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Traditional Rural Values, Posttraumatic Stress, and Posttraumatic Growth among Rural and Urban Undergraduates

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To the Graduate Council:

I am submitting herewith a thesis written by Emily Molly Keller entitled "Traditional Rural Values, Posttraumatic Stress, and Posttraumatic Growth among Rural and Urban Undergraduates." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Psychology.

Gina P. Owens, Major Professor

We have read this thesis and recommend its acceptance:

Erin E. Hardin, Dawn M. Szymanski

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

**Traditional Rural Values, Posttraumatic Stress, and Posttraumatic Growth among Rural
and Urban Undergraduates**

A Thesis Presented for the
Master of Science
Degree
The University of Tennessee, Knoxville

Emily Molly Keller
May 2018

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ABSTRACT

Although rurality is often treated as an aspect of diversity, disagreement appears in the literature regarding whether the traditionally rural values of self-reliance, distrust of outsiders, religiosity, centrality of family, and fatalism continue to differentiate rural versus urban residents. The present study examined whether differences in these values exist between rural and urban residents and whether these values may predict posttraumatic stress symptom (PTSS) severity and posttraumatic growth (PTG). Undergraduates who reported experiencing traumatic and stressful events ($N = 213$) completed measures of these constructs through an online survey. Over a quarter ($n = 56$) of participants classified their permanent residences as located in rural areas, primarily in the Southeast. *T*-test results indicated that rural respondents had significantly higher levels of PTSS severity and distrust of outsiders and significantly lower levels of organized religiosity when compared with urban participants. In predicting stress-related outcomes, a greater emphasis on family, higher distrust toward outsiders, lower levels of intrinsic religious beliefs, and higher levels of fatalism were associated with more severe PTSS. Higher intrinsic religiosity predicted higher levels of PTG. Thus, results suggest that rural and urban undergraduates are becoming more similar with regard to traditionally rural values. Further research is needed to determine if these values continue to apply to rural residents in other generations or regions of the United States, as these values may be important to consider in the context of therapy.

Keywords: trauma, rural, values, stress, posttraumatic stress disorder

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CHAPTER ONE

INTRODUCTION AND LITERATURE REVIEW

Stressful events comprise major life events that impact psychological distress, such as abandonment by family members (Anders, Shallcross, & Frazier; 2012; Carlson et al., 2011), as well as traumatic incidents that meet the diagnostic criteria for posttraumatic stress disorder (PTSD) as defined by the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5; American Psychiatric Association (APA), 2013). Traumatic events can include many violent occurrences, such as abuse, neglect, vehicular accidents, rape and sexual assault, and wartime violence (Briere & Scott, 2006). According to Kilpatrick et al. (2013), approximately 90% of individuals in a national sample were exposed to trauma at some point in their lives, while 8% met the criteria for PTSD. Another study involving college undergraduates found that over half (52%) of participants had been exposed to trauma and that roughly 7% were categorized as meeting full PTSD criteria with an additional 9% having subthreshold PTSD (Bergman, Kline, Feeny, & Zoellner, 2015). However, PTSD is only one outcome that may occur following traumatic events.

Some trauma survivors also report posttraumatic growth (PTG) in which they express positive change following a traumatic experience, such as discovering new possibilities in life, relating to other people, finding personal strength, realizing spiritual changes, and developing increased appreciation of life (Tedeschi & Calhoun, 1996). While not all trauma survivors report growth, experiencing positive changes after coping with trauma is not uncommon, with some research indicating that over half (52%) of their sample of earthquake survivors reported PTG (Xu & Liao, 2011). Further, in another study with veterans, the majority (72%) of participants

reported significant growth in at least one domain of PTG, such as changing priorities about what is important in life (Pietrzak et al., 2010).

One contextual variable that may affect individuals following exposure to stress and trauma is geographic location, specifically living in rural versus urban localities. Various designations exist among federal government agencies for defining rural areas. For example, the United States Department of Agriculture (USDA, 2013a) distinguishes “non-metro” counties as meeting the following criteria in some combination: open countryside, rural towns with fewer than 2,500 people, and other non-metropolitan areas with populations ranging from 2,500 to 49,999 inhabitants. Under this definition, 14% of the U.S. population or 46.2 million people live in these rural counties (USDA, 2016). The United States Census Bureau (2010) utilizes different criteria and identifies two types of urban areas: urbanized areas where at least 50,000 people reside and urban clusters containing at least 2,500 and less than 50,000 people. With this definition, roughly 19% of the U.S. population could be categorized as rural residents (Ratcliffe, Burd, Holder, & Fields, 2016).

