

Learning about trauma: Cortisol responses, trauma exposure, and  
emotional reactivity in undergraduate students

by

Jessica Danielle Cless

B.S., Kansas State University, 2013  
M.S., Kansas State University, 2015

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

School of Family Studies and Human Services  
College of Human Ecology

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2018

## **Abstract**

Several courses in higher education may utilize trauma-related content material as a part of the curriculum. In order to reduce the potential for experiencing secondary traumatic stress in college students, it has been recommended that instructors of such courses be purposeful and cautious with the use of trauma-related materials in the classroom (Cunningham, 2004; Kostouros, 2008). Most recommendations for implementation of these materials are based on theory, and there are few empirical studies that examine actual student reactions to trauma-related content. In the current study, both salivary cortisol and mixed-method survey data were obtained from undergraduate students enrolled in an undergraduate trauma course across three semesters. Results indicated that exposure to higher levels of adverse childhood experiences were significantly related to higher cortisol levels after participating in a course lecture with high levels of trauma content. Generally, students reported favorable views and positive experiences in the course overall. Students with higher levels of lifetime exposure to traumatic events had significantly higher levels of emotional reactions to the course. Qualitative results indicated a range of emotional reactions to the course content, with both positive and negative effects. Implications for teaching practice, policy, and future research are discussed.

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Approved by:

Major Professor  
Dr. Briana S. Nelson Goff

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## **Dedication**

To my husband and my partner, Adam Cless. This degree is just as much yours as it is mine. None of this would have been possible if you were not there to support me, as you were always there to pick me up and carry me through the hardest times. I love you and I always will.

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## **Chapter 1 - Introduction**

In the college environment, there are several ways that students may be exposed to trauma. Many students directly experience a traumatic event while in college (Frazier et al., 2009), and some have argued that young adults may be more likely to experience certain interpersonal traumas, such as sexual assault (Felson & Cundiff, 2014). Additionally, several studies have found that younger age is associated with higher risk of PTSD after trauma exposure (Brewin, Andrews, & Valentine, 2000; Trickey, Siddaway, Meiser-Stedman, Serpell, & Field, 2012). With these risk factors in mind, young adults in college may be considered a group especially at-risk for having directly experienced trauma. As previously mentioned, there are a wide range of potential reactions to trauma, which is relevant for young adults in college. Estimates of PTSD prevalence in college students vary. Lauterbach and Vrana (2001) found that an estimated 6% to 17% of college students met criteria for PTSD. A more recent study comparing DSM-IV and DSM-5 criteria estimated a range of between 5% and 8% of college students meeting criteria for PTSD (Elhai et al., 2012). The relationship between trauma exposure, coping with the aftermath of trauma, and alcohol is also worthy to mention, as alcohol consumption has also been described as a potential contributor to trauma exposure in the college environment (Abbey, 2002) as well as a means of coping for some students (Read et al., 2012). Furthermore, specific subpopulations of college students, such as college veterans, may be uniquely affected as it is estimated that over 20% of veterans have some PTSD symptoms (Ramchand, Acosta, Burns, Jaycox, & Pernin, 2011). Recent research has raised the question of whether or not universities are ready to respond to potential concerns of student veterans (Rudd, Goulding, & Bryan, 2011).

Just as in the general population, young adults who experience trauma may experience a variety of reactions to trauma. Coping strategies that college students use may include avoidance (Cantón-Cortés & Cantón, 2010), physiological symptoms, emotional reactivity (Tull, Barrett, McMillan, & Roemer, 2007), and behavioral symptoms that may serve to numb trauma arousal symptoms, such as substance use (Read et al., 2012). In sum, students with histories of personal direct experiences of trauma may exhibit reactions to trauma and experience symptoms which interfere with optimal academic and/or interpersonal functioning while in college.

Students' own personal histories may not be the only way they encounter trauma in the college environment. The topic of "triggering" classroom experiences has recently made national news, with colleges and universities responding to calls for "trigger warnings" via news publications and/or administrative position statements regarding student safety, learning, and discomfort (Novitch, 2016; Olson, 2016). Although directly learning about trauma often occurs at the graduate level and in clinical programs of study, many disciplines outside of human services and clinical training programs also interact with materials and curricula that involve trauma (Barlow & Becker-Blease, 2012). Courses related to humanities, literature, art, and journalism often use films, readings, video clips, and guest lectures that contain elements of traumatic experiences that may or may not trigger the students' own personal experiences (for an example, see Dufresne, 2004).

Although some courses may use traumatic materials in the classroom as a cursory part of the course, or as the specific focus of an elective, there are still others in human services related fields who are calling for an integration of trauma education into the general required curriculum. Recently, the fields of social work (Strand, Abramovitz, Layne, Robinson, & Way, 2014), psychology (Courtois & Gold, 2009), and counseling (O'Halloran & O'Halloran, 2001)

have all noted the need for an integration of trauma education within professional curricula. In recognizing a co-existing need for the integration of trauma education in curricula related to human services as well as a need for responsible trauma education methods, logic then follows to determine how trauma-related materials affect students, if at all, in order to understand the pedagogical implications of using them in the classroom.

### **Significance of the Problem**

#### **Reactions Due to Personal History**

In the United States, experiencing a traumatic event is common. It is estimated that around 90% of adults have experienced at least one traumatic event (Kilpatrick et al., 2013), and more than two-thirds of children have been exposed to at least one traumatic event by age 16 (Copeland, Keeler, & Angold, 2007). Various events can be considered potentially traumatic, such as physical abuse, sexual assault, witnessing or experiencing violence, surviving a natural disaster or serious accident, and being exposed to war (American Psychiatric Association [APA], 2013; Kessler & Ustun, 2004). While these experiences are traditional examples of events that could be potentially traumatic, trauma itself is characterized by the elements of fear, helplessness, terror, and loss of control (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). In light of these statistics, there is a need to understand how college students, many of whom have likely experienced trauma, may react to trauma-related course materials.

#### **Secondary Traumatic Stress**

As students may have been exposed to trauma either directly through their own personal experiences, or for the first time through course materials, it is important to note that any time trauma-related materials are encountered, there may be some related stress. For those with personal histories, the concern is that introducing related materials in the classroom may produce

a triggering effect of past personal reactions. For those who may not have a personal history of trauma, there may be secondary traumatic stress (Stamm, 1995). Symptoms of secondary traumatic stress often mimic the symptoms of those who directly experience trauma (Elwood, Mott, Lohr, & Galovski, 2011; Stamm, 1995), making the risk for adverse reactions to trauma-related course materials a potential experience for college-aged students. The scope of this challenge is highlighted when considering that around 85% of college students have been exposed to at least one traumatic event and 21% of college students may experience trauma while enrolled in school (Frazier et al., 2009). As previously stated, this risk may not only be present in classrooms in which trauma itself represents the core focus of the curriculum, but also in courses related to other fields of study which, at face value, may not seem “trauma-related.” For example, Dufresne (2004) described a situation in which a student with a personal history of sexual assault became emotionally overwhelmed while in her journalism course. Unfortunately, in light of experiences like these, there is little empirical evidence that examines students’ reactions to course content which contain trauma-related materials.

### **Reactions to Trauma**

Although trauma exposure does not equate to adverse reactions to trauma or a diagnosis of PTSD, it should be noted that experiencing trauma may bring about a variety of reactions. These potential reactions to trauma highlight the significance of addressing potential student reactions to trauma-related content taught in college courses.

**Biological.** By nature, experiencing a trauma requires a physiological response, often referred to as fight, flight, and freeze reactions (Thompson, Hannan, & Miron, 2014). On a biological level, a person exposed to trauma may experience dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis, which is responsible for stress adaptation (Daskalakis, McGill,



Lehrner, & Yehuda, 2015). Other biological reactions may include changes in cortisol response to external stimuli (de Kloet et al., 2006), decreased immune system functioning, disrupted sleep regulation, and hypervigilance (Gupta, 2013).

**Psychological.** Psychological reactions to trauma may include increased emotional reactivity or difficulty regulating emotion (Badour & Feldner, 2013). Negative shifts in cognitions or beliefs about oneself and the world are common for survivors of trauma (Ehlers & Clark, 2000). Trauma may also disrupt memory, cause avoidance of trauma-related cues, and increase the risk for depression, alcoholism, drug abuse, and suicide attempts (van der Kolk, 2000).

**Relational.** In addition to various individual reactions, experiencing a trauma may also impact social connections and intimate relationships. Generally, those with a history of trauma may feel less connected to family and friends (Dorahy et al., 2009). Others may struggle with intimacy and sexual functioning (De Silva, 2010; Mills & Turnbull, 2004). Depressive symptoms comorbid with PTSD can also potentially affect relationship functioning (Beck, Grant, Clapp, & Palyo, 2009). Because experiencing a trauma may disrupt the attachment system (Mikulincer, Shaver & Solomon, 2015; Schimmenti, Passanisi, Di Carlo, & Caretti, 2014) future relationships of those who have experienced trauma may be impacted. Specifically, interpersonal trauma has been associated with maladaptive relationship schemas (Karatzias, Jowett, Begley, & Deas, 2016), which can affect relational attachment (Mason, Platts, & Tyson, 2005).

**Posttraumatic Stress Disorder.** Over time, the diagnostic criteria for posttraumatic stress disorder (PTSD) have changed significantly. The DSM-5 (APA, 2013) has expanded its definition to be more inclusive of several types of events, and reorganized into a new category of trauma and stressor-related disorders (Jones & Cureton, 2014). The criteria for diagnosing PTSD

are currently grouped within the symptom clusters of the stressor, intrusion symptoms, avoidance symptoms, arousal symptoms, and negative alterations in cognitions and mood (APA, 2013). Absence of a trauma-related diagnosis should not be necessarily interpreted as an absence of reaction to trauma (Mylle & Maes, 2004), as there are a range of possible responses to trauma which are uniquely affected by the context and culture surrounding the individual (Ungar, 2013). Finally, it should be noted that human resilience is possible and common, even among those who have experienced trauma. Resilient responses to trauma should be considered to be common and normal, as high trauma exposure rates co-exist with much lower rates of PTSD in the population, and the development of trauma symptoms following trauma exposure may abate (Bonanno, 2004; Chapman et al., 2012).

### **Risk Factors**

There is no single cause to explain the occurrence of trauma. Herman (1997) described trauma as “human vulnerability in the natural world [and] the capacity for evil in human nature” (p. 7). However, various factors have been identified that may put persons at a higher risk for experiencing trauma. Prior victimization or previous trauma exposure is a risk factor for experiencing trauma again (Boney-McCoy & Finkelhor, 1995; Nishith, Mechanic, & Resick, 2000; Ruback, Clark, & Warner, 2014). Certain demographic factors, such as being female, younger age, lower education, and minority race status, may also be risk factors for experiencing more trauma (Brewin, Andrews, & Valentine, 2000). Factors outside the individual, such as lack of social support and type of trauma may also be important risk factors to consider (Brewin, Andrews, & Valentine, 2000). Developmental timing of trauma exposure has also been studied, with those experiencing trauma in childhood having rates of PTSD and depressive symptoms that are twice as high as those who experience trauma later in life (Dunn, Nishimi, Powers, &

Bradley, 2017). As previously noted, college students may experience a unique risk for experiencing trauma.

### **Other Potential Outcomes**

Beyond the risk for experiencing adverse trauma reactions or secondary traumatic stress symptoms, college student mental health issues have been related to poor educational outcomes (Arria et al., 2013; Breslau, Lane, Sampson, & Kessler, 2008). Additionally, students who indicate experiencing mental health concerns may be at an increased risk for suicide and substance abuse (Cranford, Eisenberg, & Serras, 2009; Weitzman, 2004). Between 10 and 20% of college students screen positive for depression and/or anxiety, and approximately 6% of students have seriously considered suicide (Hunt & Eisenberg, 2010). Alarming, a recent study estimated that only about 24% of mental illness is actively treated in college students (Hunt & Eisenberg, 2009). Universities commonly respond to student mental health concerns through the use of on-campus counseling services, though various barriers impede successful treatment, such as students' lack of emotional openness, lack of perceived need for help, or skepticism about treatment effectiveness (Hunt & Eisenberg, 2009). In order to address these barriers for those students who may be experiencing trauma-related mental health symptoms, it is important to assess and develop effective strategies that are not solely dependent on students' self-initiated use of counseling centers. Although supportive college environments have been found to have a positive effect on student mental health (Fink, 2014), no specific research has been done to explore how trauma-informed teaching strategies may affect students' experiences and indirectly support student mental health.

