential phenomenon such as perceptions of safety, Giorgi recommends asking "exactly what the experience was like the last time it was experienced" (2009, p. 116). As the researcher acknowledges that recollection of an experience may be distorted with time, adequate descriptions rather than perfect recollections were the goal of the interview.

Data Analysis

This study utilized a descriptive phenomenological approach to analyzing the data outlined by Giorgi (2009) in *The Descriptive Phenomenological Method in Psychology: A Modified Husserlian Approach*. Giorgi's approach was chosen for its adherence to the essence of Husserl's principles and the practical adaptation of these ideals into procedures that can be implemented in research practice related to psychology. In descriptive phenomenological analysis, the researcher is urged not to go beyond what is provided by the participant. It finds evidence within the data itself rather than drawing on theories or assumptions (Giorgi, 2009). Ambiguities in the data that cannot be resolved by evidence in the data itself are simply described without further speculation. It is argued that this type of analysis has a strong empirical scientific foundation because the findings can be checked by independent examination of the qualitative evidence rather than having to rely on the researcher's interpretation of the evidence (Giorgi, 2009).

The first step in the phenomenological analysis is the assumption of the attitude of psychological phenomenological reduction on the part of the researcher(s). Moustakas describes phenomenological reduction as a repeated reflective process in the description of an experience that results in a "more exact and fuller" description (1994, p. 93). The phenomenological reduction attitude described by Giorgi (2009) and adopted in this study is a less radical perspective than the transcendental reduction attitude described in Husserl's philosophy; however, it is more conducive to research practice in real-life settings and has been accepted as "a legitimate use of the term 'phenomenological' by Husserl" (Giorgi, 2009, p. 98).

The researcher enters into the psychological phenomenological reduction in order to conduct the analysis, which involves separating the researchers' personal past experiences and knowledge related to the phenomenon under study. In phenomenological research, this is accomplished through the practice of bracketing, which is sometimes also

referred to as the “epoche” process. The purpose of the epoche process is to “set aside our prejudgments, biases, and preconceived ideas about things” (Moustakas, 1994, p. 85). In the current study, bracketing was utilized to separate the researcher’s experience with the phenomenon from that of the participants. Because the term bracketing is often used in qualitative research without a clear understanding of what exactly is meant on the part of the researcher, it has been suggested that the researcher be “explicit about the process of bracketing so that others can observe and understand the rules of the game” (Beech, 1999, p. 44). In response to this issue, Gearing (2004) offered a typology of bracketing that highlights the philosophical underpinnings of each particular method.

Based on Gearing’s typology, descriptive, or eidetic, bracketing was chosen as appropriate for the current study because it is rooted in a postpositivist epistemology, which aligns well with the study goals of instrument development (Gearing, 2004). Descriptive bracketing allows the researcher to “see the phenomenon naively and describe it from its essences”, which results in a solid conceptualization of the construct of perceived safety (Gearing, 2004, p. 1441). Bracketing procedures were conducted throughout all phases of the research study and included the “bracketing out” of researcher biases prior to and during analysis and the “bracketing in” of the essence of the phenomenon under examination. Initial bracketing interviews were conducted by a fellow doctoral student in social work and required the researcher to discuss their experiences related to the phenomenon being studied (i.e. perceiving one’s safety as an undergraduate student), assumptions about the experiences of undergraduates at U of L, and predictions about what the results of the study would be. These interviews were recorded and transcribed before the initial participant interviews and stored for later use in the analysis stage. The bracketing process continued throughout the data collection

phase by the researcher writing a memo after each interview (Cutcliffe, 2003), and throughout the data analysis process by weekly reflexive journaling.

Once the initial bracketing interviews and participant interviews were conducted, the next step in the phenomenological analysis process was to read each transcript in its entirety to get a holistic sense of the description. The focus of this reading, from a phenomenological standpoint, was to “get the sense of the whole, while sensitively discriminating the intentional objects of the lifeworld description provided by the participant” (Giorgi, 2009, p. 129). At this point, no notations or memos were made with regard to the data.

After a sense of the whole is understood, the text was then broken down into “meaning units” (MU). This was accomplished by the researcher marking on the transcript where there is a “shift of meaning in the description” (Giorgi, 2009, p. 143). This process was conducted independently by the researcher and co-researcher. After the meaning units were demarcated, the researcher then transformed each meaning unit into language that was focused around the phenomenon being examined. The meaning units varied in the number of transformations based on the richness of the data. The transformation process was organized graphically by columns moving from the first column representing the original response transformed from first person to third person.

With each transformation of the data, the researcher utilized imaginative variation, which is the process of using the imagination to consider all possible underlying themes and structures of the experience. Each transformation also involved a certain degree of generalization of the data that allowed for integration of results across descriptions. The psychological aspect of each meaning unit was further brought forth with each transformation and its relation to the phenomenon under study was highlighted.

In the next step of the process, these transformed meaning units were used to describe the structure of the phenomenon in written form. The researcher utilized imaginative variation to determine the aspects of the description that were common across all experiences. The researcher also considered whether each constituent was essential for the stability of the structure of the phenomenon. This required the researcher to reflect critically about how removing each aspect of the description would impact the quality of the description. This reflective process was further enhanced by the inclusion of member checking after the initial interviews. After holding each aspect of the description up to critical review, a narrative description of the phenomenon was finalized.

This final description of the structure of the phenomenon “represents the essences at a particular time and place from the vantage point of an individual researcher following an exhaustive imaginative and reflexive study of the phenomenon” (Moustakas, 1994, p. 100). For this study, the ultimate goal in this final stage was the development of a solid conceptualization of the construct of perceived safety for undergraduate students in the postsecondary learning environment, including a detailed description of the essential components or dimensions of the phenomenon. The researcher was then able to return to the data and use the structure to explain variation among study subjects’ experiences.

Trustworthiness

Trustworthiness refers to the degree to which the researcher is able to persuade the audience that “the findings of an inquiry are worth paying attention to” (Lincoln & Guba, 1985, p. 290). Lincoln and Guba (1985) suggest that the trustworthiness of qualitative research findings be assessed using four criteria: credibility, transferability, dependability and confirmability. Credibility of the qualitative findings in the proposed study will be enhanced through the use of peer debriefing and member checking. Transferability is supported by the use of maximum variation sampling. Dependability

and confirmability of the findings are enhanced by incorporating an external inquiry audit at the conclusion of the qualitative phase.

Peer debriefing consisted of independent analysis of the data by the researcher and a co-researcher (a fellow doctoral student) and regular consultations among the researchers referencing initial bracketing interviews in order to guard against potential biases. In addition to the initial bracketing interviews conducted prior to data collection, memoing was utilized as a bracketing method after each stage of the analytical phase (e.g. phenomenological reduction, construction of meaning units, imaginative variation, description of the structure) to encourage reflection on the part of the researchers and to make the process more explicit. Memos were shared and examined during peer debriefing meetings between the co-researchers. The qualitative analysis software, Dedoose, was used to facilitate data analysis and allow for inter-rater reliability measurement. Interviews were coded by both the primary researcher and the research assistant until a satisfactory interrater reliability value of Kappa > .60 was achieved, which is described as substantial agreement by Landis and Koch (1977). Once this threshold was achieved, coding was completed individually. However, the final narrative description of the structure of the phenomenon was constructed by the primary researcher.

Member checks have been identified by experts in the field of qualitative research as “the most crucial technique for establishing credibility” (Lincoln & Guba, 1985, p. 314). There are several methods of member checking ranging from returning transcribed verbatim transcripts to members of the original sample to member checking using synthesized analyzed data (Birt, Scott, Cavers, Campbell, & Walter, 2016). Member checking methods also vary with regard to whether the researcher returns to members of

the original sample or recruits additional participants that belong to the same sample population.

For the member checking phase of the study, five additional participants were recruited from the same sample frame as the original phenomenological study in order to enhance transferability of the qualitative findings (Onwuegbuzie, Bustamante, & Nelson, 2010). Recruitment procedures were the same as the procedures outlined for the phenomenological study. Member checking interviews were approximately 60 minutes long and conducted in group study rooms in the university library. Participants were compensated in the form of a \$10 Visa gift card. Consent procedures were the same as the phenomenological study.

Synthesized analyzed data from the phenomenological study was presented to participants in the form of a narrative description of the structure of the phenomenon of undergraduates' perceived safety in the postsecondary learning environment along with a graphic representation of the findings. The member checking interview incorporated questions outlined by Birt et al. (2016) in their Synthesized Member Checking Approach. The questions included:

1. How well does this summary (graphic) match your experience? (Collect this information both quantitatively and qualitatively)
2. Please describe any changes that would make this summary (graphic) better represent your experience.
3. Please describe any additional information that should be added to the summary (graphic) to better represent your experience.

Findings from the member checking interviews were then used to revise the narrative description of the phenomenon and graphic representation prior to moving on to the development of the measurement instrument.

Finally, an external inquiry audit will be conducted by an academic with experience in qualitative research who is not a member of the research team. The inquiry audit will follow the algorithm outlined by Halpern (1983), which consists of both a confirmability check and a dependability check. The purpose of the confirmability check is to assess the degree to which the findings are grounded in the data. The dependability check examines the appropriateness of decisions made by the researcher and assesses the potential for bias in analysis. Materials to be provided to the auditor include raw data, data reduction and analysis products, data reconstruction and synthesis products, process notes, and materials related to intentions and dispositions (Halpern, 1983). Any major issues identified by the auditor will be addressed by the researcher to the auditor's satisfaction prior to moving forward to the measurement construction phase.

Phase Two: Item Pool Generation and Pretesting

Based on the narrative description of the structure of the phenomenon of perceived safety, a detailed visual model of the construct was developed, including all domains and dimensions of the construct identified in the qualitative phase. Using this graphic model of the construct, a measurement instrument that reflects this conceptualization of perceived safety was constructed in phase two of the study. At this point in the study, the purpose and audience for the measurement instrument was clearly stated. At the outset of the study, the stated goal was to develop a measurement instrument that could be used as either a formative or summative assessment tool with the general population of undergraduate students at both colleges and universities.

Item Generation

A pool of items was generated by the primary researcher with the intention of creating items that tap into the phenomenon of perceived safety at all levels of the latent construct. Decisions regarding the format of the items were guided by best practices in

item construction offered by DeVellis, Osterlind, and Haladyna and all steps in the process were documented and clearly described (DeVellis, 2016; Haladyna, 1997; Osterlind, 1989). In making decisions related to item construction, Osterlind (1989) suggests that the writer consider seven important criteria. First, and most important of these, is the congruence criteria, which refers to “the degree of congruence between a particular item and the key objective of the total test” (Osterlind, 1989, p. 42). In order to achieve congruence, “the key objectives must be clearly defined” prior to item construction, which is the second criteria (Osterlind, 1989, p. 43). This was achieved by clearly articulating test content specifications and test item specifications in the form of a table of specifications based on the conceptual model.

Third, care was taken to minimize measurement error, including both random error and systematic bias. Measurement error was minimized by following the guidelines for constructing quality items outlined by Osterlind, DeVellis and Haladyna. Problems related to measurement error were identified through the process of cognitive interviewing and judgmental review (i.e. panel of content experts) (Osterlind, 1989).

Fourth, the format of the items should match the purpose of the test. Because our goal is to create a practical measure, it was appropriate to use a straightforward item format familiar to participants, such as a Likert scale. A five response Likert scale format was utilized for all measurement items as it has been shown to demonstrate reliability at levels comparable to formats using higher numbers of response options and is preferred by respondents (Preston & Colman, 2000).

Fifth, the items should meet technical assumptions of measurement theory, including the assumption of unidimensionality and the assumption of local independence of items. Unidimensionality of test items refers to the assumption that “an examinee’s response to a test item can be attributed to a single trait” (Osterlind, 1998, p. 47).

Unidimensionality of items was supported by adhering closely to the table of specifications during the item construction process. Problems of local independence were identified during the expert review stage and remediated prior to instrument administration.

Sixth, the items should follow editorial or style guidelines. This issue was addressed by first following the editorial guidelines outlined by Osterlind (1989) and, later, modifying the instrument to meet the requirements of the Office of Institutional Research at the University of Louisville. Finally, the items should be reviewed for any legal and ethical concerns (Osterlind, 1989). In order to guard against any such legal or ethical problems, the measurement instrument was reviewed by the Institutional Review Board at U of L and no issues were identified.

Consideration was also given to the number of items to be generated at this stage. As DeVellis (2016) points out, it is impossible to predict the exact number of items that will be generated in the initial item pool. However, we gained an approximate estimate by following the recommendation to create 3-4 times the number of items as desired in the final measurement instrument (DeVellis, 2016). Because the objective was to create a measure that could be completed during a typical class session, the goal for the final scale length was approximately 30 items. Therefore, the goal for the number of items to be included in the initial item pool was set at 90-120 items.

Pretesting

Best practices in minimizing measurement error in instrument development have been described as a “combination of design rules and testing” (Willis, 2005, p. 29). Because test design guidelines have been criticized for lacking specificity and being unable to prevent problems that result from vague objectives, pretesting questions prior to test administration is an essential step in creating a valid and reliable instrument (Willis,

2005). A variety of pretesting methods have been developed to identify issues related to response error, including expert review, cognitive interviewing, traditional field testing, and behavioral coding (Willis, 2005). Because combining pretesting methods is preferable to utilizing a single method alone, expert review and cognitive interviewing were chosen for this mixed methods study. These methods were selected because they have been shown to identify a range of problems, while being both reliable and cost-effective (Campanelli, 1997).

Cognitive Interviewing

In order to enhance the content validity of the measure, the initial item pool along with instrument instructions were examined for problems of response error using cognitive interviewing. Cognitive interviewing has been defined as a technique used “to study the manner in which targeted audiences understand, mentally process, and respond to the materials we present” (Willis, 2005, p. 3). The technique emerged from the study of the Cognitive Aspects of Survey Methodology (CASM) and is based on the four-stage cognitive model which outlines the steps that survey respondents must successfully move through to answer a test question in a way that is free from error (Tourangeau, 1994).

The two primary techniques that have been developed for cognitive interviewing are “think aloud interviewing” and “verbal probing” (Willis, 2005). This study utilized verbal probing techniques rather than think aloud techniques because they help to avoid “discussion that may be irrelevant and non-productive” and lessen the burden on the interviewee (Willis, 2005, p. 55). Verbal probing consists of a one-on-one interview with a member of the target population in which the interviewer asks a question from the instrument, the subject answers, and then the interviewer follows with a question that probes for specific information relevant to the answering of that question. Verbal probing was conducted concurrently (after each question) rather than retrospectively (at the end of

all questions) to guard against recall problems. A variety of probes were utilized including comprehension probes, paraphrasing, confidence judgment, recall probes, specific probes, and general probes (Willis, 2005). The appropriate probing questions were developed by utilizing the Question Appraisal System (Wilson, Whitehead & Whitaker, 2000) to identify problem categories. Using the sample protocol developed by Willis (2005) as a template, the testing protocol containing the anticipated probes were developed prior to recruitment of the interviews; however, the interviewer remained flexible and open to the possibility of adding a “spontaneous” probe as needed (Willis, 2005, p 89).

Approval for this study along with the subsequent survey administration were received from the Institutional Review Board at the University of Louisville and the IRB approval letter can be found in Appendix O. As recommended by Willis (2005), 5-10 participants were recruited from the same general education courses as the qualitative interviews conducted in the previous semester. Participants were current undergraduate students at the University of Louisville attending an on-campus general education requirement class. Quota sampling was utilized to gain a sample that represents the variation in the student population. The following quotas were established prior to recruitment: At least 50% of the participants will identify as non-male (female, transgender female, transgender male, gender non-conforming, etc.), at least 30% will be non-White, and at least 20% will identify as non-heterosexual. Recruitment continued until quotas were satisfied.

Potential study participants were recruited by giving a short verbal description of the study and distributing one-page written study descriptions; study interest forms were then distributed that asked the student to indicate their desire to be contacted about participation by writing their email or cell phone number on the interest form. All

recruitment forms were then collected. This recruitment method has been suggested as a promising practice for maintaining the privacy of participants and guarding against any possible undue influence because classmates and the instructor do not know the student's response (Miller & Kreiner, 2008). The study description can be found in Appendix P; the study interest form for the cognitive interviews was the same form from the phenomenological interviews in Appendix D.

Interviews were in the form of 60 minutes semi-structured interviews conducted in a group study room at the university library. Study subjects were compensated with a \$10 visa gift card upon completion of their interview. Participant contact information, including first name and phone number, was stored in a locked cabinet in a locked office at the University of Louisville and destroyed after the interview was complete. Signed consent documents were stored in a locked file cabinet in an office that was only accessible to the study investigators. Interviews were audio recorded and these audio recordings were transferred to an encrypted USB at the completion of each interview. The encrypted USB was stored in a locked file cabinet in a secure office accessible only to the principal investigators. Consent forms were stored separately from interview transcripts and participant contact information was destroyed after completion of the interviews. Informed consent documents for this study can be found in Appendix Q.

Data consisted of notes taken by the researcher after listening to audio recording of the interviews. This data was analyzed using the three-step process described by Willis (2005). First, each participant's response was typed into an electronic copy of the questionnaire. General comments were included at the end. Second, results were analyzed across responses with a focus on trends. Comments from all participants were compiled and summarized for each question both qualitatively and quantitatively. Qualitative results are useful for describing the nature of the problem, while quantitative results focus

on the frequency of the problem. Third, the final product of the cognitive interviewing process was an organized testing report consisting of the following elements: a description of the survey instrument, a description of the target population, demographic characteristics of the sample, information about the interviewers, description of the techniques used, a question-by-question summary of the results, implications of these results for revision of individual questions and/or the instrument as a whole, and any limitations of the pretesting.

Expert Review

The expert review was a content adequacy assessment utilizing a group of four experts in the fields of undergraduate education, mental health and social work (DeVellis, 2016). The number of experts on the panel followed recommendations by Netemeyer, Bearden, and Sharma (2003). Expert panel members were provided with the conceptualization of perceived safety, including definitions of the construct and its dimensions that the instrument is proposed to measure. Experts were asked to rate the degree to which each survey item reflected the targeted dimension and domain of perceived safety on an “Item-Objective Congruence Rating Form” (Osterlind, 1989) that was created in the survey software, Qualtrics, and sent via an email link. Experts were asked to rate each item as having a “High Degree of Congruence”, “Moderate Degree of Congruence” or “Low Degree of Congruence”. Items that did not receive at least two responses of “Highly Congruent” were subject to review and possible elimination.

In addition to completing the rating form, the experts were also asked to provide qualitative feedback if they felt it would be helpful. The quantitative and qualitative feedback from the experts was summarized into one document for ease of reference. This summary document was used in combination with the summary of the cognitive interview data to inform the process of revising both the survey and the individual items

with regard to formatting and/or content, eliminating individual items, and improving clarity of instructions. The maximum number of items to be included in the measure of perceived safety was set at 80 items in order to avoid overburdening respondents and risking drop-out.

Validation Measures

Two measures were chosen to be administered with the items measuring perceived safety in order to examine the convergent validity of the instrument. Because perceptions of safety have shown to be negatively associated with mental health issues, a measure of anxiety was included as a measure of convergent validity. The Generalized Anxiety Disorder-7 item scale (GAD-7) is a commonly used self-report assessment tool that measures the frequency of anxiety symptoms over the past two weeks. Total scale scores range from 0-21 and includes response options in the form of a four point Likert-type scale ranging from 0-3, with 0 = “not at all”, 1 = “several days”, 2 = “more than half the days”, and 3 = “nearly every day” (Spitzer, Kroenke, Williams, & Lowe, 2006). The GAD-7 has been validated for use with the general population and demonstrates high internal consistency with alpha ranging from $\alpha = 0.89$ to $\alpha = 0.92$ (Lowe et al., 2008; Spitzer et al., 2006). The GAD-7 correlates strongly with other measures of mental health, including the Medical Outcomes Study Short Form General Health Survey (SF-20) ($r = .75$), PROMIS-ADS ($r = .87$) and Mental Health Inventory-5 ($r = .69$ to $.78$) (Kroenke et al., 2016). Though the GAD-7 shows greatest sensitivity in measuring generalized anxiety (89%), it has also shown sensitivity in measuring panic disorder (74%), social anxiety disorder (72%) and posttraumatic stress disorder (66%) (Kroenke, Spitzer, Williams, Monahan, & Lowe, 2007).

As opposed to the negative relationship between anxiety and safety, perceptions of safety have shown a positive association with engagement in the college classroom.

For that reason, the Student Course Engagement Questionnaire (SCEQ) was included as a measure of construct, namely convergent, validity (Handelsman, Briggs, Sullivan, & Towler, 2005). The measure consists of 23 items and utilizes a five point Likert-type scale response, ranging from “not at all characteristic of me” to “very characteristic of me” (Handelsman et al., 2005). The SCEQ consists of four subscales that reflect the dimensions of skills engagement (9 items), emotional engagement (5 items), participation/interaction engagement (6 items), and performance engagement (3 items). Alpha coefficients for the subscales ranged from .76 (performance engagement) to .82 (skills engagement and emotional engagement). The emotional engagement subscale and the participation/interaction subscale have been found to be positive predictors of absolute engagement and were associated with a learning orientation (Handelsman et al., 2005). Participation/interaction engagement has shown to be a significant predictor of final exam grades (Handelsman et al., 2005). In order to avoid over-burdening respondents and risking drop-out, only the emotional engagement and participation/interaction subscales were used to measure student engagement in this study.

Phase Three: Instrument Administration and Validity Testing

In phase three of the sequential, exploratory MMPR study, the measure of perceived safety in the postsecondary learning environment along with the validity measures described above was administered to a sample of undergraduate students. Factor analytic methods were used in this study to examine the underlying factor structure of the measure and evaluate its reliability and validity. Below are the eight hypotheses that were tested in phase three of the study:

Study Hypotheses

Factor Structure

H1. The same dimensions of safety that are identified in the qualitative phase of the study (physical safety, intellectual safety, sociocultural identity safety, psychological safety) will emerge as factors in the factor analysis of the measure of perceived safety for undergraduates in the college classroom.

Reliability

H2. The measure of perceived safety will demonstrate an acceptable level of reliability ($\alpha \geq .7$).

Construct Validity

H3. The measure of perceived safety will be a significant positive predictor of course engagement as measured by the SCEQ.

H4. Anxiety, as measured by the GAD-7, will be a significant negative predictor of perceived safety.

Criterion Validity

H5. There will be a significant difference in the perception of safety by gender with non-male participants reporting lower levels of perceived safety.

H6. There will be a significant difference in the perception of safety by racial/ethnic minority status with non-white participants reporting lower levels of perceived safety.

H7. There will be a significant difference in the perception of safety by sexual orientation with non-heterosexual participants reporting lower levels of perceived safety.

H8. There will be no significant difference in the perception of safety by instructor gender.

Study Design

The study utilized a cross-sectional survey design in that the instrument was administered at one point in time. Approval for the study was sought from the Institutional Review Board at the University of Louisville. The IRB approval letter can be found in the Appendix O.

Study Sample and Sampling Strategy

The sampling frame for this study was the entire undergraduate population at the University of Louisville, which is approximately 16,000 students. The target minimum sample size was set at 400 due to the fact that factor analytic methods are shown to be stable with a population greater than 400 (DeVellis, 2016). A simple random sampling strategy was utilized in order to minimize sampling bias and meet the technical assumptions for the statistical analyses. A random sample of 4,000 students was selected from the sampling frame to participate in the study. This number was determined by targeting a minimum sample size of 400 and setting the projected response rate at a conservative 10%. A low response rate of 10% was assumed because the instrument was delivered via email, which has demonstrated lower rates of response than other methods (Cook, Heath, & Thompson, 2000) ranging from 6% to 76% (Sheehan, 2001). Exclusion criteria included individuals who were not currently enrolled as an undergraduate student in a course at U of L in the semester during which the study was conducted. Both full-time and part-time students were included in the sample.

Procedures

The Office of Institutional Effectiveness at the University of Louisville provided the researcher with a random sample of 4,000 student email addresses. An email was sent to the random sample of 4,000 undergraduate students with a link to the survey questions. The Web-based survey was created using the software, Qualtrics (Qualtrics, 2018), and included the following: informed consent information and the ability to affirm consent

electronically, demographic questions, and the measurement instrument itself along with the validation measures. The survey link was open for four weeks.

The following demographic information was collected for all participants: age, years in postsecondary education, race/ethnicity, gender, sexual orientation, and disability status. Age was measured as a continuous variable. Number of semesters in postsecondary school was measured as an ordinal variable with five categories: 1-2 semesters, 3-4 semesters, 5-6 semesters, 7-8 semesters, 9 semesters or more. Race/ethnicity was a categorical variable with seven categories: White/Caucasian-American, Black/African-American, Hispanic/Latino, Asian/Pacific Islander, Native American, Two or More Races, and Other (please specify). Gender identity was measured as a categorical variable with eight categories: male, female, transgender male, transgender female, gender non-conforming, non-binary and gender-fluid, and other (please specify). Sexual orientation was measured as a categorical variable with six categories: heterosexual, lesbian, gay, bisexual, pansexual and other (please specify). Disability status was measured as a categorical variable with four categories: no documented physical or psychiatric disability, disabled receiving accommodations from university disability resource center, disabled not receiving accommodations from disability resource center and other (please specify).

Information about the course that the respondent is referring to when completing the survey was also collected including course department, course size and instructor gender. Course department was an open response category that was filled in by the respondent and later coded by the researcher. Instructor gender was measured as a categorical variable with three categories: male, female, gender not disclosed, and other (please specify). Course size was measured as a categorical variable with four categories: 0-30, 31-50, 51-100, more than 100.

Participants' responses to the survey were completely anonymous. Subject anonymity was maintained through the use of the "anonymous responses" function in the Qualtrics software, which allows for the tracking of responses to an email invitation without connecting this information to survey responses (Qualtrics, 2018). Subject responses were exported from Qualtrics to an Excel file. All electronic documents were kept on an encrypted USB drive that was stored in a locked file cabinet in a secure office at the University of Louisville. The list of student email addresses was destroyed at the conclusion of the survey administration period.

Because of its demonstrated effectiveness in increasing survey response rates, the Tailored Design Method developed by Dillman, Smyth & Christian (2009) was utilized in this study. The Tailored Design Method is based in social exchange theory and focuses on motivating people to respond to a survey by "finding ways to establish trust and increase benefits, while decreasing costs" (Dillman, Smyth & Christian, 2009, p. 23). In this study, benefits to subjects were increased by providing information about the importance of participation, asking for respondents' help in learning about the phenomenon, thanking respondents in advance, providing the opportunity to receive a tangible reward, and placing engaging questions at the beginning of the questionnaire (Dillman, Smyth, & Christian, 2009). In follow-up contacts, social validation of participation was supported by highlighting that others have already responded and that the opportunity to respond is time-limited (Dillman, Smyth, & Christian, 2009). The cost of participation was decreased by providing a convenient link to the survey, using a format that appears easy to complete, minimizing the amount of personal information requested, and ensuring confidentiality of responses (Dillman, Smyth & Christian, 2009).

Compensation

In the initial email message, potential study subjects were notified that those who responded to the survey would be entered into a drawing for \$100 or \$50 gift card. The winner of the \$100 gift card was randomly selected and contacted via email at the end of the first two week survey period. All those who responded after the drawing were entered into the drawing for the \$50 gift card. The winner of the \$50 gift card was randomly selected and contacted via email at the end of the four week survey period. The winner was asked to respond within one week to arrange pick up of the gift card. If the winner did not respond via email within one week, another winner was randomly selected.

Statistical Analyses

This study was influenced by Classical Test Theory and utilized the latent variable approach to scale development and validation. Though this approach typically consists of exploratory factor analysis (EFA) with an initial sample followed by confirmatory factor analysis (CFA) with a different sample (Cabrera-Nguyen, 2010), this study was an initial pilot validation of the instrument and, thus, consisted of only the EFA phase. All data analysis was conducted using the appropriate packages in the statistical computing software environment R, with primary focus on the psych package due to its focus on psychometric analyses (Revelle, 2018). Reporting procedures followed the guidelines for reporting results outlined by Cabrera-Nguyen (2010).

The initial step of factor analysis involved data screening and assumption testing to ensure that the results of the EFA could be considered accurate. This started with examination of the adequacy of the correlation matrix. Because the instrument being created resulted in ordinal level data (i.e. Likert-type scale), polychoric correlations were utilized rather than product-moment correlations as they have been found to produce superior results for data with five or fewer response categories (Flora, LaBrish & Chalmers, 2012). Because correlation matrices resulting from polychoric correlations

may not be positive definite, it was necessary to create a “smoothed” matrix in which the smallest eigenvalues are adjusted and all are rescaled to sum to the number of variables (Revelle, 2018).

Following these preliminary analyses of the data, hypothesis 1 was tested to assess the degree to which the dimensions of perceived safety that emerged from the qualitative phase of the study would also emerge as factors of the underlying latent construct of perceived safety. Analysis of the factor structure of the items in the measure of perceived safety was conducted by running an EFA using the polychoric matrices previously calculated. Of the several types of factor analysis available, principle axis factoring was chosen as the factor analytic method in the current study because of its alignment with the purposes of measurement development in its focus on the analysis of shared variance (Costello & Osborne, 2005; Gorsuch, 1997). An oblique rotation was used in the EFA because it is more robust due to the assumption of correlation between underlying factors, which is common in social science research (Costello & Osborne, 2005). Results of Barlett’s test should be significant at less than .05 and reject the null hypothesis that the correlation matrix is the identity matrix. KMO values close to 1 are more desirable with values less than 0.5 indicating unacceptable factorability (Kaiser, 1974).

As recommended by Worthington and Whitaker (2006), several criteria were used to determine the number of factors underlying the data. Because using Kaisers’ eigenvalue > 1 rule alone has been determined to be insufficient, determination of the number of factors were based on consideration of the following criteria: Kaiser’s eigenvalue > 1 rule, visual examination of elbow of the scree plot, the proportion of variance accounted for by each factor, and the results of parallel analysis (Hayton, Allen & Scarpello, 2004). Results of the parallel analysis (Horn, 1965) took priority because it

has proven to be one of the most accurate methods for determining the number of factors by comparing average eigenvalues from the data to the average eigenvalues from randomly generated data (Hayton et al., 2004; Zwick & Velicer, 1986).

At this point in the analysis, items were considered as candidates for elimination from the item pool based on problematic cross-loadings and communalities. Items that cross-loaded at values greater than or equal to .32 on at least two factors were highlighted as candidates for elimination in the revised instrument. Items demonstrating low communalities ($< .3$) were also discussed as potential candidates for elimination (Allison, 1999; Tabachnik & Fidell, 2007). When making these decisions, care was taken to retain at least 3 items for each factor to ensure an identified model (Hair, Black, Babin, & Anderson, 2010). After deletion of items, an additional exploratory factor analysis was conducted and the results reported.

Reliability and Validity

Reliability is typically thought of as the degree to which an instrument performs consistently each time it is administered. In order to test Hypothesis #2 (see p. 101), several reliability statistics, including Cronbach's alpha and omega, were calculated and the corresponding values reported as recommended by Revelle and Zinbarg (2009). Cronbach's alpha is the most frequently reported measure of reliability because of its ease of calculation; however, it has been criticized for underestimating reliability (Revelle & Zinbarg, 2009). Omega was also calculated because it has been found to be a more accurate estimate for scales with any microstructures than alpha, despite alpha's popularity (Revelle & Zinbarg, 2009). McDonald's omega is an estimate of "general and total factor saturation" (Revelle, 2017, p. 71), and is more appropriate than alpha if there is evidence of a hierarchical structure after examination of the factor loadings.

Reliability estimates for both the total scale and any subscales were reported. Inter-item correlations, item total correlations, means of item total correlations and factor loadings were calculated and reported as a part of the assessment of the measure, its subscales and items. Reliability estimates (alpha) if an item is dropped were also calculated and used to inform the scale length optimization process. Because this study is the first administration of this instrument, an alpha of .70 or greater is considered as evidence of sufficient reliability (Nunnally, 1978).

In classical test theory, three types of validity are typically discussed in measurement development: content validity, construct validity, and criterion validity (Cronbach & Meehl, 1955). Content validity refers to “the extent to which a subjects’ responses to the items of a test may be considered to be a representative sample of his responses to a real of hypothetical universe of situations which together constitute the area of concern to the person interpreting the test” (Lennon, 1956, p. 91). This conceptualization of content validity, which emphasizes the importance of considering both the items themselves and the ways in which respondents interact with the items, informed the instrument development process outlined in the current study. Though content validity of the measure was not calculated statistically, the strength of the measure’s content validity was supported by grounding the item construction process in the results of the qualitative data, utilizing expert review to assess the degree to which the items of the measure reflect the conceptualization of perceived safety, and conducting cognitive interviewing to understand the interaction between the respondent and the items of the instrument.

The second type of validity, construct validity, refers to “the degree to which a test measures what it claims, or purports, to be measuring” (Brown, 1996, p. 231). Therefore, construct validity must be discussed in relation to theory. The construct

validity of the measure of perceived safety was examined in Hypothesis #1 by comparing the results of the exploratory factor analysis with the conceptualization of perceived safety developed from the qualitative data.

Further construct validation using established theoretical constructs, including anxiety and course engagement, that have been shown to be related to perceived safety were also conducted. Discussion of the evidence supporting these relationships can be found in the previous section on validation measures found on pp. 99-100. In order to examine how well perceived safety predicts self-reported course engagement as stated in Hypothesis #3 (see p. 101), a simple linear regression was conducted using the total scale scores for the measure of perceived safety as the predictor variable and the SCEQ total scale score as the outcome variable. Simple linear regression was determined to be the appropriate analytical approach because the total scale scores for both of the measures can be considered interval level data. Characteristics of the data with regard to linearity, multivariate normality, multicollinearity and homoscedasticity were examined and reported. The predictive relationship was reported as either significant or non-significant with significance levels fixed at $p=.05$.

Hypotheses #4 (see p. 101), which states that student anxiety will be a significant predictor of perceived safety, was tested using simple linear regression. Anxiety, as measured by the total scale score of the GAD-7, was entered as the predictor variable in the regression model and the total score of perceived safety was used as the outcome variable. The predictive relationship was reported as either significant or non-significant with significance levels fixed at $p=.05$.

As opposed to construct validity, which has a theoretical basis, criterion validity refers to the degree to which a scale demonstrates an empirical relationship with stated criterion, “regardless of whether or not the theoretical basis of the association is

understood” (DeVellis, 2016, p. 50). In the current study, criterion validity of the measure of perceived safety was addressed in Hypotheses #5-8 (see p. 101). Criterion validity was assessed by using known-groups validation, which “involves demonstrating that some scale can differentiate members of one group from another, based on their scale scores” (DeVellis, 2016, p. 54). As stated in Hypotheses #5-7, the following variables were hypothesized to demonstrate differences between groups with regard to perceived safety: gender, racial/ethnic minority status, and sexual orientation. As stated in Hypothesis #8, no significant difference between groups was hypothesized based on instructor gender. Statistical significance of the differences between groups was determined using a between-subjects ANOVA, with the significance level fixed at $p = .05$. Appropriate post hoc tests, depending upon equality of group sizes, were conducted and results reported for statistically-significant differences in order to determine where the differences lie for variables consisting of more than two categories.