Regardless of the criteria used to define rurality, significant numbers of individuals in rural areas experience trauma, PTSD, and PTG, and thus may consider seeking mental health care. For example, using data from the National Crime Victimization Survey, Rennison, DeKeseredy, and Dragiewicz (2012) found that rural women experienced intimate partner rape or sexual assault at rates that were three times higher than comparable urban women. In addition, according to the Department of Veterans Affairs Office of Rural Health (2014), approximately 5.3 million rural veterans are at risk of experiencing symptoms of acute stress disorder or PTSD due to their traumatic wartime experiences. Further, Whealin et al. (2014) reported that a

significantly higher number of rural veterans than urban veterans screened positively for a diagnosis of PTSD. Limited research exists examining the experience of rural populations with PTG. However, some research exploring health-related stressors such as cancer found that rural participants who survived lung cancer had significantly higher levels of PTG than their urban counterparts (Andrykowski, Steffens, Bush, & Tucker, 2017). Although a significant proportion of rural individuals experience trauma and may subsequently develop PTSD and/or PTG, few studies have investigated whether rural and urban residents differ in terms of severity of posttraumatic stress symptoms (PTSS) and PTG, which is a goal of the current study.

Rural Values

Similar to the dearth of research examining the prevalence of trauma and trauma outcomes among rural residents, limited research is available that explores the values of rural dwellers. Existing work has suggested that, in comparison to urban individuals, rural residents exhibit values such as “self-reliance, conservatism, a distrust of outsiders, religion, work orientation, emphasis on family, individualism, and fatalism” (Wagenfeld, 2003, p. 37). However, research has also noted that disagreement exists in the literature concerning potential differences between rural and urban values, with some scholars arguing that, if this gap exists, it is shrinking (Wagenfeld, 2003; Wagenfeld, Murray, Mohatt, & DeBruyn, 1994). Thus, whether the potential rural values identified by Wagenfeld (2003) may better represent older rather than younger generations of individuals living in rural areas is unclear (Dorfman, Murty, Evans, Ingram, & Power, 2004). In addition, we were unable to locate any quantitative studies comparing rural and urban values. Assessing potential differences is crucial since these characteristics may influence mental health. Therefore, another aim of this study is to examine

whether values of self-reliance, distrust of outsiders, religion, family, and fatalism differentiate rural versus urban residents.

Some debate in the literature exists concerning whether the first of these values that may distinguish rural and urban residents, self-reliance, is associated with more negative outcomes after stress and trauma, such as PTSS, or a positive outcome, such as PTG. Although not directly assessing PTSS, Sousa (2013) found that higher levels of self-reliance were associated with more negative effects of political violence on physical and mental health in a sample of adult Palestinian women from the West Bank. Among adolescents, youths endorsing extremely high levels of self-reliance reported significantly higher symptoms of depression and suicidal ideation compared to individuals reporting lower levels of self-reliance (Labouliere, Kleinman, & Gould, 2015). However, self-reliance is thought to be an aspect of personal strength in the construct of PTG (Tedeschi & Calhoun, 1996), indicating that this potential rural value may be associated with positive outcomes following a traumatic experience. Therefore, apparent disagreement appears in the literature regarding how higher levels of self-reliance may impact reactions to trauma in the form of PTSS severity or PTG. No research was found examining levels of self-reliance and potential connections to traumatic experiences in a rural sample. Therefore, clarification as to how self-reliance may differ between rural versus urban individuals as well as how it may relate to PTSS severity and PTG may be beneficial.

Another variable that has received less attention in the literature and may impact mental health outcomes in rural populations is mistrust of others or cynicism (e.g., Kubany, Gino, Denny, & Torigoe, 1994). We were unable to find any empirical research that focused specifically on rural residents; however, we were able to find one study (Kubany et al., 1994)

that investigated the link between mistrust and PTSD, generally. Research with Vietnam veterans (Kubany et al., 1994) found that high levels of cynicism were positively correlated with PTSD severity, such that veterans who met PTSD criteria scored nearly one standard deviation higher on cynicism than veterans who did not meet PTSD criteria. We were unable to locate any research related to mistrust and potential relationships with PTG. Therefore, since some evidence exists linking mistrust with PTSS severity, investigating whether mistrust of others is higher among rural individuals and predictive of PTSS and PTG is crucial.

Religious or spiritual beliefs have also been associated with PTSS severity and PTG in largely non-rural populations in the literature (e.g., Currier, Holland, & Drescher, 2015; Hamby, Grych, & Banyard, 2017; Park et al., 2017). Currier et al. (2015) found that veterans who scored higher on adaptive facets of spirituality, such as having daily spiritual experiences and exercising forgiveness, reported lower levels of PTSD symptomology when they were discharged from treatment. On the other hand, negative components of spirituality, including feeling abandoned by God, contributed to higher levels of PTSD symptoms upon discharge from treatment. One study (Park et al., 2017) found that when religious beliefs were associated with positive coping strategies following a traumatic experience, participants experienced higher levels of PTG, but religious beliefs that were associated with negative coping strategies, such as believing God was punishing a participant, were related to higher levels of PTSS severity and lower levels of PTG. We were able to locate only a single study which examined relationships between religiosity and trauma with rural participants. Using a rural community sample of adolescent and adult trauma survivors, Hamby et al. (2017) found that religious involvement served as a protective factor and was uniquely associated with an increase in the likelihood that participants would experience

PTG after a trauma. Since religious and spiritual beliefs have historically been prevalent in rural areas, it is important to clarify whether these beliefs are currently more influential for rural versus urban residents and further how these beliefs may influence PTSS severity and PTG.