## **The Need for Empirical Examination**

There is a need for empirical literature to examine student reactions to course content for a variety of reasons. As presented above, students are likely to have experienced trauma in their lives based on general population trauma exposure estimates as well as risk factors for exposure that may keenly affect the college population. Additionally, students both with and without personal histories of trauma may experience secondary traumatic stress when confronted with trauma-related materials, symptoms which mimic reactions to trauma and PTSD. Finally, as student reactions to course materials may have implications for student mental health, there is a need to understand the potential effects of using this material in order to prevent outcomes associated with poor student mental health. Currently, little empirical research is available to describe and explain how students may react to trauma-related course materials. The current study sought to begin to assess this gap in the field.

## Chapter 2 - Literature Review

In general, studies addressing the topic of teaching trauma and trauma-informed teaching practices is limited in both number and scope. This review begins by providing an overview of existing empirical literature on teaching trauma-related materials and trauma-informed teaching practices. Next, an overview of the concepts of secondary traumatic stress and reactions to trauma in research are covered in order to describe the essential foundation of reactions to trauma-related content and the need for further examination of reactions to trauma in the classroom setting to protect students from experiencing secondary trauma. Lastly, a brief review of understanding reactivity to stressors using biomarker research is presented.

### **Reactions to Course Materials: Empirical Literature on Teaching Trauma**

To date, only one existing research study has examined the potential effects of participating in a course that uses trauma-related materials. Black (2008) found that in a study of 10 graduate students in a counselor training program, 6 out of 9 students in the course reported being “moderately disturbed” by the course material, with a minority number of students ( $n = 3$ ) reporting unwanted thoughts ( $n = 3$ ), or unwanted images ( $n = 4$ ) related to the course content. This study, while unique in its area, is limited both by a small sample size and lack of demographic and sexual diversity. Another limitation of this study is that it relied solely on self-reported items asking students to recall their experiences in the course and did not use well-known psychological measures to assess potential effects on students. Finally, this study was descriptive of graduate students who already had experiences providing trauma therapy, assuming previous exposure to trauma either in knowledge or in practice. It is unknown whether these experiences may be similar to those enrolled in undergraduate programs, as no known existing literature empirically examines undergraduate student reactions to trauma-related

content in a classroom setting. At this time, the majority of our understanding of how students may experience trauma-related content in a classroom is rooted in trauma theory, specifically in literature on secondary traumatic stress.

### **Theoretical Basis**

Most literature that addresses the topic of teaching trauma is theoretical in nature, and several theories inform the need for mindful educational practices when using trauma-related materials. Most significantly, the concept of secondary traumatic stress, which holds that a person indirectly exposed to trauma (rather than having direct personal experiences) may also experience symptoms of trauma (Stamm, 1995). This supports the notion that persons in a learning environment may be affected by trauma-related course materials. Several academics have noted the need for carefully implementing trauma-related materials in the classroom (Black, 2006; Chard & Hansel, 2006). Framing course material as a potential stressor for students also poses the question of how and if teaching strategies and pedagogical practices are being delivered in a trauma-informed way.

### **Secondary Trauma Exposure and Vicarious Traumatization Overview**

Several terms have been used to describe adverse reactions to trauma when persons are exposed in a secondary or indirect way. Secondary traumatic stress (Stamm, 1995), vicarious traumatization (McCann & Pearlman, 1990), and compassion fatigue (Figley, 1995a) all describe the potential negative effects of being exposed to trauma indirectly. The National Child Traumatic Stress Network (NCTSN, 2017) defines secondary traumatic stress as “the presence of PTSD symptoms caused by at least one indirect exposure to traumatic material.” An earlier definition by Figley (1995b) defined this phenomenon as “the natural consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by a significant

other—the stress resulting from helping or wanting to help a traumatized or suffering person” (p. 7). For those in the helping profession, dealing with potential secondary trauma has been identified as a significant challenge (Conrad & Kellar-Guenther, 2006; Showalter, 2010).

The framework of secondary trauma has been applied to the classroom environment in order to serve as the rationale and basis for recommendations to instructors who use trauma-related materials. Kostouros (2008) specifically called for university faculty to be mindful when using trauma-related materials in order to protect students from potential negative reactions. Perhaps the first known work related to teaching trauma was provided by McCammon (1995) in which the author described her own experiences with “painful pedagogy” as well as 10 recommendations for educators, some of which include giving students advance notice as to what topics will be covered in class, providing referrals to students, and using best judgment when selecting real-life examples to aid in student learning. Cunningham (2004) recommended that in order to protect against potential vicarious traumatization, educators of social work students should carefully deal with student distress and personal disclosures, be selective when using case examples, and use a style of presentation that does not risk overwhelming students with too much traumatic detail. O’Halloran and O’Halloran (2001) suggested that specific biobehavioral, affective, cognitive, relational, and spiritual strategies be promoted by instructors and used by students in order to protect against potential secondary traumatic stress reactions which may occur in the context of the classroom. Again, these authors primarily address caution with graduate-level students in intensive clinical programs, such as social work, clinical psychology, counseling, couple and family therapy, and related programs.

Related to and somewhat parallel to recommendations for educators based on secondary trauma theory are recommendations based on the principles of trauma treatment. Within the

training environment, Chard and Hansel (2006) emphasized the necessity of a safe atmosphere for students; safety and stabilization is often a primary goal in treating those who are affected by trauma (Herman, 1997). The Trauma-informed Classroom Care (TICC) model proposed by Cless and Nelson Goff (2017) used Herman's Triphasic model as the basis for guiding pedagogical decisions. Other proposed models of teaching trauma have also included in-class resourcing, introducing content to students in small doses, and pairing classroom exposure with relaxation techniques (Black, 2006). Recognizing and attending to personal reactions to trauma has also been identified as an important part of working effectively with trauma (Giller, Vermilyea, & Steele, 2006).

### **Model for Introducing Traumatic Materials in the Classroom**

While empirical literature on teaching trauma remains limited, there have been some attempts to form pedagogical practices around trauma theory. The Trauma Informed Classroom Care (TICC) Model (Cless & Nelson Goff, 2017) is designed to aid instructors in recognizing and responding to student reactivity to traumatic materials in the classroom. In this model, student reactivity to traumatic materials is conceptualized using the Triphasic Model (Herman, 1997), with pedagogical implications for interacting with students and structuring the course based on the student's level of reactivity. According to the model, flexibility should be structured according to the student's level of reactivity. For example, students who may not have adequate levels of emotional safety may require more flexibility than those who have already integrated their past traumatic experiences into their present life. Other components of the model include a focus on assessment of not only course outcomes, but student reactions to course materials, as well as recommendations for how to carefully handle student disclosure of personal traumatic experiences in the classroom environment. The authors acknowledge that while this pedagogical



model is rooted in trauma theory, empirical research will be necessary in order to advance understanding of the implications of teaching trauma in college.

### **Reactions to Trauma-Related Topics in Research**

Although studies of how students exposed to trauma in a classroom environment is limited, a potentially related line of inquiry may shed some light on the impact of secondary exposure to trauma-related content. Several researchers and ethicists have raised concerns that participation in trauma-related research may pose some risks to participants. These concerns are largely based on the fact that in the process of research, participants with a trauma history may feel uncomfortable or experience negative emotional reactions (Legerski & Bunnell, 2010). More specifically, concerns have been raised as to whether asking research participants to personally disclose about their own experiences that have been traumatic may render the person “retraumatized” by having to recall past painful experiences (Jaffe, DiLillo, Hoffman, Haikalis, & Dykstra, 2015). Because an essential function of Institutional Review Boards (IRB) is to ensure protection of research participants (Rice, 2008), examining reactions to trauma-related research has been of particular interest in regards to the implications for subjecting human subjects to potentially distressing content.

Studies that examine reactions to participation in trauma-related research have generally found that participants, while they may feel some distress, the distress is not extreme and participants do not regret participation (Griffin, Resick, Waldrop, & Mechanic, 2003; Jaffe et al., 2015). Some empirical study has also described the potential benefits for trauma survivors to engage in trauma-related research. These benefits may include gaining new insight about their past traumatic experience, feeling as though it was helpful to tell someone about what had happened, and having a sense that the research being done could be helpful to others (Carlson et

al., 2003). In a survey of veterans with posttraumatic stress disorder, Halek, Murdoch, and Fortier (2005) found that many participants who reported having an emotional reaction to their research participation simultaneously made positive comments about the survey. This is in line with other research, which has found that potential reactivity to trauma-related content in the research process co-exists with positive reactions to research and perceived benefits of participation (Legerski & Bunnell, 2010; Newman & Risch, 2006). This finding has also been replicated with trauma survivors in college (Edwards, Kearns, Calhoun, & Gidycz, 2009). Although exposure to trauma-related content in a classroom environment as compared to through research participation may have some important differences, it may be expected that similar experiences of both risks and benefits to participation may be found in the student population.

### **Previous Trauma History and Reactions to Classes**

As previously reviewed, students may be exposed to trauma through their own personal experiences or potentially for the first time in the learning environment. Although research has not specifically examined whether previous trauma history may put students at a higher risk for reactions to trauma-related course content, there are several related lines of inquiry that support this notion. First, those with previous histories of trauma exposure have been shown to be at increased risk for reactivity to trauma-related research (Jaffe et al., 2015; Newman & Risch, 2006). Next, there is a known association between personal trauma history and secondary trauma symptoms in helping professionals that has been well documented (Bride, Jones, & MacMaster, 2007; Bride, Radey, & Figley, 2007; Cunningham, 2003; Deighton, Gurriss, & Traue, 2007). More research is needed to understand whether students who encounter trauma prior to taking a course that uses trauma-related materials are at a greater risk for reactivity.

## **Understanding Reactivity to Trauma Cues Using Biomarkers**

In the field of psychoneuroendocrinology, the human stress response is understood not only as a psychological experience, but also as a complex relationship between the nervous system, hormone levels, and behaviors of the organism as a whole. Cortisol, the steroid hormone that is released in response to stress through the HPA axis (de Kloet, 2004), has been studied as a biomarker of stress in studies that seek to better understand human reactions to stress and trauma cues. Cortisol has several functions in the body, including blood sugar and metabolism regulation (Hammer & Stewart, 2006), as well as memory formation (McGaugh & Roozendaal, 2002) and stress mobilization (Ranabir & Reetu, 2011). In order to provide a more holistic understanding of the experiences of trauma survivors, contemporary research often seeks to use methods that include not only quantitative or qualitative elements, but also biological markers that can provide more context and insight.

Research that examines cortisol as a biomarker in trauma-exposed individuals has yielded mixed results, and several factors have been theorized to affect a person's bodily cortisol levels. In addition to time of day and certain genetic factors, general life stress and fatigue may also affect a person's cortisol response (Chida & Steptoe, 2009). Additionally, according to Yehuda and Bierer (2008), epigenetic factors, such as parental PTSD, may affect cortisol levels in offspring, indicating the potential for intergenerational transmission of the effects of trauma. It should be noted that, as several factors affect cortisol levels, research that measures cortisol should be carefully interpreted due to its variability.

Regarding levels of cortisol in trauma survivors, one study of women with PTSD originating from childhood abuse, cortisol levels were shown to be 122% higher than base levels when exposed to cues about the abuse (Elzinga, Schmahl, Vermetten, van Dyck, & Bremner,

2003). In a 2007 meta-analysis, adults with PTSD did not show difference in basal cortisol levels when compared to adults without PTSD; however, this same study did find lower cortisol levels in adults with PTSD compared to adults who were never exposed to trauma (Meewisse, Reitsma, de Vries, Gersons, & Olf, 2007). According to Yehuda and colleagues (2000) although lower cortisol levels in trauma-exposed persons may be seen as “initially counterintuitive,” further research has theorized this to be attributable to a resistant HPA axis, showing a blunted response to continued exposure to traumatic events and/or trauma-related cues. Thus, while literature on cortisol reactivity in trauma survivors is mixed, there is no known literature that examines biological reactivity to trauma-related cues in undergraduate students.