CHAPTER IV: RESULTS

The following chapter presents the results of the three phases of the mixed methods phenomenological study that aimed at describing the construct of undergraduate students' perception of safety within the college classroom context and developing a valid and reliable instrument to measure that construct. The phase one results section describes the results of the qualitative phenomenological study; the phase two results section describes the item development process, including results of the expert review and cognitive interviews with members of the target population; the phase three results section presents the quantitative results of the administration of the MOPSICC instrument to a validation sample from the target population.

Phase One Results

The phase one results section that follows includes both initial findings and revisions to the initial findings that came as the result of member checking interviews. The initial results are presented first and will be organized by research question and themes within each research question. The phase one results section concludes with the narrative description of the phenomenon and graphic representation of the conceptualization that emerged from the initial interviews. The initial findings are followed by presentation of the results of the member checking, highlighting problematic issues that were identified during this step and revisions that were made based on this additional data; the section concludes with the revised narrative description of the phenomenon and revised graphic representation of the conceptualization of perceived safety in the college classroom.

Description of Study Sample

Phase one of the project included a total of 16 study subjects, with 11 participating in the in-depth semi-structured interviews and 5 additional subjects participating in the member checking phase that followed analysis of the interview data. All study subjects were currently enrolled undergraduate students at the University of Louisville who were recruited from six sections of three different on-campus Cardinal Core (general education requirement) courses. Subjects were recruited from these courses for maximum variation on a number of demographic variables, including age, gender, sexual orientation, year in school and disability status. At the midpoint of the study, it became clear that the sample was lacking variation with regard to gender; thus, the final phase of recruitment presentations during class time included an appeal to potential male and male-identifying participants. Recruitment continued until saturation was achieved as evidenced by the fact that no new dimensions or domains of the primary themes were revealed in the analysis of the final two interviews.

Demographic information for the subjects that participated in the in-depth interviews is presented in this section; separate demographic information for the member checking participants can be found in the following section. The mean age of the sample was 22.27 years, which is similar to the university-wide mean age of 23. The sample included all years in school, though second and third year students made up 64% of the sample. The sample was majority female (64%) and males had to be recruited specifically to ensure sufficient representation from this demographic. Gender categories other than male/female were included on the questionnaire, but no participants identified as belonging to these categories. Non-white (Black, Asian, Hispanic) subjects made up 45% of the sample and 36% of subjects identified as non-heterosexual (gay, lesbian, bisexual).

Only 2 (18%) subjects reported having a disability, though none were receiving accommodations through the university.

The characteristics of the sample demonstrated variation on all demographic variables targeted for this study, and, as such, the participants represent a broad range of perspectives and experiences. It should be noted that the study sample demographics differ slightly from the university demographics in some important ways. For example, while the university population is 73.6% White, the study sample was only 55% White. Similarly, the study sample consisted of a greater percentage of female participants (64%) than the university population, which is 51% female. Because the university does not publish data on the number of students with disabilities, it is unclear how the sample numbers compare to that of the university population; however, the percentage of students with a disability in the study sample is comparable to national studies which have reported that 19% of college students have a disability (USDOE, 2019). Similarly, the university does not publish data on the number of students that identify as members of the LGBTQ community, but the percentage of the study sample that identified as LGBTQ (36%) was higher than the 20% of respondents in a national survey that identified as LGBTQ (American College Health Association, 2019). Demographic information for the participants in the phenomenological study can be found below in Table 1.

Table 1

Phenomenological Study Sample Demographics

Subject	Age	Year in School	Gender	Race	Sexual Orientation	Disability Status
P#1	23	3 rd	Female	White	Heterosexual	No disability
P#2	18	1 st	Female	Asian	Heterosexual	No disability
P#3	20	2 nd	Male	White	Bisexual	No disability

P#4	20	2 nd	Male	White	Gay	No disability
P#5	20	2 nd	Female	White	Bisexual	Disabled, not receiving accommodations
P#6	19	1 st	Female	Black	Heterosexual	No disability
P#7	25	4 th	Female	Black	Heterosexual	No disability
P#8	21	4 th	Female	White	Heterosexual	No disability
P#9	40	3 rd	Male	Black	Heterosexual	Disabled, not receiving accommodations
P#10	20	3 rd	Female	White	Heterosexual	No disability
P#11	19	2 nd	Male	Asian	Gay	No disability

Bracketing

Within the descriptive phenomenological tradition, researchers acknowledge that they come to any research endeavor with prior knowledge, assumptions, biases and opinions on the subject to be studied. From a phenomenological perspective, the role of the researcher is not something to be ignored or assumed to be one of objectivity, but spoken about explicitly. Though complete objectivity can never be achieved by the researcher, steps can be taken to reduce the influence of bias at all stages of the research process. Bracketing is one of the most accepted methods of addressing the issue of bias in qualitative research, and this study utilized a particular type of bracketing known as descriptive (eidetic) bracketing. Bracketing of the researchers' suppositions occurred both prior to and during data collection and during data analysis. "Bracketing in" the essential elements of the phenomenon occurred during the data analysis phase, and unbracketing of the researchers' suppositions occurred after the conclusion of data analysis.

Initial Bracketing Interviews

Prior to data collection, the primary researcher and co-researcher interviewed one another as part of the process of setting aside suppositions to attain the “natural attitude”. During the interview, the researchers were asked to reflect on and describe their overall worldview, their research philosophy, their ideas and philosophy related to the phenomenon of perceived safety, and their own experiences as they relate to perceived safety within the undergraduate context, both as a student and educator. Interviews were transcribed and provided for review to both researchers and referred to throughout the process of data analysis in discussions of researcher bias.

These initial interviews revealed that the co-researchers shared important similarities and differences that informed their way of seeing the world, and it was critical to speak about and record these thoughts and feelings explicitly prior to conducting the study interviews or analyzing the data. From these interviews, it became clear that the co-researchers shared a pragmatic view of science and research that prioritized the question over the methods, and both felt that qualitative methods and quantitative methods were of equal value to the search for knowledge. Both recognized the impossibility of attaining true objectivity in research but, at the same time, felt it was important to make attempts to reduce bias throughout the research process.

While the researchers shared many similarities in the ways in which they viewed research and the process of seeking out knowledge, their varying life experiences allowed the data to be viewed from different perspectives. The two researchers represented different generations with a twenty-year age gap between them. This age gap was important as the primary researcher’s undergraduate experience was during a time-period before safety was spoken about as an issue within educational contexts. Being younger, the co-researcher had been exposed to more discussions of safety as school shooting

events and issues around student mental health had gained more attention in the media and society in general.

Differences in background also meant that the co-researchers had dissimilar experiences around safety within an educational setting. As a White undergraduate student in the 1990s, the primary researcher had not experienced any threats to safety. From these interviews, it became clear that the primary researcher associated the classroom with a sense of safety based on her own experiences and was surprised when others did not feel the same way. On the other hand, as an African-American student in the 21st century, the co-researcher had more experiences of threats to her perception of safety, particularly with regard to her sociocultural identity. This foundation of similarities in scientific worldview combined with differences in life experience was extremely beneficial throughout the analysis process as it facilitated respectful discussion of key points of disagreement and/or confusion.

Reflection Memos

After each of the eleven interviews with study participants, a reflection memo was recorded by the primary researcher. These memos were used by the researcher to document logistical, technical and procedural issues that needed to be addressed in order to improve the quality of future interviews. Observations about the affect and demeanor of the participant were also recorded as necessary to provide important context to the data. Other reflections included thoughts about the researcher's interviewing techniques and ideas for improvements to questions and/or procedures so that rich and thick data would be obtained. Finally, emerging suppositions and hypotheses were recorded so that they could be "bracketed out" in an effort to prevent forming conclusions prior to reviewing all of the data. All 11 of these reflection memos are available for review in Appendix G.

Peer Debriefing Interviews

During the data analysis phase, the primary researcher and the co-researcher met once a month to discuss issues that had come up during the data analysis and make plans for the next phase of analysis. Notes were taken during these meetings to document these discussions and any decisions that were made regarding emerging analytical and procedural issues. During these peer debriefing meetings, initial bracketing interview transcripts and reflection notes were used to inform discussions around bias and highlight potential problems. These meetings were a critical part of the bracketing process as discussions and decisions about what to “bracket in” as essential to the structure of the phenomenon took place during these meetings.

One issue that was discussed during these peer debriefing meetings was the potential influence of theories, particularly Conservation of Resources Theory, that had been investigated as part of the literature review for this study on the primary researcher’s view of the data. Typically, a qualitative study would not involve testing a theory so this influence was examined on several occasions. Another issue of concern centered around the challenge of reflecting both the experience of individuals with more privilege and those with less privilege in the definition of safety since this definition was to be used to create an instrument that would be used with the general student population. Related to this challenge, the phenomenon of “causing harm to self and others” was a point which required considerable consideration and clarification. When considering the dimensions of safety, the potential desire to confirm the three factor structure outlined in the USDOE conceptualization of safety was highlighted and discussed both when creating the original graphic conceptualization and the revised conceptualization based on feedback from member checking. Additionally, it was acknowledged by both researchers that the decision to use the label “psychological safety” rather than “mental safety” or “emotional

safety” when adding the fourth dimension to the conceptualization after member checking may have been influenced by the researchers’ backgrounds in psychology and mental health.

Coding Procedures

Participant interviews were transcribed and each transcript was read through for understanding of the interview as a whole. Each transcript was then broken down into meaning units and those meaning units were assigned codes that focused on the psychological aspect of the meaning unit. After developing these initial “psychologically-focused” codes with the first four transcripts, a code book was developed by comparing codes across transcripts, finding commonalities, and creating a set of “parent codes” that reflect key points shared across participants. Transcripts were coded after each interview and additional “child codes” were added to reflect subthemes within the “parent codes”.

After the completion of the coding process for all transcripts, the “code application” analytical tool in the qualitative software, Dedoose, was used to find codes that occurred across participants. Using this tool, common codes were identified that were shared by a majority of participants and combined into themes. In keeping with the epistemological approach of descriptive phenomenology, we acknowledge that each individual’s experience is unique and only understood from the perspective of that individual; however, we also acknowledge the possibility of a shared experience across individuals and this shared experience may be considered the essence of the phenomenon. This process, known as the phenomenological reduction, is another form of bracketing in that the shared experience of the phenomenon is “bracketed in”, while the experiences unique to the individual are “bracketed out”.

Interrater Reliability Results

After the first four interviews were coded in Dedoose using the code book by the primary researcher and the co-researcher, an inter-rater reliability analysis was conducted using 15 excerpts from the interview transcripts and 5 codes from the code book; the result was a pooled Kappa value of .87, which indicates strong/excellent agreement according to guidelines established by Cicchetti (1994). Cohen's Kappa is a widely-used statistic used to evaluate inter-rater agreement as compared to what would be expected by chance (Cohen, 1960). Because the interrater reliability test result demonstrated sufficient agreement, the remaining seven interview transcripts were divided between the two coders, with the primary researcher coding four and the co-researcher coding three.

Five Shared Themes

Five shared themes emerged from the qualitative data analysis as constructing the essence of the phenomenon of perceived safety in the college classroom: safety is a spectrum; safety is a feeling; safety is a multidimensional construct consisting of three correlated dimensions; perceived safety is a complex, dynamic interaction between internal and external factors; and perceived safety involves protection from being harmed and causing harm. Each of the five themes included its own unique dimensions and properties, which were arrived at through the process of bracketing. Each theme as well as each dimension and property of the theme was interrogated as being essential to the essence of the construct. The following section offers a description of each of these five themes with accompanying excerpts from the transcripts to illustrate the findings using the voice of the participants.

Perceived Safety is a Spectrum

The first research question for the qualitative phase of the study followed the phenomenological approach to research by seeking to understand a phenomenon through the lens of personal experience and asks: "How do students describe their experiences of

safety in the postsecondary learning environment?” The purpose of this research question was to develop a description of safety that was grounded in the experience of the participants themselves. Participants were asked to tell a story about a time in which they felt safe in the college classroom and provide as much detail as possible about the context of that experience. Later, they were asked to tell a story about a time in which they felt unsafe in the college classroom. If they felt that they had no experience of feeling “unsafe”, they were encouraged to describe an experience in which they felt less than “safe”.

When asked to tell stories about their experiences related to safety in the classroom, the majority (6) of subjects described the construct as spectrum with “unsafe” at one end, “safe” at the other end, and “not safe but not unsafe” in the middle. This neutral position was not specifically asked about in the interview guide, but emerged from data in the first four interviews and was added to the interview guide for subsequent interviews. The positive extreme of perceived safety reflects both the perception that a student is able to protect oneself in the face of threat and that others in the environment would protect the student from either experiencing or causing harm. At the negative end of the spectrum, the perception of being “unsafe” is described as a state in which both the student and others are not willing or able to protect the student from harm. The middle point on the spectrum, “not safe but not unsafe”, may either reflect the state in which a student does not feel protected by others but perceives themselves as capable of protecting themselves or a state in which a student does not feel protected but also does not perceive a threat to safety.

Safety was not described by subjects as a dichotomous construct, but rather as a continuous construct with an infinite number of possible values. Their perception of safety could move in either direction along the spectrum throughout the college career,

during a single semester and even during a single class session. It could change gradually or quickly depending upon the nature of the threat or protection that was perceived. The following excerpts illustrate how safety was conceptualized as a spectrum or continuum by participants:

I feel like there's levels of safety and it's more of a spectrum and if you're not feeling threatened then I would classify that as safety. (P#4, White male, age 20)

I feel like tolerate would be somewhere in the middle and just absolute hate would be on the other side and welcome/advocate/accept would be the good of that for somebody. (P#10, White female, age 20)

... I'm never 100% [safe], but not as bad as when I'm outside. But I feel like it doesn't just automatically go away. The fear is always with you. It's just less, but it doesn't go away. (P#7, Black female, age 25)

Safety is a Feeling

In these stories of “safe” experiences within the college classroom, subjects described safety using phrases that focused on their feelings, which provides support for conceptualizing safety as a perception rather than as a characteristic of one’s environment. A majority of subjects (7) used the word “comfort” or “comfortable” when asked what safety means within the classroom context, referring to feeling both physically and mentally comfortable.

But someone, a student in the classroom, felt comfortable enough to bring up that she wasn't comfortable with him cussing, comfortable with some of the things that he was saying because it was a little bit, you know, crude. (P#2, Asian female, age 18)

Several (6 subjects) also described safety as “feeling heard” by both the instructor and classmates and five subjects described safety as “feeling valued” within the classroom as a student and an individual. Another five subjects described safety as

“feeling free to be yourself” and gave examples of situations in which students had shared important aspects of themselves within the classroom. Three subjects referred to “feeling included” when describing what safety meant to them. The following excerpt illustrates several of these feelings:

That was the one class that I looked forward to every Tuesday. I knew that I was going to feel welcomed. I knew that my opinions were valued and the teacher would ask me questions. I don't know...it was just a class that felt like I was safe and I could forget about my problems. (P#7, Black female, age 25)

When asked to describe “unsafe” experiences within the college classroom, subjects again used phrases that emphasized feelings. They used phrases such as “feeling judged”, “feeling worried”, “feeling ignored”, “feeling less than”, “feeling like you don't fit in”, and “feeling pressured”. The term “feeling judged” was used the most frequently across participants (8) when speaking about “unsafe” experiences in the college classroom. Judgment of instructors and/or peers was the most commonly expressed fear for study subjects, but some also judged themselves harshly for not living up to academic expectations they had set for themselves. The following excerpts highlight the “feeling” behind the experience of an unsafe learning experience:

... I felt like that class was very horrific for me. I felt like I was a child trying to fit in and that was the worst feeling as an adult. (P#7, Black female, age 25)

I feel like if I was to tell you the things that I went through, you would probably just like, not look at me differently, but what you see now would kind of be altered, and I don't like that. (P#6, Black female, age 19)

And one time this girl asked the class, what makes you you? And we didn't really know how to answer that question. Like, I don't know. I'm from E-town. I have a dog. And she's like, “No, the first thing that happened in your life that impacts the way that

you live.” And all these things. And I’m like, that is very personal. (P#10, White female, age 20)

Safety is a Multi-dimensional Construct

When study subjects were asked to speak on safety in the college classroom, some first focused on the physical aspect of safety, while others’ first thoughts related to non-physical aspects of safety. Some subjects had a misunderstanding that the study was focused on the issue of campus safety, and this may have influenced their focus on speaking about physical safety when responding to the interview questions. Though several subjects first thought of the physical aspect of safety when asked about their own personal experiences, all subjects acknowledged that non-physical aspects of safety were equally important in the classroom context. Some subjects believed that physical safety was a necessary precondition for other types of safety, and a few highlighted the interconnection between physical and non-physical aspects of safety.

In examining the data, it became clear that safety was related to the protection and promotion of the well-being of the whole self, including its various dimensions. Three dimensions of the self were referred to most frequently by study subjects: their physical well-being, their intellectual integrity, and the integrity of their socio-cultural identity. Thus, three dimensions of perceived safety emerged that were identified as particularly relevant to the undergraduate student experience: physical safety, intellectual safety, and socio-cultural/identity safety.

Physical safety was the most-commonly referenced dimension of safety by study subjects and it was described as being able to learn without fear of being physically or sexually harmed, harassed, or intimidated, as well as being able to take care of one’s own physical needs during class time. Subjects reported that the first part of this description is what is at the forefront of most people’s minds when they first hear the term “safety”. We

can see the prominence of physical safety in the following excerpts when subjects are asked what safety means to them:

So, physically, not being worried that somebody is going to take your stuff or hurt you. (P#11, Asian male, age 19)

Physically, I would hope to be safe enough that no one would come into the classroom that's trying to harm us. If there's an emergency, that the teachers know how to handle the situation—know the proper evacuation guidelines or how to prepare for an intruder alert. And then also that my classmates wouldn't threaten me in any way. (P#2, Asian female, age 18)

An unexpected finding was that subjects also conceptualized being able to take care of one's physical needs during class time as an aspect of physical safety. The descriptions of these situations also highlight the relationships between dimensions as threats to physical safety can also be perceived as threatening to one's emotional or psychological safety. In the following excerpt, P#1 describes the distress she experienced witnessing the distress of a classmate who did not feel empowered to take care of his own physical needs:

...He was just throwing up and it just happened out of nowhere and it was really gross. I'm not going to lie. I guess he had been doing it in class and he didn't want to leave because he felt like he had to be there or something. But he had it in a cup on his desk and it spilled everywhere on top of it. And this guy looked traumatized... (P#1, White female, age 23)

Though physical safety was the most common aspect of safety that was spoken about in the interviews, another common theme was the desire to be able to express one's opinion without fear of negative consequences and the fear of being perceived as not intelligent. In interviews, subjects often referred to this as “mental safety” and it was

coded as such in all transcripts. However, during the analysis phase, it seemed that this was an issue specific to one's self-concept as a student and may require a more specific label to best reflect the concept.

The term "academic safety" was considered to represent this concept; however, because this term has become commonly used in the field of occupational safety referring to safety courses taught by universities, it seemed problematic. As it became clear that intellect was a critical feature of subject descriptions of safety, we came upon the concept of "intellectual safety" as it is discussed by Schrader (2004) in relation to students' epistemological development. Though slightly different in that Schrader (2004) defines intellectual safety as a feature of the classroom environment, there is a similarity in her focus on intellectual safety as "how college students feel safe to speak their minds, challenge information and/or authority in classrooms, question their own assumptions about knowledge, and interact with their peers and professors in ways that lead to productive, creative, collegial, and mutually engaging discourse and knowledge creation" (p. 88).

Though subjects may have used other terms in telling their stories, intellectual safety is described by subjects in this study as feeling able to express one's thoughts and opinions without fear or worry about negative consequences, including judgment of peers, instructor bias or retribution, and breaches of privacy. This dimension emerged as an aspect of safety that is likely unique to an academic context and particularly the postsecondary classroom context. The following excerpts reflect this dimension of safety that has been labeled during the analysis phase as "intellectual safety" in order to distinguish it from issues related to mental health that may be connected to the term "mental safety":

In that way, I felt safe especially mentally. Even if there was something I

disagreed with we could share our thoughts and no one could come at you. They could maybe argue with you, but, in the end, you'd have to be understanding and try to see where the other person was coming from. (P#5, White female, age 20)

Mentally safe would mean I could ask any question that I want without anybody judging me. (P#6, Black female, age 19)

Whenever I'd find something, I'd mention it in the group, but no one would pay attention. And someone else would be like, "Oh, I found this" and I'd be like, "I literally just said that, but ok". (P#8, White female, age 21)

Another important dimension that emerged from the qualitative data was socio-cultural identity safety, which is described as the freedom to be oneself, particularly in regard to disclosing aspects of the self that may identify oneself as a member of a historically oppressed group. Aspects of socio-cultural identity that emerged as significantly impacting students included one's identity as non-heterosexual or non-binary, one's racial or cultural identity, one's identity as a non-traditional student, one's identity as a parent, one's identity as a victim of abuse or other forms of trauma, and one's religious beliefs and/or affiliations. The socio-cultural aspect of safety was highlighted by a majority of participants (9) as illustrated in the following excerpts:

I went a whole week without my scarf just to see how people would react to me and, honestly, it's the weirdest thing. People that have never talked to me before would come talk to me and be like, "You have nice hair." It was really weird. I didn't appreciate it. (P#7, Black female, age 25)

I would think that that has to do with being comfortable with who you are within the gender options, that realm and your sexuality and your sex because those are all different. Just feeling comfortable with all of those things and being able to express

yourself and not feel like someone is going to get mad or hurt you. (P#10, White female, age 20)

You can't always be voicing out your religion. You have to be aware of how that can be affecting other people and their perceptions of you. (P#2, Asian female, age 18)

I feel like it's subscribing to stereotypes just because he was a man and he was, as he said himself, well-dressed and liked musicals or theater, that he was gay. I feel like that was an attack on my identity that he felt like he had to come out as straight just because of those things. (P#4, White male, age 20)

Perceived Safety is a Dynamic Interaction of Internal and External Factors

From the experiences shared by participants, a picture of the perception of safety as a dynamic interaction between internal and external factors emerged. All of the stories depicted a complex interaction both within the individual and between the individual and various aspects of their environment. It was clear that students understand that they play a role in their perception of safety in the classroom environment, which can be either an empowering or frustrating realization.

And their safety depends on where the other person lies. And also where they lie. If they aren't tolerant of themselves then they can't expect someone else to be any different. (P#10, White female, age 20)

I feel like it's really influenced on the person's interactions...not only by the person's interactions with their peers and their professors, but their personality has some play in it as well. (P#11, Asian male, age 19)

Because a student's perception of safety involves an interaction between the student and the learning environment, it, thus, differs from the concept of a "safe" learning environment. Subjects all expressed that what might be perceived as a "safe" learning environment by one student may be perceived as unsafe by another, which

highlights the limitations of focusing discussions of safety around the creation of “safe spaces”.

For my girlfriend, they talked a lot more in that class than they had in other classes because they never really talk at all. I never really have that problem because I just love the sound of my own voice. (P#3, White male, age 20)

The factors that were identified from the data as most influencing perceptions of safety included the self, the professor, peers, class format/size, and materials/subject matter. These factors are similar to the five aspects or domains of the classroom identified by Schrader (2004) in her qualitative examination of intellectual safety in the postsecondary context. The self was identified by several participants, particularly those categorized as “non-traditional”, as the most important factor influencing one’s perception of safety.

It’s all about finding a balance and getting my personal stuff in order because that’s a challenge for me. And that’s a reason why I feel like I’m capable of getting an A in every class. I’m capable...why am I not doing it? Because I have this going on, this going on. (P#9, Black male, age 40)

Among the factors external to the self, the instructor was identified by most participants as having the greatest influence over a student’s perception of safety in the college classroom.

But I just felt really safe because through that interaction I saw that he cared so much about how we perceived him and how our beliefs were affected by his speech. (P#2, Asian female, age 18)

Second only to the instructor, peers also played an important role in impacting students’ perceptions of safety in the classroom.

There were a couple of queer girls in that class and they were talking about how heterosexism and homophobia had impacted them and I remember being there and thinking that this is really cool... (P#3, White male, age 20)

I know that there was one person who before we had the discussion wouldn't have felt the same way as me, but they were understanding and definitely reflecting on it. I don't know if I changed their mind but they were definitely open to listening about it and thinking about their opinion on it. (P#5, White female, age 20)

To a lesser degree than the instructor and peers, the class format/size and course materials also emerged as having the potential to influence a student's perception of safety.

There were two longer tables and we had computers in front of us and I think that also played a part in feeling safe. You could be talking to someone across the room and there were computers in front of you and If you didn't want to be looking right at them you could have your own space. (P#5, White male, age 20)

I would say it mostly impacted the material that we were learning and how much I trusted it. Because we had to read from textbooks and it was an outdated textbook and it presented a binary view, an outdated view of gender identity. (P#4, White male, age 20)

Safety Involves Protection from Being Harmed and Causing Harm

Within the postsecondary classroom context, perceived safety was described by participants as the degree to which a student perceives themselves as protected from being harmed by oneself or others or causing harm to oneself or others. This finding is in alignment with Conservation of Resources Theory (Hobfoll, 1989) which posits that an individual's behavior is based on a desire to preserve valued resources and their perception of the degree to which those resources are threatened or protected. This helps

us understand the importance of considering factors in relation to both their protective and threat potential.

The most common description of perceived safety involved being protected from being harmed by others in the college classroom environment. Participants spoke of being protected from harm to both physical and non-physical aspects of their well-being. Protection was most often described as coming from the instructor, but examples were provided in which protection came from the students themselves, classmates, the physical built environment or the rules and format of the class.

I don't really perceive any people as able to hurt me or willing to hurt me specifically because if they did there would be repercussions and that's not worth a few jabs. Or taking someone's stuff. So I'm happy how the system is in that way that it promotes positive behavior but also has consequences for negative behavior. (P#11, Asian male, age 19)

One day we were talking about if we had a school shooter and my teacher, he basically said that he would risk his life for his students and that just made me feel safe. (P#6, Black female, age 19)

Though the description of safety as being protected from harm was somewhat expected, an unexpected yet equally important aspect that emerged was the idea that safety involved being protected from causing harm to others in the classroom environment. Subjects reported worrying about offending the instructor or peers and feared the damage an offense would have on those academic and social relationships. In subjects' stories, protection from causing harm most often came from an instructor in the form of consistent enforcement of classroom behavior expectations and constructive criticism provided in one-on-one interactions with either instructors or peers. A student's own social skills and social awareness was also valuable in protecting a student from

causing harm to others in the learning environment. The following excerpts illustrate the potential for instructors to protect students from causing harm:

But when a question seemed too argumentative he'd be like, "Nope, those questions are getting too argumentative." (P#8, White female, age 21)

...I definitely knew that if I was out of line she would tell me so (laughing) so I guess I was...I think I was a little more laid back in that class because if I was just talking, talking, talking, talking, she was like, "You need to let other people talk. You need to relax." (P#3, White male, age 20)

In addition to perceived safety being protection from harming others, participants also reported that safety involved being protected from causing harm to oneself. This was typically not spoken of in relation to a student harming themselves physically, but more commonly harming themselves mentally and emotionally because they were not taking care of themselves and prioritizing their own mental health. Instructors who took a holistic view of the student, including prioritizing and discussing mental health issues, were identified as protecting students from causing harm to themselves.

I'm my own worst enemy. In the sense of because I'm so critical of myself sometimes. (P#9, Black male, age 40)

Narrative Description of the Phenomenon

As was previously stated, five shared themes emerged from the qualitative data analysis as constructing the essence of the phenomenon of perceived safety in the college classroom: safety is a spectrum; safety is a feeling; safety is a multidimensional construct consisting of three correlated dimensions; perceived safety is a complex, dynamic interaction between internal and external factors; and perceived safety involves protection from being harmed and causing harm. These shared themes and their properties were then used to construct a narrative description of the phenomenon of the perception of safety

for undergraduate students within the college classroom. This narrative description can be found in Appendix H. A graphic representation of the domains and sub-domains of safety identified in the study was also developed and this can be found in Appendix I.

Additional Important Themes

The following themes emerged from the interview data, though they were not directly relevant to the conceptualization of perceived safety in the college classroom. These themes are presented in the results because they provide important evidence to support decisions regarding the choice of validation measures to be used and hypothesized relationships to be tested in the quantitative phase of the study. These two themes include the relationship between perceived safety and anxiety and perceived safety as a necessary condition for engagement.

The Relationship between Perceived Safety and Anxiety

Five of the eleven participants spoke about the relationship between anxiety and their perception of safety in the college classroom. This relationship seems to be complex in that participants reported that the feelings of anxiety that they brought into the classroom had a negative impact on their perception of safety regardless of external factors in the classroom environment. They also reported that negative experiences with external factors in the classroom environment lowered their perception of safety and increased feelings of anxiety. Thus, anxiety seems to be both a contributor and an outcome of perceived safety.

I guess I didn't know the people and also I was nervous about starting college so I didn't feel safe sharing my opinions or speaking but I don't really know why. (P#6, Black female, age 19)

I probably experienced more anxiety that was self-created as opposed to anything that anybody has done to me just because of the transition from JCTCS to U of L. (P#9, Black male, age 40)

I looked around and tried to see if somebody looked welcoming that I could join their group but everybody was just in their own little world. Even there was a lot of people that had my race and even they, it had nothing to do with the race. I just didn't feel like I was welcomed. I just felt so anxious. (P#7, Black female, age 25)

Perceived Safety as a Necessary Condition for Engagement

The impact of a student's perception of safety on their academic engagement was a theme that can be found in nine out of the eleven interviews. Like the relationship between anxiety and perceived safety, the relationship between perceived safety and academic engagement is also complex. From participant reports, it does not appear that perceived safety is sufficient to cause engagement but it can be considered one necessary condition for engagement in the college classroom.

It is also important to distinguish academic engagement from participation, though they are often used interchangeably by both educators and scholars. Students themselves distinguish between engagement and participation, reporting that it is possible to be engaged with the content and those around them without speaking.

I didn't know anything about it so I'm just writing down notes and being engaged in class and that was something in the brief conversation that we had after class that was something she pointed out. I saw you back there paying attention. (P#9, Black male, age 40)

In fact, "forced" or "competitive" participation, particularly the practice of giving points for speaking in class, can have a negative impact on perceived safety as demonstrated in the following excerpt:

I would say it's a lot better when I feel like I can be myself in a class. Because some classes require participation and when I feel like I can't really be myself and focusing on that and feeling worried about what somebody thinks, it kind of stops me from #1 participating which is points and #2 gaining the knowledge because you're so focused on trying not to be too out there that you kind of lose track of what you're actually supposed to be doing in class. (P#8, White female, age 21)

Member Checking Results

Member checking is recognized as a valuable method in qualitative research for supporting the trustworthiness of study findings. There are many types of member checking and each method has its strengths and weaknesses. The data that is presented to participants may be raw or analyzed, and the member checking sample may consist of members of the original sample or additional subjects chosen from the same target population. The method of member checking that was chosen for this study was the presentation of synthesized data to additional members of the target population who were not part of the original sample. This method was chosen because it aligns with the study's aim of creating a conceptualization of perceived safety and the inclusion of additional subjects increases the transferability of results. In this study, member checking involved soliciting both qualitative and quantitative responses.

The member checking interviews were conducted in group study rooms at the university library and were audio-recorded for later reference. After completing informed consent procedures, subjects filled out the same demographic questionnaire that was used with the initial sample. Subjects were then presented with the narrative description of the phenomenon of perceived safety, which is found in Appendix H and the graphic representation of the construct, which is found in Appendix I. They were asked to describe in what ways the description matched their own experience and in what ways it differed from or did not reflect their own experience or thinking about safety in the college classroom. They were then asked to reflect on the graphic conceptualization and

to offer suggestions for how it might be improved. Finally, subjects were asked to complete a quantitative measure that detailed key findings from the study in the form of statements and subjects were asked to rate to what degree they agreed with each statement. This member checking questionnaire can be found in Appendix J.

Member Checking Sample Demographics

Subjects for the member checking phase were recruited using the same recruiting procedures as the in-depth interviews. Subjects were recruited from three different Cardinal Core (general education requirement) courses and were undergraduate students currently enrolled in at least one on-campus course. Recruitment continued until the previously-stated quotas for each demographic variable were achieved. Because initial recruitment results yielded only female subjects, final rounds of recruitment focused on recruiting non-female subjects specifically.

The mean age of the member checking sample was 27, which is slightly older than the original study sample mean age of 22.27 and the university mean age of 23. All years in school were represented in the sample, with third year students making up 40% of the sample. While, the sample demonstrated sufficient variation on the variables of gender, race and sexual orientation, with 60% being female, 40% non-white and 40% non-heterosexual, it should be noted that the percentage of females and racial/ethnic minorities in the study was higher than that of the university population, which is 51% and 27% respectively. Only one subject (20%) reported having a disability and that subject was receiving accommodations from the university. Detailed information regarding sample demographics for the member checking phase of the phenomenological study can be found in Table 2 below.

Table 2.

Member Checking Sample Demographics

Subject	Age	Year in School	Gender	Race/ Ethnicity	Sexual Orientation	Disability Status
MC#1	19	2 nd	Female	White	Bisexual	No disability
MC#2	20	3 rd	Female	White	Heterosexual	No disability
MC#3	41	3 rd	Female	Black	Heterosexual	No disability
MC#4	19	1 st	Male	Hispanic	Heterosexual	No disability
MC#5	36	4 th	Male	White	Bisexual	Disabled, receiving accommodations

Points of Agreement

Overall, subjects had a positive reaction after reading the narrative description of the phenomenon. All five member-checking participants reported that the three dimensions of safety described in the narrative and outlined in the graphic conceptualization were important and relevant to the college classroom context. When asked if any of these dimensions should be removed, all participants felt strongly that they should be retained. Some responses included:

Oh, definitely. Yeah. Those categories and dimensions, I can see how each type of safety is really relevant and affects people on a day-to-day basis. (MC#2, White female, age 20)

Yeah I think they are relevant. They are relevant. You can't ignore physical. But you can't say that physical is the be-all, end-all and ignore the mental health crisis gripping the country or ignore the emotional stressors that come with college. (MC#5, White male, age 36)

Points of Disagreement

When asked to identify any aspects of the narrative description that were confusing or that were not consistent with their experience of safety in the college classroom, participants brought a few issues to light that needed to be addressed by the

researchers. One participant disagreed with the example given in the narrative description of ADHD as an internal threat to safety. The term “threat” seemed too strong for this participant.

