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**PREVALENCE OF A LOOMING MALADAPTIVE STYLE AS A
COGNITIVE VULNERABILITY TO ANXIETY IN RURAL POPULATIONS**

**Thesis submitted to
The Graduate College of
Marshall University**

**In partial fulfillment of the
Requirements for the degree of
Master of Arts
In Psychology**

By

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Running head: RURAL LOOMING

Prevalence Of A Looming Maladaptive Style As A Cognitive Vulnerability To
Anxiety In Rural Populations

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Abstract

The present study attempted to find a global cognitive style among rural populations suggesting that threatening situations are seen as rapidly rising in risk, progressively worsening, or actively accelerating and speeding up. Participants completed a battery of anonymous questionnaires including a non-identifying demographics questionnaire and commonly used, published psychological assessments which measure anxiety, depression, worry, perception of negative life events, and looming vulnerability to anxiety. It was predicted that demographic variables, such as socioeconomic status, rural/non-rural status, and experience with natural disasters, will predict anxiety, which, in turn, would predict scores on the measures of anxiety, depression, and cognitive style. Exposure to natural disasters was found to vary significantly with scores on the measures of depression, anxiety, and negative life events. The results are generally consistent with previous research indicating a strong relationship between measures of depression, anxiety and worry with the looming maladaptive style.

Review of the Literature

There has been a recent effort in West Virginia to provide residents living in rural areas with more accessible and culturally appropriate psychological services. Among the issues to be considered include service delivery, controversy related to defining rurality, and the extent to which there are actual socio-cultural differences between rural and non-rural populations. For example, in terms of service delivery, it is a common practice for rural residents to undergo psychological evaluations and receive medications from their family physician, rather than a licensed therapist and psychiatrist. A high percentage of patients with mental disorders are seen in primary care offices rather than mental health settings. Estimates indicate that between one-fourth and one-half of all rural patient visits to their primary care physician include psychological or behavioral appraisals (Katon & Schulberg, 1992; Pace, Chaney, Mullins, & Olson, 1995). There are also specific barriers related to access and availability of providers. These include geographical isolation and problems of access to care, shortage of health care providers and services, socio-economic disadvantage and poor health related behavior (Judd, Jackson, Komiti, Murray, Hodgins, & Fraser, 2002).

In terms of socio-cultural differences, it has been suggested that certain values that are considered typical of rural areas, such as strong conservative, religious and puritanical views, individualism, traditionalism, familiarism, fatalism, and person-centered relationships, may not beneficially affect the mental health of rural relationships (Hassinger & Whiting, 1976; Rogers & Burdge, 1972). It is becoming increasingly important to conduct research on rural populations afflicted with psychological disorders so that appropriate treatment measures can be implemented in rural health care centers.

Finally, the controversy over finding a reliable and valid definition of rurality have led to problems related to policy, research, and development of interventions that are culturally appropriate for this group. Existing definitions have considerable disparities and create substantial overlap with regard to specifying rural/non-rural areas. Consequently, this may create a problem for any researcher who is attempting to describe the differences in populations based on rural/non-rural status. More importantly, this becomes an issue with regard to policy involving rural health clinics and service delivery in the various rural or nonmetropolitan counties in the nation.

The following section of the literature review presents a discussion of these key areas beginning with a review of the attempt to define rural and non-rural populations and areas, a suggestion of the socio-cultural differences between these areas, and finally an examination and hypothesis regarding possible psychological differences among these two designated populations in the country.

Definitions of rural. A technical issues paper prepared for the Federal Office of Rural Health Policy, and the United States Department of Health and Human Services (USDHHS) (1998), reported that West Virginia is one of the two most rural states in the country. Along with Vermont, West Virginia is 60-79.9 percent rural. There are numerous definitions of rural and a great deal of controversy exists concerning the usefulness and validity of each. The majority of the area that comprises West Virginia is predominantly “rural” by many definitions; however, selecting the most appropriate definition for what is “rural” and what is not rural is a challenging task. The United States Census Bureau defines urban as comprising all territory, population, and housing units located in an “urbanized area” (UA) and places with 2500 or more inhabitants

outside of UA's. All territories, populations, and housing units that the Census Bureau does not classify as urban are classified as rural (Bureau of the Census, 1994). In the 1990 census, 24.8 percent of the population in the nation was classified as rural.

Although the rural proportion has decreased continually since 1870, the number of people under the rural classification has steadily increased in tandem with the increase of the nation's population.