Emphasis on family may be another variable that differentiates rural and urban residents (Wagenfeld, 2003). Although we could find no research examining the relationship between traumatic events and how the centrality of family in rural areas may be associated with posttraumatic adjustment, some related work seems to suggest that a relationship exists between mental health outcomes and familial support (Evans, Cowlshaw, & Hopwood, 2009; Imig, 1983; Kamen et al., 2016). Higher levels of family dysfunction have been associated with increased levels of PTSD symptomology among veterans in earlier work (Evans et al., 2009). For rural families specifically, Imig (1983) found an inverse relationship between stress and family interactions, with higher stress associated with lower levels of family interaction. Although rural residents may emphasize family relationships (Wagenfeld, 2003), stress and trauma could possibly change those relationships such that familial closeness lessens following a traumatic experience (Imig, 1983). Moreover, Kamen et al. (2016) concluded that, among a sample of adults who were HIV-positive, disclosing their HIV diagnosis and receiving emotional support were associated with higher levels of PTG. A review of the literature did not reveal any more recent studies investigating the relationship between family functioning and trauma outcomes. As family emphasis could be distinct in rural versus urban areas, and research connecting this variable to the outcomes of interest is limited, the influence of this variable on PTSS severity and PTG is important to consider.

Similarly, research linking fatalism and trauma outcomes is limited with much of the

existing literature focused on a specific type of stressor, namely, serious physical health issues (e.g., Gonzales, Hurtado-de-Mendoza, Santoyo-Olsson, & Nápoles, 2016; Keeley, Wright, & Condit, 2009). Gonzales et al. (2016) studied a sample of Latina immigrants with breast cancer and discovered that fatalism was negatively correlated with emotional well-being. Conversely, Keeley et al. (2009) conducted a qualitative study with a sample of low-income individuals from both rural and urban areas regarding their experiences with heart disease, lung cancer, diabetes, and depression. Interviewees connected fatalistic statements with preventing stress by accepting rather than worrying about the future, meaning that fatalism was associated with positive outcomes related to stress. We were unable to find any literature explicitly connecting fatalistic beliefs to PTSS severity or PTG. Therefore, an investigation as to whether a fatalistic outlook on life better characterizes rural versus urban residents and how this variable may predict responses to trauma could be meaningful for clinicians.

The Present Study

Given the literature outlined above and the lack of research comparing rural and urban populations, the current study had multiple aims. First, we wanted to quantitatively assess for potential differences in PTSS severity, PTG, and the historically rural values of self-reliance, distrust of outsiders, religion, emphasis on family, and fatalism in rural versus urban undergraduates. Based on associations in the literature, we hypothesized that participants who indicated that they were permanent residents of rural areas would score significantly higher on measures of these trauma outcomes and characteristics in comparison to individuals who permanently resided in urban areas. Given that existing literature suggests that these potentially unique rural values may influence trauma outcomes, the second aim of the current study was to

examine associations between these values and PTSS severity and PTG. We hypothesized that higher levels of self-reliance, distrust, and fatalism would predict higher PTSS severity and lower levels of PTG. In addition, we hypothesized that endorsement of religiosity and healthy family functioning would predict lower PTSS severity and higher PTG.

CHAPTER TWO

MATERIALS AND METHODS

Participants and Procedure

Participants were 213 undergraduate students taking introductory psychology classes at a large southeastern university who were recruited through the department of psychology research pool. An a priori power analysis using G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) indicated that a total sample size of 176 participants was needed in order to detect a medium effect size of 0.5 with 95% power for the *t*-test analysis. A second a priori power analysis using G*Power 3 indicated that 146 participants were needed in order to detect a medium effect size of 0.15 with 95% power for the multiple regression analyses. Thus, overall, a sample size of at least 176 was appropriate for all analyses. Of the 213 final cases, three participants did not answer one or two items from the survey (0.02% of the values). Since guidelines suggest that most methods of handling missing data are appropriate when less than 5% of the data are missing (Tabachnick & Fidell, 2013), the mean substitution method was used to replace these missing items with the average score for the sample on that item rounded to the nearest integer.

Over half of the participants were female (62%) with a mean age of 19.27 years (*SD* = 2.48). The majority of the participants were Caucasian (79%), followed by African-American (6%), Hispanic/Latino (6%), Asian (4%), and Native American (2%), with approximately 3% identifying as multiracial. In addition, most participants were freshmen (62%), followed by sophomores (25%), juniors (9%), seniors (3%), and fifth-years (1%). Participants also identified their most traumatic event with the most common event being the sudden death of someone close to them (27%); followed by some other event that made them feel very scared, helpless, or

horrified (16%); a severe transportation accident (9%); forced sexual contact as a child (9%); seeing someone die suddenly or get badly hurt or killed (9%); forced sexual contact as an adult (8%); sudden abandonment by a family member (8%); being hit or kicked hard enough to injure as a child (5%); sudden move (4%); a natural disaster or fire (2%); a bad accident at work or home (2%); stress or trauma during military service (1%); being hit or kicked hard enough to injure as an adult (1%); and attacked with a weapon (1%). The average amount of time since the most traumatic event for participants was 3.99 years ($SD = 4.04$).