...I've never experienced any sort of ADHD symptoms but from what I know about it it's more of a distraction than something that...which I guess is something that could cause some stress but I wouldn't think that it would be something so bad that it would be a threat to oneself. (MC#1, White female, age 19)

Three of the five participants rejected the idea that safety involved the need to be included. Participants who felt that one's perception of safety was not connected to feeling included tended to fall into the category of “non-traditional student” and had a strong sense of identity outside of the college context.

When asked to point out any areas of the graphic conceptualization that were confusing or were not congruent with their experience of perceived safety, three of the five participants felt that the “materials/subject matter” subdomain did not apply to the “physical safety” subdomain.

Yeah, I can see that in both intellectual and socio-cultural because they are more ideas whereas I don't see the relationship between subject matter and your physical safety. (MC#2, White female, age 20)

Four of the five participants also felt that the subdomain labeled “structure/format” was confusing in relation to the dimension of physical safety and suggested alternative labels.

I think the term “structure” still works, but it is more of a physical structure than it is a format and a way of conducting class. (MC#2, White female, age 20)

Could you maybe say environment? (MC#3, Black female, age 41)

I feel like structure would be better than format. Arrangement perhaps? (MC#4, Hispanic male, age 19)

One participant thought that the order of the subdomains on the graphic conceptualization was meant to reflect the order of importance because they are listed vertically with one under the other; however, the graphic was not meant to imply any order of significance.

Though all member checking participants endorsed the relevance of the three dimensions of safety that were highlighted in the graphic conceptualization that emerged from the initial interviews, all participants also felt that a fourth dimension that reflected the importance of the mental and/or psychological well-being of the student in the classroom would make for a more complete conceptualization.

I feel like including something related to mental or psychological safety would be good. (MC#2, White female, age 20)

Three of the five participants felt that the label “psychological safety” would best describe this dimension of safety because it reflects the maturity level of college students better than the term “mental safety”, would not have a negative stigma attached, and could encompass both mental and emotional safety. Two of the five preferred “mental safety” because they felt that psychological safety could be less familiar term than mental safety.

I think psychological doesn't have as many negative connotations or inferences associated with it. (MC#5, White male, age 36)

Honestly, when I see psychological I'm going to think emotional. It's not going to just start at mental. It's like how am I going to feel? Psychological is how am I going to feel, what am I going to think? (MC#3, Black female, age 41)

I'm not sure what the distinguishing factor would be between mental and psychological but I feel as though a combination of mental and emotional safety would be psychological safety. (MC#1, White female, age 19)

Results of Member Checking Questionnaire

The member checking questionnaire included 18 statements that were taken from the narrative description of the phenomenon of perceived safety. Participants were asked to rate each statement using a scale from 1-4 with 1 being “Strongly disagree” and 4 being “Strongly agree”. A response of 3 or “agree” was established as the minimum standard for all statements to be retained in the narrative description and graphic conceptualization. The average score across all responses was 3.35, which indicates a sufficient level of agreement overall.

Of the 18 statements, 16 scored an average of 3 or higher, which indicated sufficient agreement to be retained in the study findings. The highest rated statement (Within the same environment, students may differ in their perception of safety) received an average score of 4, which meant that all respondents strongly agreed with the statement. Three other statements (A student’s perception of safety involves being protected from being harmed by others; people in the learning environment can affect a student’s perception of safety; a student’s personal characteristics can affect their perception of safety) scored high, with an average score of 3.8, meaning that 4 out of 5 participants strongly agreed with the statement.

Two statements had an average rating of 2.8, which is slightly below the established minimum standard of 3, and, therefore, were highlighted as components of the narrative and/or graphic conceptualization that should be reviewed for revision or elimination. It should be noted that the first item (Feeling safe in the college classroom means feeling included) was also identified as problematic in the qualitative aspect of the

member checking interviews, particularly by subjects who could be characterized as non-traditional students (older, having children, returning after working, etc.). The other statement with a mean score below 3 was “The structure/format of a course can affect a student’s perception of safety”. This item was also identified as confusing in the qualitative data gathered from the member checking interviews.

Revisions

As a result of the feedback gathered from the member checking interviews, several revisions were made to both the narrative description and the graphic conceptualization. In the narrative description of the phenomenon, the phrase “feeling included” was removed from the description of perceived safety because it was a low scoring item on the questionnaire and came up as a point of disagreement in the interviews. The reference to ADHD as an example of a mental health issue was retained because it appeared several times in the initial interviews and was a point of disagreement for only one member checking participant. Most importantly, an additional dimension of perceived safety in the college classroom was added to the description of the construct. Addition of this dimension involved adding a description of the dimension and relevant examples from the participant interviews.

In the graphic conceptualization, several revisions were made based on feedback gained from the member checking process. Based on the language used in the interviews, the researchers realized that the term “instructor” was more appropriate than “professor” to use to represent the subdomain that referred to the individual teaching the course. The label “professor” was changed to “instructor” because not everyone who teaches a college course can be called a professor. This change allows a more accurate reflection of the reality of the college classroom. Similarly, after reviewing the language used by participants, it was decided to change the term “peers” to “classmates” on the graphic

conceptualization. The term classmate is more accurate to the classroom context because a peer could also refer to students at the same university that do not share a class with the student.

To address the confusion that participants reported around the use of the label “structure/format”, the term structure was eliminated and replaced with “course format”. Because the term “structure” made some participants think of a physical structure and others think of the organization of course topics, it was decided to eliminate the “word” structure for the sake of clarity. The subdomain of “course format” was retained as a subdomain of all dimensions. A subdomain labeled “physical environment” was added as a subdomain of physical safety separate from course format to reflect the feedback from participants. The subdomain of “materials/subject matter” was renamed “course materials/subject matter” for the sake of clarity and removed as a subdomain of physical safety. The additional dimension of “psychological safety” was added, including the five following subdomains: self, instructor, classmates, course format, and course materials/subject matter. The revised documents can be found in Appendix K and Appendix L respectively.

External Inquiry Audit

In order to enhance the dependability and confirmability of the findings of the qualitative study, an external inquiry audit was conducted by an academic with experience in qualitative research who was not a member of the research team. The auditor was provided with all raw data, code books, coded transcripts, and memos and assessed the degree to which the findings were grounded in the data and examined the appropriateness of decisions made by the researcher and assesses the potential for bias in analysis. The results of the audit support the dependability and confirmability of the

findings, while offering some suggestions for improvement. A summary of the findings from the external inquiry audit can be found in Appendix M.

Phase Two Results

After member-checking of the qualitative results concluded and revisions were made to the narrative description of the phenomenon and the graphic representation of the construct of perceived safety, a test content specification table was created that outlined the dimensions of safety and the most critical factors related to those dimensions that should be reflected in the instrument items. The test content specifications can be found in Table 3 below, and the test item specifications by cell can be found in Appendix N.

Table 3

Test Content Specification Table with Number of Items per Cell

	Self (A)	Instructor (B)	Class- mates (C)	Physical Environ- ment (D)	Course Format (E)	Course Content (F)
Physical Safety (1)	(1A) 4	(1B) 4	(1C) 4	(1D) 5	(1E) 4	
Intellectual Safety (2)	(2A) 5	(2B) 7	(2C) 6		(2E) 2	(2F) 2
Socio-Cultural Identity Safety (3)	(3A) 6	(3B) 8	(3C) 6		(3E) 2	(3F) 2
Psychological Safety (4)	(4A) 6	(4B) 6	(4C) 4		(4E) 4	(4F) 2

Items were then generated to reflect the focus of each of the 20 cells of the test content specification table. The narrative description of phenomenon which reflected the essence of the lived experience of the qualitative study participants to inform the writing of all items of the instrument. A mixture of positively and negatively worded items were

generated in order to guard against a type of response bias known as acquiescent bias in which participants tend to select positively worded items regardless of content.

Cognitive Interviewing

In order to improve the content validity of the survey instrument and trouble shoot potential problems with survey instructions prior to administration, cognitive interviews were conducted with a new sample from the target population of undergraduate students. For the cognitive interviewing phase, seven study subjects were recruited from general education courses for undergraduate students at the University of Louisville in the physical sciences, social sciences and arts/humanities during the summer semester of 2019. Among the cognitive interviewing participants, the mean age was 26 and the median age was 22. Three participants identified as female (43%), three identified as male (43%) and one identified as transgender male (14%). Two were first-year students (29%), one was a second-year student (14.3%), two were third-year students (29%) and two were fifth-year or greater (29%). With regard to race/ethnicity, five identified as White/Caucasian (71%), one identified as Black/African-American (14.3%), and one identified as Asian/Pacific-Islander (14.3%). With regard to sexual orientation, four identified as heterosexual (57%), one identified as bisexual (14.3%), one identified as pansexual (14.3%) and one identified as demi-pansexual (14.3%). Two of the seven participants (29%) were disabled and receiving accommodations from the university. The sample met the pre-established quota criteria of at least 50% non-male and at least 20% non-heterosexual, but fell slightly short of the 30% non-White quota at 29%.

The cognitive interviewing subjects were asked to “talk aloud” as they experienced the survey instructions, the demographic questions that were to precede the MOPSICC items and the MOPSICC items themselves. They were informed that the purpose of these interviews was to improve the instrument prior to administration and

they were encouraged to comment on any aspect of the survey that caused confusion or frustration. An item by item summary of the findings from the cognitive interviews can be found in Appendix R.

Expert Review

In addition to cognitive interviewing with members of the target population, the content validity of the 89 MOPSICC items was further strengthened by submitting the items for expert review prior to survey administration. The expert review panel for this study consisted of four content area experts—two in the area of undergraduate education, one in the area of mental health and one in the area of safety in the college classroom context. Using the survey software Qualtrics, the experts were provided the items along with a definition of the dimension of safety and a description of the cell within the test content specification table that the item was designed to reflect. The experts were then asked to rate the degree of congruence of each item with its respective dimension of safety using the following three category response set: “high degree of congruence”, “medium degree of congruence”, or “low degree of congruence”. Items with at least three experts rating the degree of congruence as high were considered to be acceptable. Items with fewer than three experts rating the degree of congruence as high were highlighted and reviewed for elimination or revision. Reviewers were also asked to provide qualitative feedback on items that were problematic and these comments were used to inform the revision process.

The quantitative data from the expert review indicate that 51 of the 89 items were rated as having a “high degree of congruence” by all experts. An additional 22 items scored within the acceptable range by receiving at least 3 ratings of “high degree of congruence”. These items were retained as written in the MOPSICC instrument that would be administered to a validation sample.

The remaining 16 of the 89 items received 2 or fewer ratings of “high degree of congruence” and were highlighted for review. Five of the physical safety items, six of the intellectual safety items, one of the sociocultural identity safety items, and four of the psychological safety items scored below the acceptable level in the expert review. The item, “I don’t feel like I know enough about the topic to express my thoughts and opinions in class”, was the lowest scoring item, receiving one rating of “high congruence”, one rating of “medium congruence”, and two ratings of “low congruence”.

The qualitative feedback from the expert reviewers was used to inform decisions to revise, add or eliminate items unless the expert feedback directly conflicted with the data gathered in the qualitative phase of the project. In such cases, priority was given to the lived experience of the participants in the original qualitative study as they represent the target population of the measurement instrument being developed. For example, the term “uncomfortable” was highlighted as problematic by one expert reviewer, but the term was used repeatedly by participants when speaking of the perception of safety in the college classroom context. As such a decision was made to retain the original wording of the item. The quantitative results and the qualitative comments from the expert review can be found in Appendices S and T, respectively.

Survey and Item Revisions

Because both expert review and the cognitive interviewing were conducted over the same time period in the summer of 2019, revisions of the MOPSICC items and survey instructions were made by considering results of both the cognitive interviews and expert review in combination. Because only the cognitive interviewing phase collected feedback on the demographic items, decisions regarding revisions on these items were based solely on the results of the cognitive interviews. The cognitive interviews proved highly useful

and informative as revisions were made on almost all of the demographic questions based on feedback from the cognitive interviews.

The question that asks participants to identify their “year in college” was changed to “number of semesters you have been an undergraduate student” with response categories of “1-2”, “3-4”, “5-6”, “7-8”, and “9 or more”. An additional question asking for “sex (that you were assigned at birth)” with possible responses of “male”, “female”, “intersex”, and “other” was added based on feedback from a transgender participant in the cognitive interviews. The gender question was changed to “gender identity” and “non-binary” and “gender-fluid” were added to the response categories along with “gender non-conforming”. “Pansexual” was added to the sexual orientation response categories and “receiving accommodations” was revised to “receiving accommodations from school disability resource center” under the disability status question. An item asking respondents to indicate the format of the course that they were referencing in the survey was added with the following response options: “primarily lecture-based”, “primarily discussion-based”, “lecture/discussion combination”. Other important feedback that was gleaned from the cognitive interviews included the fact that respondents wanted the ability to go back and change their responses and that the number of neutral responses would be greater earlier in the semester.

Of the 89 MOPSICC items, 27 (30%) were retained without any revisions, 21 items (24%) were eliminated based on low scores on expert review or to reduce redundancy among items, 11 new items were added, and 41 items (46%) were revised based on feedback from the cognitive interviews and/or expert review. A table of the original items along with the revised items can be found in Appendix U. After the phase two revision process was completed, the final MOPSICC instrument that was administered to the validation sample consisted of 80 items—19 physical safety items, 20

intellectual safety items, 25 sociocultural identity safety items, and 16 psychological safety items.

Phase Three Results

An initial measurement instrument consisting of 80 items was developed based on the narrative description and graphic conceptualization of perceived safety that resulted from the phenomenological study and revised through the processes of expert review and cognitive interviewing. This instrument, which will be referred to as the Measure of Perceived Safety in the College Classroom (MOPSICC), was then administered to a random sample of undergraduate students at the University of Louisville. This section describes the results of the examination of the factor structure of the MOPSICC and other analyses conducted to examine the concurrent, convergent and discriminant validity of the MOPSICC. All analyses were run using the “psych” package in R, a software environment for statistical computing and graphics.

Study Sample

The sample population of this study was undergraduate students at a large, urban public university. The sample frame consisted of 4,000 randomly selected undergraduate students who were enrolled as either full-time or part-time students at the University of Louisville during the fall semester 2019. These students were randomly selected from the entire undergraduate population of 15,642 students. Of the 4,000 students that were contacted to participate in the study, 571 responded to the survey, which is a response rate of 14%. This relatively low response rate was predicted based on previous studies of email based surveys (Cook et al., 2000). Of these 571 cases, 54 cases had responses only on demographic variables. Those 54 cases were eliminated from the analysis leaving a final sample size of $N=516$.

The following demographic variables were collected from all respondents: age, number of semesters enrolled, race/ethnicity, sex assigned at birth, gender identity, sexual orientation, and disability status. The mean age of the sample was 21.5 years ($SD=5.877$) with the most frequently reported age being 18 ($n=118$). The majority of the sample (57.3%) had spent fewer than 5 semesters in a postsecondary environment meaning that they would be classified as either a “freshman” or “sophomore” at the university; however, the sample had sufficient variation on this variable with juniors and seniors each representing at least 20% of the sample respectively.

With regard to race/ethnicity, the sample was 28.3% non-white with “Black/African-American” being the largest non-white groups at 12%. This is similar to the racial demographics of the total undergraduate population at the university, which is 24% non-white with 11% of that group being African-American.

When asked about disability status, 11.3% of respondents reported having either a physical or psychiatric disability; however, only 4% reported receiving accommodations from the university’s disability resource center. Though the university does not publish statistics on the number of students with disabilities, the percentage reported in this study is slightly lower than the 19% rate reported in a national survey of college students (USDOE, 2019). The majority of the sample (73.7%) reported being assigned female sex at birth and a similar percentage (71.8%) reported “female” as their gender identity. This percentage is significantly higher than the percentage of females (51%) in the total university population. It should be noted that 11 individuals in the sample who had been assigned “female” sex at birth no longer identified as female. Gender categories other than male and female that were endorsed by respondents included transgender male/female, gender non-conforming, non-binary, and gender-fluid.

Regarding sexual orientation, 20% of the sample identified as non-heterosexual with bisexual being the most frequently endorsed category at 11.7% within the non-heterosexual group. Categories other than heterosexual that were endorsed by respondents included gay, lesbian, bisexual, pansexual and queer. Though the university does not publish data on student sexual orientation, the percentage in the study (20%) is the same as the percentage reported in a national survey of college students (American College Health Association, 2019). A table containing all demographic information on the study sample can be found in Appendix V.

Course Demographics

Respondents were asked to answer questions while thinking about the last class they attended either online or on campus. These courses represented over 70 different departments in the university with the most frequently reported departments being Biology, Business, Chemistry, English, Nursing and Psychology. Most of these referenced courses were primarily lecture-based (49.6%) or a combination of lecture and discussion (34.9%) and had an enrollment of 30 or fewer students (54%). Instructors in these referenced courses were 50% female and 48% male. A more detailed breakdown of the demographic information for the courses referenced by the participants for this study can be found along with the participant demographic data in Appendix V.

MOPSICC Item Missing Data Analysis

Missing data on the 80 MOPSICC items ranged from a low of 7.6% to a high of 12.8%. Utilization of the random block shuffling feature in Qualtrics helped to distribute more evenly the missingness due to respondents dropping out before completing the entire survey. An analysis of the patterns of missingness was conducted to determine whether the pattern is MCAR, MAR or MNAR. Little's MCAR test was conducted to examine patterns of missingness among all variables including the demographic variables

and the 80 MOPSICC items. Results of Little's MCAR test ($\chi^2 = 3950.257$; $df = 4276$, $p = 1.000$) were not significant at the $p < .05$ level, which provides evidence that the missingness pattern is MCAR. Because the missingness pattern was found to be MCAR, the decision was made to utilize pairwise deletion in the factor analysis in order to maximize the amount of data available for analysis.

MOPSICC Item Descriptives

Prior to examining the descriptives on the 80 MOPSICC items, the 26 negatively-worded items were reverse-coded so that the means of the items would accurately reflect the direction of the variable. Utilizing a Likert response set where 1 = strongly agree and 5 = strongly disagree (1=strongly disagree and 5 = strongly agree for reverse-coded items), the item means ranged from a low of 1.23 for "I feel physically intimidated by the instructor in the classroom environment (reverse coded)" to a high of 3.34 for "My classmates socialize primarily with people from their own sociocultural group (reverse coded)".

Because a five category Likert type response set was used for all items in the measure, the data is assumed to be non-normally distributed. Despite this fact, descriptives were run to understand the distribution of each variable. A Kolmogorov Smirnov test was run on each of the survey item variables and for all items the null hypothesis was rejected indicating that the variables are not normally distributed. A histogram for each variable was also examined, and the majority of variables demonstrated non-normal distributions. However, most items were found to have skewness/kurtosis values between the acceptable range of +/- 3.29 (Tabachnik & Fidell, 2007). Four items (A1B.1, A1C.1, A3A.1, A1C.2) demonstrated kurtosis values over +/- 3.29. Due to the exploratory nature of the study, all items were retained and are included in the factor analysis. Due to the ordinal nature of the data, statistical methods that do not

require the assumption of univariate or multivariate normality will be utilized in this analysis.

Bivariate Correlations

Prior to examining the factor structure of the MOPSICC items, bivariate correlations were produced to examine the degree of correlation between items in the measure. Because the data was ordinal in nature, a polychoric correlation matrix was calculated rather than the Pearson R statistic. Results of the analysis indicated 14 items with 10 or more pairs of statistically non-significant correlations with other MOPSICC items. The 7 items detailed below were highlighted as potentially problematic based on the criteria that they had 20 or more non-significant bivariate correlations. However, due to the exploratory nature of the study, all items were retained for factor analysis. They were all eliminated at later stages of the analysis.

- A3C.7 My classmates socialize primarily with people from their own socio-cultural group.
- A2A.4 I am concerned about offending others with my ideas when I speak in class.
- A2A.3 I am concerned about making mistakes when I speak in class.
- A3C.5 My classmates pressure me to share aspects of my socio-cultural Identity in class.
- A3A.6 I set clear boundaries around what aspects of my socio-cultural identity I share in the classroom.
- A3A.5 I speak out on issues related to my socio-cultural identity during class.
- A3B.2 The instructor pressures me to share aspects of my socio-cultural identity in class.

The 80 original MOPSICC items were also examined for issues of multicollinearity. Items were entered into a regression analysis and VIF and collinearity tolerance scores were generated. Allison argues that collinearity is a concern when VIF is over 2.5 and tolerance is less than .40 (1999). Based on these criteria, 12 item pairs were found to demonstrate potentially problematic levels of multicollinearity (A3B.3 & A3B.4; A3B.3 & A3B.5; A3B.3 & A3B.6; A3B.4 & A3B.5; A3B.4 & A3B.6; A3B.5 & A3B.6; A3C.1 & A3C.2, A3C.1 & A3C.3, A3C.1 & A3C.4, A3C.2 & A3C.3, A3C.2 & A3C.4, A3C.3 & A3C.4). The highest multicollinearity was in the item pair A3C.2 (My classmates' words and/or actions demonstrate respect for a diversity of sexual orientations) and A3C.4 (My classmates' words and/or actions demonstrate respect for a diversity of religious beliefs) with a VIF of 6.192 and tolerance of .161. However, because of the exploratory nature of the study and the fact that several scholars argue for a more lenient practice of maintaining items with $VIF < 10$ (Kutner, Nachtsheim & Neter, 2004), these items were retained in the following factor analysis.

Results of Factor Analysis

Factor Analysis of 80 item MOPSICC

Hypothesis 1: The same dimensions of safety that are identified in the qualitative phase of the study (physical safety, intellectual safety, sociocultural identity safety, psychological safety) will emerge as factors in the factor analysis of the measure of perceived safety for undergraduates in the college classroom. This hypothesis was partially confirmed as the previously mentioned four dimensions of perceived safety that emerged from the qualitative data were also identified as meaningful factors of the MOPSICC instrument measuring perceived safety in the college classroom. However, the exploratory factor analysis of the data did not suggest a four factor structure for the MOPSICC, but, rather, a seven factor structure loading on one general factor. The

following section describes the details of the analysis conducted to examine the underlying factor structure of the MOPSICC instrument.

A Kaiser-Meyer-Olkin test was run to determine the factorability of the 80 item MOPSICC and results were an Overall MSA (Measure of Sampling Adequacy) of 0.92. Results in the range of 0.90 to 1.00 are labeled by Kaiser (1974) as marvelous. All 80 individual items had MSA values greater than the .5 threshold (Hair et al., 2010). Results of Barlett's test of Sphericity were significant ($\chi^2 = 21247.112$; $df = 3160$; $p = .0001$), rejecting the null hypothesis that the variables are uncorrelated and supporting the factorability of the 80 item MOPSICC.

Four criteria were used to determine the number of factors to be extracted: Kaiser's eigenvalue > 1 rule, examination of the scree plot, results of parallel analysis, and the total variance explained. The first three criteria were used to establish the starting point for the analysis; producing a measure that explained at least 60% of total variance with all factors explaining at least 5% of variance was established as the goal for factor extraction. As parsimony is valued in measurement, it is always preferable to identify the fewest number of factors that are both theoretically meaningful and explain at least 60% of total variance.

After running a factor analysis using principal axis factoring with the number of factors set at the default of 1, 8 factors were found to have eigenvalues greater than 1; in this particular case, the scree plot showed a bend after 7 factors, however, it was not easily interpretable. A table of eigenvalues and the scree plot can be found in Appendix W. Parallel analysis of the polychoric correlation matrix using principal axis factoring suggested that the number of factors was 13. Thus, evidence supported the extraction of anywhere from 7 to 13 factors. Because parallel analysis has shown to provide more

accurate estimates than either Kaiser's rule or the scree plot, the number of factors to extract was fixed at 13 for the following factor analysis.

An Exploratory Factor Analysis (EFA) of the polychoric correlation matrix was conducted using principal axis factoring, an oblique rotation (Oblimin) and setting the number of factors at 13. Because the matrix was not positive definite, smoothing was done on the matrix prior to factor extraction. The total variance explained (TVE) by the 13 factor model was 63%, which can be considered good according to Hair, Black, Babin and Anderson's (2010) standard of .60 or greater. However, five factors explained less than 5% of variance, which suggests that these factors are likely not meaningful. Eliminating one of the factors was considered, but was not done at this point because it would have dropped the TVE below 60%. The 13 factors were correlated at a low to moderate range (.02 -.47), which supports the use of an oblique rotation method, such as "oblimin".

The 80 items were then examined for quality of contribution to the scale as a whole. Communalities reflect the extent to which an item correlates with all other items. Though it is preferable to have items with communalities $>.5$ (Hair et al., 2010), at this early phase of the analysis, we adopted the more lenient standard requiring all items to have communalities $>.3$. Those three items listed below were eliminated from the list of MOPSICC items, leaving 77 items.

- A2A.4 I am concerned about offending others with my ideas when I speak in class.
- A3A.6 I set clear boundaries around what aspects of my sociocultural identity I share in the classroom.
- A3C.7 My classmates socialize primarily with people from their own socio-cultural group.

The following seven items loaded $>.3$ on more than one factor and not above $.5$ on any other factor. These seven items along with the three items listed above were eliminated as items on the MOPSICC, leaving 67 remaining items:

- A1A.1 I feel physically safe in the classroom environment.
- A1C.4 I feel like my classmates would protect me if I faced sexual harassment in the classroom environment.
- A2B.6 I believe that my instructor will see me as less intelligent if I ask questions in class.
- A2E.1 The class format makes me feel safe to express my ideas in class.
- A3B.1 The instructor has made statements that stereotype individuals from non-majority groups.
- A3C.8 My classmates have made statements that stereotype individuals from non-majority groups.
- A4C.3 My classmates increase my psychological stress.

Factor Analysis of 67 Item MOPSICC

A factor analysis of the 67 MOPSICC items was conducted using principal axis factoring, oblique rotation (oblimin), and fixing the number of factors at 12. The TVE by the 12 factor model was 65% and three factors explained less than 5% of variance. Because of the low proportion of variance explained by the last factor and the fact that TVE would be over 60% without this factor, it was decided to examine an 11 factor solution. A factor analysis of the 67 MOPSICC items with the number of factors set at 11 resulted in 64% TVE and 2 factors explaining less than 5% of variance. Because of the low proportion of variance explained by the last factor and the fact that TVE would be over 60% without this factor, it was decided to examine a 10 factor solution. The 10 factor solution for the 67 MOPSICC items resulted in 62% of total variance explained

and two factors explaining less than 5% of total variance. Thus, the TVE criteria was met with this solution, but the criteria that all factor represent at least 5% of variance was still not met. However, an additional factor could not be eliminated at this time because it would drop the TVE to less than 60%.

The pattern matrix was examined for problematic communalities, weak factor loadings and cross loadings. Examination of the communalities for the 67 MOPSICC items showed two items with communalities $< .3$. The two items below were eliminated from the list of items reducing the total to 65 items:

A1D.3 The way seats are arranged in this classroom makes me feel physically vulnerable.

A3C.5 My classmates pressure me to share aspects of my sociocultural identity in class.

The pattern matrix for the 10-factor solution was examined for cross-loadings and weak loadings on the factors. The following three items did not load at $.3$ on any factor and were eliminated from the MOPSICC instrument, reducing the total number of items to 62.

A3A.5 I speak out on issues related to my sociocultural identity during class.

A4B.1 The instructor considers students' psychological wellbeing to be as important as their intellectual growth.

A4B.3 My instructor is available to talk to if I am having mental health related issues that impact my school work.

Factor Analysis of 62 Item MOPSICC

A factor analysis of the 62 MOPSICC items was conducted using principal axis factoring, oblique rotation (oblimin), and fixing the number of factors at 10. The TVE by

the 10 factor model was 64% and one factor explained less than 5% of variance. Thus, the TVE criteria was met with this solution, but the criteria that all factor represent at least 5% of variance was still not met.

The pattern matrix was examined for problematic communalities, weak factor loadings and cross loadings. Communalities for all items were .3 or greater. The following item was identified as loading at $> .3$ on more than one factor without loading $> .5$ on any factor.

A4A.1 I am able to protect my own psychological wellbeing during class.

One additional item was identified as problematic as it failed to load at $> .3$ on any one factor.

A4B.2 The instructor cares about students' psychological wellbeing.

These two items were eliminated from the MOPSICC instrument, resulting in 60 items remaining.

Factor Analysis of 60 Item MOPSICC

A factor analysis of the 60 MOPSICC items was conducted using principal axis factoring, oblique rotation (oblimin), and fixing the number of factors at 10. The TVE by the 10 factor model was 64% and one factor explained less than 5% of variance. Thus, the TVE criteria was met with this solution, but the criteria that all factor represent at least 5% of variance was still not met. Because of the low proportion of variance explained by the last factor and the fact that TVE would be over 60% without this factor, it was decided to examine a 9 factor solution. The 9 factor solution for the 60 MOPSICC items resulted in 62% of total variance explained and one factor explaining less than 5% of total variance. Thus, the TVE criteria was met with this solution, but the criteria that all factor represent at least 5% of variance was still not met. However, an additional

factor could not be eliminated at this time because it would drop the TVE to less than 60%.

The pattern matrix was examined for problematic communalities, weak factor loadings and cross loadings. Communalities for all items were .3 or greater. The following 4 items were identified as loading at $> .3$ on more than one factor without loading $> .5$ on any factor. These four items were eliminated, leaving 56 items remaining.

- A4A.3 I am able to maintain attention during class.
- A2C.2 My classmates express disagreement in a respectful manner.
- A2C.3 My classmates are open to considering ideas that are different from their own.
- A4C.1 My classmates are a source of psychological support for me.

The following two items had no factor loadings $> .3$ and were eliminated, leaving 54 items remaining.

- A3E.2 There are course policies explicitly stated that guard against the devaluing of students' sociocultural identities.
- A4C.2 My classmates increase my psychological stress.

Factor Analysis of 54 Item MOPSICC

A factor analysis of the 54 MOPSICC items was conducted using principal axis factoring, oblique rotation (oblimin), and fixing the number of factors at 9. The total variance explained by the 9 factor model was 64% and all factors explained at least 5% of variance. Thus, all TVE criteria were met with this solution.

The pattern matrix was examined for problematic communalities, weak factor loadings and cross loadings. Communalities for the following item was $< .3$. The item

also demonstrated no factor loading $>.3$ so it was eliminated from the MOPSICC item list, leaving 53 items remaining.

A4C.4 My classmates ask me how I'm doing.

The following item was identified as loading at $>.3$ on more than one factor without loading $>.5$ on any factor. This item was eliminated, leaving 52 items remaining.

A1B.4 My instructor encourages students to take care of their physical needs as necessary during class time.

The following two items had no factor loadings $>.3$ and were eliminated, leaving 51 items remaining:

A2C.1 My classmates value my ideas on course-related topics.

A4C.4 My classmates ask me how I'm doing (shown as eliminated above).

Factor Analysis of 51 Item MOPSICC

A factor analysis of the 51 MOPSICC items was conducted using principal axis factoring, oblique rotation (oblimin), and fixing the number of factors at 9. The total variance explained by the 9 factor model was 65% and all factors explained at least 5% of variance. Thus, all TVE criteria were met with this solution.

The pattern matrix was examined for problematic communalities, weak factor loadings and cross loadings. All items had communalities $>.3$ and all items loaded on at least one factor at $>.3$. There were no cross-loadings of items across factors, and, thus, a simple structure was produced by this pattern matrix.

The item-total correlations for the 51 MOPSICC items were examined by conducting an alpha test of the items. The 51 items had an alpha = .94, which indicates high reliability with some possible redundancy in the items of the scale. Individual items

were examined for low item-total correlations and the following item had an item-total correlation $< .3$.

A3B.2 The instructor pressures me to share aspects of my sociocultural identity in class.

This item was eliminated as its item-total correlation was dramatically lower than all other items. This left a total number of 50 items in the MOPSICC instrument.

Factor Analysis of 50 Item MOPSICC

A factor analysis of the 50 MOPSICC items was conducted using principal axis factoring, oblique rotation (oblimin), and fixing the number of factors at 9. The total variance explained by the 9 factor model was 66% and all factors explained at least 5% of variance. Thus, all TVE criteria were met with this solution.

The pattern matrix was examined for problematic communalities, weak factor loadings and cross loadings. All items had communalities $> .3$ and all items loaded on at least one factor at $> .3$. There were no cross-loadings of items across factors, and, thus, a simple structure was produced by this pattern matrix.

The item-total correlations for the 50 MOPSICC items were examined by conducting an alpha test of the items. The 50 items had an alpha = .94, which indicates high reliability with some possible redundancy in the items of the scale. Individual items were examined for low item-total correlations and all exhibited item total correlations $> .3$.

Though the 50 item nine factor solution provided a simple factor structure with all items performing reasonably well, the nine factor solution was not theoretically meaningful as it seemed to identify a number of minor, quite narrow factors. For that reason, it was decided to seek out a more parsimonious solution that would still meet the pre-established criteria of at least 60% TEV. An eight factor solution for the polychoric

correlation matrix of the 50 MOPSICC items was examined using principal axis factoring and an oblique rotation method (oblimin). The results showed that the eight factor solution explained 64% of total variance and all eight factors explain more than 5% of variance. Thus, all TVE criteria were met with this solution.

The pattern matrix was examined for problematic communalities, weak factor loadings and cross loadings. All items had communalities $> .3$. One item did not load $> .3$ on any factor and was eliminated from the 50 item MOPSICC list, leaving 49 items remaining.

A4B.4 I believe my instructor would see me differently if I disclosed any mental health-related issues.

Factor Analysis of 49 Item MOPSICC

A factor analysis of the 49 MOPSICC items was conducted using principal axis factoring, oblique rotation (oblimin), and fixing the number of factors at 8. The total variance explained by the 8 factor model was 64% and all factors explained at least 5% of variance. Thus, all TVE criteria were met with this solution.

The pattern matrix was examined for problematic communalities, weak factor loadings and cross loadings. All items had communalities $> .3$ and all items loaded on at least one factor at $> .3$. There were no cross-loadings of items across factors, and, thus, a simple structure was produced by the eight factor solution for the 49 item MOPSICC.

The item-total correlations for the 49 MOPSICC items were examined by conducting an alpha test of the items. The 49 items had an alpha = .94, which indicates high reliability with some possible redundancy in the items of the scale. Individual items were examined for low item-total correlations and all exhibited item total correlations $> .3$.

Though the 49 item eight factor solution provided a simple factor structure with all items performing reasonably well, the eight factor solution was not theoretically meaningful as it seemed to identify a number of minor, quite narrow factors. For that reason, it was decided to seek out a more parsimonious solution that would still meet the pre-established criteria of at least 60% TEV. A seven factor solution for the polychoric correlation matrix of the 49 MOPSICC items was examined using principal axis factoring, an oblique rotation method (oblimin), and fixing the number of factors at 7. The results showed that the seven-factor solution explained 62% of total variance and all seven factors explain more than 5% of variance. Thus, all TVE criteria were met with this solution.