### **Coping with Stressful Content**

Just as there is a gap in empirical literature addressing student reactions to trauma-related materials, there is also a gap in literature on student coping with potential stress associated with learning about trauma-related subjects. Coping strategies have been studied in relationship to student academic performance and retention (Devonport & Lane, 2006; MacCann, Fogarty, Zeidner, & Roberts, 2011). However, no known studies have examined self-reported student coping in relationship to potential emotional reactions and stress due to exposure to trauma-related course content. Understanding how students cope with potential emotions and stress in the classroom may provide a foundation for recommendations for students in courses that utilize trauma-related content.

### **Aim of the Present Study**

In summary, little empirical evidence exists to shed light on the potential implications of teaching trauma to undergraduate students. Borrowing from literature on participants’ reaction to research, biomarker research, and theory-centered literature describing the risk for secondary

trauma in the classroom, there is a need for a more in-depth investigation into the student experience of exposure to trauma through course materials. Especially in light of the potential risk for reactivity in students with personal histories of trauma, more research should be conducted to inform pedagogy in classrooms that utilize trauma-related materials.

No studies to date have examined the impact of trauma-related pedagogy on undergraduate students in an interdisciplinary setting or the coping strategies that students may implement while interacting with materials in the course. For this reason, exploration of the experiences of students in the classroom that utilizes trauma-related materials as a part of the curriculum is needed to provide empirically-informed recommendations to instructors of relevant courses. This study represents a first step toward filling the gap in the literature between pedagogical recommendations for using traumatic materials in the classroom and empirical data describing undergraduate students' actual reactions to course content that is trauma-related. Specifically, this study uses a mixed-method design (Creswell & Clark, 2007) to investigate the overarching question, "How do students react to trauma-related course materials?" using both subjective and objective measurements. Specific research questions are:

RQ1. Do salivary cortisol levels vary across exposure of students to different levels of traumatic content in an undergraduate course?

RQ2. Do salivary cortisol levels vary between students with and without personal histories of trauma exposure?

RQ3. How do undergraduate students describe their reactions to trauma-related materials introduced as course content?

RQ4. What strategies do undergraduate students use to cope with possible stress reactions associated with trauma-related course content?

## Chapter 3 - Method

### Procedure

In order to investigate the research questions, this study included both saliva sampling to measure cortisol as well as a mixed-method online survey. Participants were undergraduate students enrolled in a university course on trauma and traumatic stress. Students enrolled in the class across three semesters were given the opportunity to participate in the survey for extra credit. Students who opted not to participate were given an alternative extra credit assignment. Since the course included both online and on-campus sections, all students were given the option to participate in the online survey, while only on-campus students had the opportunity to elect to provide biological samples of saliva for the cortisol biomarker testing. Figure 1 illustrates the sampling design. All students enrolled in the course were assigned anonymous code numbers that were used to match participant data together.

The course from which students were recruited was a 16-week (semester) class that focused on providing students with a foundational understanding of the nature of trauma and traumatic stress. Examples of topics covered in the course included the nature and prevalence of trauma, potential biopsychosocial responses to trauma, an overview of trauma-related diagnoses and disorders, the impact of trauma on relationships, and conducting research with trauma-exposed populations. The course was taught collaboratively with an instructor and graduate teaching assistant, who provided support to students with mastering course content and assisting with grading assignments. The course structure was set up to be flexible, as students were allowed to choose which assignments they would (and would not) like to participate in to gain points toward their final grade. Example optional assignments included writing papers to demonstrate comprehension of course concepts, participating in on-campus or online

discussions, and reviewing alternative methods of trauma treatment. Two sections of the course were offered each semester, one in-person and one utilizing an online format. This course was a required part of a larger undergraduate trauma studies minor program at a large Midwestern university (<https://www.ksu.edu/fshs/academics/cats/>). This study used an experimental, mixed-method study design that consisted of several components. All components of the study, including recruitment messages, survey measures, and design were reviewed and approved by the institution's Institutional Review Board (IRB; See Appendix A). This research was supported by a University Small Research Grant and a College of Human Ecology Faculty Research Grant at Kansas State University.

### **Cortisol Collection**

To answer Research Question 1, cortisol data were collected using a pre- and post-test experimental design at three time points per semester over the course of three semesters. Consultations with two subject-matter experts in the field were conducted while designing the cortisol collection portion of the study. Participants in the on-campus class gave biological samples of saliva in order to provide a means for measuring levels of cortisol. In order to facilitate these samples, graduate students who were trained in passive drool saliva collection procedures attended the on-campus course on selected days corresponding to two lectures within the course (one with high trauma content and one with low trauma content) as well as on another day in which no lecture was given to serve as a control. The “high trauma content” day consisted of presenting materials on common individual symptoms and reactions to trauma, as well as showing videos containing footage from the September 11, 2001 attacks and military/sexual assault-related PTSD videos. The “low trauma content” day included a presentation on the ethics and considerations necessary when conducting research with trauma-

affected populations. Finally, on the control day, participants were allowed to sit in the classroom and quietly work on independent activities not prescribed by the researchers.

In order to assure participant anonymity, graduate students who facilitated the saliva collection were not associated with the course instruction or grading. Before participation began, a short presentation about the study was provided to students who were told that participation in the study was optional. Written informed consent was obtained from all on-campus participants (See Appendix B). To measure salivary cortisol levels, consenting participants provided samples of saliva using the “passive drool” method, in which saliva collection aids were used by the participants themselves to aid in depositing saliva into cryovials (see <http://wheaton.com/cryogenics/cryovials.html>). For two of the three semesters during which the study took place, on-campus participants who opted to provide saliva samples were also given a short survey of demographic questions as well as trauma-exposure measures that were to be linked to the sample via the anonymous codes assigned to all potential participants at the beginning of the semester. The trained graduate assistants visited the course before and after each lecture, as well as before and after the free study time, which served as the control, in order to collect pre- and post- intervention samples. The course lecture or study time lasted 50 minutes for each collection period. Course instructors were not present during data collection. After samples were obtained from participants, code numbers were affixed to each sample to maintain participant anonymity before samples were frozen and stored until they were transported to the Salivary Bioscience Laboratory at the University of Nebraska-Lincoln (see <http://cb3.unl.edu/sbl/>) to be analyzed.



## **Mixed-Method Survey**

In addition to salivary cortisol data collection, a mixed-method survey was also provided to on-campus and distance students. All data were collected using Qualtrics, which uses an anonymous and secure server to facilitate data collection. This survey was sent to students during the beginning of each semester (in the first four weeks) as well as at the end of the semester (during the last four weeks). The survey was distributed to all students via email, in which information about the study and a link to the web-based survey was provided. Participants who opted to complete the survey were provided an online informed consent (see Appendix C), which had to be obtained before participants proceeded to the survey. This survey contained several well-known psychological measures as well as open-ended qualitative questions meant to assess participants' exposure to traumatic and adverse life events, reactions to participation in the course, coping and stress management skills, current trauma symptoms, as well as demographic information. Due to low levels of data collection in Fall 2016, a revision to the IRB was submitted and approved in order to offer participants course extra credit for participating in the online survey in the following two semesters. An alternate extra credit assignment was also made available, and required a similar amount of time and effort to complete.

## **Measures**

**Reactions to course participation.** The Reactions to Research Participation Questionnaire-Revised (RRPQR; Newman, Willard, Sinclair, & Kaloupek, 2001) is a measure that was created to assess research participants' potential reactions to trauma-related research. Since the creation of the original measure, revisions have been created in order to assess potential reactivity to research in parents and children (Kassam-Adams & Newman, 2002). These measures have been used to assess reactivity in medical patients (both adults and

children), college students, survivors of sexual assault, pregnant women, and persons from an ethnically diverse community sample (DePrince & Chu, 2008; Kassam-Adams & Newman, 2002; Newman, Walker, & Gefland, 1999; Newman, Willard, Sinclair, & Kaloupek, 2001; Schwerdtfeger, 2009; Schwerdtfeger & Nelson Goff, 2008). Because this measure has been used widely to assess reactivity to secondary trauma exposure, it was revised to be relevant to the classroom setting, with permission from the original author of the measure. This questionnaire first asks participants to rank the top three reasons for their participation in the course, from 1 (*most important*), 2 (*second most important*), and 3 (*third most important*). Participants could choose from the following reasons: *I was curious*, *To prepare myself to help others*, *To help myself*, *It was required*, *I don't know*, and *Other*. Those who chose “*Other*” were given a space to provide an explanation. The second part of the questionnaire is a 25-item scale, in which responses were on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The original RRPQ-R represents several potential domains of participation, including personal satisfaction ( $\alpha = .60$ ), perceived personal benefits ( $\alpha = .82$ ), emotional reactions ( $\alpha = .82$ ), perceived drawbacks ( $\alpha = .73$ ), and global evaluation ( $\alpha = .82$ ). The personal satisfaction subscale consisted of four items, and measured participants’ personal satisfaction regarding participation in the class (e.g., “I am happy that I will be participating in this course”). The personal benefits subscale consisted of four items, and measured participants’ perception of gaining personal benefits from course participation (e.g., “I hope to gain something positive from participating in this class”). The emotional reactions subscale consisted of five items, and measured participants’ reported emotional reactions (e.g., “This class might make me think about things I don’t want to talk about”). The perceived drawbacks subscale consisted of six items and measured participants’ perceived drawbacks of course participation (e.g., “I might find the

course content too personal”). Lastly, the global evaluation subscale consisted of five items, and measured participants’ overall perception of the course (e.g., “I believe this class will help me to serve others in the future”). The measure as a whole shows good internal consistency ( $\alpha = .83$ ; Newman, Willard, Sinclair, & Kaloupek, 2001). The alpha in the current study was acceptable ( $\alpha = .78$ ).

**Childhood adversity.** Experiencing adverse events in childhood was measured using items from the original Adverse Childhood Experiences study (ACE; Felitti et al., 1998). Participants were asked to respond either 1 (*yes*) or 0 (*no*) to 17 items asking whether or not a specific event occurred before the age of 18. Items assessed experiences such as physical abuse, sexual abuse, living with a substance abusing person or family member with mental illness, and witnessing violence in the home. Sample items include “Before age 18 and during your childhood, did you live with anyone who was a problem drinker or alcoholic?” and “Did an adult or person at least 5 years older than you touch or fondle you in a sexual way?” A composite “ACE” score is calculated by totaling the number of times a participant responds *Yes*, with higher scores indicating having experienced more adversity during childhood. This measure has been widely used as a way to assess for exposure to adverse childhood events and to predict adverse outcomes in later life, such as suicide risk (Dube et al., 2001), depression (Chapman et al., 2004), and increased risk of cancer (Holman et al., 2016). While this is a retrospective measure, there is evidence to support the notion that false positives are probably rare (Hardt & Rutter, 2004).

**Trauma exposure.** Participants’ exposure to traumatic events was measured using the Traumatic Events Questionnaire (TEQ; Vrana & Lauterbach, 1994), a scale in which participants respond 1 (*yes*) or 0 (*no*) to 15 items asking whether or not a specific potentially traumatic event

has occurred in their life. Items assess experiences such as surviving abuse or assault in childhood or adulthood, being in or witnessing a serious accident, being in danger while serving in the military, and being a victim of a violent crime. Sample items include “Have you been a victim of a violent crime such as rape, robbery, or assault?” and “Were you in serious danger of losing your life or being seriously injured during military service?” Additionally, space is provided for participants to describe other potentially traumatic events and indicate which from the list they consider to be the most traumatic event in their life history. If participants respond “No” to all items, a space was provided prompting the participants to describe their most traumatic life experience. A composite score is then calculated by totaling the number of times a participant responds *Yes*, with higher scores indicating having been exposed to more traumatic events. This measure shows good test-retest reliability ( $r = .91$ ; Vrana & Lauterbach, 1994). While some questions overlap with the ACE measure, the TEQ measures trauma exposure in adulthood, including exposure to war, major industrial accidents, and natural disasters.