Most of the participants identified the Southeast as the geographic region from which they claimed permanent residency (92%), followed by the Northeast (6%), Midwest (2%), Southwest (1%), and West (1%). Using a classification scheme provided by the USDA (2013b) that identified counties as non-metro or metro, approximately 12% of participants came from non-metro counties and 88% came from metro counties. When participants self-identified the population density of their permanent residence based on the thresholds utilized by the United States Census Bureau (2010), approximately 26% of participants came from rural areas and 74% came from urban areas.

Potential participants read a brief description of the study requirements. To be eligible, participants had to be at least 18 years of age, have experienced a traumatic or stressful event, and claim permanent residency in the United States. After indicating interest in participating in the study and before beginning the survey, individuals viewed an informed consent document. Participants indicated their consent to participate by clicking yes to proceed to the online survey. All participants received one hour of experimental course credit, and all procedures were reviewed and approved by the local university institutional review board.

Measures

Demographics

The demographic portion of the survey included questions about age, sex, race/ethnicity, level of education, permanent residency status and location, and geographic characteristics.

Trauma History Screen (THS; Carlson et al., 2011)

The THS is a 14-item measure that asks respondents to indicate whether they have experienced an event that could be considered traumatic by selecting “yes” or “no.” If they choose “yes,” participants indicate how many times they have experienced the event. Some example events include “a really bad car, boat, train, or airplane accident,” “attack with a gun, knife, or weapon,” and “seeing someone die suddenly or get badly hurt or killed.” As a minor modification of the THS, if more than one event was indicated by the participant, they also were asked to specify which event was most traumatic and how long ago this “most traumatic” event occurred.

PTSD Checklist-5 (PCL-5; Weathers et al., 2013)

The PCL-5 is a 20-item self-report measure reflecting DSM-5 (APA, 2013) symptoms of PTSD that can be used to monitor PTSD symptom change, operate as a screening tool, and determine probable PTSD diagnosis. Items are rated according to how much a particular symptom has bothered the respondent over the past month from 0 (Not at all) to 4 (Extremely). Total scores range from 0 to 80, with higher scores indicating greater PTSD symptom severity. Example items include “repeated, disturbing, and unwanted memories of the stressful experience” and “blaming yourself or someone else for the stressful experience or what

happened after it.” The National Center for PTSD (NCPTSD; 2017) recommends a cutoff of 33 or above for the total symptom severity score, suggesting probable PTSD. Prior research (Armour et al., 2015) has found the PCL-5 to have high internal consistency in samples of war veterans and civilians with $\alpha = 0.95$ for both. Convergent validity with other measures of PTSD and divergent validity with scales not intended to measure PTSD also have been supported (Wortmann et al., 2016). Internal consistency reliability in the current study was $\alpha = 0.95$.

Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996)

The PTGI is a 21-item measure used to assess positive changes individuals may experience following a stressful or traumatic event. The PTGI consists of five subscales including New Possibilities, Relating to Others, Personal Strength, Spiritual Change, and Appreciation of Life. Items are rated from 0 (I did not experience this change) to 5 (I experienced this change to a very great degree). Scores can range from 0 to 105, with higher scores indicating higher levels of posttraumatic growth. Example items include, “I have changed my priorities about what is important in life” and “I put more effort into my relationships.” Previous research has found acceptable internal reliability for the PTGI subscales, with $\alpha = 0.83$ to 0.91 (Brunet, McDonough, Hadd, Crocker, & Sabiston, 2010). Support for the concurrent validity of the PTGI also has been found based on comparisons with theoretically-related constructs (Kaler, Erbes, Tedeschi, Arbisi, & Polusny, 2011). Internal consistency reliability in the current study was $\alpha = 0.93$.

Self-Reliance Scale (Parent & Moradi, 2009)

The Self-Reliance Scale measures the level of reluctance participants might have

regarding pursuing assistance from others. This five-item subscale was developed as part of the Conformity to Masculine Norms Inventory-46, which is a shortened version of the Conformity to Masculine Norms Inventory (Mahalik et al., 2003). Items are rated on a four-point Likert scale from 0 (Strongly disagree) to 3 (Strongly agree) with the total score ranging from 0 to 15. Higher scores indicate higher levels of self-reliance while lower scores signify less self-reliance. An example item is “It bothers me when I have to ask for help.” The self-reliance subscale has good internal reliability ($\alpha = 0.85$; Parent & Moradi, 2009). Evidence supports the convergent validity of the Self-Reliance Scale based on correlations with a similar measure of self-reliance ($r = .24$). Internal consistency reliability for the current study was $\alpha = 0.79$.