The pattern matrix was examined for problematic communalities, weak factor loadings and cross loadings. All items had communalities $> .3$. Two items loaded $> .3$ on more than one factor and not $> .5$ on any one factor (cross-loading). These two items below were eliminated from the 49 item MOPSICC list, leaving 47 items remaining.

A1B.3 I feel like my instructor would prioritize students' safety in an emergency situation.

A2F.2 The content in the course materials encourages the expression of different intellectual perspectives.

Factor Analysis of 47 Item MOPSICC

A factor analysis of the 47 MOPSICC items was conducted using principal axis factoring, oblique rotation (oblimin), and fixing the number of factors at 7. The total variance explained by the seven factor model was 62% and all factors explained at least 5% of variance. Thus, all TVE criteria were met with this solution.

The pattern matrix was examined for problematic communalities, weak factor loadings and cross loadings. All items had communalities $> .3$ and all items loaded on at

least one factor at $> .3$. There were no cross-loadings of items across factors, and, thus, a simple structure was produced by the seven factor solution for the 47 item MOPSICC. A table including the factor loadings and communalities for the seven-factor solution can be found in Appendix X.

The item-total correlations for the 47 MOPSICC items were examined by conducting an alpha test of the items. The 47 items had an $\alpha = .94$, which indicates high reliability with some possible redundancy in the items of the scale. Individual items were examined for low item-total correlations and all exhibited item total correlations $> .3$. The mean of the corrected item-total correlations for the 47 items was $.516$. A table of item statistics including raw and corrected item-total correlations, item means and standard deviations can be found in Appendix Y.

A six factor solution was examined, but it resulted in less than 60% of total variance explained. Thus, the seven factor solution for the 47 item MOPSICC was chosen as the most parsimonious solution that also met the established criteria of at least 60% of total variance explained with all individual factors explaining at least 5% of variance. Upon examination, each factor was found to be meaningful from both a statistical and theoretical standpoint in that it reflected aspects of perceived safety that had been reported as significant in the qualitative phase of the mixed methods study. In addition, all items in the 47 item MOPSICC met the minimum standard of communalities $> .3$, loading on only one factor at $> .3$ and corrected item-total correlation $> .3$. It should be noted that a seven-factor solution was indicated in the initial scree plot of the 80 item MOPSICC.

Defining the Factors

The seven factors and their items were then examined and labels were chosen to reflect the specific and unique dimension of perceived safety that was measured by that

factor. The highest loading item was used to provide information and insight into the essence of the factor. Upon examination, the essence of the factors aligned closely with the dimensions outlined in the Test Content Specification Table, and, for this reason, these dimensions were utilized when choosing labels for the factors. Table 4 below lists these factors by label and the number of items by factor; a list of the 47 individual MOPSICC items by factor can be found in Appendix Z.

Table 4

MOPSICC Factors and Number of Items per Factor

MOPSICC Factor	Number of Items
Sociocultural Identity Safety-External (SISE)	12
Sociocultural Identity Safety-Internal (SISI)	4
Physical Safety-Protection (PSP)	8
Physical Safety-Threat (PST)	5
Intellectual Safety-Protection (ISP)	7
Intellectual Safety-Threat (IST)	5
Psychological Safety (PS)	6

When examining the correlations between the seven factors, all were found to be in the low to moderate range. The correlations between factors ranged from a low of 0.17 between Sociocultural Identity Safety-Internal (SISI) and Intellectual Safety-Protection (ISP) to a high of 0.41 between Psychological Safety (PS) and Physical Safety-Threat (PST). Table 5 below shows the correlations between the seven factors.

Table 5

Factor Correlations

SISE	PS	PST	PSP	SISI	ISP	IST
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SISE	1.00	-0.24	-0.32	0.40	0.40	0.37	-0.20
PS	-0.24	1.00	0.41	-0.22	-0.20	-0.28	0.40
PST	-0.32	0.41	1.00	-0.21	-0.20	-0.23	0.20
PSP	0.40	-0.22	-0.21	1.00	0.34	0.28	-0.22
SISI	0.40	-0.20	-0.20	0.34	1.00	0.17	-0.30
ISP	0.37	-0.28	-0.23	0.28	0.17	1.00	-0.25
IST	-0.20	0.40	0.20	-0.22	-0.30	-0.25	1.00

Reliability Testing

Reliability of the MOPSICC-47

A total MOPSICC scale score was calculated by combining the 47 items of the scale. Only cases with values on all 47 items ($N = 371$) were used to calculate the variable “Total Score47”. The fifteen items that were negatively worded were reverse-coded prior to calculating the total scale score variable. Because the 47 individual items use a Likert type response set with values 1-5 assigned, the highest possible total score on the MOPSICC is 235 (5×47). It should be noted that lower scores indicate greater levels of overall perceived safety in the college classroom due to the fact that strong agreement with positively worded items was coded as a “1” while strong disagreement with positive items was coded as “5”. The mean total MOPSICC scores for the sample was 103.3154 ($SD = 21.20875$), which is lower than the midpoint of 141. The total score variable demonstrates a relatively normal distribution as skewness (.151) and kurtosis (-.298) values are well within the $-3/3$ range.

Hypothesis 2: The measure of perceived safety will demonstrate an acceptable level of reliability (ordinal $\alpha \geq .7$). This hypothesis was supported as reliability of the 47 item total MOPSICC scale was calculated at $\alpha = .94$ (95% CI .93-.95), which

provides evidence of strong reliability. It should be noted that alpha values $>.9$ may indicate redundancy in items of the scale. An ordinal omega score was also calculated as it has been argued to be a more accurate reflection of a scale's reliability (Revelle & Zinbarg, 2009). Omega hierarchical reflects the general factor saturation of the test (Revelle & Zinbarg, 2009), while Omega total reflects the squared loadings on all of the factors. As the presence of a general factor is the goal of an instrument that proposes to measure a latent construct, such as "perceived safety in the college classroom", the Omega hierarchical value is important as it reflects the degree to which total scores generalize to the latent variable (Revell & Zinbarg, 2009). The MOPSICC's Omega Hierarchical score of 0.66 exceeds the minimum suggested by Reise (2012). The Omega total score of 0.96 provides evidence of high reliability with some degree of redundancy. The Omega plot showing the item loadings on both the general factor and the group factors can be found in Appendix AA.

Reliability of 7 Subscales

Cronbach's alpha coefficient was also calculated for all 7 MOPSICC subscales to examine the reliability of each. An alpha coefficient between .70 and .80 is said to be respectable, between .80 and .90 is considered to be very good, and above .90 may indicate some redundancy. The alpha coefficients for all subscales fell in the very good range. Table 6 below shows the alpha coefficients for each of the 7 MOPSICC subscales.

Table 6

Reliability of 7 MOPSICC Subscales

MOPSICC Factor	Cronbach Alpha
Sociocultural Identity Safety (External)	.908
Sociocultural Identity Safety (Internal)	.795
Physical Safety (Protection)	.821
Physical Safety (Threat)	.811

Intellectual Safety (Protection)	.861
Intellectual Safety (Threat)	.810
Psychological Safety	.831

Construct Validity of 47 Item MOPSICC Scale

Hypothesis 3: The measure of perceived safety will be a significant positive predictor of course engagement as measured by the SCEQ. In order to examine how well perceived safety predicted self-reported course engagement as stated in Hypothesis #3 (see p. 101), a simple linear regression was conducted using the total scale score for the measure of perceived safety as the predictor variable and the SCEQ total scale score as the outcome variable. Both variables were examined for violations of the assumptions of normality and linearity and no issues were found. The total SCEQ had a range of 11-55, a mean of 27.3341 (SD = 7.8765) and skewness (.227) and kurtosis (.004) values within the ± 3 range. In this study, reliability of the SCEQ was $\alpha = 0.867$.

Hypothesis 3 was confirmed as the R^2 statistic was statistically significant ($F_{(1,364)} = 111.006, p = 0.001, R^2 \text{ adjusted} = 0.232$), indicating 23% of the variance in student engagement can be explained by perceived safety in the college classroom. A one standard deviation increase in perceived safety (21.20875 points-SD of perceived safety) will result in a .483 (standardized beta weight) * 7.87652 (SD of student engagement) = 3.804 points increase in student engagement. A multiple regression model was also tested to examine the relationship between perceived safety and student course engagement controlling for race/ethnicity, sexual orientation, gender, age and anxiety. In order to enter the three categorical variables in to the regression model, they were first transformed from multiple category variables into dichotomous variables. Results of the multiple regression analysis indicate that only age and perceived safety are significant

predictors of student engagement with 26.4% of the variance in engagement explained ($F_{6,353} = 22.437, p = .001, R^2_{\text{adjusted}} = .264$) by the six predictor variable model. When controlling for race/ethnicity, sexual orientation, gender, anxiety and age on the relationship between perceived safety and student engagement, we find the following partial correlation $r = .471, p = .001$. Table 7 below includes both the unstandardized and standardized beta weights with confidence intervals for the multiple regression model.

Table 7

Perceived Safety as a Predictor of Student Course Engagement

	Unstandardized		Standard. Coefficient	t	Sig.	95.0% Confidence	
	Coefficients					Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	15.095	2.811		5.370	.000	9.567	20.623
MOPSICC-47	.174	.017	.469	10.045*	.000	.140	.208
Race/Ethnicity	.079	.795	.005	.099	.921	-1.485	1.643
Sexual Orientation	.615	.943	.031	.653	.514	-1.238	2.469
Gender	-.256	.837	-.014	-.306	.759	-1.902	1.389
GAD-7	-.023	.064	-.018	-.362	.718	-.148	.102
Age	-.274	.061	-.204	-4.468*	.000	-.394	-.153

* $p < .05$

A multiple regression analysis was also conducted to examine the predictive ability of each of the seven MOPSICC subscales with regard to student engagement. Two of the seven subscales, Physical Safety-Protection (PSP) and Intellectual Safety-Protection (ISP) were found to be significant predictors of student engagement. The Psychological Safety (PS) subscale was not found to be a significant predictor according to the $p < .05$ standard; however, it may be important to utilize in studies examining student engagement in combination with PSP and ISP as the upper bound value of B indicates that it may offer predictive value. The unstandardized and standardized coefficients with 95% confidence intervals can be found in Table 8 below.

Table 8*MOPSICC Subscales as Predictors of Student Course Engagement*

	Unstandardized Coefficients		Standard. Coefficient	t	Sig.	95.0% CI for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	12.042	1.700		7.085	.000	8.700	15.385
SISE	.089	.065	.082	1.364	.174	-.039	.217
SISI	.159	.139	.059	1.137	.256	-.116	.433
PSP	.243	.081	.162	3.013*	.003	.085	.402
PST	-.171	.145	-.061	-1.175	.241	-.457	.115
ISP	.559	.107	.326	5.241*	.000	.349	.769
IST	-.088	.093	-.049	-.947	.344	-.271	.095
PS	.180	.091	.111	1.966	.050	.000	.359

* $p < .05$

Hypotheses 4: Student anxiety as measured by the GAD-7 will be a significant predictor of perceived safety (MOPSICC). In order to examine how well anxiety predicted perceived safety as stated in Hypothesis 4 (see p. 101), a simple linear regression was conducted using the GAD-7 total score as the predictor variable and the MOPSICC-47 total score as the outcome variable. The data for both the GAD-7 and MOPSICC-47 can be considered interval level as combined scores from individual items measured on an ordinal scale. Both variables were examined for violations of the assumptions of normality and linearity and no issues were found. The total GAD-7 score had a range of 7-28, a mean of 14.8364 ($SD = 6.03825$) and skewness (.584) and kurtosis (-.637) values within the acceptable range of ± 3 . In this study, reliability of the GAD-7 was calculated at $\alpha = 0.923$.

Hypothesis 4 was confirmed as the R^2 statistic was statistically significant ($F_{(1,360)} = 12.454, p = 0.001, R^2_{adjusted} = 0.031$), indicating 3% of the variance in perceived safety in the college classroom can be explained by anxiety. A one standard deviation increase in anxiety (6.03825 points-SD of anxiety) will result in a .183 (standardized beta

weight) * 21.20875 (SD of perceived safety) = 0.710 points decrease in perceived safety. A multiple regression model was also tested to examine the relationship between anxiety and perceived safety, controlling for race/ethnicity, sexual orientation, gender, and age. In order to enter the three categorical variables in to the regression model, they were first transformed from multiple category variables into dichotomous variables.

Results of the multiple regression analysis indicate that only anxiety and sexual orientation are significant predictors of perceived safety with 4.5% of the variance in perceived safety explained ($F_{5,354} = 4.381, p = .001, R^2_{\text{adjusted}} = .045$) by the five predictor variable model. When controlling for race/ethnicity, sexual orientation, gender, and age on the relationship between anxiety and perceived safety, we find the following partial correlation $r = .150, p = .001$. The unstandardized and standardized coefficients for the five predictor variable model of perceived safety can be found in Table 9 below.

Table 9

Anxiety as a Predictor of Perceived Safety

	Unstandardized Coefficients		Standard. Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	109.226	6.372		17.140	.000	96.694	121.759
Race/ Ethnicity	-3.331	2.432	-.071	-1.369	.172	-8.114	1.453
Sexual Orientation	-5.689	2.875	-.107	-1.979*	.049	-11.343	-.035
Gender	1.433	2.565	.030	.559	.577	-3.611	6.477
GAD-7	.552	.193	.157	2.857*	.005	.172	.932
Age	-.349	.187	-.097	-1.869	.062	-.717	.018

* $p < .05$

Criterion Validity of the 47 Item MOPSICC

In the current study, criterion validity of the measure of perceived safety is addressed in Hypotheses #5-8 (see p. 101). As stated in Hypotheses #5-7, the following

variables were hypothesized to demonstrate differences between groups with regard to perceived safety: gender, racial/ethnic minority status, and sexual orientation. The hypothesis that differences between gender identity groups would be significant with regard to perceived safety (**Hypothesis 5**) was not supported as the result of the between groups ANOVA was not statistically significant ($F_{(3,366)} = 0.732, p = 0.553$). Similarly, the hypothesis that differences between race/ethnicity groups would be significant with regard to perceived safety (**Hypothesis 6**) was not supported as the results of the between groups ANOVA was not statistically significant ($F_{(5,365)} = 0.860, p = 0.508$). The results of the ANOVA analyses can be found in Table 10 below.

Table 10

Results of Between Groups Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Gender Identity					
Between Groups	988.166	3	329.389	.732	.533
Within Groups	164616.904	366	449.773		
Total	165605.070	369			
Race/Ethnicity					
Between Groups	1938.740	5	387.748	.860	.508
Within Groups	164491.362	365	450.661		
Total	166430.102	370			
Sexual Orientation					
Between Groups	9776.403	5	1955.281*	4.556	.001
Within Groups	156653.700	365			
Total	166430.102	370			
Instructor Gender					
Between Groups	1059.900	2	529.950	1.179	.309
Within Groups	164511.878	366	449.486		
Total	165571.778	368			

* $p < .05$

Hypothesis 7: The hypothesis that differences between sexual orientation groups would be significant with regard to perceived safety was supported as the results of the between groups ANOVA were statistically significant ($F_{(5,365)} = 4.556, p = 0.001$). These results are shown in Table 10 above. Because the results were significant, a post hoc test was conducted to confirm where the differences occurred. The Tukey post hoc test was

chosen because the result of Levene's test was not significant ($p = .347$), which indicated homogeneity of variances across groups. Results of the post hoc test show that the difference between pansexuals and heterosexuals was significant (mean difference = 26.902, $p = 0.001$), the difference between pansexuals and lesbians was significant (mean difference = 32.545, $p = .004$), and the difference between pansexuals and bisexuals was significant (mean difference = 20.471, $p = .042$). Individuals identifying as pansexual reported lower levels of perceived safety than other sexual orientations. More detailed data from this post hoc analysis can be found in Appendix BB.

Hypothesis 8: The hypothesis that there would be no significant difference with regard to perceived safety based on instructor gender was also supported. The result of the between groups ANOVA was not statistically significant ($F_{(2,366)} = 1.179$, $p = 0.309$). The results of the ANOVA on instructor gender and perceived safety can be found in Table 10 above with the results from the ANOVA on the variables gender identity, race/ethnicity, and sexual orientation.

Additional Between-Groups Differences in Perceived Safety

Analysis of variance was conducted on all participant and course demographic variables and, in addition to the previous findings with regard to sexual orientation, significant differences between groups were found on the variables disability status and course format. When measured as a dichotomous variable with the categories of "disabled" or "not disabled", the results of the between groups ANOVA were statistically significant ($F_{(1,368)} = 4.346$, $p = 0.038$). However, when examining disability status as a four category variable, results of post hoc tests did not indicate statistically significant differences between categories, though the difference between those with "no disability" and those who were "disabled, not receiving accommodations" approached statistical significance.

Because course format was measured as a categorical variable with four categories, a between-groups ANOVA with post hoc test was run to confirm where the differences between groups occurred. The Tukey post hoc test was chosen because the result of Levene's test was not significant ($p = .081$), which indicated homogeneity of variances across groups. Results of the post hoc test show that the difference between primarily lecture-based classes and lecture/discussion combination classes was significant (mean difference = 6.435, $p = 0.040$) and the difference between primarily lecture-based classes and primarily discussion-based classes was significant (mean difference = 9.827, $p = 0.047$). In both cases, primarily lecture-based classes were associated with lower levels of perceived safety than either discussion-based or combination format courses. A table detailing the results of the post hoc analysis of between-groups differences in perceived safety by course format can be found in Appendix CC.

CHAPTER V: DISCUSSION AND CONCLUSIONS

The aim of this mixed methods phenomenological research study was to develop a conceptualization of perceived safety that was grounded in the lived experiences of the target population, use this conceptualization to create an instrument to measure the construct of perceived safety in the college classroom, and examine the psychometric properties of the instrument through a pilot administration with a random sample from the target population. The phenomenological study resulted in a conceptualization of perceived safety as a construct consisting of four dimensions (physical safety, intellectual safety, sociocultural identity safety, and psychological safety) and involving a dynamic interaction between internal and external factors. The Measure of Perceived Safety in the College Classroom (MOPSICC) was then developed to reflect these domains and subdomains of perceived safety, and results of the statistical analysis provide promising initial evidence in support of both the reliability and validity of the final 47 item instrument.

Because a conceptualization of perceived safety specific to the postsecondary context had not been developed, a qualitative design that was exploratory in nature was used to understand the construct from the perspective of the students themselves. The five shared themes that emerged from the data were all essential in the development of the MOPSICC instrument and improve our current understanding of safety in the college classroom context. The additional member checking phase of the phenomenological study proved to be critical for improving the trustworthiness of the qualitative results,

including both the narrative description of the phenomenon of perceived safety and the graphic conceptualization of its dimensions.

The theme “safety is a spectrum” supported the subsequent decision in the development of the MOPSICC to measure perceived safety using a five category Likert type response set with a midpoint that reflected the phenomenon of “not feeling unsafe but not feeling safe” that was reported by study participants. This was an important finding as the Education Department School Climate Survey (EDSCLS) Student Survey safety subscale utilizes a four-category response set from “strongly agree” to “strongly disagree” with no mid-point value (U.S. Department of Education National Center for Education Statistics, 2020). Rather than simply utilizing the same response set as this nationally-recognized instrument, the primary investigator chose a response set that more accurately corresponded to the variety of positions in relation to safety as reported by participants in the qualitative phase of the study.

The theme “safety is a feeling” supported the importance of measuring safety as a perception rather than an objective reality, which informed the name of the instrument and the wording of the individual items to reflect the view point of the respondents. Many current discussions of safety conceptualize safety as a characteristic of a space or an environment, which ignores the phenomenon that different individuals often perceive the safety of the same environment or space in very different ways. Existing instruments, including the College Campus Environment Scale (Fish et al., 2016), the Sense of Classroom Community Questionnaire (McKinney et al., 2006), the College University Classroom Student Environment Inventory (Fraser et al., 1986), all reflect this environmental focus. The finding from the phenomenological study that safety is described by participants as a feeling within the individual rather than a characteristic of

the environment provides additional evidence to support the need for an instrument such as the MOPSICC that measures safety from the perspective of the individual.

One theme that emerged from the phenomenological study that was not anticipated was “safety involves protection from being harmed and causing harm.” Most definitions of safety refer to protection from harm but do not include protection from causing harm as an aspect of safety. However, subjects in the phenomenological study described the fear of causing harm as frequently or even more frequently than they described the fear of being harmed. Typically, we think of safety from the point of view of the most vulnerable and assume that those with privilege likely experience few to no issues around threats to safety. Yet, this assumption is contradicted in this study by the fact that many participants in this study who recognized their relative privilege were concerned about causing harm through their words, actions or failure to speak or act. This finding adds additional complexity to our understanding of the phenomenon of perceived safety in the college classroom, particularly as we seek to broaden the concept to be more inclusive of the diversity of experiences among undergraduate students. Based on this finding in the qualitative phase, items were developed and included in the initial MOPSICC instrument to reflect this newly-emerging aspect of safety.

The fourth theme that emerged was “safety is a multidimensional construct consisting of three correlated dimensions”. This conceptualization was later revised based on results of member checking to “safety is a multidimensional construct consisting of four correlated dimensions”. The dimensions that emerged from the qualitative interviews shared both similarities with and differences from the USDOE conceptualization of safety. The findings from this study support the USDOE conceptualization in its description of safety as consisting of both physical and non-physical dimensions.

However, the conceptualization developed from the data in the current study differs from the USDOE conceptualization in that substance abuse did not emerge in the current study as a relevant dimension of perceived safety for undergraduate students. Instead, undergraduate students highlighted the importance of maintaining both their intellectual identity and their identity in relation to sociocultural groups that were meaningful to them. As such, dimensions of safety that are not included in the USDOE conceptualization, namely intellectual safety, sociocultural safety and psychological safety, appear to be salient dimensions of perceived safety in the postsecondary context. The finding that there are dimensions of safety unique to the postsecondary context provide further evidence of the need for a conceptualization of safety separate from those used in the K-12 context.

One of the dimensions that emerged from the qualitative data, namely intellectual safety, has been the subject of research in the field of postsecondary education. Drawing on student responses in a qualitative study, Schrader (2004) developed a definition of intellectual safety and concluded that college students “easily identify with the concept of intellectual safety” (p. 98). This finding was confirmed in the member checking phase of the current study in which all participants indicated that intellectual safety was an important aspect of safety in the college classroom context.

Another dimension that emerged as relevant, sociocultural identity safety, has been found to be an important aspect of safety in the professional workplace context and, more recently, within the K-12 educational context. Its relevance for the college context has been suggested through laboratory studies with college student participants (Steele, Spencer, & Aronson, 2002), but this dimension of safety is not yet well-represented in the postsecondary education literature and has not been included in any of the conceptualizations of safety in an educational context. Data from both the qualitative and

quantitative phases of the current study highlight the salience of culture in relation to one's sense of identity for undergraduate students as a concern separate from, though interconnected with, their identity as a scholar. The finding that many participants' accounts of feeling threatened centered around the participant's gender identity, sexual orientation, religious affiliation and/or race provides support for the inclusion of sociocultural identity safety as a dimension of safety in the college classroom.

The dimension of psychological safety has not been utilized in the postsecondary context and this dimension was not identified as a separate dimension in the initial qualitative analysis due to potential conceptual overlap with the dimension of intellectual safety. Feedback provided during the member checking phase highlighted a potential gap in the conceptualization that failed to recognize the significant impact of psychological well-being for the functioning of students within the college classroom context. Based on this feedback from a majority of member checking participants, this dimension was added to the final conceptualization; however, it should be noted that, overall, the evidence for the salience of the dimension of psychological safety was less compelling than the evidence in support of the other three dimensions.

The final theme from the qualitative phase of the study was "safety is a complex, dynamic interaction between internal and external factors". This theme aligns with the findings from Schrader's study (2004) that identified five primary domains of the classroom that impact student perceptions of intellectual safety—self, professor, class structure, course materials/subject matter, and peers. These domains reflect both internal (self) and external (professor, class structure, materials/subject matter, peers) and are almost identical to the factors in the classroom environment that were highlighted as most relevant by participants in this study.

Findings from the current study also build on Schrader's (2004) work by providing evidence that these domains are not only relevant for the dimension of intellectual safety but also for the dimensions of psychological safety and sociocultural identity safety. Only the physical safety dimension was found to consist of slightly different domains than the other three with "subject matter/course materials" being irrelevant and "physical environment" being added as an essential domain unique to physical safety. The fact that the domains identified in the qualitative study findings were in alignment with the domains identified by Schrader (2004) provide support for the trustworthiness of the conceptualization of perceived safety in the college classroom and consequently strengthens the construct validity of the MOPSICC instrument that was developed based on this conceptualization.

In addition to construct validity, several important steps were taken to support the content validity of the MOPSICC instrument. One such method was using a test-item specification table to ensure that each item was aligned with a particular dimension of safety as well as a subdomain within that dimension. Content validity was further supported by submitting the initial item pool for expert review and using cognitive interviewing with a sample from the target population prior to administration. These additional steps allowed for substantial improvements to the item content, the item formatting and the instrument instructions based on feedback from a diversity of perspectives.

The results of the quantitative analysis provide important additional support for the reliability, concurrent, criterion and discriminant validity of the MOPSICC instrument with five of the eight hypotheses being supported. Both Cronbach's alpha and omega indicate that the final MOPSICC instrument has strong internal consistency and that all items measure a single latent construct. In addition, each of the seven subscales

demonstrated “very good” reliability, which increases the utility of the MOPSICC instrument as it has the potential to be used both as a total scale and as individual subscales.

Perhaps the most significant evidence in support of the validity of the MOPSICC is the finding that it is a significant predictor of student engagement that explained 23% of variance. This is further strengthened by the fact that perceived safety, as measured by the MOPSICC-47, remained a significant predictor even when controlling for gender, race/ethnicity, sexual orientation, age and anxiety. As engagement is a critical issue of interest to both college instructors and administrators as it is a classroom-level outcome that is related to other important institution-level outcomes such as retention and persistence, this finding provides compelling evidence for the inclusion of perceived safety in research on student engagement in the undergraduate context. If the construct of perceived safety was not included in studies due to a lack of available validated measures, this limitation is now addressed with the development of the MOPSICC-47.

Further support for the construct validity of the MOPSICC is provided by the finding that anxiety was a significant predictor of perceived safety, which supports Brosschot et al.’s (2016) Generalized Unsafety Theory of Stress (GUTS). The GUTS theory asserts that “unsafety” is the default state for individuals until they perceive safety cues which inhibit their stress response. From this perspective, it may be more helpful for instructors and administrators to assume that students come to the classroom context in a state of “unsafety” and work to provide and help students recognize safety cues, though safety cues may differ from person to person. However, it should be noted that anxiety explained a fairly small amount of variance in perceived safety, which points to the likelihood of the existence of a large number of variables that are involved in predicting an individual’s perception of safety in the classroom. It may also be that a measure of

stress may be a better predictor of perceived safety than anxiety because it is a more common experience across the target population.

The criterion validity of the MOPSICC was slightly less supported in the results than its construct validity and reliability due to the mixed findings of the known-groups analysis. The finding of significant differences in the perception of safety between groups with regard to sexual orientation aligned with studies by Rankin (2005; 2003) that found that students who identified as members of the LGBTQ community experienced more threats to physical safety and emotional safety in the form of harassment than non-members. The findings from the current study also suggest variation in the perception of safety within the category of LGBTQ, with individuals identifying as “pansexual” reporting the lowest levels of perceived safety. These results highlight the importance of utilizing cognitive interviewing as part of the instrument development process to ensure that response options reflect the diversity within the target population. In fact, periodic cognitive interviewing of instruments that have been previously validated is necessary in order to adapt to the dynamic nature of the way that individuals identify within society.

Similarly, the finding that there was no significant difference between groups based on instructor gender also strengthens the criterion validity as male and female instructors were highlighted equally in the qualitative participants’ reports of their experiences of feeling particularly safe within the college classroom. The result that gender of the instructor does not have an impact on perceived safety points to the potential for all instructors to either support or threaten a student’s perception of safety in the college classroom environment. The fact that this hypothesis was drawn from the qualitative phase of the study, the alignment between the qualitative and quantitative results highlights a key advantage of a mixed methods approach to instrument development.

Though the findings regarding sexual orientation and instructor gender provide evidence for the criterion validity of the measure, the predicted differences regarding race/ethnicity and gender were not supported in the data and weaken the validity of the measure. In nation-wide studies such as the NSSE (2016), female respondents had reported feeling less safe on campus than males. The contradictory findings in the current study may be due to the fact that referenced studies measured campus safety rather than classroom safety. It may also be that referenced studies only measured physical safety while the MOPSICC measures multiple dimensions of safety. Further study with a comprehensive measure of perceived safety is necessary to understand the relationship between gender and safety.

Similar to gender, differences were not found between groups with regard to race/ethnicity, which conflicts with previous studies including the NSSE that found that racial minorities reported lower levels of perceived safety. Again, these conflicting results may be due to the fact that the NSSE (2016) does not measure perceived safety in the classroom context and that it focuses primarily on the dimension of physical safety. It may be that the ability to choose which courses they will take allows students to exert more control over their classroom environment than they may have within the greater campus environment.

Future studies are needed to help us understand how race may impact the various dimensions of safety differently and the role that racial identity development may play in one's perception of safety. It may be that one's stage of racial identity development as outlined in Hardiman and Jackson's (1997) social identity theory is a more significant factor influencing the perception of safety in the classroom context than race alone. There is some evidence from the qualitative interviews to those participants who were members of an oppressed group and had moved into final

social identity stage demonstrated the greatest perception of safety across contexts. Future studies should assess the participant's phase of social identity development within their particular context in order to understand its impact on perceptions of safety. Particularly, the relationship between the student's racial identity development stage and the MOPSICC dimensions of "Sociocultural identity safety (Internal)" and "Sociocultural identity safety (External)" should be further examined. It will also be important to study the difference in these relationships at institutions where racial/ethnic minority groups comprise the majority of the student population, such as at Historically Black Colleges and Universities and Hispanic Serving Institutions.

Another issue that must be considered is the arbitrary nature of the practice of categorizing race/ethnicity itself in that these categories often do not accurately reflect the social identities of the participants. For example, several participants chose the category "other" and wrote in "Middle Eastern" because they did not see themselves reflected in the categories offered. This finding made the researcher realize that respondents of Middle Eastern descent who did not choose "other" and fill in Middle Eastern likely chose the category "White/Caucasian-American". The use of the category "White/Caucasian-American" may be problematic as "Caucasian" is an umbrella term that has been used to refer to a historical phenotype of people, including Aryan, Semitic, and Hamitic, who likely share little in common as far as their life experience or identity. Care should be taken to include individuals representing the various subgroups within the category of "White/Caucasian-American" in the cognitive interviewing phase to develop categories that better reflect how these individuals currently identify themselves.

It can be argued that the construct validity of the MOPSICC-47 is somewhat weakened by the fact that Hypothesis #1 was only partially confirmed in that the results of the factor analysis suggested an underlying structure of perceived safety consisting of

seven correlated factors rather than a four factor solution. However, it should be noted that the four dimensions identified in the qualitative phase did emerge as separate correlated factors in the factor analysis, which provides some support for the initial conceptualization. It is also possible that the large number of items in the initial item pool contributed to a larger number of factors being identified.

The fact that items loaded on separate threat and protective factors within the original hypothesized dimensions of physical safety and intellectual safety also aligns with findings from the research on the Conservation of Resources Theory and student engagement within the college context in which student motivation to engage is conceptualized as a stress process. The four protective/risk factors can be thought of as the individual's current perception of threat to and protection of valued resources, namely one's physical and intellectual integrity. The identification of both an internal and external factor related to sociocultural identity safety also aligns with the Conservation of Resources theory as it corresponds to Ten Brummelhuis and Bakker's (2012) matrix of resources, which utilizes the categorization of internal versus external resources.

An alternative explanation for the seven-factor solution is the possibility that the division between threat and protection factors for the dimensions of physical safety and intellectual safety is simply a result of similarly worded items loading together. In fact, several studies have demonstrated that negatively worded items tend to load on their own separate factor (Schriesheim, & Eisenbach, 1995; Schmitt & Stults, 1985). Therefore, it could be argued that the three factors consisting of reverse-coded items are merely an artifact of item wording and the measure may, in fact, consist of four core dimensions. A future study applying confirmatory factor analytic methods to data from a new study sample is necessary to test this seven-factor model and gain a more thorough understanding of the factor structure of the measure.

Limitations

Despite the overall strength of the three-phase mixed methods research design for developing a valid measurement instrument, several important limitations must be acknowledged. First, the study sample of the phenomenological study represented sufficient variation on the designated demographic variables of race/ethnicity, gender identity, sexual orientation, and disability; however, the variable of “religious affiliation” was not included as a category on which to measure the adequacy of the variation of the sample. Because of this, the qualitative findings may not thoroughly represent the variation of experiences among students of different religious backgrounds. The lack of maximum variation sampling with regard to religion may also have contributed to the issue that arose in the quantitative survey in which individuals of Middle Eastern descent expressed confusion over which racial category to endorse. If more participants of Muslim descent were included in the cognitive interviewing phase, a more representative set of categories may have been developed prior to the survey administration.

Second, the generalizability of the findings may be somewhat limited by the relatively low response rate of 13% for the quantitative phase of the study. Even though a random sampling method was utilized and the response rate for this study falls within the predicted range for surveys administered through email, it may be argued that the study sample is not representative of the total undergraduate student population of the university. In addition, the generalizability of the findings is limited to populations in similar contexts, namely undergraduate students attending medium-sized, urban universities. The university’s location on the border of the Midwest and Southern regions of the country makes it somewhat unique, and its student population is more racially diverse than most other schools in the region, though less so than schools in larger cities in the United States. Future studies of undergraduate populations at a variety of

institution types, sizes and geographic locations utilizing a variety of survey administration methods are needed to provide additional evidence regarding the generalizability of the findings in the current study.

Third, due to a desire to avoid overburdening respondents with a large number of survey items and risk non-response, only two subscales of the measure of student engagement (SCEQ) were used in this study. This choice was made based on the fact that the emotional engagement subscale and the participation/interaction subscale have been found to be positive predictors of absolute engagement and were associated with a learning orientation (Handelsman et al., 2005). Because the subscales of skills engagement and performance engagement were not included in the measurement of student engagement in this study, it should be clearly stated that the MOPSICC-47 is a significant predictor of emotional and participation/interaction engagement. Future studies should examine the total SCEQ and all four of its subscales in order to gain a more complete understanding of the relationship between student course engagement and perceived safety in the college classroom.

Implications for Practice

The findings gleaned from the qualitative phase of the study have important implications for the postsecondary education context and particularly those fields such as social work that are interested in the issue of educational equity for all students. As we seek to bring a more diverse population of students into the postsecondary academic environment, the dynamics within that environment inevitably become more complex and nuanced. Institutions are now recognizing that we must serve the whole student and their needs from the bottom to the top of Maslow's hierarchy in order to support student engagement and promote the retention of the most vulnerable students.