**Trauma symptoms.** The Trauma Symptoms Checklist-40 (TSC-40; Elliott & Briere, 1992) is a 40-item measure meant to assess current symptoms which may be trauma-related. Participants are asked to rate how often they have experienced symptoms such as headaches, anxiety attacks, feelings of tension, and feeling that things are “unreal” over the past two months. Items are scored on a 4-point Likert scale from 0 (*never*) to 3 (*often*); scores range from 0 to 120, with higher scores indicating a higher presence of symptoms. This measure shows good internal consistency ( $\alpha = .89$ ; Elliot & Briere, 1992). The alpha in the current study was acceptable ( $\alpha = .94$ ).

**PTSD symptoms.** Symptoms of posttraumatic stress disorder (PTSD) within the past month were assessed using the PTSD Checklist for DSM-5 (Weathers et al., 2013). This measure

contains 20 items that correlate to the 20 DSM-5 symptoms of PTSD. Items are scored on a 5-point Likert scale from 0 (*not at all*) to 4 (*extremely*). Scores may be calculated using a total symptom severity score with potential scores ranging from 0 to 80, in which higher scores indicate higher symptom severity, or by symptom cluster severity, in which the ranges of scores vary based on the four symptom clusters of the disorder. The clinical cut score has been determined to be 33 (Blevins, Weathers, Davis, Witte, & Domino, 2015). Sample items include “I know when I’m starting to experience too much stress” and “I am usually able to successfully deal with my stress levels.” This measure shows strong internal consistency with an alpha score of .94 (Blevins et al., 2015). The alpha in the current study was acceptable ( $\alpha = .96$ ).

**Coping.** The Ways of Coping Questionnaire, originally developed by Folkman and Lazarus (1985) served as the basis for measuring coping in the current study. Participant coping was measured using the 4-item form of the Ways of Coping Questionnaire (Sawatzky et al., 2012). Items are scored on a 4-point Likert scale from 1 (*strongly disagree*) to 4 (*strongly agree*); scores range from 4 to 16, with higher scores indicating higher levels of coping. The 4-item form has shown good internal consistency with an alpha score of .86 (Sawatzky et al., 2012). The alpha in the current study was acceptable ( $\alpha = .71$ ).

**Stress management.** Participants’ stress management skills were assessed using the Inventory for Assessment of Stress Management Skills (Wirtz et al., 2013). This measure contained 14-items which were scored on a 5-point Likert scale from 0 (*I cannot do this at all*) to 4 (*I can do this extremely well*); scores ranged from 0 to 56, with higher scores indicating more stress management skills. Sample items included “I can ask people in my life for support or assistance whenever I need it” and “I can express my anger in a balanced and reasonable

manner.” This scale has been demonstrated to show good internal consistency with a reliability coefficient of .83 (Wirtz et al., 2013). The alpha in the current study was acceptable ( $\alpha = .90$ ).

**Qualitative questions.** Several qualitative questions were included as a part of the survey in which participants were given the opportunity to elaborate about their own subjective experiences in the class. First, a single item was used to assess whether participants experienced emotional reactions to the course. The question read, “*Have you had any emotional reactions to the course materials?*” to which participants were allowed to respond either *Yes* or *No*. The question was followed by a space in which participants who answered “Yes” to the question were able to provide more detailed information about their reactions to the course. Follow-up questions included: “Did these reactions have a positive or negative effect on you? Please explain.”; “Describe how you have dealt with these reactions including any actions you took (e.g., I didn’t do anything; I talked to the instructor, I sought mental health counseling, etc.); and “In hindsight, are there any actions you wish you would have taken in response to your reactions to the course material?” Participants were allowed to respond to these questions at any length, and responses were not forced, meaning that participants could skip the questions and move on with the survey. Follow-up questions were not provided for participants who did not indicate an emotional reaction to the course material (i.e., they answered “No” to the emotional reaction question).

**Demographics.** Several demographic questions were used to determine the background of study participants. Questions measuring participant age, sex, ethnicity, class standing, total colleges attended, marital status, employment status, total number of jobs, and military service status were included. Participants were also asked to indicate if they had ever been, or currently

were in individual counseling and/or couples/family therapy. The survey can be found in Appendix D.

### **Analysis Plan**

Analysis of data obtained from this mixed-method study took place in several phases according to data type. The following summarizes the data analysis plan for cortisol, quantitative, and qualitative data in this study.

#### **Cortisol Data**

Cortisol samples, after obtained, were sent to the University of Nebraska-Lincoln's Salivary Bioscience Laboratory (SBL). Once there, each sample was processed and analyzed by the lab staff, who then sent the cortisol estimates back to the primary investigator. Consultations were obtained from lab experts who have conducted extensive cortisol research to guide analysis. Repeated measures *t*-tests were conducted to determine if there was a mean difference between the high-trauma content, low-trauma content, and control course days. Then, independent sample *t*-tests were conducted to determine group differences between trauma-exposed and non-exposed participant cortisol levels.

#### **Survey Data**

An analysis of covariance (ANCOVA) was conducted to investigate how participant groups may differ based on measures of trauma exposure, trauma symptoms, coping, and reactions to course participation. Participants were split into groups comparing varying levels of exposure to trauma and childhood adversity.

#### **Qualitative Data**

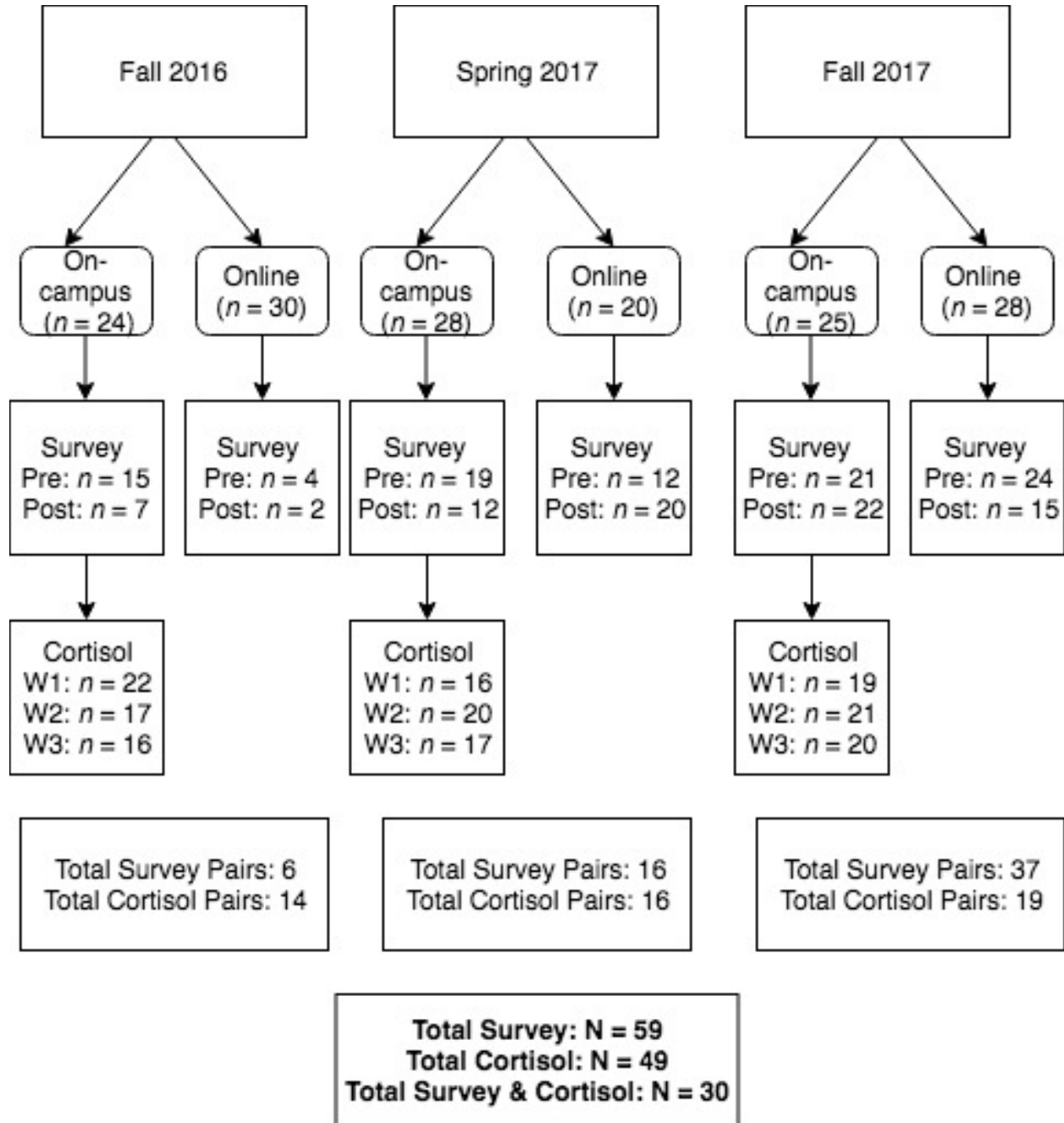
All data obtained from open-ended questions on the online survey were treated as qualitative data. These responses were coded using an open thematic coding strategy guided by

grounded theory analysis techniques (Corbin & Strauss, 2015). Qualitative themes that emerged from this analysis were used to enrich understanding of other survey measures and responses. For example, participants who showed little biological (cortisol) reactivity, and no trauma symptoms, and provides a qualitative response that indicates reactions to course materials, this gives a more complete picture of potential student experiences when exposed to trauma-related materials in the classroom.



Figure 1.

*Sampling Design*



## Chapter 4 - Results

### Cortisol Participants

Sixty-nine participants provided at least one saliva sample over the course of the study. Twenty participants were excluded from the study due to having at least an entire wave of missing data, resulting in a final sample size of  $N = 49$  participants who provided saliva samples across all three waves of the survey (6 time points). Of these participants, the majority were female ( $n = 43$ ; 88%), with only a few male participants ( $n = 6$ ; 12%). The mean age of participants was 22 years ( $SD = 7.4$ ; Range = 18-59). Mean trauma exposure for the sample was 1.42 events ( $SD = 1.90$ ) and mean adverse childhood experiences was 1.86 ( $SD = 2.43$ ). See Table 1 for complete cortisol participant demographics and Table 2 for cortisol participant trauma exposure.

### Cortisol Results

#### Within Waves

A paired-samples  $t$ -test was conducted in order to compare mean cortisol concentration before and after each lecture in order to understand cortisol reactivity in participants across exposures to various levels of trauma-related classroom content. For Wave 1 (High-trauma content lecture), cortisol concentration was significantly lower after the lecture ( $M = 0.13$ ;  $SD = 0.65$ ) compared to pre-lecture scores ( $M = 0.18$ ;  $SD = 0.14$ );  $t(48) = 3.30$ ,  $p < .05$ . For Wave 3 (Low-trauma content lecture), there was also a significant difference in cortisol concentration between time points, with lower levels of cortisol after the lecture ( $M = 0.09$ ;  $SD = 0.06$ ) compared to before the lecture ( $M = 0.12$ ;  $SD = 0.10$ );  $t(48) = 3.61$ ,  $p < .05$ . This same effect was observed for Wave 2 (control day), with cortisol concentration seeming to drop at the second time point ( $M = 0.09$ ;  $SD = 0.08$ ) compared to the first ( $M = 0.11$ ;  $SD = 0.09$ );  $t(48) = 3.31$ ,  $p <$

.05. This effect is not surprising, considering the fact that cortisol displays a circadian rhythm with highest levels detected in the early morning, with levels dropping as the day continues (de Weerth, Zijl, & Buitelaar, 2003). No covariates could be accounted for in these tests.