Cynicism Scale (Kanter & Mirvis, 1989)

The 7-item Cynicism Scale is designed to measure the degree to which individuals question messages imparted by management and believe that the companies for which they work will take advantage of them and is part of the Measures of Life Attitudes instrument. Kanter and Mirvis (1989) define cynicism as having three components: the formulation of high expectations regarding self and others, feelings of disappointment towards oneself and other people, and a sense of betrayal and belief that one is being deceived by others. Participants were asked to rate the extent to which they agree or disagree with statements related to how they may or may not feel about other people on a four-point Likert scale ranging from 1 (Strongly agree) to 4 (Strongly disagree). Scores range from 7 to 28 with lower scores indicating stronger distrust. Example items include, “Most people will tell a lie if they can gain by it” and “Most people are just out for themselves.” The scale has a moderately high degree of internal consistency ($\alpha = 0.78$; Kanter & Mirvis, 1989) and moderate face validity (Stanley, 1998). Internal consistency

reliability for this measure in the current study was $\alpha = 0.83$.

Duke University Religion Index (DUREL; Koenig & Büssing, 2010)

The DUREL is a five-item instrument that measures religious involvement and contains three subscales: organizational religious activity, non-organizational religious activity, and intrinsic religiosity. Items are rated on a 5- to 6-point Likert-type scale with item-specific anchor points. Sample questions include “How often do you attend church or religious meetings?” and “How often do you spend time in private religious activities, such as prayer, meditation, or Bible study?” The authors recommend that each subscale score be examined in separate regression models with the intrinsic religiosity subscale serving as a composite score. Higher scores indicate higher religiosity for that subscale. The DUREL has high internal consistency ($\alpha = 0.91$) and convergent validity of the subscales has been supported by correlations with similar measures of religiosity ($r = -0.71$ to -0.85 ; Storch et al., 2004). Internal consistency reliability was $\alpha = 0.91$ in the current study.

General Functioning Scale (Epstein, Baldwin, & Bishop, 1983)

The General Functioning Scale, which is designed to assess the overall health of the family, contains 12 items and is a subscale of the McMaster Family Assessment Device, a measure of family functioning. Items are rated on a four-point Likert scale, ranging from 1 (Strongly agree) to 4 (Strongly disagree). Higher scores designate unhealthy family functioning and lower scores signify healthy family functioning. Examples of items include, “In times of crisis, we turn to each other for support” and “We feel accepted for what we are.” The General Functioning Scale has adequate test-retest reliability $r = 0.71$ (Miller, Epstein, Bishop, &

Keitner, 1985). In addition, the General Functioning Scale exhibits good internal reliability (0.83 to 0.86; Kabacoff, Miller, Bishop, Epstein, & Keitner, 1990). Byles, Byrne, Boyle, and Offord (1988) reported that the measure had good construct validity as it correlated with other family variables in their data pool. In the current study, internal consistency reliability was $\alpha = 0.91$.

The Pearlin Mastery Scale (Pearlin & Schooler, 1978)

The Pearlin Mastery Scale measures mastery or the extent to which people believe their lives are under their control rather than being fatalistically restrained. Items are rated on a four-point Likert scale ranging from 1 (Strongly disagree) to 4 (Strongly agree). Composite scores range from 7 to 28, with higher scores indicating greater levels of mastery and thus fewer fatalistic beliefs. Example items include, “I have little control over things that happen to me” and “Sometimes I feel that I am being pushed around in life.” Brady (2003) indicated that the Pearlin Mastery Scale has strong face validity since it has been widely used and translated into other languages. The measure also has good internal consistency ($\alpha = 0.81$; van Zoonen et al., 2016). The internal consistency reliability for this measure in the current study was $\alpha = 0.78$.

Data Analysis

Data analysis was conducted using IBM SPSS software (version 25.0). Means, standard deviations, and internal consistency reliability were calculated for the variables of interest. Independent variables were checked for their appropriateness for multivariate analyses and skewness, kurtosis, and multicollinearity were in acceptable ranges. Independent samples *t*-tests and multiple regression analyses were conducted using the United States Census Bureau’s (2010) definition of geographic remoteness as the grouping variable. To test the hypothesis that participants from rural areas would score significantly higher in comparison to urban individuals

on measures of historically rural values, PTSS severity, and PTG, an independent samples *t*-test was conducted. In addition, to investigate the second hypothesis, simultaneous multiple regression was used to examine whether these traditionally rural values and geographic remoteness itself predicted PTSS severity and PTG.

CHAPTER THREE

RESULTS

Means, standard deviations, and intercorrelations among the variables of interest are presented in Table 1. All tables are located in the Appendix. PTSS severity was significantly positively correlated with self-reliance and emphasis on family and significantly negatively correlated with cynicism, organizational religiosity, non-organizational religiosity, intrinsic religiosity, and fatalism. PTG was significantly positively correlated with non-organizational religiosity and intrinsic religiosity and significantly negatively correlated with self-reliance and emphasis on family. Approximately 47% (46.9%) of participants scored at least 33 on the PCL-5, which is the cutoff for a probable diagnosis of PTSD (NCPTSD, 2017).