The qualitative findings highlight the complex and dynamic nature of the phenomenon of perceived safety in the college classroom as co-constructed between the individual and his/her environment. This finding is in alignment with and builds on the work of Williams et al. (2016), which described psychological safety as co-constructed through classroom peer-peer interactions and student-instructor interactions. As such, it is most accurate to conceptualize safety as a characteristic of each and every interaction between the individual and their environment rather than a static characteristic of any individual component of that environment. From the lived experiences of the participants in the study, we find evidence that contradicts the idea of a “safe space”; as such, a continued focus on the creation of safe spaces is likely to result in an oversimplification of safety as a goal that can be achieved by simply ticking items on a check list.

It is important for instructors and administrators to understand and acknowledge that the same space or situation that may be perceived as “safe” for one student may not be perceived as safe by another. This means that instructors should not make assumptions regarding their students’ feelings of safety even if they utilize the most inclusive pedagogical practices. Individuals are constantly reassessing their environment based on their own changing internal situation and the current input that they are receiving from their environment. For example, a classmate who has been perceived as open-minded in past conversations may make a comment that signals a previously undisclosed bias, thus resulting in a reduced perception of safety in that moment. As such, the results of this study support the assertion put forth by Leonardo and Porter (2010) that the existence of safe spaces for people of color is a myth.

A genuine understanding of students’ perceptions of safety within the classroom context would involve regular check-ins using either formal or informal assessment methods. This is particularly true for courses that prioritize engaging students in

conversations that require students to draw on their lived experiences and share their opinions or viewpoints on topics presented during class. Certainly, the college classroom is seen as an appropriate context to address difficult issues as we prepare students to tackle real-life problems in the future; however, it is irresponsible to assume that students come into the college classroom with the communication and emotional regulation skills to participate in these discussions without being harmed or causing harm. The policy of “forced participation”, in which students are randomly called on to speak without volunteering or a large percentage of the total points of the course come from participation, can place vulnerable students at greater risk of feeling unsafe if no work has been done to build relationships of mutual respect and establish policies of accepted behavior within the classroom.

Even the seemingly positive process of students learning more about and becoming more sensitive to the experiences of marginalized groups within our society can create a heightened awareness of the potential for causing harm to others. This is particularly true for individuals who identify with groups that hold a position of privilege within society and they have an awareness of the power of that privilege to cause harm. As students become more aware of their own privileged positions, it is natural that thoughts and behaviors will shift as a result; however, there is a risk that the fear of causing harm will result in a “frozen” state in which it is safer not to engage than to risk harming another in the classroom context. Unfortunately, several of the participants in this study found themselves in this frozen state, reporting that they preferred not to speak in class unless absolutely necessary.

The majority of participants in this study reported that the instructor was the most important factor influencing the perception of safety, which highlights the opportunity and responsibility that instructors have to help students break out of that frozen state by

acknowledging and normalizing this phenomenon as part of the process of growing as a scholar and a person. Instructors who seek to engage all their students should prioritize relationship- building, both between the instructor and the students and among the students themselves, at the beginning of the semester. This can be achieved in pair or small group exercises that allow students to find commonalities with peers while at the same time highlighting differences as valuable to their academic learning experience. It may be beneficial to use the same pairs or small groups as a way for students to “check in” with one another and provide social and academic support throughout the semester. Though many educators at the postsecondary level may see this “non-intellectual” work as distracting from the content of the course, there is evidence that a small investment of time in the early weeks will pay dividends later in the semester when students are often under the most stress.

In addition to relationship-building, students need to be given the opportunity to learn communication skills, particularly active listening, and practice using these skills in discussions that move from relatively superficial and benign topics to more controversial and difficult topics. They should also learn how to acknowledge when they are wrong, apologize and grow from that experience. As the undergraduate student population at colleges and universities across the country becomes increasingly more diverse, the beliefs and points of view that they bring with them will also be diverse. We have an opportunity to prepare them to be citizens that can engage in respectful discussions that do not resort to the devaluing of others in the defense of one’s own point of view. However, the preparation process must be taken in stages, and we must recognize that both those that have experienced oppression and those that have experienced privilege need guidance along their journey.

The MOPSICC is a valuable tool in assessing the level of perceived safety in the college classroom context and can be used in several ways. It can be used by college instructors who want to identify problems related to perceptions of safety prior to presenting difficult, emotionally-charged or controversial content in the classroom. In this case, the instructor can decide whether to allow the students to answer anonymously or to provide identifying information. If identifying information is collected, the instructor will be able to follow up with students who have lower overall scores on the measure or who score above average on individual items. Additional individual support may be needed for these students or changes may need to be made to the overall course if patterns are found across students. Allowing students to answer anonymously may result in more honest responses on the measure, but it would not allow the instructor to provide any follow up to individual students in need.

The MOPSICC may also be used as a self-assessment for students to complete and reflect upon. This may be a valuable exercise in helping students understand and acknowledge any barriers that are keeping them from engaging fully in the classroom context. Students may also be encouraged to reflect on how past experiences in a similar context or with similar individuals may influence their perception of the present context. This increased awareness of the impact of our past on our present perceptions can be empowering for students in feeling like they have more control over their postsecondary educational experience.

Though the potential uses of the MOPSICC are overwhelmingly positive in nature, a word of caution is necessary to guard against the misuse of the instrument. The MOPSICC should not be used to evaluate instructors or measure overall classroom climate. As has been discussed several times, the perception of safety involves a complex interaction of a number of factors and the instructor is only one of these factors. The

instructor may be using best practices and a student may still perceive the classroom context as threatening; as the MOPSICC is an individual-level measure, it is inappropriate to use an average MOPSICC score across all students as a classroom level measure to evaluate instructor performance or to use the MOPSICC to make decisions regarding the retention or promotion of instructors.

It is also important to remember that the MOPSICC is a context-specific measure and, thus, the instructions should always ask the respondent to answer the questions in relationship to a particular course. The additional step of submitting the measure to cognitive review allowed the researcher to make improvements that increased its applicability across courses, though this assertion should be further investigated. The MOPSICC is not appropriate for use as a measure of campus safety or general perceptions of safety as it only refers to the respondent's experience within a particular course. As such, respondent scores will likely differ from course to course and even from week to week throughout the semester. Cognitive interviews revealed that, if the MOPSICC is administered at the beginning of the semester, respondents are more likely to utilize the neutral response category until they have more evidence on which to base their response choices.

Implications for Research

In addition to its usefulness as a practical classroom assessment tool, the potential uses of the MOPSICC instrument in research on student engagement within the classroom context are promising as well. The current research using Conservation of Resources Theory to examine burnout and engagement within the postsecondary environment focuses on the relationship between resources, demand and engagement; however, perceived safety is likely an additional important variable that should be considered as a potential mediator between resources, such as conscientiousness and

social support, and engagement. Adding perceived safety into this model would further our understanding of how resources affect one's perception of safety.

The MOPSICC would also be appropriate for use as a pre-/post-evaluation instrument for interventions that are aimed at increasing student engagement in the college classroom. These may include programs that teach students coping skills, social skill building programs, instructor and student diversity trainings, as well as trainings on how to facilitate difficult dialogues in the classroom. Using the MOPSICC in combination with a measure of engagement would provide more detailed information about the mechanism through which a program impacts (or fails to impact) engagement, which would allow for more targeted improvements to the program design.

Because the current study was limited in the number of variables that could be included as predictor and outcome variables related to perceived safety, future studies should examine additional variables, eventually creating a nomological network similar to that created to describe the antecedents and consequences for psychological safety in organizational psychology (Frazier, Fainshmidt, Klinger, Pezeshkan, & Vracheva, 2017). The following potential predictor variables were identified in the literature review and should be examined for their empirical relationship to perceived safety as measured by the MOPSICC in future studies: course format (Holley & Steiner, 2005), pedagogical style of the instructor (Grabinger, 2010), epistemic "fit" or lack of fit between student and professor's epistemology (Schrader, 2004), and experiences of discrimination in the learning environment, including bullying, harassment, stereotype threat, and microaggressions (Williams et al., 2016). The following dispositional factors other than anxiety, which was included in the current study should also be considered for inclusion in future studies of perceived safety: academic self-efficacy (Ramos-Sanchez & Nichols, 2007), cultural identity developmental stage (Hardiman & Jackson, 1997), and mental

health symptoms, particularly chronic stress (Brosschot et al., 2016) and post-traumatic stress (Barry et al., 2012).

It would also be important to conduct future hierarchical analyses to understand how perceived safety in the classroom relates to an individual's level of perceived safety on campus and in the community. Such analyses would allow for a better understanding of the relationship between institutional-level factors, such as the institution's legacy of inclusion/exclusion, the compositional diversity of the institution, and the prevalence of and institutional response to bias-based crime on campus, and classroom-level factors, such as perceived safety. The results of these types of hierarchical analyses are also necessary for scholars and policy makers to create more comprehensive and multi-level approaches to promoting equity for all students in the postsecondary learning environment.

To complete the nomological network for perceived safety, the relationships between perceived safety and important outcome variables other than student engagement, which has been examined in the current study, must be better understood. A few of those key course-specific outcomes that would be beneficial to examine in future studies of perceived safety in the college classroom include academic performance, attendance, and intention to persist (Bradshaw et al, 2014; Freudenberg & Ruglis, 2007; Glew et al., 2005; Kitsantas et al., 2004; Ripski & Gregory, 2009). Longitudinal studies, particularly a cohort design, examining the relationship between perceived safety in the classroom and future persistence to degree would provide important evidence of any causal relationship between classroom experiences of perceived safety and degree attainment.

Finally, due to the exploratory nature of the study as the first step in the development and validation of the MOPSICC instrument, the pre-established criteria for

determining the acceptability of individual items of the instrument were set relatively low. For example, the minimum standard of adequacy for communalities was set at .3 and factor loadings was set at |.32|. Some in the field of measurement development suggest a minimum factor loading standard of |.4| (Hinkin, 1998; Stevens, 1992) or higher (Hair et al., 2010) for item retention; however, the minimum factor loading standard for this study was set at |.3|, which was supported by the guideline by Hair et al. (2010) that factor loadings of |.3| are significant for sample sizes greater than 350.

This decision to adopt relatively lenient standards, which was made in the planning phase of the study, resulted in an instrument that may be too lengthy for in-class purposes. Future goals for the MOPSICC include the development of a brief version of the MOPSICC that could be used as an alternative to the MOPSICC-47; this goal is best achieved using analytical techniques, such as Item Response Theory, that provide more sophisticated information about each item and its parameters (Edelen & Reeve, 2007).

Conclusions

The results of this three-phase mixed methods study provide compelling initial evidence in support of the validity of the Measure of Perceived Safety in the College Classroom (MOPSICC). The fact that this measure was developed from a conceptualization of perceived safety based on data from the phenomenological phase of the mixed methods study further enhances the construct validity of the measure; content validity of the measure was strengthened by submitting the individual items and survey instructions to expert review and cognitive interviewing prior to administration. As the instrument development process utilized in this study consisted of best practices recommended by experts in the field, the MOPSICC provides educators and researchers with a valid, reliable instrument to measure perceived safety in the college classroom context.

Though multiple dimensions of safety are often referenced in the scholarship on postsecondary education, they most often borrow from conceptualizations of safety in the literature on K-12 education and organizational studies. Until this time, studies have not been conducted to examine and identify the dimensions of safety that are unique to the postsecondary context. The current study contributes to the literature on the role of safety with the undergraduate context in two primary ways.

First, the results of the current study provide a narrative description of the construct of perceived safety grounded in the lived experiences of undergraduate student participants and offer a conceptualization of the key dimensions of safety for this population, namely physical safety, intellectual safety, sociocultural identity safety and psychological safety. Based on the results of this study, it is clear that safety within the postsecondary context differs from safety in the K-12 context. As such, organizations such as the NCSSLE (2020) that support national efforts to study and promote safety in the K-16 context should reflect this difference rather than taking a one-size-fits-all approach to such an important issue.

Second, it provides a reliable, valid tool for measuring the construct of perceived safety, which allows us to move our discussions from the abstract to the empirical. The finding that the MOPSICC is a significant predictor of student engagement is compelling evidence for including perceived safety as a variable in future studies. In addition to its potential use in research, the MOPSICC can be a valuable tool for educators to use in the classroom to assess student perceptions as part of the process of preparing undergraduates to engage with challenging, controversial and/or emotionally-charged content. As the MOPSICC subscales have been shown to have good reliability, there is also potential to use the MOPSICC in a variety of ways to measure various aspects of safety.

For those who believe that educational equity should be a priority for our institutions of higher learning and society as a whole, it is critical that we understand the experiences of the increasingly-diverse student population and create conceptualizations based on these lived experiences. It is not enough to know that some groups of students are more successful in college than other students; we must make a plan to address it. However, an effective plan cannot be made without empirical evidence of the factors that relate to student success, and the quality of that empirical evidence depends upon the use of reliable and valid measurement instruments. It has been argued that the classroom experience for students is a key determinant of the decision to persist towards their educational goals and, for that reason, we must understand the factors within that classroom experience that affect engagement within that context. This study provides compelling evidence that a student's perception of safety is a factor that must be considered as we move forward in our understanding of the modern-day undergraduate experience, and the MOPSICC provides us with a valuable tool to improve our level of understanding through measurement. With this deeper understanding, we are better equipped to fulfill the promise of a college experience for all students that offers an opportunity for them to grow, not only intellectually, but as citizens and as human beings.

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Appendix A

Literature Search Table

Keyword	PsycInfo (EBSCO)	ERIC (Proquest)	Web of Science	# of studies included in review
“Safety”	11,215	3,116	212,797	N/A
“Perceived Safety”	55	3	108	7
“School Safety”	94	205	132	7
“Perceived School Safety”	6	2	4	4
“Campus Safety”	16	52	14	8
“Campus Climate”	82	130	50	20
“Classroom Climate”	228	178	97	5
“Safe Space”	304	294	295	6
“School Climate” AND “measurement”	53	9	7	2
“Campus Climate” AND “measurement”	1	1	1	3
“Classroom Environment” AND “measurement”	5	6	2	5
“Classroom Climate” AND “measurement”	1	2	4	1
“Physical Safety”	10	1	13	5
“Emotional Safety”	6	3	4	2
“Academic Safety”	2	0	20	Not Included
“Social Safety”	21	7	63	Not Included
“Behavioral Safety”	19	5	16	Not Included
“Psychological Safety”	129	11	157	6
“Cultural Safety”	40	7	143	14
“Identity Safety”	6	2	2	10
“Conservation of Resources”	88	3	116	20

Appendix B

Phase One IRB Approval Letter



Human Subjects Protection Program Office
MedCenter One – Suite 200
501 E. Broadway
Louisville, KY 40202-1798
Office: 502.852.5188 Fax: 502.852.2164

DATE: February 20, 2018
TO: Adrian J Archuleta, PhD
FROM: The University of Louisville Institutional Review Board
IRB NUMBER: 18.0062
STUDY TITLE: Perceived Safety in the Postsecondary Learning Environment: A Phenomenological Study
REFERENCE #: 654189
IRB STAFF CONTACT: Jackie Powell, CIP
852-4101

This study was reviewed on 02/20/2018 by the Chair of the Institutional Review Board and approved through the Expedited Review Procedure, according to 45 CFR 46.110(b), since this study falls under Category 7: Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies

The following items have been approved:

Submission Components			
Form Name	Version	Outcome	
Submit for Initial Review	Version 1.0	Approved as Submitted	
Review Response Submission Form	Version 1.0	Approved as Submitted	
IRB Study Application	Version 1.0	Approved as Submitted	
Study Document			
Title	Version #	Version Date	Outcome
Study Interest Form	Version 2.0	02/13/2018	Approved
JCTC Response	Version 1.0	02/13/2018	Reviewed
Interview Guide	Version 1.0	01/22/2018	Approved
Study Description	Version 1.0	01/22/2018	Approved
Study Proposal	Version 1.0	01/22/2018	Approved
Informed Consent Document	Version 2.0	02/13/2018	Approved

This study now has final IRB approval from 02/20/2018 through 02/19/2019.

For guidance on using iRIS, including finding your approved stamped documents, please follow the instructions at <https://louisville.edu/research/humansubjects/iRISSubmissionManual.pdf>

Site Approval

If this study will take place at an affiliated research institution, such as KentuckyOne Health, Norton Healthcare or University of Louisville Hospital, permission to use the site of the affiliated institution is necessary before the research may begin. If this study will take place outside of the University of Louisville Campuses, permission from the

Appendix C

Study Description

UofL Institutional Review Boards
IRB NUMBER: 18.0062
IRB APPROVAL DATE: 02/20/2018

A Phenomenological Study of Undergraduate Students' Perceptions of Safety in the Postsecondary Learning Environment Study Description

The purpose of this study is to understand the perceptions of all aspects of safety (e.g. physical, psychological, emotional, cultural, etc.) for undergraduate students in their learning environments at the University of Louisville and Jefferson Community and Technical College. The study is being conducted by Adrian Archuleta, PhD, MSSW, and Jennifer Ballard-Kang, MSSW from the Kent School of Social Work at the University of Louisville. The study will take place at U of L and JCTC. Approximately 20 subjects will be invited to participate.

In this study, you will be asked to complete a 60 minute interview during which you will be asked questions related to your experienced as an undergraduate student at U of L or JCTC. In addition, the interview will include questions about how your feelings of safety in the postsecondary learning environment have affected your classroom engagement, motivation, and mental health.

There are no foreseeable risks other than possible discomfort in answering personal questions. The data collected from the study may not benefit you directly; however, the information you provide will be used to better understand the needs of undergraduate students with regard to all aspects of safety, which may be helpful in developing programs to meet these needs.

Taking part in this study is voluntary. You may choose not to take part at all. If you decide to be in this study you may stop taking part at any time. If you decide not to be in this study or if you stop taking part at any time, you will not lose any benefits for which you may qualify.

You will be compensated in the form of a \$10 gift card for your time, inconvenience, or expenses while you are in this study.

This interview will be audio-recorded. Your recorded interview and interview transcript will be stored on an encrypted USB drive and accessible only to the research staff. Total privacy cannot be guaranteed. Your privacy will be protected to the extent permitted by law. If the results from this study are published, your name will not be made public. In addition, no identifying information will be connected to your responses. While unlikely, the following may look at the study records:

The University of Louisville Institutional Review Board, Human Subjects Protection Program Office, Office for Human Research Protections (OHRP).

Appendix D

Phenomenological Study Interest Form

UoFL Institutional Review Boards
IRB NUMBER: 18.0062
IRB APPROVAL DATE: 02/20/2018

Study Interest Form

If you are interested in participating in the Study of Undergraduate Students' Perceptions of Safety in the Postsecondary Learning Environment, please provide contact information (phone or email address) so that the investigators can discuss setting up an interview. If you are not interested in participating, simply return the form blank.

Phone Number: _____

Email Address: _____

Study Interest Form

If you are interested in participating in the Study of Undergraduate Students' Perceptions of Safety in the Postsecondary Learning Environment, please provide contact information (phone or email address) so that the investigators can discuss setting up an interview. If you are not interested in participating, simply return the form blank.

Phone Number: _____

Email Address: _____

Study Interest Form

If you are interested in participating in the Study of Undergraduate Students' Perceptions of Safety in the Postsecondary Learning Environment, please provide contact information (phone or email address) so that the investigators can discuss setting up an interview. If you are not interested in participating, simply return the form blank.

Phone Number: _____

Email Address: _____

Appendix E

Phenomenological Study Informed Consent Document

UofL Institutional Review Boards
IRB NUMBER: 18.0062
IRB APPROVAL DATE: 02/20/2018
IRB EXPIRATION DATE: 02/19/2019

Subject Informed Consent Document

A Phenomenological Study of Undergraduate Students' Perceptions of Safety in the Postsecondary Learning Environment

Introduction and Background Information

You are invited to participate in a research study. The study is being conducted by Adrian Archuleta, PhD, MSSW, and Jennifer Ballard-Kang, MSSW. The study is sponsored by the University of Louisville, Kent School of Social Work. The study will take place at the University of Louisville and Jefferson Community and Technical College. Approximately 20 subjects will be invited to participate.

Purpose

The purpose of this study is to understand the perceptions of all aspects of safety for undergraduate students in their learning environments at the University of Louisville and Jefferson Community and Technical College.

Procedures

In this study, you will be asked to complete a 60 minute interview during which you will be asked questions related to your experienced as an undergraduate student at the University of Louisville or Jefferson Community and Technical College. In addition, the interview will include questions about how your feelings of safety in the postsecondary learning environment have affected your classroom engagement, motivation, and mental health. This interview will be audio-recorded.

Potential Risks

There are no foreseeable risks other than possible discomfort in answering personal questions. There may be unforeseen risks.

Benefits

The data collected from the study may not benefit you directly; however, the information you provide will be used to better understand the needs of undergraduate students with regard to all aspects of safety, which may be helpful in developing programs to meet these needs.

Compensation

You will be paid by prepaid card for your time, inconvenience, or expenses while you are in this study. You will receive \$10 at the conclusion of your interview. All participants receive the same payment regardless of the amount of time spent in the interview. If you choose to discontinue participation at any time, you will still receive \$10 for coming to the interview. Because you will be paid to be in this study the University of Louisville may collect your name, address, social security number, and keep records of how much you are paid. You may or may not be sent a Form 1099 by the University. This will only happen if you are paid \$600 or more in one year by the University. This will not include payments you may receive as reimbursement, for example mileage reimbursement. We are required by the Internal Revenue Service to collect this information and you may need to report the payment as income on your taxes. You can still be in the study even if you don't want to be paid.

Confidentiality

Total privacy cannot be guaranteed. Your privacy will be protected to the extent permitted by law. If the results from this study are published, your name will not be made public. While unlikely, the following may look at the study records:

The University of Louisville Institutional Review Board, Human Subjects Protection Program Office, Office for Human Research Protections (OHRP).

In all other respects, however, the data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed. In addition, no identifying information will be connected to your responses.

Security

Your recorded interview and interview transcript will be stored on an encrypted USB drive and accessible only to the research staff.

Voluntary Participation

Taking part in this study is voluntary. You may choose not to take part at all. If you decide to be in this study you may stop taking part at any time. If you decide not to be in this study or if you stop taking part at any time, you will not lose any benefits for which you may qualify.

Contact Persons, Research Subject's Rights, Questions, Concerns, and Complaints

If you have any questions, concerns, or complaints about the research study, please contact: Adrian Archuleta, Principal Investigator at (502) 852-0427.

If you have any questions about your rights as a research subject, you may call the

Students' Perceptions of Safety in the Postsecondary Learning Environment

UofL Institutional Review Boards
 IRB NUMBER: 18.0062
 IRB APPROVAL DATE: 02/20/2018
 IRB EXPIRATION DATE: 02/19/2019

Human Subjects Protection Program Office at (502) 852-5188. You can discuss any questions about your rights as a research subject, in private, with a member of the Institutional Review Board (IRB). The IRB is an independent committee made up of people from the University community, staff of the institutions, as well as people from the community not connected with these institutions. The IRB has reviewed this research study.

If you have concerns or complaints about the research or research staff and you do not wish to give your name, you may call 1-877-852-1167. This is a 24-hour hotline answered by people who do not work at the University of Louisville.

Acknowledgment and Signatures

This informed consent document is not a contract. This document tells you what will happen during the study if you choose to take part. Your signature indicates that this study has been explained to you, that your questions have been answered, and that you agree to take part in the study. You are not giving up any legal rights to which you are entitled by signing this informed consent document. You will be given a copy of this consent form to keep for your records.

_____	_____	_____
Subject Name (Please Print)	Signature of Subject	Date Signed
_____	_____	_____
Printed Name of Legal Representative (if applicable)	Signature of Legal Representative	Date Signed
_____	Relationship of Legal Representative to Subject	
_____	_____	_____
Printed Name of Person Explaining Consent Form	Signature of Person Explaining Consent Form (if other than the Investigator)	Date Signed
_____	_____	_____
Printed Name of Investigator	Signature of Investigator	Date Signed

List of Investigators:	Phone Numbers:
Adrian Archuleta, PhD, MSSW	(502) 852-0427
Jennifer Ballard-Kang, MSSW	(502) 553-1495

Appendix F

Phenomenological Study Interview Guide

Interview Guide

1. What does it mean to be safe within the college classroom or learning environment?
2. Describe a situation when you were in a college classroom or learning environment and you felt safe.
3. Describe the aspects of you as a person that felt most protected or supported in that situation.
4. Describe the factors within yourself or in the environment that acted as protection in that situation.
5. How did this experience affect your level of engagement or ability to succeed academically in this environment?
6. Describe a situation when you were in a college classroom or learning environment and you felt unsafe.
7. Describe the aspects of you as a person that felt most threatened in that situation?
8. Describe the factors within yourself or in the environment that were perceived as threatening in that situation.
9. How did this experience affect your level of engagement or ability to succeed academically in this environment?
10. Have there been any situations in the college classroom or learning environment when you felt threatened but also felt safe? If so, please describe that situation.

Appendix G

Phenomenological Study Reflection Memos

Memo after Interview with P#1

There was a meeting being held in the interview room that was planned to be used. An alternative room was found after a short period of time but the confusion set a nervous tone for the interview. The participant seemed to talk faster the more nervous that she became. I wondered how much of her response was well thought-out and how much was nervous chatter. Participant seemed heavily focused on threats to physical safety and seemed to be heavily influenced by messages from her mother about the threatening nature of human beings in general and males in particular. The participant was a unique case in that she attends classes at both JCTC and U of L and spent much of her time comparing her perception of safety on the different campuses. I am concerned that the interview became diverted towards issues related to campus safety rather than maintaining a narrow focus on the classroom context. Despite attempts to bring the conversation back to center around her classroom experience, the participant consistently desired to speak about her experiences of feelings threatened while walking on either JCTC's campus or U of L's campus.

In future interviews, I should do a better job of keeping the focus on the classroom context in a way that respects what the participant feels like he/she wants to convey. It may be that this participant had a preconceived notion about what this study was about and how she wanted to respond rather than focusing on the questions that were being asked. How will this be addressed if it seems to be the case in future interviews? Is the study description misleading in some way? Could a better lead in to the interview reduce misconceptions about the nature of the study?

Memo after Interview with P#2

The interview was conducted in a large classroom and it was possible to see through the door so I was slightly concerned for the participant's privacy. I asked if she felt uncomfortable and she said that she was fine so the interview proceeded. I had some initial fear that the participant may be shy and be reluctant to answer questions in-depth but she became more engaged as the interview continued and she began to understand the nature of the questions. Like participant #1, she did also tend to refer to her experiences outside of the classroom when speaking about perceived threats to her safety. It seemed important for her to express her experience so I did not attempt to stop her from speaking on this context though it is not the focus of this study. I felt it was more important to the researcher-participant relationship that I listen to what she had to say.

She did offer interesting insight into the role of religion in the development of one's sense of identity. Religion was not one of the demographic information items that was identified for the study; however it may be an important factor to consider in future studies. This interview provides some initial evidence to support a conceptualization of safety as a combination of internal and external factors. In other words, her perception of safety seemed to be the degree to which she felt she could manage a threat rather than simply an assessment of the level of perceived threat. One example of this can be seen when she describes an unsafe or less than average safe environment. She described her observation of the comments of others relative to her religious group and that could be conceptualized as a threat to her socio-cultural identity safety. However, she also comments that the degree to which her safety was threatened was also impacted by how closely she identified with her religious group at that time.

Memo after Interview with P#3

The interview with participant #3 was the first with a participant that identified as a male. As the interview continued, it became clear that, similar to participant #1, he had understood the study to be examining campus safety. He had some concerns around that topic, particularly as he had experienced them with non-male peers, and I allowed him to speak about these experiences despite not being the focus of this study. As all three participants thus far have been purposeful in commenting on concerns about campus safety, this seems to be an issue that holds importance. Certainly, there is likely some relationship between one's perception of safety on the greater campus and the perception of safety in the classroom. But on the other hand, there may not be. This may just be an assumption as, to my knowledge, there has not been a study focusing on this relationship. This would be an interesting variable to include in future validity testing of the measure. However, first evidence of the nature of this relationship would need to be collected.

Participant #3's interview demonstrates how one can feel safe oneself while perceiving threats to others. Participant #3 did not feel threatened because of his status as a male, his physical characteristics, and/or self-esteem; however, he recognized that his peers felt less safe in that same environment. His interview also highlighted that protection from "causing harm" to others should be considered in a conceptualization/definition of safety. This perspective may not have been reflected in the data without including individuals who belong to demographic groups that are typically not included in historically oppressed groups. For this reason, it will be equally important to ensure that participants representing both minority and non-minority groups are included in the sample. Participant #3 spoke of his girlfriend as "they", which I hope is not confusing in the transcript. Perhaps I should include

“girlfriend” in parentheses? Consideration of pronouns may be an issue in the analysis and write-up of results.

Memo after Interview with Participant #4

Participant #4 was the first to interview in a reservable meeting room at the library. Finding a space to conduct interviews has been a challenge that has not yet been resolved to my satisfaction. The library rooms are not as private as I had hoped; the walls do not reach to the ceiling so sound travels between the rooms. Participant #4 seemed nervous but excited to participate in the interview. He was the first participant that did not focus on the physical aspect of safety when asked about what safety meant to him. It was interesting that his example of an experience of feeling safe in the classroom also was later in the interview used an example of threats to perceptions of safety in the form of course content. The content was outdated and not reflective of P#4's experience. He expressed that he was able to protect himself against this threat using strategies and tactics including humor and providing evidence of alternative perspectives; in this way he was able to maintain his level of perceived safety. This was the first report of course content as a possible threat to one's perception of safety and this should be considered as a situational factor.

P#4's example of an unsafe experience was an important reminder of the role of choice and autonomy in determining one's perception of safety. We are reminded that sharing experiences is not positive in and of itself. The perception of safety at the point of disclosure has a strong impact on whether sharing is positive or negative. Also, issues of power in the classroom are important to consider, particularly within the teacher/student dynamic. Instructors may be unaware that because of their power position, a request may seem to be an order rather than an option and students may anticipate negative consequences for non-compliance. Because of this, they may not

be able to use strategies and tactics to protect themselves as they normally would. It is becoming evident that sharing personal information induces anxiety for students such as P#4 when they are not the one making the choice of when and how to share this information. What is the benefit to me if I share this information? What is the cost to me if I share? What is the cost to me if I don't share?

This is the first interview that I felt satisfied with the focus of the responses as the participant did not move into the realm of campus safety. This interview also provided evidence for the conceptualization of the perception of safety using the conservation of resources theory. The degree to which one is able to conserve valued resources (protect oneself from losing valued resources, such as physical, mental, emotional well-being, sense of identity).

Memo after Interview with Participant #5

This interview was conducted in a meeting room in the library and it was a bit noisy. The participant expressed that psychological and emotional safety was as important as physical safety and described an interrelationship between the two. This was the first mention of how a lack of psychological safety could impact physical well-being. P#5 was particularly concerned about judgment from peers and the threat from peers who would talk about private information outside of class. This was also the first report of peers of the opposite gender being perceived as a potential threat due to a lack of previous interaction with males in the classroom. She seems to be quite vulnerable in the face of strong opinions and outlined strategies including physically curling up to protect herself.

She also described a kind of weighing of the benefits and costs of making oneself vulnerable in the classroom. Both the strength of the opinions of others and a desire to maintain social relationships seemed to override her desire to express her

own opinion. A desire for group harmony is evident. P#5 preferred the concept of mental safety to the term “psychological safety”. She also used the term mental safety when the question asked about emotional safety. Her interview provides further support for the conservation of resources theory as she describes engagement as an expenditure of energy, in the form of personal resources and mental energy. Disengagement in the face of a threat maintains one’s mental well-being. A threat that was given as an example was a peer who is closed-minded and not willing to reflect on the perspective of others.

Memo after Interview with Participant #6

From the beginning of the interview, P#6 describes safety as including both physical and mental safety. She seems to have thought about the issue of mental safety more than any of the previous participants. This may be due to the fact that she is an African-American female. Similarly, to P#1, she commented on how a male teacher had made her feel physically safe by stating that he would act in the face of a threat. She seemed to conceptualize physical safety as a prerequisite for mental safety. P#6 felt that it was possible to feel physically safe but not mentally safe; however, you could not be mentally safe without being physically safe. An interesting moment in her interview was how she described some students experiencing bullying though she dismissed the threat and categorized the bullying victim’s reaction as not reflective of the safety of the environment. This example illustrates how an environment that is perceived as safe by one student may not be safe for other students.

Her interview also included evidence that challenge does not have a negative impact on perceptions of safety. In other words, safety is a different construct from a class being “easy” or “lacking challenge” though students often use the term

“comfortable” to describe feelings of safety. The class that P#6 described as most safe, she also described as most challenging. P#6 speaks about weighing the cost of sharing personal experiences against the benefit of helping others. It seems that there must be clear evidence of a benefit before she will share personal information. This may be due to her history of trauma and her strategy of dealing with issues on her own rather than reaching out to others for help. This was the first interview in which the participant became emotional and cried but I was satisfied that it did not negatively affect her experience in the interview. She reported that it was positive to reflect on how her past experiences impact how she shows up in the classroom.

Memo after Interview with Participant #7

This was my only interview with a non-native English speaker and a student who was not born in the United States. Like P#2, she reports a feeling of difference because of her religion and being judged based on stereotypes about members of her religion. As previously noted, religion may be a demographic category that should be studied in the future. P#7 seems to have experienced the most threats to safety of all participants thus far, which may be due to her membership in several marginalized groups, including female, Black, Muslim, and non-native English speakers. She highlights the impact of safety on mental health and engagement in the classroom.

An interesting moment occurred when she realized her perception may reflect the actual judgment from peers or it may be influenced by her past experiences of discrimination. She suddenly had an awareness that she brought those experiences and expectations with her and this may have impacted how likely she was to perceive others as threats. From this, we see that the past experience of discrimination and persecution is powerful and the effects long-lasting. She identified the aspects of safety as mental, physical, and emotional. However, she also spoke about her identity

in relation to safety. Interestingly, she identified being worried about harming others in her definition of safety so it seems she is concerned about being perceived as a threat. Expectations of safety not being met seems to be something that may need to be examined further. This seems similar to the concept of sanctuary trauma where a person experiences harm due to unmet expectations that an environment or a person would be safe.

Memo after Interview with P#8

P#8 defines safety as completely non-physical, which was interesting. Emotional and mental safety are identified by P#8 as most relevant and physical safety was not mentioned at all. Why is that? She seemed quite aware of how her lack of social skills may have left her isolated in class and then less comfortable to participate. She reported some mental health issues including anxiety and ADD, which may make her more vulnerable to threats.