### **Between Waves**

Independent samples *t*-tests were conducted in order to investigate whether mean change in cortisol concentration was significantly different between trauma-exposed and non-exposed participants. No significant difference at Wave 1 was found between participants who indicated having experienced at least 1 trauma ( $M = -0.06$ ,  $SD = 0.09$ ) and those who indicated no history of trauma exposure ( $M = -0.05$ ,  $SD = 0.13$ );  $t(43) = -0.42$ ;  $p = .68$ . There was also no significant difference at Wave 3 between trauma-exposed ( $M = -0.05$ ,  $SD = 0.07$ ) and non-trauma exposed groups ( $M = -0.02$ ,  $SD = 0.07$ );  $t(43) = -1.34$ ;  $p = .19$ . Finally, there was no significant difference between trauma-exposed ( $M = -0.02$ ,  $SD = 0.06$ ) and non-trauma exposed ( $M = -0.02$ ,  $SD = 0.03$ );  $t(43) = -.20$ ;  $p = .84$  at Wave 2.

Another independent samples *t*-test was conducted in order to compare mean change in cortisol concentration between groups who did and did not indicate exposure to childhood adversity. No significant difference was found at Wave 1 between participants who indicated having experienced at least one ACE event ( $M = -0.06$ ,  $SD = 0.09$ ) and those who indicated no childhood adversity ( $M = -0.05$ ,  $SD = 0.13$ );  $t(42) = -0.28$ ;  $p = .78$ . No significant difference was found at Wave 3 between participants who indicated having experienced at least one ACE ( $M = -0.04$ ,  $SD = 0.06$ ) and those who indicated no childhood adversity ( $M = -0.04$ ,  $SD = 0.08$ );  $t(42) = 0.12$ ;  $p = .90$ . Finally, no significant difference was found at Wave 2 between participants who indicated having experienced at least one ACE ( $M = -0.02$ ,  $SD = 0.04$ ) and those who indicated no childhood adversity ( $M = -0.02$ ,  $SD = 0.05$ );  $t(42) = -0.15$ ;  $p = .88$ .

## **Results with Covariates**

Analysis of Covariance (ANCOVA) was used in order to analyze pre- and post-test saliva concentration adjusting for covariates. Level of exposure to lifetime traumatic events was used as a grouping variable. For the sake of analysis, number of indicated trauma exposures (TEQ) was recoded to split participants into two groups: those who indicated 0-2 lifetime traumas, and those who indicated 3 traumas or more. Adjusted means across all three waves indicated no significant differences between groups. Level of exposure to Adverse Childhood Experiences (ACEs) was also used as a grouping variable. For the sake of analysis, number of ACEs was recoded to split participants into two groups: those who indicated 2 or fewer ACEs, and those who indicated 3 or more ACEs. For the first wave, the “high trauma content” lecture day, the effect of ACE exposure was significant,  $F(1, 37) = 5.78, p < 0.5$ , with covariates of sex, ethnicity, total jobs, and minutes since midnight. The adjusted means indicate that those with 3 or more ACEs had higher average cortisol levels at the post test ( $M = .159; SE = .013$ ) compared to those with 2 or fewer ACEs ( $M = .121; SE = .008$ ). For the second (“low trauma content” lecture day) and third (control day) waves, no significant differences were found between students with various levels of exposure to ACEs.

## **Merged Cortisol and Survey Data**

Complete cortisol participant data were matched with complete survey participant data. Of the 59 participants who provided data at both the pre- and post-test, 30 participants had matching survey data. Most participants who were dropped represent participants who were a part of the online section of the course, and therefore did not have an opportunity to participate in the cortisol component of the study. Within this subset of the study sample, mean PTSD symptom scores were 14.10 ( $SD = 14.17$ ) and mean trauma symptom scores were 17.67 ( $SD =$

14.10). Paired-samples *t*-tests were run to compare PTSD and trauma symptoms at the pre- and post-test. No significant change in mean scores were found. ANOVAs were conducted in order to compare cortisol concentration scores of participants with differing levels of PTSD and trauma symptoms, with age, sex, and ethnicity as covariates. The cutoff score tested for PTSD symptoms was 33, which has been suggested and previously used in other work (Blevins et al., 2015). Several trauma symptom score cutoffs were tested. There were no significant differences found between groups based on trauma or PTSD symptoms on the “high trauma content,” “low trauma content,” or control days.

### **Survey Participants**

Seventy-four participants responded to the web-based survey at the pre-test. Of these participants, 15 did not complete the post-test. A final sample size of 59 participants provided responses to the web-based survey before and after the course (2 time points) across three semesters (3 waves). Of these participants, the majority were female ( $n=54$ ; 90%), with only a few male participants ( $n = 5$ ; 8.3%). The mean age of participants was 23 years ( $SD = 7.96$ ; Range = 19-59). Mean trauma exposure for the sample was 1.12 events ( $SD = 1.96$ ) and mean adverse childhood experiences was 1.40 ( $SD = 2.12$ ). See Table 3 for complete survey participant demographics and Table 4 for survey participant trauma exposure.

### **Survey Results**

**Pre- and post-test measures.** Paired samples *t*-tests were conducted in order to assess for changes in participant coping, trauma symptoms, and reactions to the course. A significant difference was found in reported stress management skills, with higher levels of skills reported after the class ( $M = 2.51$ ;  $SD = 0.67$ ) compared to before taking the class ( $M = 2.32$ ;  $SD = 0.57$ );  $t(58) = -2.39$ ,  $p < .05$ . There were no significant differences found within participants' coping,

trauma symptoms, trauma exposure, childhood adversity exposure, or reactions to the course at the pre- and post-test time points.

**Results with covariates.** A series of ANCOVAs were conducted in order to compare pre- and post-test mean measure scores while controlling for participant levels of trauma exposure, sex, ethnicity, and age. No significant differences were found comparing groups with varying levels of exposure to childhood adversity. Level of exposure to lifetime traumatic events was used as a grouping variable. For the analysis, number of indicated trauma exposures (TEQ) was recoded to split participants into two groups: those who indicated 3 or fewer lifetime traumas, and those who indicated 4 or more lifetime traumas. The effect of exposure to traumatic events was found to be significant,  $F(1, 50) = 5.24, p < 0.5$ , with covariates of sex, ethnicity, and age. The adjusted means indicate that those with 4 or more lifetime traumas had higher average emotional reactions to the course ( $M = 3.68; SE = .78$ ) compared to those with 3 or fewer exposures ( $M = 2.71; SE = .83$ ).

**Reactions to course participation.** Generally, participants indicated favorable views of course participation ( $M = 4.1; SD = .44$ ), and positive global evaluation of taking the course ( $M = 4.66; SD = .35$ ). Perceived drawbacks ( $M = 1.65; SD = .51$ ) and emotional reactions ( $M = 2.98; SD = .97$ ) were comparatively lower. Finally, participants generally indicated that they personally benefited from taking the course ( $M = 4.5; SD = .50$ ). No significant difference was found comparing means between pre- and post-test reactions to course participation.

## Qualitative Results

### Emotional Reactions

Of the 59 survey respondents, 21 (35.6%) indicated experiencing an emotional reaction to the course content at the pre-test and 25 (42.4%) indicated having emotional reactions at the

post-test. Those who reported experiencing an emotional reaction were asked follow-up questions to describe their specific reaction, whether the reaction had a positive or negative effect, how they dealt with the reactions, and whether in hindsight there were actions they wished they had taken.

**Specific reactions.** Participants who indicated having an emotional reaction ( $n = 21$  at pre-test,  $n = 25$  at post-test) shared details about their specific reactions. Many of these participants shared specific emotions they experienced at the pre-test ( $n = 13$ ). The most prevalent emotion described was *sadness*, followed by *empathy*. Other words to describe emotional reactions that were used included *anxious*, *pain*, *upset*, *uncomfortable*, and *sickening*. Some participants indicated experiencing physiological reactions ( $n = 3$ ), such as crying, increased heart rate, and holding their breath. The subject of these reactions was either specific course content or personal experiences. Nine participants ( $n = 9$ ) who mentioned the course content as the source of their emotional reaction mentioned specific videos and movies shown in class ( $n = 8$ ), while two ( $n = 2$ ) vaguely referred to the sensitive content as “topics” that were uncomfortable or sad. Six ( $n = 6$ ) participants specifically mentioned personal trauma histories as the reason for their emotional reactions to course content. Finally, four ( $n = 4$ ) respondents also mentioned that they expected this reaction in response to the course content.

**Positive or negative effect.** Participants who indicated experiencing an emotional reaction to the course content were then asked whether or not the reaction had a positive or negative effect. Six ( $n = 6$ ) responded only that the effect was positive, and two ( $n = 2$ ) responded that the effect was only negative. Many participants indicated that their emotional reactions had both a negative and a positive effect ( $n = 7$ ), with four ( $n = 4$ ) mentioning that they gained personal insight to their own experiences as a part of their emotional reactions. Interestingly,

eight ( $n = 8$ ) respondents made some mention to the fact that their emotional reactions were “necessary to learn” and helped them to learn about course content and to prepare them for their future work as helping professionals.

### **Actions Taken**

The most common response to the open-ended item asking participants to describe actions taken in response to their emotional reactions was “I didn’t do anything/nothing” ( $n = 9$ ). While some participants simply replied by typing “nothing,” others explained that they did not believe their reaction was severe enough to warrant taking action. The next most common response was reaching out to social support either in the form of friends and family ( $n = 3$ ) or the course instructor ( $n = 3$ ). Other actions reported included taking time for personal reflection ( $n = 2$ ), taking breaks and practicing self-care ( $n = 2$ ), and relying on religious/spiritual practices ( $n = 1$ ). Lastly, participants were asked if, in hindsight, they wished they had taken other actions in response to their reactions to the course content. The majority of respondents indicated that there was nothing they wished they would have done ( $n = 15$ ). A few ( $n = 2$ ) mentioned they wish they would have reached out to talk to someone, and one participant ( $n = 1$ ) shared that she wished she would have “dealt with it sooner.”



Table 1

*Cortisol Participant Demographics (N = 49 undergraduates)*

Variable	n(M)	%(SD)	Range
<b>Sex</b>			
Female	43	87.8	-
Male	6	12.2	-
<b>Ethnicity</b>			
White	43	87.8	-
Asian/Pacific Islander	1	2	-
Other	2	4	-
<b>Class Standing</b>			
Freshman	9	18.4	-
Sophomore	18	36.7	-
Junior	18	36.7	-
Senior (4 <sup>th</sup> year or more)	1	2	-
<b>Military Status</b>			
None	37	75.5	-
Veteran	3	6.1	-
Child of Active Duty	2	4.1	-
Child of Veteran	4	8.2	-
<b>Counseling</b>			
No history	17	34.7	-
History of individual tx	24	49	-
History of couple/family tx	3	6.1	-
Currently in individual tx	2	4.1	-
<b>Employment Status</b>			
Not working	8	16.3	-
Part-time	36	73.5	-
Full-time	2	4.1	-
<b>Marital Status</b>			
Never married/single	25	51	-
Dating	19	38.8	-
Married	1	2	-
Divorced	1	2	-
Total Jobs	(1.02)	(.61)	0-2
Total Colleges Attended	(1.54)	(.84)	0-5
Age	(22.59)	(7.68)	19-59

\*Not all variables total to 100% due to missing data.