To address Hypothesis 1, an independent samples *t*-test was performed to assess whether differences existed between participants who claim permanent residency in rural versus urban areas regarding PTSS severity and PTG, as well as the traditional rural values of self-reliance, distrust of outsiders, religion, centrality of family, and fatalism. The means and standard deviations of these variables are shown in Table 2. Significant differences were found for PTSS severity between individuals who claimed rural versus urban permanent residency, with individuals from rural areas reporting significantly higher PTSS severity, $t(211) = 2.27, p = .025, d = 0.35$. No significant differences were found between groups on levels of PTG. Regarding traditional rural values, the means were significantly different for distrust of outsiders and organizational religious activity. Permanent residents of rural areas indicated significantly higher levels of distrust of outsiders in comparison to permanent residents of urban areas, $t(211) = -2.16, p = .032, d = 0.34$. In addition, permanent residents of rural areas reported significantly

lower levels of organized religious activity when compared to permanent residents of urban areas, $t(211) = -2.62, p = .009, d = 0.40$. No significant differences were found for the remaining values.

In order to investigate Hypothesis 2, whether any of these historically rural values predicted PTSS severity and PTG, a simultaneous multiple regression analysis was conducted. Regression results can be found in Table 3. Regarding the religiosity scales, the authors of the DUREL (Koenig & Büssing, 2010) recommended using separate models if all subscales were included in analyses due to potential multicollinearity. Due to this recommendation, and the fact that the other subscales consisted of single items, only the intrinsic religiosity subscale was included in our analysis. The overall model predicting PTSS severity was significant, $F(6, 206) = 12.74, p < .001, \text{Adj. } R^2 = .25$. Distrust of others ($\beta = -0.18, p = .006$), intrinsic religiosity ($\beta = -0.16, p = .011$), centrality of family ($\beta = 0.14, p = .037$), and fatalistic beliefs ($\beta = -0.29, p < .001$) were significantly associated with PTSS severity. The overall model predicting PTG was also significant, $F(6, 206) = 2.57, p = .020, \text{Adj. } R^2 = .04$. Intrinsic religiosity ($\beta = 0.16, p = .027$) was the only significant predictor of PTG.

CHAPTER FOUR

DISCUSSION

Based on largely qualitative prior research, the present study sought to explore potential differences attributed to geographic remoteness of permanent residence on trauma outcomes of PTSS severity and PTG, as well as historically rural values of self-reliance, distrust of outsiders, religiosity, centrality of family, and fatalism using quantitative measures. In addition, the present study investigated whether these traditionally rural values predicted PTSS severity and PTG. In partial support of our first hypothesis, *t*-test results indicated significant differences in terms of PTSS severity, distrust of outsiders, and organized religious activity. No significant differences based on rural versus urban status were found for PTG, self-reliance, non-organizational religiosity, intrinsic religiosity, emphasis on family, and fatalism. Regarding our second hypothesis, as predicted, when individuals deemphasized family, displayed more distrust toward outsiders, stressed intrinsic religious beliefs to a lower degree, or indicated higher levels of fatalistic beliefs, they reported more severe PTSS, and higher advocacy of intrinsic religiosity predicted higher levels of PTG. Neither geographic remoteness nor the other traditionally rural values predicted PTSS or PTG. Thus, our second hypothesis was partially supported.

With regard to our first hypothesis, our findings suggest that rural individuals display higher PTSS severity in comparison to urban dwellers. In our sample, the number of traumatic events reported by rural ($M = 8.72$, $SD = 14.86$) versus urban ($M = 6.47$, $SD = 12.35$) permanent residents was not significantly different and therefore does not fully explain this finding. However, one potential explanation for this difference could be that trauma-focused treatments are challenging to implement due to certain geographical and financial obstacles in rural areas

that impact both clients and practitioners. According to Mohatt, Adams, Bradley, and Morris (2006), rural persons with mental illnesses experience difficulties with accessing health care. The innate isolation of rural areas complicates travel options, and many rural individuals experience difficulties affording health services. A shortage of rural mental health providers also exists, which impacts the availability of services even when clients have the desire to access health care. The limited anonymity that comes with living in an area with low population density may also significantly lessen the chance that rural residents will seek psychological services (Mohatt et al., 2006). With these obstacles to seeking either professional psychological services or informal treatment in churches, for example, rural individuals who do experience symptoms of PTSS following a traumatic experience may not be able to receive the support they need in comparison to individuals who live in urban areas.