P#8 was the first participant to identify being older as a protective factor in that she didn't care what the younger students thought of her. Her description of how she chose what information to disclose to the class offers interesting insight into her strategy to maintain her own sense of safety while attempting to connect with others and express her identity. Her description of the challenges she faced in participating were also noteworthy due to the fact that she was dealing with mental health issues for which she was not receiving accommodations. Therefore, she was on her own to manage her ADD symptoms or communicate with peers or the instructor about her needs. Her use of humor to deal with challenges is similar to P#4 who buffered the risks of personal disclosure with humor. Her interview highlights how being oneself can allow a student to focus completely on course content. Being concerned about

protecting oneself takes energy and because of that, mental energy is taken away from the task of learning.

This was also another interview that made me think about the possibility of a dimension of safety that would be called “intellectual safety” or “academic identity safety” as there seems to be a consistent theme of wanting to protect oneself from being perceived as stupid that is common to most participants’ experiences. What is this?

Memo after Interview with P#9

This participant brings an important perspective to the study as an African-American non-traditional student. He also acknowledges that his concern for physical safety may be influenced by his work as a security guard where he is responsible for the physical safety of others. This interview was challenging because the participant veered from the questions into areas that were obviously important to him, including description of his duties in the military. Though this information is not relevant to the study at hand, I was reluctant to interrupt because it seemed key to him feeling heard and acknowledged.

Despite these divergences, P#9 offered important insight into how the individual can be a threat to themselves and create an unsafe environment for themselves even within an environment that may be perceived as relatively safe by others. In P#9’s case, he disclosed a diagnosed mental illness of PTSD when completing his demographic form prior to the interview and his responses are important because they reflect the experience of a student with a disability who is not receiving accommodations within the academic setting. In this situation, peers and instructors may be doing all the right things to create a safe environment, but the individual who is not being sufficiently supported in managing their mental illness

may perceive themselves as a threat to themselves and/or others, lowering their perception of safety.

Memo after Interview with P#10

This interview was the first with a participant recruited from a physical science cardinal core course. She reported a rather narrow definition of safety that was almost exclusively focused on physical safety. However upon further questioning she did acknowledge that other aspects of safety are likely relevant to others though not particularly relevant for her. This lack of concern for non-physical aspects of safety may have been influenced by her negative experience relative to diversity/inclusion programs at her previous college. As reported by P#10, these efforts aimed at making marginalized students feel more included within the college community seemed to have had the effect of limiting the expression of diverse opinions. P#10 perceived that it was not safe to express an opinion that was not endorsed by the diversity/inclusion office due to fear of judgement by peers. Her own personal experiences seem to be tightly withheld unless evidence of a benefit to others is strong. Her desire to maintain her identity as a capable and strong student seems of paramount concern in deciding what to disclose in the classroom. It was interesting that she conceptualized mental safety as an intrapersonal concept and emotional safety as an interpersonal concept. This distinction has not been articulated in previous interviews. Also she mentions academic safety. Is this a dimension unique to college students or is this only unique to P#10?

Memo after Interview with P#11

Participant #11 was recruited from a cardinal core physics course. Perhaps the most interesting description that came from this interview was P#11's anecdote about his friend who came from a small town in Kentucky and brought with her

conservative ideas that were influenced by this background. Despite experiences in which this friend received feedback that she may have offended her peers with her conservative views, she persisted in sharing her opinions with others. P#11 believed that this friend did not worry about offending others, but it is not possible to know if this is true without speaking directly to the friend.

My first impression after this interview and prior to analysis of the data, is that no new categories or dimensions seemed to come from this interview. If it is determined that saturation of categories and dimensions has been reached then this may be the final interview of initial phase of the study.

Appendix H

Narrative Description of the Phenomenon of Perceived Safety in the College Classroom

Within the postsecondary classroom context, perceived safety is defined by participants as the degree to which a student perceives themselves as protected from being harmed by oneself or others or causing harm to oneself or others. Perceived safety is different from a “safe” learning environment because it focuses on the perspective of the individual student and therefore reflects the interaction between the student and his/her learning environment and not simply characteristics of the environment.

An undergraduate student’s perception of safety in the classroom context is described as a continuum with “unsafe” at one end, “safe” at the other end, and “not safe but not unsafe” in the middle. The positive end of the continuum, the perception that one is safe, is described as “being valued”, “feeling heard”, “feeling included”, “feeling free to be oneself”. The positive extreme of perceived safety reflects both the perception that a student is able to protect oneself in the face of threat and that others in the environment would protect the student from either experiencing or causing harm. At the negative end of the continuum, the perception of being “unsafe” is described as a state in which both the student and others are not willing or able to protect the student from harm. The middle point on the continuum, “not safe but not unsafe”, may either reflect the state in which a student does not feel protected by others but perceives themselves as capable of protecting themselves or a state in which a student does not feel protected but also does not perceive a threat to safety.

Protective factors and threats to the perception of safety fall into two categories: external and internal factors. External factors may refer to both the built environment and the people in that environment. Examples of external protective factors reported by students include classrooms with multiple points of exit and social relationships with

classmates; examples of external threats include a classroom located on the edge of campus and classmates with extreme viewpoints. Internal factors refer to those characteristics, experiences and attitudes that students bring with them into the classroom. Examples of internal protective factors include strong social and communication skills and a solid sense of identity; examples of internal threats include mental health issues such as anxiety and ADHD and past experiences of being stereotyped and/or victimized.

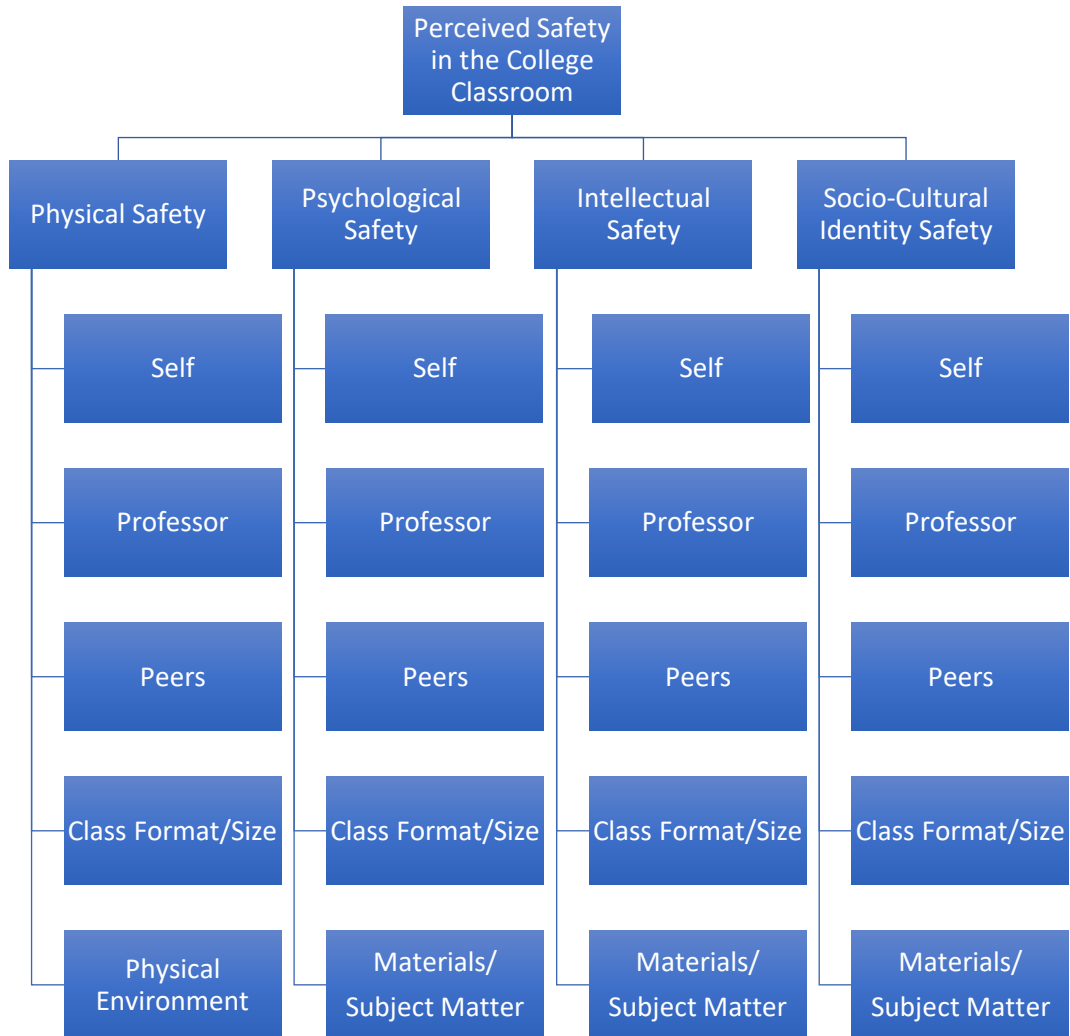
Students report that safety involves not only being protected from being harmed but from causing harm to others. Students worry about offending the instructor or peers and the damage the offense will have on those academic and social relationships. Protection from causing harm can come from an instructor in the form of consistent enforcement of classroom behavior expectations and constructive criticism provided in one-on-one interactions with either instructors or peers. A student's own social skills and social awareness can be valuable in protecting a student from causing harm to others in the learning environment.

Perceived safety in the classroom context is described as a multidimensional construct consisting of three dimensions that are particularly relevant to undergraduate students: physical safety, intellectual safety, and socio-cultural identity safety. Though physical safety was often the first dimension identified when defining safety, students also reported that non-physical aspects of safety were equally important in the classroom context. Physical safety is described by undergraduate students as being able to learn without fear of being physically or sexually harmed, harassed, or intimidated. Intellectual safety is described as feeling able to express one's thoughts and opinions without fear or worry about negative consequences, including judgment of peers, instructor bias or retribution, and breaches of privacy. Socio-cultural identity safety is described as the

freedom to be oneself, particularly in regard to disclosing aspects of the self that may identify oneself as a member of a historically oppressed group.

Appendix I

Graphic Conceptualization of Perceived Safety in the College Classroom



Appendix J

Member Checking Questionnaire

For each of the following statements, circle the response that best characterizes how you feel about the statement. (1= “Strongly Disagree”; 2= “Disagree”; 3= “Agree”; 4= “Strongly Agree”)

	Strongly Disagree	Disagree	Agree	Strongly Agree
Feeling safe in the college classroom context means being valued.	1	2	3	4
Feeling safe in the college classroom context means feeling heard.	1	2	3	4
Feeling safe in the college classroom context means feeling included.	1	2	3	4
Feeling safe in the college classroom means feeling free to be oneself.	1	2	3	4
A student’s perception of safety involves being protected from being harmed by others.	1	2	3	4
A student’s perception of safety involves being protected from harming others.	1	2	3	4
A student’s perception of safety involves being protected from harming oneself.	1	2	3	4
It is possible to not feel safe but, at the same time, not feel unsafe.	1	2	3	4
People in the learning environment can affect a student’s perception of safety.	1	2	3	4
The physical built classroom environment can affect a student’s perception of safety.	1	2	3	4
Course content/subject matter can affect a student’s perception of safety.	1	2	3	4
The structure/format of a course can affect a student’s perception of safety.	1	2	3	4
A student’s personal characteristics can affect their perception of safety.	1	2	3	4
Within the same environment, students may differ in their perceptions of safety.	1	2	3	4
A student’s perceived safety in the college classroom context is a result of the interaction between a student’s internal characteristics and the environment.	1	2	3	4
Physical safety is a dimension of perceived safety in the college classroom context.	1	2	3	4
Intellectual safety is a dimension of perceived safety in the college classroom context.	1	2	3	4
Socio-cultural identity safety is a dimension of perceived safety in the college classroom context.	1	2	3	4

Appendix K

Revised Narrative Description of the Phenomenon of Perceived Safety

Within the postsecondary classroom context, perceived safety is defined by participants as the degree to which a student perceives themselves as protected from being harmed by oneself or others or causing harm to oneself or others. A student's perception of safety involves an interaction between the student and the learning environment and differs from the concept of a "safe" learning environment. Students report that safety involves not only being protected from being harmed but from causing harm to others. Students worry about offending the instructor or peers and the damage the offense will have on those academic and social relationships. Protection from causing harm can come from an instructor in the form of consistent enforcement of classroom behavior expectations and constructive criticism provided in one-on-one interactions with either instructors or peers. A student's own social skills and social awareness can be valuable in protecting a student from causing harm to others in the learning environment.

An undergraduate student's perception of safety in the classroom context is described as a continuum with "unsafe" at one end, "safe" at the other end, and "not safe but not unsafe" in the middle. The positive end of the continuum, the perception that one is safe, is described as "being valued", "feeling heard", and "feeling free to be oneself". The positive extreme of perceived safety reflects both the perception that a student is able to protect oneself in the face of threat and that others in the environment would protect the student from either experiencing or causing harm. At the negative end of the continuum, the perception of being "unsafe" is described as a state in which both the student and others are not willing or able to protect the student from harm. The middle point on the continuum, "not safe but not unsafe", may either reflect the state in which a student does not feel protected by others but perceives themselves as capable of

protecting themselves or a state in which a student does not feel protected but also does not perceive a threat to safety.

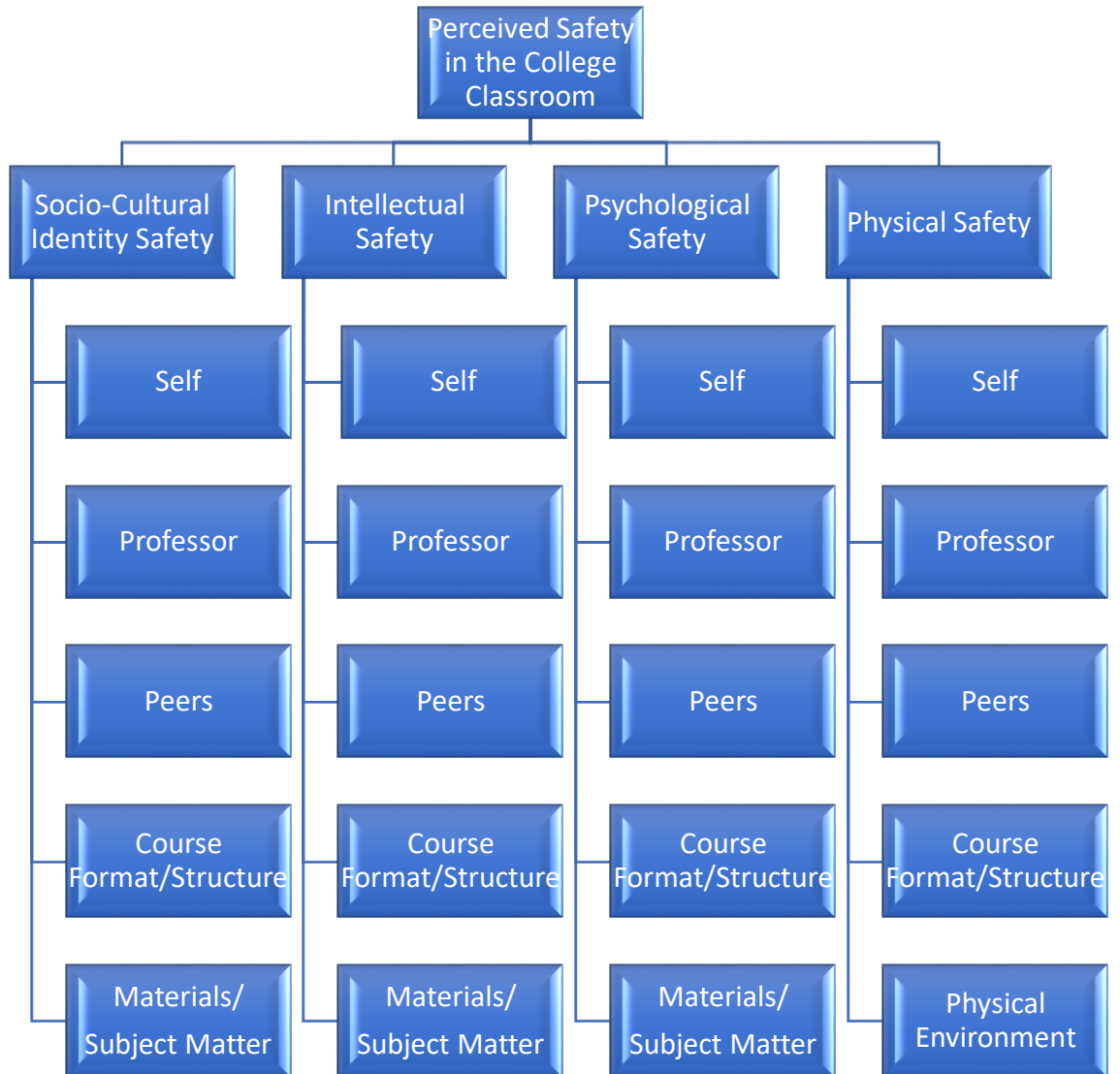
Perceived safety in the classroom context is described as a multidimensional construct consisting of four dimensions: physical safety, psychological safety, intellectual safety, and socio-cultural identity safety. Though physical safety was often the first dimension identified when defining safety, students emphasized that non-physical aspects of safety were equally important in the classroom context. Physical safety is defined as being able to learn without fear of being physically or sexually harmed, harassed, or intimidated. Psychological safety is defined as being able to protect one's own mental and emotional well-being in the face of the social and academic stressors of the classroom environment. Intellectual safety is defined as being able to express one's thoughts and opinions without fear or worry about negative consequences, including judgment of peers, instructor bias or retribution, and breaches of privacy. Socio-cultural identity safety is defined as being free to be oneself, particularly in regard to disclosing aspects of the self that may identify oneself as a member of a historically oppressed group.

Protective factors and threats to the perception of safety fall into two categories: external and internal factors. External factors refer to the physical classroom environment, the format/size of the class, and/or the people in the classroom environment. Examples of external protective factors reported by students include classrooms with multiple points of exit, courses that utilize structured discussion, and social relationships with classmates; examples of external threats include a classroom located on the edge of campus, courses that utilize primarily lecture or unstructured discussion, and classmates with extreme viewpoints. Internal factors refer to those characteristics, experiences and attitudes that students bring with them into the

classroom. Examples of internal protective factors include strong social and communication skills and a solid sense of identity; examples of internal threats include mental health issues such as anxiety and ADHD and past experiences of being stereotyped and/or victimized.

Appendix L

Revised Graphic Conceptualization of Perceived Safety



Appendix M

External Audit of Qualitative Analysis by Jennifer Ballard-Kang

Laura M. Frey, Ph.D., LMFT

Ms. Ballard-Kang requested an external audit to increase the dependability (i.e., that the findings are consistent and able to be repeated) and confirmability (i.e., that the findings are shaped by respondent reports rather than researcher bias, interests, or motivations) of her qualitative analysis. She provided raw data in the form of transcribed interviews with all participants. She provided access to data reduction (e.g., codings), analysis products (e.g., transformed meaning units and categories), and memos describing considerations that took place during analysis. Ms. Ballard-Kang also provided copies of the original narrative description, results from presenting that description to participants through member checking, and the revised narrative description that resulted from that process. After a careful review of the revised dissertation proposal containing the purpose of the study, the analytic plan, and the guidelines for an audit, I determined the audit trail was sufficient to complete an external audit.

Ms. Ballard-Kang completed a qualitative data analysis to explore undergraduates' perceptions of safety in higher education contexts. She adopted a phenomenological approach and more specifically a descriptive phenomenological approach. She used a semi-structured interview style, and data analysis occurred in several steps: bracketing, identifying meaning units, assigning brief phrases to categorize units, transforming meaning units to describe the phenomenon structure, reflecting through the use of memos, and creating a final narrative. This narrative was verified through member checking, which resulted in a revised model for defining safety within higher education settings. These procedures were compared against the research questions for the project. Moreover, raw data provided by Ms. Ballard-Kang were thoroughly reviewed and compared against one another.

There are clear consistencies between the problem highlighted and the method chosen. A phenomenological approach is appropriate given Ms. Ballard-Kang's interest in exploring the experience of safety in higher education: that is, what are the various facets of safety, what does safety mean to those who experience it or want to experience it, and what does the experience feel like for those who have it compared to when there is an absence of safety. Moreover, the adoption of a descriptive phenomenological approach follows her philosophical beliefs that researchers should suspend their perceived ideas or biases to allow participants' experiences to emerge fully.

Two inconsistencies emerged between the data and the final product. First, both the original and revised descriptions detail protective factors and threats, which are described as external and internal factors. These factors appear to be consistent with participants' descriptions of safety. However, the visual diagram does not incorporate these components. It appears that external and internal factors occur within each of the primary divisions of safety (i.e., self, professor, peers, course format/structure, materials/subject matter, and physical environment). It could be

helpful to incorporate these components visually within the diagram to indicate how each contains both external and internal factors.

Second, the diagram does not address the intersection of the various divisions of safety. Participant #5 highlights this idea in their member check when he/she states, “And then maybe do, I don’t know what type of charts they are, but showing how they all intersect. Like having a male professor . . . that intersects with physical safety but it also intersects with socio-cultural safety . . .” It remains unclear whether the top-down-style diagram is the best approach. Perhaps, a wheel or interlocking system would be a better fit. Finally, I found no inconsistencies between the data and final product that would suggest inquirer bias, and the overlapping yet unique nature of categories appear to reflect the data accurately. Apart from the two concerns listed above, all inferences appear to flow logically from the data.

Reference

Lincoln, Y. S., & Guba E. G. (1982, March). Establishing dependability and confirmability in naturalistic inquiry through an audit. Paper presented at the Annual meeting of the American Educational Research Association, New York, NY.

Appendix N

Test Content Specification Table for the

Measure of Perceived Safety in the College Classroom

Instrument Purpose: To assess a student’s level of perceived safety in the college classroom

Test Content Specification Table with Number of Items per Cell

	Self (A)	Instructor (B)	Class- mates (C)	Physical Environ- ment (D)	Course Format (E)	Course Content (F)
Physical Safety (1)	(1A) 4	(1B) 4	(1C) 4	(1D) 5	(1E) 4	
Intellectual Safety (2)	(2A) 5	(2B) 7	(2C) 6		(2E) 2	(2F) 2
Sociocultural Identity Safety (3)	(3A) 6	(3B) 8	(3C) 6		(3E) 2	(3F) 2
Psychological Safety (4)	(4A) 6	(4B) 6	(4C) 4		(4E) 4	(4F) 2

Test Item Specifications

Listed by Cell from Test Content Specification Table

Cell 1A: Items will assess the student’s perception of physical safety as it is impacted by the self.

Cell 1B: Items will assess the student’s perception of physical safety as it is impacted by the instructor.

Cell 1C: Items will assess the student’s perception of physical safety as it is impacted by classmates.

Cell 1D: Items will assess the student’s perception of physical safety as it is impacted by the physical environment.

Cell 1E: Items will assess the student’s perception of physical safety as it is impacted by the format of the course.

Cell 2A: Items will assess the student’s perception of intellectual safety as it is impacted by the self.

Cell 2B: Items will assess the student’s perception of intellectual safety as it is impacted by the instructor.

Cell 2C: Items will assess the student's perception of intellectual safety as it is impacted by classmates.

Cell 2E: Items will assess the student's perception of intellectual safety as it is impacted by the format of the course.

Cell 2F: Items will assess the student's perception of intellectual safety as it is impacted by the content of the course/course materials.

Cell 3A: Items will assess the student's perception of socio-cultural safety as it is impacted by the self.

Cell 3B: Items will assess the student's perception of socio-cultural safety as it is impacted by the instructor.

Cell 3C: Items will assess the student's perception of socio-cultural safety as it is impacted by classmates.

Cell 3E: Items will assess the student's perception of socio-cultural safety as it is impacted by the format of the course.

Cell 3F: Items will assess the student's perception of socio-cultural safety as it is impacted by the content of the course/course materials.

Cell 4A: Items will assess the student's perception of psychological safety as it is impacted by the self.

Cell 4B: Items will assess the student's perception of psychological safety as it is impacted by the instructor.

Cell 4C: Items will assess the student's perception of psychological safety as it is impacted by classmates.

Cell 4D: Items will assess the student's perception of psychological safety as it is impacted by the built environment.

Cell 4E: Items will assess the student's perception of psychological safety as it is impacted by the format of the course.

Cell 4F: Items will assess the student's perception of psychological safety as it is impacted by the content of the course/course materials.

Appendix O

IRB Approval for Phases Two and Three



Human Subjects Protection Program Office
 MedCenter One – Suite 200
 501 E. Broadway
 Louisville, KY 40202-1798
 Office: 502.852.5188 Fax: 502.852.2164

DATE: June 10, 2019
TO: Adrian J Archuleta, PhD
FROM: The University of Louisville Institutional Review Board
IRB NUMBER: 19.0501
STUDY TITLE: Perceived safety in the undergraduate classroom context: An initial examination of the validity of the Measure of Perceived Safety in the College Classroom (MOPSICC)
REFERENCE #: 684546
IRB STAFF CONTACT: Jackie Powell, CIP
 852-4101
 jspowe01@louisville.edu

This study was reviewed on 06/07/2019 by the Chair of the Institutional Review Board and approved through Expedited Review Procedure, according to 45 CFR 46.110(b), since this study falls under Category 7: Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies

This study now has final IRB approval from 06/07/2019 through 06/06/2022.

This study was also approved through 45 CFR 46.116 (C), which means that an IRB may waive the requirement for the investigator to obtain a signed informed consent form for some or all subjects.

The following items have been approved:

Submission Components			
Form Name	Version	Outcome	
Submit for Initial Review	Version 1.0	Approved as Submitted	
Review Response Submission Form	Version 1.0	Approved as Submitted	
IRB Study Application	Version 1.2	Approved as Submitted	
Study Document			
Title	Version #	Version Date	Outcome
Study Protocol	Version 1.0	06/03/2019	Approved
Study Interest Form (Revised) clean	Version 1.0	06/03/2019	Approved
Cognitive Interviewing Script	Version 1.0	05/10/2019	Approved
Initial item pool - survey(revised)	Version 1.1	05/10/2019	Approved
Study Description (to be given to subjects)	Version 1.1	05/10/2019	Approved
Survey Informed Consent	Version 1.1	06/03/2019	Approved
Cognitive Interview Informed Consent	Version 1.2	05/10/2019	Approved

Your study does not require annual continuing review. Your study has been set with a three year expiration date. If your study is still ongoing you will receive iRIS automated reminders to submit a request to continue your study prior to the expiration date above.

All other IRB requirements are still applicable. You are still required to submit amendments, personnel changes, deviations, etc... to the IRB for review. Please submit a closure amendment to close out your study with the IRB if it ends prior to the three year expiration date.

Human Subjects & HIPAA Research training are required for all study personnel. It is the responsibility of the investigator to ensure that all study personnel maintain current Human Subjects & HIPAA Research training while the study is ongoing.

For guidance on using iRIS, including finding your approved stamped documents, please follow the instructions at <https://louisville.edu/research/humansubjects/IRISSubmissionManual.pdf>

Please note: Consent and assent forms no longer have an expiration date stamped on them. The consent/assents expire if the study lapses in IRB approval. Enrollment cannot take place if a study lapses in approval. For additional information view [Guide 038](#).

Site Approval

If this study will take place at an affiliated research institution, such as KentuckyOne Health, Norton Healthcare or University of Louisville Hospital/James Graham Brown Cancer Center, permission to use the site of the affiliated institution is necessary before the research may begin. If this study will take place outside of the University of Louisville Campuses, permission from the organization must be obtained before the research may begin (e.g. Jefferson County Public Schools). Failure to obtain this permission may result in a delay in the start of your research.

Privacy & Encryption Statement

The University of Louisville's Privacy and Encryption Policy requires such information as identifiable medical and health records: credit card, bank account and other personal financial information; social security numbers; proprietary research data; dates of birth (when combined with name, address and/or phone numbers) to be encrypted. For additional information: <http://security.louisville.edu/PolStds/ISO/PS018.htm>.

Implementation of Changes to Previously Approved Research

Prior to the implementation of any changes in the approved research, the investigator will submit any modifications to the IRB and await approval before implementing the changes, unless the change is being made to ensure the safety and welfare of the subjects enrolled in the research. If such occurs, a Protocol Deviation/Violation should be submitted within five days of the occurrence indicating what safety measures were taken, along with an amendment to revise the protocol.

Unanticipated Problems Involving Risks to Subjects or Others (UPIRTSOs)

In general, these may include any incident, experience, or outcome, which has been associated with an unexpected event(s), related or possibly related to participation in the research, and suggests that the research places subjects or others at a greater risk of harm than was previously known or suspected.

Full Accreditation since June 2005 by the Association for the Accreditation of Human Research Protection Programs, Inc.



UPIRTSOs may or may not require suspension of the research. Each incident is evaluated on a case by case basis to make this determination. The IRB may require remedial action or education as deemed necessary for the investigator or any other key personnel. The investigator is responsible for reporting UPIRTSOs to the IRB within 5 working days. Use the UPIRTSO form located within the iRIS system to report any UPIRTSOs.

Payments to Subjects

As a reminder, in compliance with University policies and Internal Revenue Service code, all payments (including checks, pre-paid cards, and gift certificates) to research subjects must be reported to the University Controller's Office. For additional information, please contact the Controller's Office at 852-8237 or controll@louisville.edu. For additional information:

<http://louisville.edu/research/humansubjects/policies/PayingHumanSubjectsPolicy201412.pdf>

The committee will be advised of this action at a regularly scheduled meeting.

If you have any questions, please contact the IRB analyst listed above or the Human Subjects Protection Program office at hspofc@louisville.edu.



Peter M. Quesada, Ph.D., Chair
Social/Behavioral/Educational Institutional Review Board
PMQ/jsp

We value your feedback. Please let us know how you think we are doing:
<https://www.surveymonkey.com/r/CCLHXP>

Full Accreditation since June 2005 by the Association for the Accreditation of Human Research Protection Programs, Inc.



Appendix P

Cognitive Interview Study Description

UofL Institutional Review Boards
IRB NUMBER: 19.0501
IRB APPROVAL DATE: 06/07/2019

Perceived safety in the undergraduate classroom context: An initial examination of the validity of the Measure of Perceived Safety in the College Classroom (MOPSIICC)

The purpose of this mixed-methods study is to examine the validity of the Measure of Perceived Safety in the College Classroom, which was developed by the study investigators based on a conceptualization of perceived safety that emerged from a previous qualitative study conducted at the University of Louisville. To enhance the content validity of the measure, the initial item pool along with instrument instructions will be examined for problems of response error using cognitive interviewing,

The study is being conducted by Adrian Archuleta, PhD, MSSW, and Jennifer Ballard-Kang, MSSW from the Kent School of Social Work at the University of Louisville. The study will take place at U of L. Approximately 5-10 subjects will be invited to participate.

In this study, you will be asked to participate in a 60-minute focus group during which you will be asked to “talk aloud” as you respond to questions from an instrument developed to measure undergraduate students’ perceptions of safety in the college classroom.

There are no foreseeable risks other than possible discomfort in answering personal questions. The data collected from the study may not benefit you directly; however, the information you provide will be used to better understand the needs of undergraduate students with regard to all aspects of safety, which may be helpful in developing programs to meet these needs.

Taking part in this study is voluntary. You may choose not to take part at all. If you decide to be in this study you may stop taking part at any time. If you decide not to be in this study or if you stop taking part at any time, you will not lose any benefits for which you may qualify.

You will be compensated in the form of a \$10 gift card for your time, inconvenience, or expenses while you are in this study.

This focus group will be audio-recorded. Your recorded interview and interview transcript will be stored on an encrypted USB drive and accessible only to the research staff. Total privacy cannot be guaranteed. Your privacy will be protected to the extent permitted by law. If the results from this study are published, your name will not be made public. In addition, no identifying information will be connected to your responses. While unlikely, the following may look at the study records:

The University of Louisville Institutional Review Board, Human Subjects Protection Program Office, Office for Human Research Protections (OHRP).

Appendix Q

Cognitive Interview Informed Consent Form

UofL Institutional Review Boards
IRB NUMBER: 19.0501
IRB APPROVAL DATE: 06/07/2019

Subject Informed Consent Document

Perceived safety in the undergraduate classroom context: An initial examination of the validity of the Measure of Perceived Safety in the College Classroom (MOPSIICC)

Introduction and Background Information

You are invited to participate in a research study. The study is being conducted by Adrian Archuleta, PhD, MSSW, and Jennifer Ballard-Kang, MSSW. The study is sponsored by the University of Louisville, Kent School of Social Work. The study will take place at the University of Louisville. Approximately 5-10 subjects will be invited to participate in this cognitive interviewing phase of the study.

Purpose

The purpose of this mixed-methods study is to examine the validity of the Measure of Perceived Safety in the College Classroom, which was developed by the study investigators based on a conceptualization of perceived safety that emerged from a previous qualitative study conducted at the University of Louisville. To enhance the content validity of the measure, the initial item pool along with instrument instructions will be examined for problems of response error using cognitive interviewing,

Procedures

In this study, you will be asked to participate in a focus group including 3-4 participants. Focus group participants will be asked to "talk aloud" as they interact with a maximum of 20 items from the Measure of Perceived Safety in the College Classroom. You will also be asked to rate each item using a 4-point rating scale. This focus group interview will last approximately 60 minutes and will be audio-recorded.

Potential Risks

There are no foreseeable risks other than possible discomfort in answering personal questions. There may be unforeseen risks.

Benefits

The data collected from the study may not benefit you directly; however, the information you provide will be used to better understand the needs of undergraduate students with regard to all aspects of safety, which may be helpful in developing programs to meet these needs.

Compensation

You will be paid by prepaid card for your time, inconvenience, or expenses while you are in this study. You will receive a \$10 Visa Gift Card at the conclusion of your interview. All participants receive the same payment regardless of the amount of time spent in the interview. If you choose to discontinue participation at any time, you will still receive a \$10 Visa Gift Card for coming to the interview. Because you will be paid to be in this study the University of Louisville may collect your name, address, social security number, and keep records of how much you are paid. You may or may not be sent a Form 1099 by the University. This will only happen if you are paid \$600 or more in one year by the University. This will not include payments you may receive as reimbursement, for example mileage reimbursement. We are required by the Internal Revenue Service to collect this information and you may need to report the payment as income on your taxes. You can still be in the study even if you don't want to be paid.

Confidentiality

Total privacy cannot be guaranteed. Your privacy will be protected to the extent permitted by law. If the results from this study are published, your name will not be made public. While unlikely, the following may look at the study records:

The University of Louisville Institutional Review Board, Human Subjects Protection Program Office, Office for Human Research Protections (OHRP).

In all other respects, however, the data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed. In addition, no identifying information will be connected to your responses.

Security

Your recorded interview and interview transcript will be stored on an encrypted USB drive and accessible only to the research staff.

Voluntary Participation

Taking part in this study is voluntary. You may choose not to take part at all. If you decide to be in this study you may stop taking part at any time. If you decide not to be in this study or if you stop taking part at any time, you will not lose any benefits for which you may qualify.

Contact Persons, Research Subject's Rights, Questions, Concerns, and Complaints

If you have any questions, concerns, or complaints about the research study, please contact: Adrian Archuleta, Principal Investigator at (502) 852-0427.