Table 2

*Cortisol Participant Trauma Exposure (N = 49 undergraduates)*

Variable	<i>n (M)</i>	<i>% (SD)</i>	Range
Traumatic Events Questionnaire	(1.43)	(1.90)	0-8
Childhood physical abuse	7	14.3	-
Childhood sexual abuse	11	22.4	-
Military trauma	2	4.1	-
Serious accident	5	10.2	-
Natural disaster	8	16.3	-
Violent crime	6	12.2	-
Adult sexual assault	6	12.2	-
Adult abusive relationship	8	16.3	-
Witnessed mutilation or murder (non-military)	3	6.1	-
Threat of losing life (non-military)	5	10.2	-
Adverse Childhood Experiences	(1.86)	(2.43)	0-9
Verbal abuse	15	30.6	-
Made physically afraid	7	14.3	-
Physical abuse	2	4.1	-
Sexual abuse	7	14.3	-
Live with problem drinker	7	14.3	-
Live with problem drug user	5	10.2	-
Live with mentally ill or depressed family member	16	32.7	-
Household member attempted suicide	5	10.2	-
Parent physical abuse	2	4.1	-
Parent threatened with a weapon	1	2.0	-
Household member went to prison	1	2.0	-

Table 3

*Survey Measure Zero-Order Correlations and Participant Demographics (N = 59 undergraduates)*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Participation Satisfaction	1																		
2. Perceived Benefits	.30*	1																	
3. Emotional Reactions	.25	.50**	1																
4. Perceived Drawbacks	-.11	-.08	.47**	1															
5. Global Evaluation	.45**	.44**	-.03	-.47**	1														
6. Childhood Adversity	.09	.22	.20	-.07	-.02	1													
7. Trauma Exposure	.05	.12	.19	-.12	-.02	.69**	1												
8. Trauma Symptoms	.13	.27*	.33*	-.07	.12	.59**	.51**	1											
9. PTSD Symptoms	.18	.22	.31*	.01	.09	.43**	.45**	.68**	1										
10. Coping	.12	.02	-.05	-.16	.10	.14	.27*	.05	-.05	1									
11. Stress Management	-.18	-.05	-.22	-.12	.00	-.11	.06	-.21	-.27*	.48**	1								
12. Age	-.02	.00	.06	-.09	-.06	.21	.70**	.18	.07	.24	.14	1							
13. Sex	.13	.08	.19	.05	.13	-.03	-.14	.07	-.03	.11	.08	-.17	1						
14. Ethnicity	.06	.23	.11	.00	.15	-.03	.09	.29*	.46**	-.22	-.17	-.02	-.07	1					
15. Class Standing	.11	-.13	.00	-.03	-.02	.04	-.01	.02	.15	-.18	-.39**	.07	-.19	.12	1				
16. Total Colleges	.07	.03	.17	-.12	.02	.47**	.68**	.45**	.27*	.04	.03	.51**	-.05	.07	.22	1			
17. Marital Status	.08	.08	.06	-.13	.04	.17	.54**	.16	.11	.12	-.01	.70**	-.08	.13	.10	.36**	1		
18. Employment	-.05	-.20	-.05	.05	-.25	.06	.13	.05	-.15	.09	-.02	.27*	.08	-.14	-.16	-.08	.25	1	
19. Total Jobs	-.04	-.11	.02	.02	-.27*	.18	.20	.30*	.07	.01	-.04	.18	-.10	.09	-.04	.09	.03	.72**	1
<i>M</i>	4.08	4.48	2.98	1.65	4.67	.08	.08	.42	.57	3.29	2.32	23.2	.92	.24	3.4	1.6	.76	.75	1.02
<i>SD</i>	.44	.49	.97	.51	.35	.12	.13	.34	.61	.39	.57	8.0	.28	.77	.74	1.0	.95	.54	.77
Range	-	-	-	-	-	0-.53	0-.6	0-1.45	0-2.45	2.5-4	1.1-3.6	19-59	0-1	0-4	2-4	0-7	0-4	0-2	0-3
$\alpha$	.60	.82	.82	.73	.82	-	-	.94	.96	.71	.90	-	-	-	-	-	-	-	-

\* $p < .05$ . \*\* $p < .01$  (two-tailed).

Table 4

*Survey Participant Trauma Exposure (N = 59 undergraduates)*

Variable	<i>n (M)</i>	<i>% (SD)</i>	Range
Traumatic Events Questionnaire	(1.12)	(1.96)	0-9
Childhood physical abuse	4	6.8	-
Childhood sexual abuse	8	13.6	-
Military trauma	2	3.4	-
Serious accident	7	11.9	-
Natural disaster	8	13.6	-
Violent crime	7	11.9	-
Adult sexual assault	7	11.9	-
Adult abusive relationship	8	13.6	-
Witnessed mutilation or murder (non-military)	4	6.8	-
Threat of losing life (non-military)	8	13.6	-
Adverse Childhood Experiences	(1.40)	(2.12)	0-9
Verbal abuse	13	22.0	-
Made physically afraid	6	10.2	-
Physical abuse	1	1.7	-
Sexual abuse	4	6.8	-
Live with problem drinker	11	18.6	-
Live with problem drug user	8	13.6	-
Live with mentally ill or depressed family member	20	33.9	-
Household member attempted suicide	4	6.8	-
Parent physical abuse	1	1.7	-
Parent threatened with a weapon	1	1.7	-
Household member went to prison	3	5.1	-

## Chapter 5 - Discussion

The purpose of this study was to assess student reactivity to course content in an undergraduate trauma class in order to understand the impact of both personal trauma history in students and direct exposure to trauma content. This study examined student reactivity to content within the trauma course by examining both salivary cortisol levels ( $n = 49$ ) and survey data ( $n = 59$ ) from student participants across three academic semesters. Cortisol results indicated that undergraduate students with a history of experiencing three or more adverse events in childhood were more likely to show higher levels of cortisol after participating in a lecture with high levels of trauma-related content. Additionally, participants who indicated having experienced four or more lifetime traumas indicated higher levels of emotional reactivity to the course content. While significant results comparing pre- and post-test salivary cortisol scores at each time point were not found, open-ended responses to qualitative survey questions indicated a mix of reactions to course content, with both negative and positive effects. Student perspectives of the course were generally reported to be favorable by participants. Interestingly, student stress management scores were significantly higher after taking the course.

Although most students in the current study did not indicate having an emotional reaction to course content, a significant portion of participants did (35.6%). Considering the number of college students exposed to trauma, as well as the fact that some students may exhibit a higher level of reactivity than others, instructors of courses that include sensitive content should carefully and thoughtfully implement these materials. Especially as most college instructors may not know a student's history of trauma exposure (or non-exposure) prior to the course, steps should be taken by instructors to support students in the event of adverse reactions (Black, 2006; Carello & Butler, 2014).

These results highlight the need for systematic pedagogy specific to teaching trauma, as proposed by Cless and Nelson Goff (2017). As previously noted, several recommendations are already in place for instructors who teach trauma-related course content (McCammon, 1995; O'Halloran & O'Halloran, 2001). These recommendations, however, should be taken into consideration along with empirical findings in order to provide instructors with accurate and supported information. This study, as well as future studies, may provide support and guidance for future pedagogically-focused work in the area of teaching trauma-specific and other sensitive content. Given the finding in the current study that student reactivity to course content was varied, no single instructional strategy may be considered adequate in order to effectively respond to a range of student needs. For example, the Trauma-informed Classroom Care Model (Cless & Nelson Goff, 2017) described the need for assessment and awareness of the various needs of students based on potential reactivity – more development of this and other models to guide course design that treats students as individuals may be necessary.

Although this study was designed specifically to better understand potential negative reactivity to course content, qualitative results indicated that not all students who experienced an emotional reaction reported this reactivity as a negative experience. In fact, several students commented that the emotional reaction was helpful for the purpose of their learning and training as future helping professionals. This continues to be seen by the investigators of this study, as one student in a Spring 2018 section of the same course shared, “..instead of beating myself up because ‘I should be over this by now,’ I was able to recognize what was happening and actually see it as a normal part of the experience.” This finding fits with previous research that has noted experiencing emotions in the classroom as both potentially negative and positive for learning (Heidig, Müller, & Reichelt, 2015; Rowe & Fitness, 2018). However, instructors of courses that

include elements of trauma-related materials should consider the range of potential positive and negative consequences of reactions to course content in a classroom; while some students may benefit from their emotional experience, the risk for experiencing overwhelming emotions and triggering students' past trauma does not disappear. As this study found that participants with higher levels of adversity in childhood but not higher levels of lifetime trauma exposure seemed to exhibit cortisol reactivity, it may be that early-life experiences have a greater effect on biological-level responses to stressful material. This seems to fit with previous studies, which have shown cortisol reactivity in those exposed to childhood trauma and adversity (Carrion et al., 2002), as well as the long-lasting effects of early life exposure to stress on glucocorticoid responses and HPA-axis dysregulation (Anda et al., 2006). Conversely, lifetime trauma exposure was found to affect self-reported emotional reactivity to the course, while childhood adversity was not. One potential confound in this finding may be that while higher levels of reported emotional reactivity was found in those with higher levels of trauma exposure, qualitative responses showed that not all emotional reactions were experienced as negative. Thus, while trauma exposure *may* be a factor that affects students' emotional experiences, whether this is negative or directly related to past trauma remains to be seen. Finally, as participants in this study did not have significant levels of trauma symptoms, more research is needed to explore potential reactions in students with active trauma symptoms and/or PTSD diagnoses in order to more fully understand variability in student emotional reactions.

Both quantitative and qualitative results from this study indicated that several students reported experiencing emotional reactivity specifically in response to videos that were used in the class, especially in the context of the high-trauma content day, which utilized a video of the 9/11 terrorism attacks on New York City and flashback videos of adult sexual assault and

combat trauma (students were provided “trigger warnings” prior to the high-trauma content course session). Previous research in the fields of neuroscience and human communication may help to explain these results. According to mirror neuron theory, when a person feels or observes emotions in others, including pain, the brain is activated in both the “feeling” and “recognizing” parts of the brain, suggesting a connection between the two experiences (Rizzolatti, Fabbri-Destro, & Cattaneo, 2008). Furthermore, exposure to unpleasant film clips have been shown to evoke physiological symptoms, such as heart rate changes (Codispoti, Surcinelli, & Baldaro, 2008). Another study found that having a story context may increase emotional responsivity in video games (Schneider, Lang, Shin, & Bradley, 2004). Because the value of using videos in teaching to engage students emotionally has been noted (Berk, 2009), instructors should consider the potential effects of watching trauma-based videos in class. This may include experiencing an internal brain representation of witnessed actions (Shmuelof & Zohary, 2007), experiencing physiological changes, or connecting emotionally with the story on the screen. Course instructors should carefully select course videos, taking into consideration the potential for both negative emotional reactivity as well as the value of emotional engagement for student learning.

### **Study Limitations and Implications for Future Research**

Several limitations exist within this study. First, the diversity of the current sample is very minimal in both the survey and cortisol participants, with the majority of participants being white females in their early 20s with low reported levels of trauma exposure and trauma-related symptoms. A greater number of male participants and a more racially diverse sample of participants with a wider age range is needed in future research; however, the sample demographics are consistent with the typical students in this course and in the academic minor, in general. It should be noted that, while some significant differences in cortisol reactivity were



found based on the number of adverse childhood experiences reported, there is a need to understand more completely the impact of having higher exposure to both childhood adversity and lifetime traumas. Next, while the sample did include participant data from six time points across three semesters, the number of participants was generally small; a larger sample in the future may provide more meaningful results. Regarding cortisol data analysis, several control variables could not be accounted for due to the sample design, such as smoker status, caffeine use, and current medications which may affect cortisol readings (Lovallo, Farag, Thomas, & Wilson, 2006; Schreiber et al., 2006; Steptoe & Ussher, 2006). Another important limitation which may be important to note is that qualitative responses were only obtained from those students who indicated having experienced an emotional reaction to course content. Because open-ended questions were only prompted if participants answered “Yes” to this binary question, important qualitative data may be missed due to this design.

Future research should seek to explore student reactions using larger and more diverse samples in order to increase external validity. It may also be important for future studies to address potential reactivity in students who have higher levels of known trauma exposure and trauma-related symptomatology, as the trauma exposure and symptoms in the current population, although consistent with national exposure estimates, was relatively low. This may be relevant for academic courses and institutions with a large number of at-risk populations, such as military students or students from low socioeconomic backgrounds. Next, the instructors of these courses were both female, who were sensitive to the potential for student reactions, which influenced their teaching style. Future research may wish to examine potential student reactivity in courses with instructors who use various teaching styles. Finally, this study examined student reactivity in the context of an undergraduate course on trauma and traumatic stress. Future research should

examine student reactivity in other courses that may utilize sensitive content, such as classes that discuss violence, race relations, and political issues. More empirical study in this area has the potential to strengthen our understanding of what it means for undergraduate students to learn about topics that may be stressful in nature.

In-depth qualitative research may be helpful in order to better understand the effects of emotional reactions to trauma-related course content. Future research could include qualitative survey questions or interviews with students to identify their experiences with the course, overall, and specifically related to the three trauma-content interventions. As several students noted that the emotional reactions had a positive effect, and some noted that it was helpful for their learning, future research could examine this effect more carefully. This finding, taken into consideration with the positive change in student stress management scores, may indicate a type of growth experience for some students in the class. While future study is needed for a greater understanding of the student experience, it may be that some features of posttraumatic growth experienced by many survivors of trauma (Shakespeare-Finch & Lurie-Beck, 2014) may be present in the learning experience. While the sample of the current study exhibited low trauma exposure and low levels of trauma symptoms, future research may clarify the potential gains of experiencing both stress and growth in the classroom.