Aside from PTSS severity, rural residents reported higher levels of distrust for outsiders and lower levels of organized religiosity in comparison to urban participants, providing partial support for Hypothesis 1. Our results related to distrust for outsiders confirmed prior research (Wagenfeld, 2003; Wagenfeld et al., 1994) that suggested this characteristic has historically differentiated rural from urban dwellers. However, an unexpected result concerned the significantly higher attendance of urban participants compared to rural participants in organized religious activities. Perhaps urban individuals were accustomed to finding a church in an urban environment while rural participants were less familiar with locating an organized religious institution in a city setting. In addition, rural individuals may be resistant to churches in cities, which may be larger or emphasize different practices or traditions than the churches to which they are accustomed (Ross, 2007). Further, rural Southerners, who were primarily the subject of

our study, tend to display more religiosity and conservatism in comparison to rural communities in other areas of the United States (Dillon & Savage, 2006); it could be that the South in general displays higher levels of religiosity. Therefore, the data from the present study suggesting that many traditionally rural values can be found in both rural and urban communities may only apply to White, Southeastern young adults.

Aside from distrust of outsiders and organized religious activity, our findings indicate that the historical differences in values for rural versus urban residents might be dwindling. Media coverage and recent polls have highlighted a divided country regarding certain values based on geographic remoteness following the 2016 presidential election (e.g., DelReal & Clement, 2017; Hamel, Wu, & Brodie, 2017; Richards, 2017). These articles have reported a renewal of self-sufficiency, independence, pride, and conservative values in rural areas. At the same time, for the last several decades, some academic researchers have theorized that the divide in values for rural and urban residents may be lessening (Wagenfeld, 2003), although research concerning the values of interest in the present study tends to be dated and published before the 2000s (see Wagenfeld et al., 1994 for review). While the present study supports the idea that distrust of outsiders continues to characterize rural areas more than urban areas, these differences were not present for any of the other variables, except for organizational religiosity, which showed differences were opposite of the predicted direction. The results suggest that geographic remoteness may not be as dichotomizing as some prior research has indicated. Thus, it appears as though rural and urban cultures are becoming more comparable in terms of the variables of interest, at least among college-age students.

One explanation for the discovery of more similarities in this study can be found in what

Lichter and Brown (2011) call the accelerating urbanization of rural society whereby the boundaries between rural and urban society are increasingly blurring. American rural life has traditionally been associated with agriculture, but between 1940 and 1992, the population of farmers decreased from 30 million to 3.9 million people (Albrecht, 1998). With this agricultural deterioration, communities that remained agriculturally dependent experienced extensive population decline as former farmers migrated from these areas. Additionally, non-farming businesses were forced to close as their farming clientele moved away (Albrecht, 1998). Transnational corporations, such as Wal-Mart, started to invest and appear in rural communities in the 1960s, further contributing to the decline of small businesses and the downtown areas of rural towns (Stone, 1997; Vias, 2004). Further, innovations such as the Internet, cable and satellite TV, and broadband have promoted the rapid transformation of information, linking rural to urban life (Lichter & Brown, 2011).

In addition to these general changes that may impact all generations of rural populations, it is important to consider that rural areas consist of subpopulations that may not be acculturated with characteristically rural customs, traditions, and values (Slama, 2004). Young adults, who composed the majority of our participant population, may have unique characteristics in rural areas in comparison to older members of these communities (Dillon & Savage, 2006; Johnson, 2006). When individuals have migrated from rural areas to urban areas, rural young adults appear to be particularly attracted to moving to urban residences, perhaps due to social and economic advantages, and thus display the highest incidence of migration (Johnson, 2006).

Although few significant differences regarding traditionally rural values were found for our sample, these values do continue to characterize rural, largely young adult residents in the

current study. The means for self-reliance, distrust of outsiders, and centrality of family indicated that both rural and urban residents highly advocated these values. Religion and fatalism also appeared to be important to permanent residents of both types of geographic residence. In addition, the means indicated that both urban and rural residents experienced a positive degree of PTG.

Regarding the use of the traditionally rural values in predicting PTSS severity and PTG, (Hypothesis 2), the values were particularly useful in predicting PTSS severity. Thus, traditional rural values of centrality of family and intrinsic religiosity predict less PTSS severity, while historical rural values of distrust of outsiders and fatalism may predict more acute PTSS severity. In addition, intrinsic religiosity could potentially predict higher levels of PTG. Although the finding that many of these traditional rural values were not significant predictors of PTG was unexpected and contrary to our hypothesis, supporting literature was sparse. Limited existing research often supported conflicting conclusions linking many of these variables.

Limitations and Future Directions for Research

The current study is subject to certain limitations that should be taken into consideration. As already indicated, our sample comprised undergraduates who volunteered for the study in order to receive course credit for their participation. Consequently, participants were relatively young, which may have affected their acculturation to historically rural values. Many of them were also currently residing in an urban environment due to their college attendance despite indicating permanent residence in rural or urban areas. Although participants were required to have experienced a traumatic event, some of these individuals may have experienced stressful events that did not meet Criterion A of the DSM-5 for PTSD (APA, 2013), which could have

affected PTSS severity as well as the occurrence of PTG. The mean time since the traumatic event had occurred was 3.99 years, which may have affected PTSS severity and PTG results. In addition, the exclusion of participants who had not experienced stressful or traumatic events could have contributed to the lack of differences between rural and urban permanent residents regarding traditional rural values.