If you have any questions about your rights as a research subject, you may call the

VALIDATING THE MEASURE OF PERCEIVED SAFETY IN THE COLLEGE CLASSROOM

Human Subjects Protection Program Office at (502) 852-5188. You can discuss any questions about your rights as a research subject, in private, with a member of the Institutional Review Board (IRB). The IRB is an independent committee made up of people from the University community, staff of the institutions, as well as people from the community not connected with these institutions. The IRB has reviewed this research study.

If you have concerns or complaints about the research or research staff and you do not wish to give your name, you may call 1-877-852-1167. This is a 24-hour hotline answered by people who do not work at the University of Louisville.

Acknowledgment and Signatures

This informed consent document is not a contract. This document tells you what will happen during the study if you choose to take part. Your signature indicates that this study has been explained to you, that your questions have been answered, and that you agree to take part in the study. You are not giving up any legal rights to which you are entitled by signing this informed consent document. You will be given a copy of this consent form to keep for your records.

_____	_____	_____
Subject Name (Please Print)	Signature of Subject	Date Signed
_____	_____	_____
Printed Name of Legal Representative (if applicable)	Signature of Legal Representative	Date Signed

Relationship of Legal Representative to Subject		
_____	_____	_____
Printed Name of Person Explaining Consent Form	Signature of Person Explaining Consent Form (if other than the Investigator)	Date Signed
_____	_____	_____
Printed Name of Investigator	Signature of Investigator	Date Signed

List of Investigators:	Phone Numbers:
Adrian Archuleta, PhD, MSSW	(502) 852-0427
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Appendix R
Cognitive Interview Results

Survey Item	Cognitive Interview Comments
Demographic Items	
Age	No issues
Year in School	Difficult for transfer and non-traditional students to answer. Is it referring to number of credits or time spent in college?
Gender	Transgender male participant answered male because they felt that transgender male means somehow not male enough or “less than”. This participant suggested adding an item referring to sex: “What sex were you assigned at birth?”
Sexual Orientation	Two participants wanted to see pansexual added as an option.
Disability Status	One participant asked if this item referred to being designated as disabled by the government or the school. He was categorized as disabled by the VA but was not receiving accommodations at school so he answered “other”.
General Survey Instructions	Is this referring to the last class that I physically attended? What about an on-line course? Could it be a lab section?
Course Department	No issues
Instructor Gender	No issues
Class Size	50-75 is difficult to estimate; you might want to have 50-100 instead. Do you mean “on average”, an estimate of how many were in the last session, or how many students are registered in the course?
Definition of Safety Dimension	No issues
Instructions for each section	No issues
Physical Safety Items	
1. I feel physically uncomfortable in the classroom environment.	Initially misread “uncomfortable” as “comfortable”
2. I feel physically threatened in the classroom environment.	“threaten” is strong word
3. I feel physically intimidated by classmat in the classroom environment.	No issues
4. I feel physically intimidated by the instructor in the classroom environment.	No issues
5. I feel physically protected in the classroom environment.	Not sure how to think about this question, which led to “neither agree nor disagree”

6. I feel sexually harassed in the classroom environment.	No issues
7. I am encouraged to take care of my physical needs as necessary during class time.	Unsure what “physical needs” would be in the classroom
8. My instructor encourages students to take care of their physical needs as necessary during class time.	“encourages” makes you feel like it needs to be explicitly discussed
9. The format of the class (discussion, lecture, etc.) makes me physically uncomfortable.	No issues because of examples
10. Class discussions make me physically uncomfortable.	Wanted to respond “slightly agree” because of social anxiety
11. Class lectures make me physically uncomfortable.	No issues
12. The classroom environment makes me feel protected from outside threats.	Strong impression left by high school shooter drills may affect perception of vulnerability
13. The classroom environment makes me feel vulnerable to outside threats.	The word “vulnerable” makes you think more about the possibility of threats
14. The location of the exit in the classroom makes me feel protected from threat.	Had never thought about it so answered “neither agree nor disagree”
15. Seating arrangements in the classroom allow me to feel protected from physical threats.	Never thought about it so answered “neither agree nor disagree”
16. Seating arrangements in the classroom make me feel vulnerable to physical threats.	“vulnerable” is a strong word
17. I feel like I could protect myself if I faced a physical threat in the classroom.	This question is difficult because it varies
18. I feel like my instructor would protect me if I faced a physical threat in the classroom	Interpreted “protect” to mean physically protect
19. I feel like my classmates would protect me if I faced a physical threat in the classroom	Same as #18
20. The size of the class makes me feel physically uncomfortable.	No issues
21. The activities used in the class make me physically uncomfortable.	No issues, liked having neutral choice

Intellectual Safety Items

1. The instructor encourages me to express my opinions in class.	No issues
2. The instructor values my thoughts and opinions on course-related topics.	No issues; not enough evidence so answered “neither agree or disagree”
3. My classmates value my thoughts and opinions on course-related topics.	Difficult to answer because beginning of semester
4. My classmates express disagreement in a respectful manner.	No issues

5. My instructor expresses disagreement in respectful manner.	No issues
6. The instructor is open to considering thoughts and opinions that are different from his/her own.	No issues
7. My classmates are open to considering thoughts and opinions that are different from their own.	Changed answer because had first answered according to how syllabus stated students “should” be
8. I worry about saying something incorrect when expressing my thoughts and opinions.	No issues
9. I express my thoughts and opinions without worrying how others will react.	No issues
10. I only express my thoughts and opinions when I am confident in my level of knowledge.	No issues
11. I worry about offending classmates with my thoughts and opinions.	“worry” led to choice of neutral response; “take into account” would have led to “agree”; “worry” led to choice of “disagree” but if “do you consider” then it would have been “agree”
12. I worry about offending the instructor with my thoughts and opinions.	same issue as #11
13. I worry that my instructor will be biased against me if I express my thoughts and opinions in class.	No issue
14. I worry that my instructor will think I am not intelligent if I express my thoughts and opinions in class.	Lack of evidence so neutral
15. I worry that my classmates will judge me if I express my thoughts and opinions in class.	Lack of evidence so neutral
16. I don’t feel like I know enough about the topic to express my thoughts and opinions in class.	No issues
17. I don’t feel like I have enough life experience relative to the topic to express my thoughts and opinions in class.	No issues; took a bit of time to process “life experience relative to the topic”
18. I worry that my classmates will not keep the information private if I express my thoughts and opinions in class.	“worry” led to neutral response; “consider the possibility” would lead to agree
19. The class format (discussion, lecture, etc.) makes me feel more comfortable to express my thoughts and opinions in class.	Lack of evidence
20. The size of the class makes me feel more comfortable to express my thoughts and opinions in the class.	No issues
21. The content in the textbook makes me feel comfortable to express my thoughts	Would like to have “N/A” option; don’t

and opinions in the class.	have textbook so chose “Neither agree or disagree”
22. The course content (other than the textbook) makes me feel comfortable to express my thoughts and opinions in the class.	Interpreted “course content” as readings and info presented in class

Socio-cultural Safety Items

- | | |
|--|---|
| 1. The instructor values and acknowledges diversity of gender identities. | Neutral answer if no evidence |
| 2. The instructor shows preference for students based on their gender identity. | The word “preference is confusing; “shows favoritism” or “bias” may be better |
| 3. The instructor values and acknowledges diversity of religions and religious ideology. | No issues |
| 4. The instructor shows preference for students based on their religion or religious ideology. | Same issue as #2 |
| 5. The instructor values and acknowledges diversity of sexual orientations. | “values” and “acknowledges” is different; value is higher standard |
| 6. The instructor’s words and actions demonstrate respect for racial and ethnic diversity. | No issues |
| 7. The instructor does not force me to disclose aspects of my sociocultural identity. | Confusing negative wording |
| 8. Classmates do not force me to disclose aspects of my sociocultural identity. | Same issue as #7 |
| 9. The class format (discussion, lecture, etc.) encourages respect for a diversity of sociocultural identity expressions. | No issues |
| 10. The course content (textbook, readings, videos, etc.) reflects value for a diverse expression of sociocultural identities. | Answered neutral because not discussed explicitly |
| 11. The instructor has policies in place that protect students from threatening another student’s sociocultural identity. | Answered neutral because not discussed explicitly |
| 12. My classmates have made statements that stereotype individuals from non-majority groups. | No issues |
| 13. The instructor has made statements that stereotype individuals from non-majority groups. | No issues |
| 14. My classmates socialize primarily with people from their own sociocultural group. | No issues |
| 15. My classmates are interested in learning more about people from other sociocultural groups. | No issues |

16. I feel comfortable sharing my gender identity with my class.	“I feel comfortable” is about yourself, but “I feel I wouldn’t be judged” is about others
17. I feel comfortable sharing my sexual orientation with my class.	Same as #16
18. I feel comfortable sharing my religion and religious beliefs with my class.	Same as #16
19. I feel comfortable sharing my racial/ethnic cultural values with my class.	Same as #16
20. I am encouraged to share my experiences related to my sociocultural identity in class.	No issues
21. I speak out on issues related to my sociocultural identity despite potential negative consequences.	No issues
22. I control how and when I will disclose aspects of my socio-cultural identity in the classroom.	No issues
23. My classmates’ words and actions demonstrate respect for racial and ethnic diversity.	No issues
24. My classmates value and acknowledge diversity of sexual orientations.	No issues

Psychological Safety

1. I am able to protect my own psychological well-being during class.	No issues
2. I am able to manage my stress level during class.	No issues
3. I am able to manage my anxiety level during class.	Stress and anxiety are the same so maybe combine #2 and #3
4. I am able to maintain attention during class.	No issues
5. The instructor prioritizes students’ mental health.	No issues
6. The instructor cares about students’ mental health.	Prioritize is more about structure of class and care is more about instructor actions and demeanor
7. The instructor checks in regularly to monitor students’ mental health.	No issues
8. My classmates are a source of psychological support for me.	Maybe add “during class” and “outside of class”; early in semester may get neutral response
9. My classmates increase my psychological stress.	No issues
10. The class format (discussion, lecture, etc.) is supportive of my psychological well-being.	Asked to clarify if it means with the accommodations or without
11. The subject matter in the course is harmful to my psychological well-being.	Subject matter is good for including everything

- | | |
|---|--|
| 12. The subject matter in the course is supportive of my psychological well-being | No issues, but may feel inclined to answer opposite of #11 |
| 13. I feel alone in this class. | No issues, but “isolated” may be better |
| 14. I can talk to the instructor if I am having mental health-related issues. | This question seems to depend more on the individual than the professor |
| 15. I can disclose mental health issues to the instructor without fearing judgment. | This question seems more about the professor and less about the student |
| 16. I can disclose mental health issues to my classmates without fearing judgment. | No issues |
| 17. I often do not come to class because it causes me too much stress/anxiety. | Answered neutral because misses class due to anxiety but not all about the class |
| 18. I bring stress from outside of the classroom into the classroom. | Interpreted “bring stress into” as bringing aggression into class environment and impacting others |
| 19. The instructor teaches strategies that promote student mental health. | No issues |
| 20. The size of the class has a positive effect on my psychological well-being. | No issues |
| 21. Participating in class-level discussions makes me feel stressed and/or anxious. | No issues |
| 22. Participating in small group discussions makes me feel stressed and/or anxious. | No issues |

Other Comments:

Timing of the survey is important. There will likely be more neutral responses earlier in the semester, particularly before work has been submitted and reviewed.

Most participants would like the chance to go back to previous questions and make changes.

All participants liked the response options. One participant wanted to add the response option “Does not apply” or “I don’t know”.

Add question about course format: Lecture, discussion, lecture/discussion combo

Appendix S

Expert Review Quantitative Results

	Degree of Congruence		
	High degree	Medium degree	Low degree
1A.1. I feel physically safe in the classroom environment.	4	0	0
1A.2. I feel physically uncomfortable in the classroom environment.	1	2	1
1A.3. I prioritize taking care of my physical needs as necessary during class time.	3	0	1
1A.4. I feel like I could protect myself if I faced a physical threat during class time.	3	1	0
1B.1. I feel physically intimidated by the instructor in the classroom environment.	4	0	0
1B.2. I feel like my instructor would protect me if I face a threat in the classroom.	3	1	0
1B.3. I feel like my instructor would prioritize students' safety in an emergency situation.	3	1	0
1B4. My instructor encourages students to take care of their physical needs as necessary during class time.	4	0	0
1B.5. I feel sexually harassed by the instructor in the classroom environment.	4	0	0
1C.1. I feel sexually harassed by classmates in the classroom environment.	4	0	0
1C.2. I feel physically intimidated by classmates in the classroom environment.	4	0	0
1C.3. I feel like my classmates would protect me if I faced a physical threat in the classroom environment.	3	1	0
1D.1. The physical classroom environment makes me feel protected from outside threats.	4	0	0
1D.2. The physical classroom environment makes me feel vulnerable to outside threats.	4	0	0
1D.3. The location and number of exits in the classroom make me feel protected from threat.	4	0	0
1D.4. Seating arrangements in the classroom allow me to feel protected from physical threat.	4	0	0
1D.5. Seating arrangements in the classroom make me feel vulnerable to physical threats.	3	1	0
1E.1. The format of the class (i.e. discussion, lecture, etc.) makes me physically uncomfortable.	2	1	1
1E.2. Participating in class-level discussions makes me physically uncomfortable.	1	2	1
1E.3. Participating in small group discussions makes me physically uncomfortable.	1	2	1

1E.4. The size of the class makes me feel physically uncomfortable.	1	2	1
2A.1. I worry about saying something incorrect when expressing my thoughts and opinions.	2	1	1
2A.2. I don't feel like I know enough about the topic to express my thoughts and opinions in class.	1	1	2
2A.3. I express my thoughts and opinions without worrying how others will react.	2	2	0
2A.4. I only express my thoughts and opinions when I am confident in my level of knowledge.	2	1	1
2A.5. I don't feel like I have enough life experience relative to the topic to express my thoughts and opinions in class.	2	0	2
2B.1. The instructor encourages me to express my opinions in class.	4	0	0
2B.2. The instructor values my thoughts and opinions on course-related.	3	1	0
2B.3. My instructor expresses disagreement in a respectful manner.	4	0	0
2B.4. The instructor is open to considering thoughts and opinions that are different from his/her own.	4	0	0
2B.5. I worry about offending the instructor with my thoughts and opinions.	4	0	0
2B.6. I worry that my instructor will be biased against me if I express my thoughts and opinions in class.	4	0	0
2B.7. I worry that my instructor will think I am not intelligent if I express my thoughts and opinions in class.	4	0	0
2C.1. My classmates value my thoughts and opinions on course-related topics.	4	0	0
2C.2. My classmates express disagreement in a respectful manner.	4	0	0
2C.3. My classmates are open to considering thoughts and opinions that are different from their own.	4	0	0
2C.4. I worry about offending classmates with my thoughts and opinions.	4	0	0
2C.5. I worry that my classmates will judge me if I express my thoughts and opinions in class.	4	0	0
2C.6. I worry that my classmates will not keep the information private if I express my thoughts and opinions in class.	4	0	0
2E.1. The class format (discussion, lecture, etc.) makes me feel more comfortable to express my thoughts and opinions in class.	3	0	1
2E.2. The size of the class makes me feel more comfortable to express my thoughts and opinions in class.	3	0	1
2F.1. The content in the textbook makes me feel comfortable to express my thoughts and opinions in the class.	3	0	1

2F.2. The course content (other than the textbook) makes me feel comfortable to express my thoughts and opinions in the class.	2	1	1
3A.1. I feel comfortable sharing my gender identity with my class.	4	0	0
3A.2. I feel comfortable sharing my sexual orientation with my class.	4	0	0
3A.3. I feel comfortable sharing my religion and religious beliefs with my class.	4	0	0
3A.4. I feel comfortable sharing my racial/ethnic cultural values with my class.	4	0	0
3A.5. I speak out on issues related to my sociocultural identity despite potential negative consequences.	2	0	2
3A.6. I control how and when I will disclose aspects of my socio-cultural identity in the classroom.	3	1	0
3B.1. The instructor has made statements that stereotype individuals from non-majority groups.	4	0	0
3B.2. The instructor does not pressure me to disclose aspects of my socio-cultural identity.	4	0	0
3B.3. The instructor's words and actions demonstrate respect for racial and ethnic diversity.	4	0	0
3B.4. The instructor shows bias towards/against students based on their sexual orientation.	4	0	0
3B.5. The instructor values and acknowledges a diversity of sexual orientations.	4	0	0
3B.6. The instructor shows bias towards/against students based on their religion or religious ideology.	4	0	0
3B.7. The instructor shows bias towards/against students based on their gender identity.	4	0	0
3B.8. The instructor values and acknowledges a diversity of gender identities.	4	0	0
3C.1. My classmates' words and actions demonstrate respect for racial and ethnic diversity.	4	0	0
3C.2. My classmates value and acknowledge a diversity of sexual orientations.	4	0	0
3C.3. My classmates are interested in learning more about people from other socio-cultural groups.	4	0	0
3C.4. My classmates socialize primarily with people from their own socio-cultural group.	3	1	0
3C.5. My classmates have made statements that stereotype individuals from non-majority groups.	4	0	0
3C.6. Classmates do not pressure me to disclose aspects of my socio-cultural identity.	4	0	0
3E.1. The class format (discussion, lecture, etc.) encourages respect for a diversity of socio-cultural identity expressions.	4	0	0
3E.2. There are course policies explicitly stated that protect students from threatening another student's sociocultural identity.	3	1	0

3F.1. The primary course textbooks reflect value for a diverse expression of socio-cultural identities.	4	0	0
3F.2. Course materials (other than the primary textbooks) reflect value for a diverse expression of socio-cultural identities.	4	0	0
4A.1. I am able to protect my own psychological well-being during class.	3	1	0
4A.2. I am able to manage my stress level during class.	4	0	0
4A.3. I am able to manage my anxiety level during class.	4	0	0
4A.4. I am able to maintain attention during class.	3	0	1
4A.5. I often do not come to class because it causes me too much stress/anxiety.	4	0	0
4A.6. I bring stress from outside of the classroom into the classroom.	2	2	0
4B.1. The instructor prioritizes students' mental health.	3	1	0
4B.2. The instructor cares about students' mental health.	3	1	0
4B.3. The instructor checks in regularly to monitor students' mental health.	2	2	0
4B.4. I can talk to the professor if I am having mental health-related issues.	3	1	0
4B.5. I can disclose mental health issues to the instructor without fearing judgement.	3	1	0
4B.6. The instructor teaches strategies that promote student mental health.	2	2	0
4C.1. My classmates are a source of psychological support for me.	3	1	0
4C.2. My classmates increase my psychological stress.	4	0	0
4C.3. I feel alone in this class.	2	1	1
4C.4. I can disclose mental health issues to my classmates without fearing judgment.	3	1	0
4E.1. The format of the class (discussion, lecture, etc.) makes me feel stressed and/or anxious.	3	1	0
4E.2. Participating in class-level discussions makes me feel stressed and/or anxious.	4	0	0
4E.3. Participating in small group discussions makes me feel stressed and/or anxious.	4	0	0
4E.4. The size of the class has a positive effect on my psychological well-being	4	0	0
4F.1. The subject matter that we read about in the class makes me feel stressed and/or anxious.	4	0	0
4F.2. The subject matter that we talk about in the class makes me feel stressed and/or anxious.	4	0	0

Appendix T

Expert Review Qualitative Results

Cell	Comments from Expert Reviewers
1A	<p>I'm not sure that one's ability to prioritize is related to safety. I think if you said the ability to meet your needs it would move beyond preference which is what it feels like you are capturing in the third item.</p> <p>I think the “physically uncomfortable” item could be interpreted as referring to temperature or comfort of the chairs?</p> <p>The term "uncomfortable" could apply to a range of experiences not necessarily important in the research. For instance, uncomfortable chairs, having to turn a certain way to view the board because of room layout, etc.</p>
1B	<p>This priority question is different than the last. I think it works here.</p> <p>The second item above would be affected by instructor gender, size, physical (dis)ability. Is this an issue?</p>
1C	<p>You draw a distinction between physical safety and sexual harassment. Yet, you don't ask whether students would provide protection if sexually harassed. Something to think about.</p>
1D	<p>Just a note. The difference in font size at the beginning is distracting. It automatically pulls your eyes to the larger font which means they will skip the smaller content. This is more meaningful for your larger survey. The seating arrangement question sounds like assigned seating. Is that what you are talking about?</p> <p>Maybe specify physical classroom environment. Objective 1D asks about physical environment, and the questions specify classroom environment.</p>
1E	<p>Rated these low because of the word uncomfortable. I think an element of this relates to safety but not all of it. You might get into some conceptual crossover with these items.</p> <p>I'm not sure that students would interpret being “uncomfortable” as a physical safety issue? Introverts, for example might feel uncomfortable in many situations without feeling their physical safety is at risk.</p> <p>Question 1 provides examples of classroom formats including discussion, however question 2 asks about discussions as well. I interpret question 1 to be a broad question (am I generally uncomfortable with multiple elements of the class), and questions 2-4 as more specific to a context (discussion, small group, class size). Maybe modify question 1 and remove the examples, and in questions 2-4 state 'for example the format of...'</p>
2A	<p>These seem to capture the ability to express but not the consequences represented. For example, with #1. I might worry but it might be related to my self-esteem rather than consequences.</p> <p>I think all these items would be stronger if the construct definition and items included “and raise questions.”</p> <p>In this section, you begin with negative statements, whereas in the subsequent sections you begin with positive statements. I'm not sure if this is purposeful (and it doesn't matter really, more of an observation).</p>
2B	<p>These items are framed in a way that gets at those consequences.</p> <p>The second item is incomplete? I recommend adding “and pose questions” to these items also.</p>

- 2C Say with these. Consequences are clearly connected.
Thoughtful items. I'm wondering if items 4 and 5 and other survey items related to "worrying" about how others would respond to their comments might be indicators of being a thoughtful student. That is, students who say they "worry" actually are carefully considering others' perspectives before they speak.
- 2E Comfort issue again. Safer seems different than comfort.
Maybe align your examples with those provided in the previous section?
- 2F Same...comfort
I would remove the slash between course/course materials and replace with the word 'and'. Also, provide examples of what you mean by content other than the textbook.
- 3A The question about negative consequences seems to get more at the commitment to one's identity rather than safety because it already presumes negative consequences. I think if you removed the negative consequences part, their answer would reflect the safety related to this experience. I think you could also ask about being required to represent other within your group. That is often an issue in the classroom. Being asked to represent the perspectives or opinions of larger groups.
I recommend expanding/changing the definition of socio-cultural to include groups with common experiences with oppression and privilege. For example, people with mental illnesses might not have a common culture, but they have similar experiences with oppression, including overt and covert discrimination in the social work classroom that discourage them from sharing their identities and experiences. If you include the definition and group examples in the student survey, be sure to include race, gender, sexuality/sexual orientation, mental health status, physical disability status, and gender identity and expression. I also think the specific items here are missing a critical aspect of the possible benefit of a safe space. (Maybe these will be on a different page?). That is, I want peers to learn about experiences—not just identities and values. When they learn about discrimination students have experienced related to their identities they can develop attitudes and skills needed for personal, interpersonal, institutional, and social change. Perhaps also add an item that the student is willing to accept feedback about their own discriminatory comments?
- 3B You probably should have indicated which items would be negatively scored.
Otherwise, they seem incongruent. I'm marking them as congruent, but be advised that this might throw off your expert review.
I recommend adding items related to mental health conditions, physical disabilities, gender expression (students might interpret gender identity as only women vs, men), and social class. Note that items about race, religion, etc, are not parallel when they ask about respect vs. bias, etc. Perhaps add an item that the instructor recognizes and addresses other students' discriminatory comments when they occur?
Some of the questions are asking the same thing, just in reverse (my instructor values... versus my instructor show bias towards/against...). This may be intentional and is certainly ok, just keep in mind the length of your survey and survey participation.
- 3C I suggest that you add an item that other students are willing to accept feedback about their own discriminatory comments.

- 3E Perhaps add an item that is more subtle than “threatening”? Perhaps a policy that students will thoughtfully listen to these comments?
In question 2 you ask specifically about student on student threats. Are you also interested in teacher on student threats? (maybe not, just checking). In question two you ask about course policies, however this is the first time you introduce policies under the format of the course. Was this intentional? (again, it’s fine if it is, just noticing differences/similarities in sections.)
- 3F Same comments as the previous section
- 4A Although attention is related, I'm not sure that it falls under the psychological part of this.
You introduce psychological aspects of anxiety and stress. In previous sections the words you use in the questions are also included in the definition of the topic. For consistency, perhaps add the words from the questions in this section the definition? I'm not following how the last question relates to the topic (or to the other questions). Have you sampled the survey and tested how the questions hang together (reliability analysis)?
- 4B I think you need something that indicates what you mean by mental health. Also, remember that instructors are not allowed to ask about mental health conditions so you probably need some example (e.g.,) in the question that gives the person an indication.
Perhaps add that the syllabus includes information about campus resources for students with disabilities and for counseling?
Same here with introducing the term mental health, and yet it is not used in your definition of the topic. The questions are fine, I'm just not connecting 'mental health' with 'psychological safety'. I think adding words to the definition would help.
- 4C You have the same issue here with mental health and psychological. It’s not clear what you are referring to. These questions seem like they are coming from practitioner who knows what they mean. Students will not likely know what they mean. You need to think about how they will interpret them.
You introduce the word 'alone' in this section.
- 4E I think psychological well-being is okay. I think well-being is intuitive
So here you bring back the question items you used in the first section. My comments from the first section apply here as well.
- 4F Here you bring in subject matter that is read about and talked about. Why was this changed from how you framed the questions in previous sections (I think it was course text and other materials)? It’s fine as is, just curious.

Appendix U

Summary of Item Revisions

Original Items	Revisions
Physical Safety	
Cell 1A	
1. I feel physically safe in the classroom environment.	Retained as is
2. I feel physically uncomfortable in the classroom environment.	Retained despite low score in expert review
3. I prioritize taking care of my physical needs as necessary during class time.	I take care of my physical needs (e.g. going to the restroom, getting a drink of water, etc.) as necessary during class time.
4. I feel like I could protect myself if I faced a physical threat during class time.	Retained as is
Cell 1B	
1. I feel physically intimidated by the instructor in the classroom environment.	Retained as is
2. I feel like my instructor would protect me if I faced a threat in the classroom.	Retained as is
3. I feel like my instructor would prioritize students' safety in an emergency situation.	Retained as is
4. My instructor encourages students to take care of their physical needs as necessary during class time.	Retained as is
5. I feel sexually harassed by the instructor in the classroom environment.	Retained as is
Cell 1C	
1. I feel sexually harassed by classmates in the classroom environment.	Retained as is
2. I feel physically intimidated by classmates in the classroom environment.	Retained as is
3. I feel like my classmates would protect me if I faced a physical threat in the classroom environment.	Retained as is
	4. I feel like my classmates would protect me if I faced sexual harassment in the classroom environment.
Cell 1D	
1. The physical classroom environment makes me feel protected from outside threats.	1. Retained as is
2. The physical classroom environment makes me feel vulnerable to outside threats.	Eliminated due to redundancy with 1D.1

3. The location and number of exits in the classroom make me feel protected from threat.	2. The layout of the exits in this classroom makes me feel protected from threats to my physical safety.
4. Seating arrangements in the classroom allow me to feel protected from physical threat.	3. In this class, I am able to sit where I feel physically safe.
5. Seating arrangements in the classroom make me feel vulnerable to physical threats.	4. The way seats are arranged in this classroom makes me feel physically vulnerable.
Cell 1E	
1. The format of the class (i.e. discussion, lecture, etc.) makes me physically uncomfortable.	1. The format of this class (e.g. discussion, lecture, etc.) makes me feel physically safe.
2. Participating in class-level discussions makes me physically uncomfortable.	Eliminate based on expert review rating and overlap with 1E.1
3. Participating in small group discussions makes me physically uncomfortable.	Eliminate based on expert review rating and overlap with 1E.1.
4. The size of the class makes me feel physically uncomfortable.	2. The size of this class makes me feel physically safe.

Intellectual Safety

Cell 2A	
1. I worry about saying something incorrect when expressing my thoughts and opinions.	Eliminate based on expert review
2. I don't feel like I know enough about the topic to express my thoughts and opinions in class.	Eliminate based on expert review
3. I express my thoughts and opinions without worrying how others will react.	Eliminate based on expert review
4. I only express my thoughts and opinions when I am confident in my level of knowledge.	Eliminate based on expert review
5. I don't feel like I have enough life experience relative to the topic to express my thoughts and opinions in class.	Eliminate based on expert review
	<ul style="list-style-type: none"> 1. I feel safe to express my thoughts and opinions in class. 2. I feel safe to raise questions in class. 3. I am concerned about making mistakes when I speak in class. 4. I am concerned about offending others with my thoughts and opinions when I speak in class.
Cell 2B	
1. The instructor encourages me to express my opinions in class.	1. The instructor encourages me to express my ideas in class.
2. The instructor values my thoughts and opinions on course-related.	2. The instructor values my ideas on course-related topics.

- | | |
|---|---|
| 3. My instructor expresses disagreement in a respectful manner. | 3. Retained as is |
| 4. The instructor is open to considering thoughts and opinions that are different from his/her own. | 4. The instructor is open to considering ideas that are different from his/her own. |
| 5. I worry about offending the instructor with my thoughts and opinions. | Eliminated due to overlap with 2A.4 |
| 6. I worry that my instructor will be biased against me if I express my thoughts and opinions in class. | 5. I believe that my instructor will see me as less intelligent if I make a mistake in class. |
| 7. I worry that my instructor will think I am not intelligent if I express my thoughts and opinions in class. | 6. I believe that my instructor will see me as less intelligent if I ask questions in class |

Cell 2C

- | | |
|---|---|
| 1. My classmates value my thoughts and opinions on course-related topics. | 1. My classmates value my ideas on course-related topics. |
| 2. My classmates express disagreement in a respectful manner. | 2. Retained as is |
| 3. My classmates are open to considering thoughts and opinions that are different from their own. | 3. My classmates are open to considering ideas that are different from their own. |
| 4. I worry about offending classmates with my thoughts and opinions. | Eliminated due to overlap with 2A.4 |
| 5. I worry that my classmates will judge me if I express my thoughts and opinions in class. | 4. I believe that my classmates will see me as less intelligent if I make a mistake in class. |
| 6. I worry that my classmates will not keep the information private if I express my thoughts and opinions in class. | 5. I believe that my classmates will think negatively of me if I speak frequently in class. |
| | 6. I believe that my classmates will think negatively of me if I ask questions in class. |

Cell 2E

- | | |
|--|---|
| 1. The class format (discussion, lecture, etc.) makes me feel more comfortable to express my thoughts and opinions in class. | 1. The class format (e.g. discussion, lecture, etc.) makes me feel safe to express my ideas in class. |
| 2. The size of the class makes me feel more comfortable to express my thoughts and opinions in class. | 2. The size of the class makes me feel safe to express my ideas in class. |

Cell 2F

- | | |
|---|--|
| 1. The content in the textbook makes me feel comfortable to express my thoughts and opinions in the class. | 1. The content in the textbook(s) makes me feel safe to express my thoughts and opinions and ask questions in class. |
| 2. The course content (other than the textbook) makes me feel comfortable to express my thoughts and opinions in the class. | 2. The content in the course materials other than the textbook (e.g. articles, powerpoints, videos, etc.) makes me feel safe to express my thoughts and opinions and ask questions in class. |

Socio-cultural Identity Safety

Cell 3A

- | | |
|---|---|
| 1. I feel comfortable sharing my gender identity with my class. | 1. Retained as is |
| 2. I feel comfortable sharing my sexual orientation with my class. | 2. Retained as is |
| 3. I feel comfortable sharing my religion and religious beliefs with my class. | 3. I feel comfortable sharing my religious affiliation with my class. |
| 4. I feel comfortable sharing my racial/ethnic cultural values with my class. | 4. Retained as is |
| 5. I speak out on issues related to my socio-cultural identity despite potential negative consequences. | 5. I speak out on issues related to my socio-cultural identity during class. |
| 6. I control how and when I will disclose aspects of my socio-cultural identity in the classroom. | 6. I set clear boundaries around what aspects of my socio-cultural identity I share in the classroom. |
| | 7. I am open to receiving feedback on possible biased comments I may have made in class. |

Cell 3B

- | | |
|--|--|
| 1. The instructor has made statements that stereotype individuals from non-majority groups. | 1. Retained as is |
| 2. The instructor does not pressure me to disclose aspects of my socio-cultural identity. | 2. The instructor pressures me to disclose aspects of my socio-cultural identity in class. |
| 3. The instructor's words and actions demonstrate respect for racial and ethnic diversity. | 3. The instructor's words and/or actions demonstrate respect for racial/ethnic diversity. |
| 4. The instructor shows bias towards/against students based on their sexual orientation. | Eliminate due to overlap |
| 5. The instructor values and acknowledge a diversity of sexual orientations. | 4. The instructor's words and actions demonstrate respect for a diversity of sexual orientations. |
| 6. The instructor shows bias towards/against students based on their religion or religious ideology. | 5. The instructor's words and/or actions demonstrate respect for a diversity of religious beliefs. |
| 7. The instructor shows bias towards/against students based on their gender identity. | Eliminate based on overlap |
| 8. The instructor values and acknowledge a diversity of gender identities. | 6. The instructor's words and/or actions demonstrate respect for a diversity of gender identities/expressions. |

Cell 3C

- | | |
|--|--|
| 1. My classmates' words and actions demonstrate respect for racial and ethnic diversity. | 1. My classmates' words and/or actions demonstrate respect for racial/ethnic diversity. |
| 2. My classmates value and acknowledge diversity of sexual orientations. | 2. My classmates' words and/or actions demonstrate respect for a diversity of sexual orientations. |

- | | |
|---|--|
| 3. My classmates are interested in learning more about people from other socio-cultural groups. | 3. Retained as is. |
| 4. My classmates socialize primarily with people from their own socio-cultural group. | 4. Retained as is. |
| 5. My classmates have made statements that stereotype individuals from non-majority groups. | 5. Retained as is. |
| 6. Classmates do not pressure me to disclose aspects of my socio-cultural identity. | 6. My classmates pressure me to share aspects of my socio-cultural identity in class. |
| | 7. My classmates' words and/or actions demonstrate respect for a diversity of gender identities/expressions. |
| | 8. My classmates' words and/or actions demonstrate respect for a diversity of religious beliefs. |

Cell 3E

- | | |
|---|---|
| 1. The class format (discussion, lecture, etc.) encourages respect for a diversity of socio-cultural identity expressions. | 1. Retained as is |
| 2. There are course policies explicitly stated that protect students from threatening another student's sociocultural identity. | 2. There are course policies explicitly stated that guard against the devaluing of students' socio-cultural identities. |

Cell 3F

- | | |
|---|---|
| 1. The primary course textbooks reflect value for a diverse expression of socio-cultural identities. | 1. The content in the textbook(s) reflects value for a diverse expression of socio-cultural identities. |
| 2. Course materials (other than the primary textbooks) reflect value for a diverse expression of socio-cultural identities. | 2. The content in the course materials other than the textbook (e.g. articles, powerpoints, videos, etc.) reflects value for a diverse expression of socio-cultural identities. |

Psychological Safety

Cell 4A

- | | |
|---|--|
| 1. I am able to protect my own psychological well-being during class. | 1. Retained as is. |
| 2. I am able to manage my stress level during class. | 2. I am able to manage my stress and/or anxiety level during class. |
| 3. I am able to manage my anxiety level during class. | Eliminated due to being combined with 4A.2 |
| 4. I am able to maintain attention during class. | 3. Retained as is. |
| 5. I often do not come to class because it causes me too much stress/anxiety. | Eliminated due to being related to outcome of safety and not safety itself |
| 6. I bring stress from outside of the classroom into the classroom. | Eliminated based on expert review. |
| | 4. I have negative thoughts about myself |

Cell 4B

1. The instructor prioritizes students' mental health.
2. The instructor cares about students' mental health.
3. The instructor checks in regularly to monitor students' mental health.
4. I can talk to the professor if I am having mental health-related issues.
5. I can disclose mental health issues to the instructor without fearing judgement.
6. The instructor teaches strategies that promote student mental health.