### **Implications for Policy**

First, this study found that in general, teaching trauma is not re-traumatizing. While the need for teaching psychological trauma has been noted in the field (Courtois & Gold, 2009), several programs at both the undergraduate and graduate level do not offer such courses. The findings of this study seem to indicate that while precautions should be taken for students who may have adverse reactions to the course material, the fact that the content was not found to be

overwhelming for the majority of students may perhaps ease concerns instructors and administrators may have about offering courses that contain sensitive materials. As most participants in this study did not show high levels of adverse reactivity, and some emotional reactions were actually described as positive for learning, programs should not hesitate to add these courses to regular and required curricula.

Regarding policy, some implications may be gleaned from the current study. As several instructors teach courses that utilize sensitive content, academic departments and institutions may wish to consider the ability and readiness of instructors to respond to student needs and concerns. For example, while not required, several universities offer ally trainings specifically designed to help meet the needs of lesbian, gay, bisexual, and transgender students (Woodford, Kolb, Durocher-Radeka, & Javier, 2014). Trainings exist that specifically inform course instructors of the signs of mental health problems in students, as well as the appropriate actions to take to connect students with on-campus resources and referrals (for example, see: <https://ccc.kognito.com>); however, these trainings are rarely required by the institution and it is the instructor's discretion whether to pursue additional trainings that are available. Informing and equipping university faculty and staff to effectively respond to the needs of students, especially in the context of programs and courses that include sensitive content, is a crucial responsibility.

Development of some course-level policies may be helpful in response to the potential for student reactivity. For example, clarifying the potential for adverse reactions to course content, creating and communicating an incomplete policy, and practicing both formative and summative assessment across the semester (e.g., providing both midterm and final course evaluations and student feedback opportunities) may allow for normalization and early detection of both negative and positive reactions to course material. It may also be helpful to check-in with

students who are not engaged in the course or who are not attending class in order to identify students who may be reacting to course content or need support. Additionally, specific policies and practices should be considered in regard to online and distance-learning courses, in which student reactivity may be overlooked due to the lack of in-person interaction between students and instructors. Future research may examine differences between campus and distance learning courses and student reactions to trauma-related material in order to more specifically inform distance course design.

### **Conclusion**

In conclusion, this study found that students with histories of childhood adversity may exhibit cortisol reactivity to course content, while those with higher levels of lifetime exposure may exhibit greater levels of emotional reactions to the class. Qualitative responses enriched survey results by providing insight into the potential benefits and hazards of learning about trauma in an undergraduate course. This research represents a first step in filling a gap in the literature on student reactions to course content, and may provide a foundation for future research to expand knowledge on students' emotional experiences in college courses, as well as the impact of trauma-exposure on the learning process as a whole.

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# Appendix A - IRB Approval



TO: Briana Gell Protocol Number: 8382  
School of Family Studies and Human Services  
Justin Hall

FROM: Rick Scheidt, Chair  
Committee on Research Involving Human Subjects

DATE: July 14, 2017

RE: Approval of Your Proposal Entitled, "Learning About Trauma: A mixed method study of the impact of trauma-informed teaching on students."

Federal regulations stipulate that human subjects protocols can be approved by IRB's for only one year, and require "continuing review" and approval to continue past the expiration date.

On the basis of the IRB "continuing review," your project is classified as follows:

**Active.** The activity is pending or in progress, and there have been no changes that have occurred or are contemplated that would affect the status of human subjects.

**EXPIRATION DATE: 8/24/2018**

If the activity persists, it will be eligible for continuing review several months prior to the new expiration date.

## **Appendix B - On-Campus Consent**

**PROJECT TITLE:** Learning About Trauma Survey [On-Campus Biological Samples]

**APPROVAL DATE OF PROJECT: XXX EXPIRATION DATE OF PROJECT: XXX**

**PRINCIPAL INVESTIGATOR: CO-INVESTIGATOR(S):** Dr. Briana S. Nelson Goff (PI),  
and Jessica Cless (Co-I)

**CONTACT AND PHONE FOR ANY PROBLEMS/QUESTIONS:** Dr. Briana S. Nelson  
Goff, bnelson@ksu.edu, 785-532-1490

### **IRB CHAIR CONTACT/PHONE INFORMATION:**

- Dr. Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.
- Dr. Jerry Jaax, Associate Vice President for Research Compliance and University Veterinarian, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

**PURPOSE OF THE RESEARCH:** The purpose of this research is to explore student experiences in a trauma class, CNRES 529: Understanding Trauma and Traumatic Stress at Kansas State University.

**PROCEDURES OR METHODS TO BE USED:** Participants shall be adults over the age of 18 that are currently enrolled in CNRES 529: Understanding Trauma and Traumatic Stress at Kansas State University. Students will be offered the opportunity to give biological samples of their saliva in-person at three points during the course. Saliva will be collected using the “passive drool” collection method, which is to be fully described to participants in-person before consent is obtained, both verbally and through an informational handout.

**LENGTH OF STUDY:** Giving a saliva sample will vary from participant to participant, and may take between 5-10 minutes each time a sample is obtained. Saliva will be obtained approximately at weeks 1, 8, and 16 of the semester. Participants will give salivary samples before and after class at the same times of day on three different days.



**RISKS ANTICIPATED:** As participants give biological samples, no physical pain or discomfort is anticipated. However, participants may feel awkward or strange by spitting in a public place. Participants are not required to continue with saliva collection procedures if they feel uncomfortable. If you experience any distress from participation in this protocol, or any other unanticipated negative experience from this survey, please contact Dr. Briana S. Nelson Goff by email (bnelson@ksu.edu) or phone (785-532-1490).

**BENEFITS ANTICIPATED:** Participants will contribute to a greater understanding of the effects of participation in a trauma course on student levels of salivary cortisol. Findings from this study can be used to help instructors of courses better understand the experiences of students and implement teaching strategies that are sensitive and trauma-informed.

**EXTENT OF CONFIDENTIALITY:** Confidentiality of participant responses is very important, and every measure is taken to ensure the privacy of respondents. No identifying information (name, email address, etc.) is asked of any participant. Once data are collected, saliva levels will be coded to be matched up with future samples that any given participant gives over the duration of the course. These codes will not be matched with any student name or other personal identifying information and are not tied to the course or any course grades.

**TERMS OF PARTICIPATION:** I understand this project is research, and that my participation is completely voluntary. I acknowledge that I am not required to begin or continue with data collection. . . . I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

**I verify that by providing my name and signature below I have read and understand this consent form, and willingly agree to participate in this study under the terms described.**

\_\_\_\_\_  
Name (Please Print)

\_\_\_\_\_  
Date

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Signature

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Date

---

Witness Signature

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Date

## Appendix C - Online Consent

*Consent [Online]*

**PROJECT TITLE:** Learning About Trauma: A mixed method study of the impact of trauma-informed teaching on students [Online]

**APPROVAL DATE OF PROJECT: XXX EXPIRATION DATE OF PROJECT: XXX**

**PRINCIPAL INVESTIGATOR: CO-INVESTIGATOR(S):** Dr. Briana S. Nelson Goff (PI), and Jessica Cless (Co-I)

**CONTACT AND PHONE FOR ANY PROBLEMS/QUESTIONS:** Dr. Briana S. Nelson Goff, bnelson@ksu.edu, 785-532-1490

### **IRB CHAIR CONTACT/PHONE INFORMATION:**

- Dr. Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.
- Dr. Jerry Jaax, Associate Vice President for Research Compliance and University Veterinarian, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

**PURPOSE OF THE RESEARCH:** The purpose of this research is to explore student experiences in a trauma class, CNRES 529: Understanding Trauma and Traumatic Stress at Kansas State University.

**PROCEDURES OR METHODS TO BE USED:** Participants shall be adults over the age of 18 that are currently enrolled in CNRES 529: Understanding Trauma and Traumatic Stress at Kansas State University. Students will be offered the opportunity to take an online survey about their experiences in the class, answering questions about their reactions to the course, their personal experiences with trauma, and their coping styles.

**LENGTH OF STUDY:** The survey will take approximately 30 minutes to complete. The survey will be offered three times over the course of the semester.

**RISKS ANTICIPATED:** As you complete the survey, you may experience distress from answering questions about your reactions to the class materials, your own coping strategies, and personal experiences with trauma. You are not required to complete any question items you feel uncomfortable with. If you experience any distress from this survey, or any other unanticipated negative experience from this survey, please contact Dr. Briana S. Nelson Goff by email (bnelson@ksu.edu) or phone (785-532-1490). At the end of the survey, referrals are offered in case students would like to talk to a professional about any distress they may feel.

**BENEFITS ANTICIPATED:** Participants may gain more insight into their own strengths and resilient coping responses. Findings from this study can be used to help instructors of courses better understand the experiences of students and implement teaching strategies that are sensitive and trauma-informed.

**EXTENT OF CONFIDENTIALITY:** Confidentiality of participant responses is very important, and every measure is taken to ensure the privacy of respondents. No identifying information (name, email address, etc.) is asked of any participant. Once data are collected, data files are to remain only with the investigators on password-protected computers. Participants will be assigned a code number to connect data across waves of the survey. The responses are not tied to the course or any course grades.

**TERMS OF PARTICIPATION:** I understand this project is research, and that my participation is completely voluntary in completing this survey. I acknowledge that I am not required to answer any item I do not feel comfortable with. . . I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

**I verify that by clicking the box below I have read and understand this consent form, and willingly agree to participate in this study under the terms described.**

## Appendix D - Online Survey

9/1/2016

Qualtrics Survey Software



### Informed Consent

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**PROJECT TITLE:** Learning About Trauma: A mixed method study of the impact of trauma-informed teaching on students [Online]

**APPROVAL DATE OF PROJECT:** XXX **EXPIRATION DATE OF PROJECT:** XXX

**PRINCIPAL INVESTIGATOR: CO-INVESTIGATOR(S):** Dr. Briana S. Nelson Goff (PI), and Jessica Cless (Co-I)

**CONTACT AND PHONE FOR ANY PROBLEMS/QUESTIONS:** Dr. Briana S. Nelson Goff, bnelson@ksu.edu, 785-532-1490

**IRB CHAIR CONTACT/PHONE INFORMATION:**

- Dr. Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.
- Dr. Jerry Jaax, Associate Vice President for Research Compliance and University Veterinarian, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

**PURPOSE OF THE RESEARCH:** The purpose of this research is to explore student experiences in a trauma class, CNRES 529: Understanding Trauma and Traumatic Stress at Kansas State University.

**PROCEDURES OR METHODS TO BE USED:** Participants shall be adults over the age of 18 that are currently enrolled in CNRES 529: Understanding Trauma and Traumatic Stress at Kansas State University. Students will be offered the opportunity to take an online survey about their experiences in the class, answering questions about their reactions to the course, their personal experiences with trauma, and their coping styles.

**LENGTH OF STUDY:** The survey will take approximately 30 minutes to complete. The survey will be offered three times over the course of the semester.

**RISKS ANTICIPATED:** As you complete the survey, you may experience distress from answering questions about your reactions to the class materials, your own coping strategies, and personal experiences with trauma. You are not required to complete any question items you feel uncomfortable with. If you experience any distress from this survey, or any other unanticipated negative experience from this survey, please contact Dr. Briana S. Nelson Goff by email (bnelson@ksu.edu) or phone (785-532-1490). At the end of the survey, referrals are offered in case students would like to talk to a professional about any distress they may feel.

**BENEFITS ANTICIPATED:** Participants may gain more insight into their own strengths and resilient coping responses. Findings from this study can be used to help instructors of courses better understand the experiences of students and implement teaching strategies that are sensitive and trauma-informed.

**EXTENT OF CONFIDENTIALITY:** Confidentiality of participant responses is very important, and every measure is taken to ensure the privacy of respondents. No identifying information (name, email address, etc.) is asked of any participant. Once data are collected, data files are to remain only with the investigators on password-protected computers. Participants will be assigned a code number to connect data across waves of the survey. The responses are not tied to the course or any course grades.