Future research would benefit from more diversity in terms of age, ethnicity, race, and region of residence. In addition, future research should also use a sample that includes other rural regions of interest, such as frontier America, and rural and urban community members to incorporate educational and generational considerations. While the proportion of rural respondents in the study was comparable to the total rural population in the United States, approximately 19% according to the United States Census Bureau (2010) compared to approximately 26% in the current research, future research should attempt to recruit more rural participants. Further, in the current study, rural respondents self-identified geographic remoteness based on the United States Census Bureau (2010) definition, meaning that rural status was subjective. In addition, participants in the study consisted of undergraduates rather than community members, limiting the generalization of findings.

Another limitation of the present study involved the measures that were used. It was difficult to locate measures for distrust of outsiders, centrality of family, and fatalism, in particular. Reliability and validity measurements for distrust of others and fatalism were especially difficult to locate. In addition, the Cynicism Scale (Kanter & Mirvis, 1989) was designed for evaluating workforce samples, but the questions were phrased so that they could apply to other populations.

CHAPTER FIVE

CONCLUSION

Despite these limitations, our findings underscore notable differences and similarities regarding PTSS severity, PTG, and the historically rural values of self-reliance, distrust of outsiders, religiosity, centrality of family, and fatalism based on geographic remoteness. Rural residents exhibited higher levels of PTSS severity and distrust of outsiders, while urban residents displayed a higher degree of organizational religiosity. However, there were no significant differences based on geographic remoteness for PTG and the other traditionally rural values. While levels of many of these historically rural values predicted PTSS severity, only intrinsic religiosity predicted PTG. Findings suggest relevant constructs that clinicians should recognize when considering PTSS severity, in particular, and highlight the necessity of further research that includes multiple generations and regions.

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APPENDIX

Table 1

Means, Standard Deviations, and Correlations Among Variables for Total Sample (N=213)

Variables (Range)	M	SD	1	2	3	4	5	6	7	8	9
1. PTSS Severity	24.67	15.02	-	.16*	.22**	-.31**	-.20**	-.21**	-.25**	.33*	-.41**
2. PTG	54.06	17.47		-	-.14*	-.02	.10	.14*	.17*	-.16*	.08
3. Self-Reliance	5.60	2.39			-	-.32**	-.07	-.15*	-.12	.30**	-.34**
4. Cynicism	19.24	7.12				-	.17*	.14*	.17*	-.14*	.27**
5. Organizational Religiosity	16.22	5.67					-	.58**	.70**	-.21**	-.01
6. Non-Organizational Religiosity	58.17	25.61						-	.62**	-.19**	.07
7. Intrinsic Religiosity	17.78	9.75							-	-.23**	.06
8. Family Emphasis	12.06	7.27								-	.40**
9. Fatalism	10.37	4.30									-

Note. PTSS Severity = PTSD Checklist-5; PTG = Posttraumatic Growth Inventory; Family Emphasis = General Functioning Scale; Fatalism = The Pearlin Mastery Scale; * $p < .05$, ** $p < .01$

Table 2

Ranges, Means, and Standard Deviations of Undergraduates on PTSS Severity, PTG, and Values

Variables	Range	Rural		Urban	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
PTSS Severity	0-80	36.13	19.92	29.54	18.21
PTG	0-105	55.52	23.34	52.15	22.60
Self-Reliance	0-15	12.05	2.73	11.39	2.69
Cynicism	7-28	14.32	3.89	15.57	3.64
Organizational Religiosity	1-6	2.70	1.51	3.27	1.38
Non-organizational Religiosity	1-6	2.25	1.56	2.62	1.71
Intrinsic Religiosity	3-15	8.96	4.40	9.96	3.65
Family Emphasis	12-48	27.95	7.03	26.01	7.46
Fatalism	7-28	18.71	3.38	19.53	3.66

Note. PTSS Severity = PTSD Checklist-5; PTG = Posttraumatic Growth Inventory; Family Emphasis = General Functioning Scale; Fatalism = The Pearlin Mastery Scale

Table 3

Simultaneous Multiple Regression Analysis Predicting the Relationship between Predictor Variables and Trauma Outcomes

Predictor Variables	PTSS Severity		PTG	
	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>SE B</i>
Geographic Remoteness	-.07	2.59	-.10	3.54
Self-Reliance	.00	.46	-.12	.63
Cynicism	-.18**	.33	-.09	.45
Intrinsic Religiosity	-.16*	.30	.16*	.41
Family Emphasis	.14*	.17	-.10	.24
Fatalism	-.29***	.36	.03	.49

Note. Family Emphasis = General Functioning Scale; Fatalism = The Pearlin Mastery Scale; * $p < .05$, ** $p < .01$, *** $p < .001$

VITA

Emily Keller was born on August 3, 1991. She graduated from James Madison University in December 2013 with a Bachelor of Science degree in Justice Studies and Psychology. Two and a half years later in May 2016, she graduated with her Master of Science degree in Clinical-Counseling Psychology from Radford University. In August 2016, she began attending the University of Tennessee Knoxville's Counseling Psychology doctoral program under the mentorship of Dr. Gina Owens.