Cell 4C

1. My classmates are a source of psychological support for me.
2. My classmates increase my psychological stress.
3. I feel alone in this class.
4. I can disclose mental health issues to my classmates without fearing judgment.

Cell 4E

1. The format of the class (discussion, lecture, etc.) makes me feel stressed and/or anxious.
2. Participating in class-level discussions makes me feel stressed and/or anxious.
3. Participating in small group discussions makes me feel stressed and/or anxious.
4. The size of the class has a positive effect on my psychological well-being

Cell 4F

1. The subject matter that we read about in the class makes me feel stressed and/or anxious.
2. The subject matter that we talk about in the class makes me feel stressed and/or anxious.

during class.

1. The instructor considers students' psychological wellbeing to be as important as their intellectual growth.
2. The instructor cares about students' psychological wellbeing.
Eliminated based on expert review
3. My instructor is available to talk to if I am having mental health related issues that impact my school work.
Eliminate due to overlap
Eliminate based on expert review.
4. I believe my instructor would see me differently if I disclosed any mental health related issues.

1. Retained as is.
2. Retained as is.
Eliminated based on expert review
3. I believe my classmates would see me differently if I disclosed mental health-related issues to them.
4. My classmates ask me how I'm doing.

1. Retained as is.
Eliminated this item because does not apply to all survey takers and overlaps with 4E.1
Eliminated this item because does not apply to all survey takers and overlaps with 4E.1
2. The size of the class makes me feel stressed and/or anxious.

1. The content in the textbook(s) makes me feel stressed and/or anxious.
2. The content in the course materials other than the textbook (e.g. articles, powerpoints, videos, etc.) makes me feel stressed and/or anxious.

Appendix V

Demographic Information for Phase Three Participants and Referenced Courses

	Frequency	Percent	Valid Percent	Cumulative Percent
Number of Semesters				
1-2	158	30.6	30.6	30.6
3-4	138	26.7	26.7	57.4
5-6	103	20.0	20.0	77.3
7-8	78	15.1	15.1	92.4
9 or more	39	7.6	7.6	100.0
Total	516	100.0	100.0	
Race/Ethnicity				
White/Caucasian-American	370	71.7	71.7	71.7
Black/African-American	63	12.2	12.2	83.9
Hispanic/Latino/Chicano	15	2.9	2.9	86.8
Asian/Pacific Islander	36	7.0	7.0	93.8
Two or more races	26	5.0	5.0	98.8
Other	6	1.2	1.2	100.0
Total	516	100.0	100.0	
Sex (assigned at birth)				
Male	135	26.2	26.2	26.2
Female	381	73.8	73.8	100.0
Total	516	100.0	100.0	
Gender Identity				
Male	133	25.8	25.8	25.8
Female	370	71.7	71.8	97.7
Transgender male	3	.6	.6	98.3
Gender non-conforming/ Non-binary/Gender fluid	9	1.7	1.7	100.0
Total	515	99.8	100.0	
Sexual Orientation				
Heterosexual	414	80.2	80.4	80.4
Lesbian	15	2.9	2.9	83.3
Gay	5	1.0	1.0	84.3
Bisexual	60	11.6	11.7	95.9
Pansexual	16	3.1	3.1	99.0
Other	5	1.0	1.0	100.0
Total	515	99.8	100.0	
Disability Status				
No documented physical or psychiatric disability	451	87.4	87.4	87.4

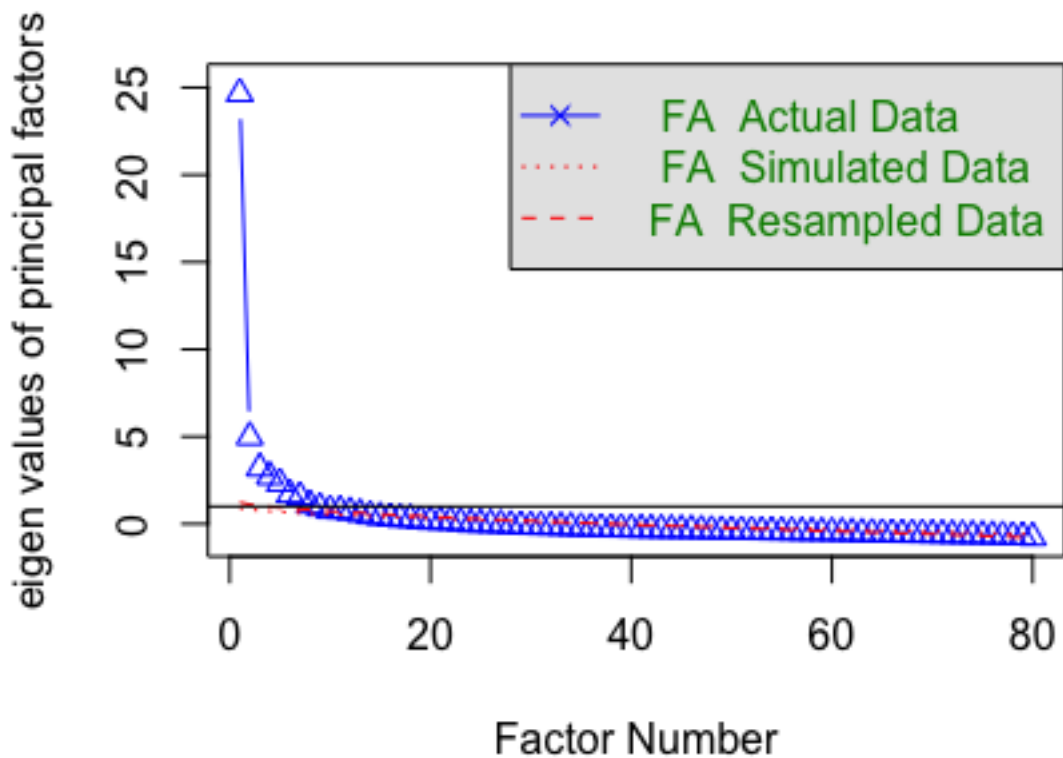
Disabled, receiving accommodations from school disability resource center	21	4.1	4.1	91.5
Disabled, not receiving accommodations from school disability resource center	37	7.2	7.2	98.6
Other	7	1.4	1.4	100.0
Total	516	100.0	100.0	
Course Format				
Primarily lecture-based	253	49.0	49.6	49.6
Primarily discussion-based	53	10.3	10.4	60.0
Lecture/discussion combo	178	34.5	34.9	94.9
Other	26	5.0	5.1	100.0
Total	510	98.8	100.0	
Instructor Gender				
Male	246	47.7	48.1	48.1
Female	258	50.0	50.5	98.6
Other	7	1.4	1.4	100.0
Total	511	99.0	100.0	
Class Size				
0-30	277	53.7	54.1	54.1
31-50	92	17.8	18.0	72.1
51-100	85	16.5	16.6	88.7
more than 100	58	11.2	11.3	100.0
Total	512	99.2	100.0	

Appendix W

Eigenvalues and Scree Plot from Parallel Analysis

# of Factors	Original Factors	Resampled Data	Simulated Data
1	24.66	1.26	0.93
2	4.98	1.11	0.82
3	3.20	1.04	0.78
4	2.71	0.98	0.74
5	2.33	0.93	0.70
6	1.69	0.88	0.67
7	1.55	0.84	0.64
8	1.08	0.80	0.61
9	0.92	0.76	0.58
10	0.78	0.73	0.55
11	0.76	0.70	0.52
12	0.68	0.66	0.50
13	0.56	0.63	0.48

Parallel Analysis Scree Plots



Appendix X

Factor Loadings and Communalities for 7 Factor Solution of 47-item MOPSICC

	Factor 1	Factor 3	Factor 4	Factor 2	Factor 6	Factor 5	Factor 7	h2
A1A.2		0.416						.49
A1A.4			0.560					.40
A1B.1		0.607						.60
A1B.2			0.495					.42
A1B.5		0.951						.91
A1C.1		0.954						.94
A1C.2		0.764						.79
A1C.3			0.520					.36
A1D.1			0.788					.62
A1D.2			0.767					.53
A1D.4			0.527					.40
A1E.1			0.570					.53
A1E.2			0.559					.54
A2A.1					0.603	0.301		.72
A2A.2					0.606	0.306		.69
A2A.3							0.492	.46
A2B.1					0.614			.67
A2B.2					0.676			.74
A2B.3					0.482			.49
A2B.4					0.535			.53
A2B.5							0.492	.59
A2C.4							0.819	.78
A2C.5							0.759	.66
A2C.6							0.744	.74
A2E.2					0.342			.49
A2F.1	0.413							.47
A3A.1						0.696		.61
A3A.2						0.756		.68
A3A.3						0.761		.65
A3A.4						0.722		.66
A3B.3	0.787							.75
A3B.4	0.772							.74
A3B.5	0.804							.76
A3B.6	0.795							.77
A3C.1	0.752							.75
A3C.2	0.753							.79
A3C.3	0.724							.74
A3C.4	0.667							.72
A3E.1	0.606							.60
A3F.1	0.564							.40
A3F.2	0.659							.53
A4A.2				-0.466				.43
A4A.4				0.529				.43
A4E.1				0.695				.58

A4E.2	0.605	.58
A4F.1	0.815	.71
A4F.2	0.797	.66

Note: Only factor loadings >.30 are displayed

Appendix Y

MOPSICC-47 Item Statistics

	n	raw.r	std.r	r.cor	r.drop	mean	sd
A1A.2	467	0.46	0.46	0.44	0.43	1.9	1.01
A1A.4	467	0.38	0.36	0.34	0.33	2.5	1.15
A1B.1	461	0.49	0.50	0.49	0.46	1.6	0.77
A1B.2	461	0.51	0.51	0.50	0.48	2.4	1.01
A1B.5	460	0.31	0.34	0.33	0.28	1.2	0.57
A1C.1	458	0.39	0.42	0.41	0.36	1.3	0.60
A1C.2	457	0.48	0.50	0.50	0.46	1.5	0.71
A1C.3	458	0.43	0.42	0.41	0.39	2.8	1.02
A1D.1	454	0.48	0.47	0.46	0.44	2.5	1.00
A1D.2	470	0.60	0.58	0.58	0.57	1.8	0.89
A1D.4	467	0.61	0.62	0.61	0.59	1.9	0.85
A1E.1	467	0.62	0.63	0.62	0.59	1.9	0.81
A1E.2	454	0.38	0.37	0.35	0.33	2.7	1.08
A2A.1	470	0.61	0.62	0.62	0.60	1.8	0.89
A2A.2	470	0.60	0.58	0.58	0.57	1.8	0.89
A2A.3	470	0.40	0.36	0.34	0.35	3.2	1.25
A2B.1	467	0.61	0.62	0.61	0.59	1.9	0.85
A2B.2	467	0.62	0.63	0.62	0.59	1.9	0.81
A2B.3	467	0.51	0.51	0.50	0.47	2.0	0.82
A2B.4	467	0.56	0.57	0.56	0.54	2.0	0.86
A2B.5	467	0.54	0.52	0.51	0.51	2.4	1.20
A2C.4	391	0.46	0.38	0.36	0.36	2.3	1.45
A2C.5	457	0.51	0.49	0.48	0.47	2.7	1.15
A2C.6	458	0.57	0.55	0.54	0.54	2.3	1.01
A2E.2	452	0.59	0.60	0.59	0.57	2.2	1.05
A2F.1	452	0.59	0.59	0.58	0.56	2.4	0.95
A3A.1	477	0.41	0.42	0.40	0.37	1.5	0.79
A3A.2	477	0.50	0.49	0.48	0.46	1.7	0.95
A3A.3	477	0.45	0.46	0.44	0.42	2.0	1.01
A3A.4	477	0.50	0.50	0.49	0.47	1.8	0.95
A3B.3	470	0.57	0.60	0.59	0.55	1.9	0.92
A3B.4	470	0.60	0.62	0.62	0.57	2.0	0.91
A3B.5	470	0.62	0.64	0.64	0.59	2.0	0.91
A3B.6	470	0.62	0.65	0.65	0.60	2.0	0.89
A3C.1	457	0.61	0.63	0.63	0.59	2.0	0.79
A3C.2	456	0.63	0.65	0.65	0.61	2.0	0.81
A3C.3	457	0.62	0.64	0.64	0.59	2.1	0.82
A3C.4	456	0.65	0.66	0.66	0.62	2.1	0.83
A3E.1	451	0.61	0.63	0.62	0.59	2.0	0.85
A3F.1	451	0.47	0.48	0.47	0.44	2.3	0.89
A3F.2	451	0.53	0.54	0.53	0.50	2.2	0.87
A4A.2	466	0.51	0.50	0.49	0.48	2.0	0.95
A4A.4	466	0.49	0.46	0.44	0.44	2.4	1.18
A4E.1	460	0.51	0.49	0.48	0.48	2.5	1.13

A4E.2	460	0.51	0.49	0.48	0.47	2.2	1.03
A4F.1	460	0.50	0.48	0.48	0.47	2.5	1.17
A4F.2	460	0.46	0.44	0.43	0.42	2.4	1.13

Note: raw.r = correlation of the item with the entire scale, not correcting for item overlap
std.r = correlation of the item with the entire scale, if each item were standardized
r.drop = correlation of the item with the scale composed of the remaining items
r.cor = corrects for the item overlap by subtracting the item variance but then replaces this with the best estimate of common variance, the squared mean correlation.

Appendix Z

List of 47 MOPSICC Items by Factor

Physical Safety-Protection (PSP)

- A1A.4 I feel like I could protect myself if I faced a physical threat during class time.
- A1B.2 I feel like my instructor would protect me if I faced a physical threat in the classroom.
- A1C.3 I feel like my classmates would protect me if I faced a physical threat in the classroom environment.
- A1D.1 The physical classroom environment makes me feel protected from outside threats.
- A1D.2 The layout of the exits in this classroom makes me feel protected from threats to my physical safety.
- A1D.4 In this class, I am able to sit where I feel physically safe.
- A1E.1 The format of this class (e.g. discussion, lecture, etc.) makes me feel physically safe.
- A1E.2 The size of this class makes me feel physically safe.

Physical Safety-Threat (PST)

- A1A.2(Rev) I feel physically uncomfortable in the classroom environment.
- A1B.1(Rev) I feel physically intimidated by the instructor in the classroom environment.
- A1B.5(Rev) I feel sexually harassed by the instructor in the classroom environment.
- A1C.1(Rev) I feel sexually harassed by classmates in the classroom environment.
- A1C.2(Rev) I feel physically intimidated by classmates in the classroom environment.

Intellectual Safety-Protection (ISP)

- A2A.1 I feel safe to express my ideas in class.
- A2A.2 I feel safe to raise questions in class.
- A2B.1 The instructor encourages me to express my ideas in class.
- A2B.2 The instructor values my ideas on course-related topics.
- A2B.3 The instructor expresses disagreement in a respectful manner.
- A2B.4 The instructor is open to considering ideas that are different from his/her own.
- A2E.2 The size of the class makes me feel safe to express my ideas in class.

Intellectual Safety-Threat (IST)

- A2A.3(Rev) I am concerned about making mistakes when I speak in class.
- A2B.5(Rev) I believe that my instructor will see me as less intelligent if I make a mistake in class.
- A2C.4(Rev) I believe that my classmates will see me as less intelligent if I make a mistake in class.
- A2C.5(Rev) I believe that my classmates will think negatively of me if I speak frequently in class.

A2C.6(Rev) I believe that my classmates will think negatively of me if I ask questions in class.

Sociocultural Identity Safety-Internal (SISI)

- A3A.1 I feel comfortable sharing my gender identity with my class.
- A3A.2 I feel comfortable sharing my sexual orientation with my class.
- A3A.3 I feel comfortable sharing my religious affiliation with my class.
- A3A.4 I feel comfortable sharing my racial/ethnic cultural values with my class.

Sociocultural Identity Safety-External (SISE)

- A3B.3 The instructor's words and/or actions demonstrate respect for racial/ethnic diversity.
- A3B.4 The instructor's words and/or actions demonstrate respect for a diversity of sexual orientations.
- A3B.5 The instructor's words and/or actions demonstrate respect for a diversity of religious beliefs.
- A3B.6 The instructor's words and/or actions demonstrate respect for a diversity of gender identities/expressions.
- A3C.1 My classmates' words and/or actions demonstrate respect for racial/ethnic diversity.
- A3C.2 My classmates' words and/or actions demonstrate respect for a diversity of sexual orientations.
- A3C.3 My classmates' words and/or actions demonstrate respect for a diversity of gender identities/expressions.
- A3C.4 My classmates' words and/or actions demonstrate respect for a diversity of religious beliefs.
- A3E.1 The class format (e.g. discussion, lecture, etc.) encourages respect for a diversity of sociocultural identity expressions.
- A3F.1 The content in the textbook(s) reflects value for a diverse expression of sociocultural identities.
- A3F.2 The content in the course materials other than the textbook reflects a value for a diverse expression of sociocultural identities.
- A2F.1 The content in the textbook(s) encourages expression of different intellectual perspectives.

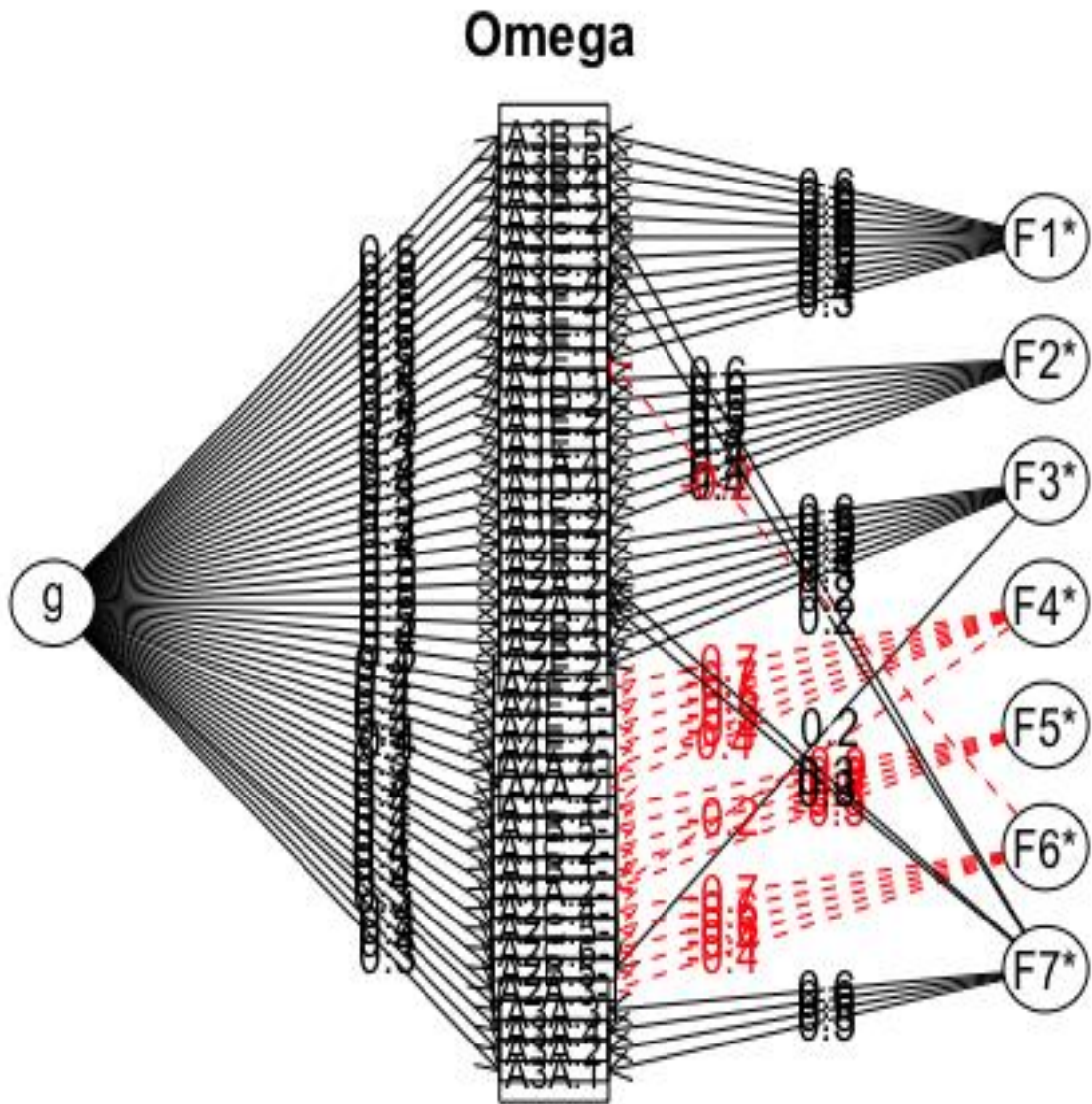
Psychological Safety (PS)

- A4A.2 I am able to manage my stress and/or anxiety level during class.
- A4A.4(Rev) I have negative thoughts about myself during class.
- A4E.1(Rev) The format of the class (e.g. discussion, lecture, etc.) makes me feel stressed and/or anxious.
- A4E.2(Rev) The size of the class makes me feel stressed and/or anxious.
- A4F.1(Rev) The content in the textbook makes me feel stressed and/or anxious.
- A4F.2(Rev) The content in the course materials other than the textbook makes me feel stressed and/or anxious.

Appendix AA

Reliability Statistics for MOPSICC-47

Reliability Statistic	Value
Alpha	0.94
G.6	0.97
Omega Hierarchical	0.66
Omega H Asymptotic	0.69
Omega Total	0.96



Appendix BB

Perceived Safety and Sexual Orientation ANOVA Results by Category

(I) Sexual orientation	(J) Sexual orientation	Mean Difference (I-J)	Std. Error	Sig.	95% CI	
					Lower Bound	Upper Bound
Heterosexual	Lesbian	5.64310	6.36099	.949	-12.5807	23.8669
	Gay	1.82492	10.42795	1.000	-28.0504	31.7002
	Bisexual	-6.43090	3.38027	.402	-16.1151	3.2533
	Pansexual	-26.90236*	6.36099	.000	-45.1261	-8.6786
	Other	-9.97508	9.34252	.894	-36.7407	16.7905
Lesbian	Heterosex	-5.64310	6.36099	.949	-23.8669	12.5807
	Gay	-3.81818	12.09604	1.000	-38.4724	30.8361
	Bisexual	-12.07400	6.99987	.516	-32.1281	7.9801
	Pansexual	-32.54545*	8.83370	.004	-57.8533	-7.2376
	Other	-15.61818	11.17384	.728	-47.6304	16.3940
Gay	Heterosex	-1.82492	10.42795	1.000	-31.7002	28.0504
	Lesbian	3.81818	12.09604	1.000	-30.8361	38.4724
	Bisexual	-8.25581	10.82950	.974	-39.2815	22.7699
	Pansexual	-28.72727	12.09604	.168	-63.3815	5.9270
	Other	-11.80000	13.89729	.958	-51.6147	28.0147
Bisexual	Heterosex	6.43090	3.38027	.402	-3.2533	16.1151
	Lesbian	12.07400	6.99987	.516	-7.9801	32.1281
	Gay	8.25581	10.82950	.974	-22.7699	39.2815
	Pansexual	-20.47146*	6.99987	.042	-40.5256	-.4173
	Other	-3.54419	9.78871	.999	-31.5881	24.4997
Pansexual	Heterosex	26.90236*	6.36099	.000	8.6786	45.1261
	Lesbian	32.54545*	8.83370	.004	7.2376	57.8533
	Gay	28.72727	12.09604	.168	-5.9270	63.3815
	Bisexual	20.47146*	6.99987	.042	.4173	40.5256
	Other	16.92727	11.17384	.655	-15.0850	48.9395
Other	Heterosex	9.97508	9.34252	.894	-16.7905	36.7407
	Lesbian	15.61818	11.17384	.728	-16.3940	47.6304
	Gay	11.80000	13.89729	.958	-28.0147	51.6147
	Bisexual	3.54419	9.78871	.999	-24.4997	31.5881
	Pansexual	-16.92727	11.17384	.655	-48.9395	15.0850

* $p < .05$

Appendix CC

Perceived Safety and Course Format ANOVA Results by Category

(I) Course format	(J) Course format	Mean Difference (I-J)	Std Err	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Primarily lecture-based	Primarily discussion-based	9.82266*	3.772	.047	.0867	19.5586
	Lecture/discussion combination	6.43549*	2.416	.040	.1990	12.6720
	Other	9.84819	5.173	.228	-3.5053	23.2017
Primarily discussion-based	Primarily lecture-based	-9.82266*	3.772	.047	-19.5586	-.0867
	Lecture/discussion combination	-3.38717	3.920	.823	-13.5049	6.7305
	Other	.02553	6.024	1.000	-15.5241	15.5751
Lecture/discussion combination	Primarily lecture-based	-6.43549*	2.416	.040	-12.6720	-.1990
	Primarily discussion-based	3.38717	3.920	.823	-6.7305	13.5049
	Other	3.41270	5.282	.917	-10.2217	17.0471
Other (please specify)	Primarily lecture-based	-9.84819	5.173	.228	-23.2017	3.5053
	Primarily discussion-based	-.02553	6.024	1.000	-15.5751	15.5241
	Lecture/discussion combination	-3.41270	5.282	.917	-17.0471	10.2217

* $p < .05$

CURRICULUM VITA

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EDUCATION

- 2015-2020 UNIVERSITY OF LOUISVILLE Louisville, KY
Kent School of Social Work
Doctor of Philosophy in Social Work
- Doctoral Dissertation: “Development and Validation of the Measure of Perceived Safety in the College Classroom: A Mixed Methods Phenomenological Research Study”
 - Graduate School Fellowship Recipient (2015-2017)
- 2012-2015 UNIVERSITY OF LOUISVILLE Louisville, KY
Kent School of Social Work
Master of Science in Social Work
- GPA: 4.0/4.0
 - Mental Health Specialization
 - Critical Thinking Award Recipient
 - Dean’s Citation
- 1996-1998 AMERICAN UNIVERSITY Washington, DC
Master of Arts in TESOL
- GPA: 4.0/4.0
- 1990-1994 NORTHWESTERN UNIVERSITY Evanston, IL
Bachelor of Arts
- Russian Language and Literature/International Studies

EXPERIENCE

- 2019- Present KENTUCKY STATE UNIVERSITY Frankfort, KY
Assistant Professor/Director of Field Education
- Responsible for teaching Field Instruction I/II and Social Work Seminar I/II courses.
 - Responsible for all aspects of BSW Field Education program, including processing field education applications, advising practicum students, identifying practicum sites, negotiating affiliation agreements between school and agency, providing orientation to field instructors, facilitating midterm and final practicum evaluation

- meetings, evaluating effectiveness of field education experiences, and mediating conflicts between students and agency.
 - Member of BSW re-accreditation committee.
- 2017-2019 UNIVERSITY OF LOUISVILLE Louisville, KY
Instructor, Bachelor of Science in Social Work Program
- Fall 2017: Taught Introduction to Social Work Research (SW426).
 - Spring 2018: Taught Introduction to Social Work (SW201).
 - Fall 2018: Taught Introduction to Social Work Research (SW426).
 - Spring 2019: Taught Introduction to Social Work (SW201).
- 2018-2019 UNIVERSITY OF LOUISVILLE Louisville, KY
Research Assistant, Bachelor of Science in Social Work Program
- Coordinated BSW Curriculum Mapping project.
 - Conducted research on potential creation of Social Welfare major.
- 2017-2018 SURVIVORS OF TORTURE Louisville, KY
 RECOVERY CENTER (STRC)
Research Assistant
- Conducted qualitative interviews utilizing a “lifeline” technique to evaluate refugee clients’ experiences receiving services.
- 2014-2015 KENTUCKY REFUGEE MINISTRIES Louisville, KY
MSSW Practicum Student
- Conducted in-home therapy sessions with individual refugee clients.
 - Researched and adapted EBP for use with various cultural groups.
 - Facilitated community-based education groups for refugee clients.
 - Assessed and referred clients to appropriate services in the community.
 - Advocated for trauma-informed, culturally-competent services.
- 2013-2014 SURVIVORS OF TORTURE Louisville, KY
 RECOVERY CENTER (STRC)
MSSW Practicum Student
- Conducted intakes and completed psychosocial assessments.
 - Organized and facilitated a weekly multi-culture, multi-language, trauma-informed ESL education/support group for female clients.

- Facilitated training sessions for community service providers.
- 2011-2012 HANSEI UNIVERSITY Seoul, Korea
Visiting English Professor
- Taught college English Conversation and Composition courses.
 - Served as oral and written assessment development team leader.
 - Responsible for developing curriculum for elective courses.
- 2002-2003 EBS TV SHOW Seoul, Korea
 “SURVIVAL ENGLISH”
Television English Instructor
- Presented helpful English tips to viewers of the nationally-broadcast English-instructional TV program, “Survival English.”
- 2001-2002 JEFFERSON COUNTY Louisville, KY
 PUBLIC SCHOOLS
ESL Instructor
- Taught ESL classes to adult immigrants and refugees.
- 2000-2001 EWHA WOMEN’S UNIVERSITY Seoul, Korea
English Lecturer
- Taught English composition and conversation courses.
- 1999-2000 TTI INTERNATIONAL Seoul, Korea
Teacher Training Specialist
- Trained Korean public school teachers in ESL methodology.
- 1998-1999 PROCTER AND GAMBLE, KOREA Seoul, Korea
Business English Instructor
- Taught and developed curriculum for Business English courses.
- 1997-1998 ARLINGTON EDUCATION AND Arlington, VA
 EMPLOYMENT PROGRAM
ESL Instructor
- Taught high-beginning to low-intermediate Survival English classes to adult immigrants and refugees from various countries.

PRESENTATIONS

- January 2020 Society for Social Work and Research Annual Conference
 “Perceived Safety in the Postsecondary Learning Environment:
 A Phenomenological Study”

- March 2019 U of L Graduate Student Regional Research Conference
“Conceptualizing and Measuring Undergraduate Students’ Perceptions of Safety in the Postsecondary Learning Environment: A Mixed-Methods Phenomenological Research Study”
- November 2018 Council on Social Work Education (CSWE) APM
“Lifelines: A Therapeutic Approach to Research with Survivors of Torture”
- March 2017 Association of Non-Traditional Students in Higher Education Conference--“The Impact of Trauma on Academic Performance for Adult Learners: A Systematic Review”
- April 2016 Teachers of English as a Second Language International Conference--“Addressing Trauma and its Impact in the Adult ESL Classroom”
- June 2016 North American Refugee Health Conference
“Reaching out for Help: An Analysis of the Characteristics of Refugees Who are Referred for Mental Health Services by Referral Source”
- June 2015 North American Refugee Health Conference
“Growing Trauma-Informed Resettlement Services: A Mixed-Methods Study of the Barriers and Opportunities around Implementation”
- June 2014 North American Refugee Health Conference
“A Trauma-Informed Combined Approach to ESL and Group Therapy with Female Survivors of Torture”
- Fall 2000 KOTESOL Conference
“The Future of Language Testing”

PEER-REVIEWED PUBLICATIONS

- Ballard-Kang, J., Lawson, T., & Evans, J. (2018). Reaching out for help: An analysis of the differences between refugees who accept and those who decline community mental health services. *Journal of Immigrant and Minority Health*, 20(2), 345-350.
- Ballard-Kang, J. (Fall 2018). Who’s in and who’s out?: The ethics of excluding language minorities in social work research. *Journal of Social Work Ethics and Values*, 15(2), 5-14.
- Ballard-Kang, J. (2017). Using culturally appropriate, trauma-informed support to promote bicultural self-efficacy among resettled refugees: A conceptual model. *Journal of Ethnic and Cultural Diversity in Social Work*, DOI: 10.1080/15313204.2017.1409676.

OTHER PUBLICATIONS

Ballard-Kang, J. (2000). Portfolio assessment: Can it work for you? Kangnam District Teachers Association: Seoul, South Korea.

TEACHING AWARDS

Spring 2019 2017-18 University of Louisville Faculty Favorite

FUNDING

Fall 2018 \$500 University of Louisville Graduate Student Council
Research Grant
Spring 2018 Graduate Student Travel Grant
Spring 2017 Graduate Student Travel Grant
Summer 2016 Graduate Student Travel Grant
Summer 2015 Graduate Student Travel Grant

PROFESSIONAL DEVELOPMENT

Spring 2019 Dissertation Writing Retreat
Summer 2017 Online Course Training, Delphi U, University of Louisville
Spring 2017 Grant Writing Academy, University of Louisville
Spring 2016 Publishing Academy, University of Louisville
Spring 2014 Fundamentals of Serving Torture Survivors, The Center for
Victims of Torture, National Capacity Building Project

LEADERSHIP/SERVICE

2019-Present KSU Healthy Grandfamilies Advising Committee
Fall 2019 KASWE Fall 2019 Conference Planning Committee
2017-Present *Journal of Traumatic Stress*, Reviewer
2017-Present *Journal of Immigrant and Minority Health*, Reviewer
2018-2020 University of Louisville Graduate Student Council
Representative
Fall 2017 Health Sciences Campus Culturally Effective Care Symposium
Facilitator
Spring 2017 Kent School Strategic Planning Committee, Diversity
Committee Member
Fall 2016 Health Sciences Campus Culturally Effective Care Symposium
Facilitator
2015-2016 Volunteer Refugee Mental Health Case Management and
English Tutoring

PROFESSIONAL LICENSURE

CSW (Kentucky Certified Social Worker License #7378)

PROFESSIONAL AFFILIATIONS

National Association of Social Workers
Council on Social Work Educators
Kentucky Association of Social Work Educators
Society for Social Work and Research
Association of Non-Traditional Students in Higher Education
TESOL International