**TERMS OF PARTICIPATION:** I understand this project is research, and that my participation is completely voluntary in completing this survey. I acknowledge that I am not required to answer any item I do not feel comfortable with. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

**I verify that by choosing "I agree" below I have read and understand this consent form, and willingly agree to participate in this study under the terms described.**

I agree

I disagree and will NOT continue with the survey

---

**Ways of Coping Questionnaire (4-item form; Sawatzky et al., 2012)**

---

Please indicate how much you agree/disagree with the following statements:

	1 = disagree strongly	2 = disagree somewhat	3 = agree somewhat	4 = agree strongly
I believe that I have the ability to cope with the demands of my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know when I'm starting to experience too much stress.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know how to cope with stress when it comes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am usually able to successfully deal with my stress levels.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Inventory for Assessment of Stress Management Skills (Wirtz et al., 2013)

Instructions: People have different levels of various skills for responding to the challenges and demands of everyday life. The following items list several things that people are able to do, to a greater or lesser degree, to deal with daily stresses. For each item, **indicate how well you currently can do what it describes**. Please don't indicate what you think you should be able to do, or what you wish you could do. Be as accurate as you can in reporting your degree of confidence about being able to do each of these things.

	0 = I cannot do this at all	1 = I can do this just a little bit	2 = I can do this a medium amount	3 = I can do this pretty well	4 = I can do this extremely well
I can easily stop and re-examine my thoughts to gain a new perspective.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's easy for me to decide to cope with whatever problems arise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When problems arise I know how to cope with them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident about being able to choose the best coping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

responses for hard situations.

I can come up with emotionally balanced thoughts even during negative times.

It's easy for me to go to people in my life for help or support when I need it.

I can ask people in my life for support or assistance whenever I need it.

I am able to use muscle relaxation techniques to reduce any tension I experience.

I am able to use mental imagery to reduce any tension I experience.

If I get angry, I can express the anger openly without overdoing it.

I can stand up for my rights without violating the rights of others.

I can express my anger in a balanced and reasonable manner.

I become aware of any tightness in my body as soon as it develops.

I notice right away whenever my body is becoming tense.


---

### Traumatic Events Questionnaire (Vrana & Lauterbach, 1994)

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The next section is comprised of a variety of traumatic events that you may have experienced. For each of the following questions, please indicate whether or not you have experienced the event. If you have experienced the event, click "yes" in the left column. If you have not, please click "no" in the right column.



	Yes	No
1. As a child, were you a victim of physical abuse?	<input type="radio"/>	<input type="radio"/>
2. As a child, were you a victim of sexual abuse?	<input type="radio"/>	<input type="radio"/>
3. Did you ever serve in a war zone where you received hostile incoming fire from small arms, artillery, rockets, mortars, or bombs?	<input type="radio"/>	<input type="radio"/>
4. Were you in serious danger of losing your life or of being seriously injured during military service?	<input type="radio"/>	<input type="radio"/>
5. Did you ever receive news of mutilation, serious injury, or violent or unexpected death of someone close to you during military service?	<input type="radio"/>	<input type="radio"/>
6. Did you witness someone who was mutilated, seriously injured or violently killed during military service?	<input type="radio"/>	<input type="radio"/>
7. Did you ever observe others or participate in atrocities, such as torturing prisoners, mutilating enemy bodies, or harming civilians?	<input type="radio"/>	<input type="radio"/>
8. Were you ever a Prisoner of War?	<input type="radio"/>	<input type="radio"/>
9. Have you been in or witnessed a serious industrial, farm or car accident, or large fire or explosion?	<input type="radio"/>	<input type="radio"/>
10. Have you been in a natural disaster such as a tornado, hurricane, flood or major earthquake?	<input type="radio"/>	<input type="radio"/>
11. Have you been a victim of a violent crime		

such as rape, robbery, or assault?

12. As an adult, have you had an unwanted sexual experience that involved the threat or use of force?

13. As an adult, have you ever been in a relationship in which you were abused either physically or otherwise?

14. Have you witnessed someone who was mutilated, seriously injured or violently killed (NOT related to military experiences)?

15. Have you been in serious danger of losing your life or of being seriously injured (NOT related to military experiences)?

---

Have you ever experienced any other very traumatic events like these? Please describe the event.

---

If you answered "NO" to all the questions above, please describe your MOST traumatic event.

---

From the previous list of events, please indicate the NUMBER of the event that you consider your MOST traumatic experience in the following blank. (For example, if your most

traumatic experience was childhood physical abuse, please enter the number "1" below). If you answered NO to all the questions from the list and you described your most traumatic event in the question above, please leave this question blank.



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### Adverse Childhood Experiences (Felitti et al., 1998)

---

Before age 18 and during your childhood, did a parent or other adult in the household...

	Yes	No
Often or very often swear at, insult, or put you down?	<input type="radio"/>	<input type="radio"/>
Often or very often act in a way that made you afraid that you would be physically hurt?	<input type="radio"/>	<input type="radio"/>
Often or very often push, shove, or slap you?	<input type="radio"/>	<input type="radio"/>
Often or very often hit you so hard that you had marks or were injured?	<input type="radio"/>	<input type="radio"/>

---

Before age 18 and during your childhood, did an adult or person at least 5 years older ever...

	Yes	No
Touch or fondle you in a sexual way?	<input type="radio"/>	<input type="radio"/>
Have you touch their body in a sexual way?	<input type="radio"/>	<input type="radio"/>
Attempt oral, anal, or vaginal intercourse with you?	<input type="radio"/>	<input type="radio"/>
Actually have oral, anal, or vaginal intercourse with you?	<input type="radio"/>	<input type="radio"/>

---

Before age 18 and during your childhood, did you...

	Yes	No
Live with anyone who was a problem drinker or alcoholic?	<input type="radio"/>	<input type="radio"/>
Live with anyone who used street drugs?	<input type="radio"/>	<input type="radio"/>

---

Before age 18 and during your childhood...

	Yes	No
Was a household member depressed or mentally ill?	<input type="radio"/>	<input type="radio"/>
Did a household member attempt suicide?	<input type="radio"/>	<input type="radio"/>
Was your parent sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at them?	<input type="radio"/>	<input type="radio"/>
Was your parent sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?	<input type="radio"/>	<input type="radio"/>
Was your parent ever repeatedly hit over at least a few minutes?	<input type="radio"/>	<input type="radio"/>
Was your parent ever threatened with, or hurt by, a knife or a gun?	<input type="radio"/>	<input type="radio"/>
Did a household member go to prison?	<input type="radio"/>	<input type="radio"/>

---

### PTSD Checklist for DSM-5 (Weathers et al., 2013)

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In the past month, how much were you bothered by:

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Repeated, disturbing dreams of the stressful experience?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Feeling very upset when something reminded you of the stressful experience?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Having strong physical reactions when something reminded you of the stressful experience (for example, hearing pounding, trouble breathing, sweating)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Avoiding external reminders of the stressful experience (for example people, places, conversations, activities, objects, or situations)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Trouble remembering important parts of the stressful experience?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Blaming yourself or someone else for the stressful experience or what happened after it?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Loss of interest in activities that you used to enjoy?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Feeling distant or cut off from other people?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or having loving feelings for people close to you)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Irritable behavior, angry outbursts, or acting aggressively?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Taking too many risks or doing things that could cause you harm?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Being "super alert" or watchful or on guard?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Feeling jumpy or easily startled?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Having difficulty concentrating?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Trouble falling or staying asleep?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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### Trauma Symptoms Checklist (Elliot & Briere, 1992)

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The next section includes a list of problems and complaints that people sometimes have. Please read each one carefully. After you have done so, please indicate the choice that best describes HOW MUCH THAT PROBLEM HAS BOTHERED OR DISTRESSED YOU IN THE PAST TWO MONTHS.

	Never			Often	None at all
Headaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insomnia (trouble getting to sleep)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weight loss (without dieting)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stomach problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling isolated from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Flashbacks" (sudden, vivid, distracting memories)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restless sleep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low sex drive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anxiety attacks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual overactivity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loneliness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nightmares	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Spacing out" (going away in your mind)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sadness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dizziness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not feeling satisfied with your sex life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trouble controlling your temper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waking up early in the morning and can't get back to sleep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uncontrollable crying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fear of men	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not feeling rested in the morning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having sex that you didn't enjoy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trouble getting along with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Memory problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Desire to physically hurt yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Fear of women	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waking up in the middle of the night	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bad thoughts or feelings during sex	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Passing out	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling that things are "unreal"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unnecessary or over-frequent washing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feelings of inferiority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling tense all the time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being confused about your sexual feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Desire to physically hurt others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feelings of guilt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling that you are not always in your body	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having trouble breathing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sexual feelings when shouldn't have them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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### Reactions to Research Participation Questionnaire, modified(Newman et al., 2001)

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From the list below, please rank the top three reasons why you decided to participate in this class (1 = most important; 2 = second most important, 3 = third most important).

- I was curious
- To prepare myself to help others
- To help myself
- It was required
- I don't know
- Other (please explain below)



If you marked "Other" in the previous question, please explain here; otherwise, leave this blank.

The following questions deal with your reactions to participating in this class. Please select the number that best describes your response.

	Strongly disagree (No)	Disagree	Neutral (Maybe)	Agree	Strongly agree (Yes)
1. I hope to gain something positive from participating in this class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I would make the same decision to participate in this class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. This class might raise emotional issues for me that I might not expect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I hope to gain insight about my own experiences through participation in this class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. This class might make me think about things I don't want to talk about.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I might find the course content too personal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I hope that participating in this class will be personally meaningful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I believe this class will help me to serve others in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I trust that my experiences that could	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

be made known in the class (through writing, class discussion, etc.) will be kept private.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I might experience intense emotions during the class or when interacting with some of the course content.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I think this course is for a good cause.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I expect to be treated with respect and dignity while participating in this course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. I hope this course will be beneficial for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I am happy that I will be participating in this course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I like the idea that I will be in this course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I might be emotional during this class because of the class content.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I feel I might stop participating in class at any time if I was uncomfortable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I might find the class content boring.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. The class seems like it will be too long.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Participating in this class might be inconvenient for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Participation in this class was a choice I am freely making.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. If I could know in advance what participating in the course would be like, I might not have agreed to be in the course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- |                                                    |                       |                       |                       |                       |                       |
|----------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 23. I understand the class expectations.           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24. The class content will be irrelevant to me.    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 25. I think the course content might be intrusive. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
- 

**Open-ended questions**

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Have you had any emotional reactions to the course materials?

Yes

No

---

If you answered yes above, please explain.

---

Did these reactions have a positive or negative effect on you? Please explain.

---

Describe how you have dealt with these reactions including any actions you took (e.g. I didn't do anything; I talked to the instructor, I sought mental health counseling, etc.)

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In hindsight, are there any actions you wish you would have taken in response to your reactions to the course material?

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### Demographics

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Please enter your age (in years):

---

Please choose the sex that you most closely align with:

- Male
  - Female
  - Trans
- 

Please choose the ethnicity that you most closely align with:

- White / Caucasian
  - Black / African American
  - Hispanic or Latino
  - Native American / American Indian
  - Asian or Pacific Islander
  - Other
-

Please select your class standing:

- Freshman
  - Sophomore
  - Junior
  - Senior
  - 5th year or more in college
- 

How many total colleges or universities have you attended (including K-State)?

---

Which of the following describes your marital status:

- Never married and single
  - In a committed dating relationship
  - Married
  - Widowed
  - Divorced
- 

Which of the following best describes your employment status:

- Not working
  - Working part time (less than 40 hours per week)
  - Working full time (Working 40 hours or more per week)
- 

How many total jobs do you currently have (not counting your work as a student)?

---

Which of the following describes your military status? Mark all that apply.

- |                                     |                                      |
|-------------------------------------|--------------------------------------|
| Veteran                             | Child of military veteran            |
| Active-duty service member          | Spouse of active-duty service member |
| National Guard                      | Spouse of military veteran           |
| Child of active-duty service member |                                      |

## Debriefing Message

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