The Office of Management and Budget (OMB), created a similar operational definition of rurality which was later revised by Goldsmith, Puskin, & Stiles (1992); however the terminology is slightly altered from rural/non-rural to "metropolitan" and "nonmetropolitan." Metropolitan areas contain: (1) core counties with one or more central cities of at least 50,000 residents or with a Census Bureau-defined urbanized area and a total metro population of 100,000 or more, and (2) fringe counties that are economically tied to the core counties. Nonmetropolitan counties are outside the boundaries of metro areas and have no cities with as many as 50,000 residents. In 1996, eighty percent of the counties, or county equivalents were classified as nonmetropolitan. These counties represented 19.8 percent of the total national population in 1996. For a more in-depth discussion of rurality, see US Department of Health and Human Services (1998).

It is becoming increasingly important to conduct research on rural populations afflicted with psychological disorders so that appropriate treatment measures can be implemented in rural health care centers.

Differences in psychological conditions. Depression remains the most common mental health problem seen in rural primary care (Sears, Danda, & Evans 1999). Other

“high prevalence disorders” also seen in rural populations include substance use and anxiety (Judd et al., 2002). It is the latter on which the present research is focused.

The Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV) (American Psychological Association, 2000) creates another barrier with regard to delivering appropriate mental health services due to a general overlap of symptomology in anxiety disorders and depression. Several of the symptoms for Generalized Anxiety Disorder fall under the larger umbrella of a Major Depressive Episode (the main criterion for a Major Depressive Disorder). For example, common symptoms in each disorder include sleep disorder, fatigue, restlessness or insomnia, and difficulty concentrating. It is common to find a large number of patients in rural clinics and primary care with a preliminary diagnosis of Major Depressive Disorder co-morbid with Anxiety Disorder Not Otherwise Specified (Sears, et. al., 1999).

Persons suffering from depression and anxiety have different dysfunctional beliefs about themselves, their personal world, and their future. Negative cognitions have been observed in both clinical and empirical investigations to play an important role in depression, anxiety, phobias, panic attacks, and suicide (Beck, 1976; Beck & Emery, 1985).

Although an abundant amount of research has explored cognitive styles suggesting a vulnerability to depression, cognitive styles that confer vulnerability to anxiety have received considerably less attention (Riskind, Williams, Gessner, Chrosniak, & Cortina, 2000). These authors have suggested a cognitive style referred to as the looming maladaptive style, which will be the focus of this research.

Looming Anxiety and the Looming Maladaptive Style. Perhaps much of the anxiety found in rural populations can be attributed to a general cognitive style involving perceptions of threat (i.e., dynamic threat-related cognitions and images) that represent the central component in evoking an anxious or fearful response. These perceptions may have evolved over time and exposure to various threatening life events including natural disaster, periods of diminished finances, and/or poor health. Riskind and colleagues, (2000) label these perceptions of rapidly evolving threat and escalating urgency *looming vulnerability*. This implies that individuals process pieces of information to formulate appraisals of the increasing degree or severity of potential threat. Much of this activity occurs automatically and involves the integration of incoming information with memories, attitudes, beliefs, and concepts developed from past experiences (Riskind, et al., 2000). For example, depressed individuals have cognitions containing themes of personal worthlessness, incompetence, failure, and pessimism, whereas the cognitions of anxious individuals center on themes of threat, danger, unpredictability, and uncertainty (Greenberg & Beck, 1989).

The theory of looming vulnerability differs from conventional theories of anxiety in emphasizing the importance of the dynamic nature of psychologically threatening situations. Threats that induce anxiety are seen by the individual as frequently changing, or subject to change, even during single, moment in time appraisals (Riskind, et al., 2000).

There seem to be important differences in depressive cognitive styles and anxious cognitive styles. For example, depressive cognitive styles are seen as mainly focusing on past loss, whereas anxious cognitive styles are concerned with how individuals process,

elaborate, and simulate anticipated future threat (Riskind, et al., 2000). The looming vulnerability of anxiety suggests that the mental activity of catastrophizing is related to the looming maladaptive style (Riskind, 1997). The looming maladaptive style is a higher order, more global and abstract characteristic framework that functions as a danger schema to produce cognitive vulnerability to anxiety (Riskind & Williams, 1999).

Although looming appraisals of threat can be experienced simply as a state elicitation, they can also develop into a more durable cognitive pattern (Williams, Shahar, Riskind, & Joiner, in press).

Individuals who are cognitively vulnerable to anxiety are assumed to develop mental representations in which anticipated threats are escalating in risk, moving toward the self or toward a dreaded final outcome, and moving through time (i.e., looming). Once activated, the sense of looming vulnerability is a critical phenomenological component of threat that sensitizes anxious individuals to threat movement and signs of intensifying danger in their environments, which biases their cognitive processing, and renders their anxiety to be more persistent and less likely to habituate (Riskind, 1997).

Riskind and colleagues proposed the looming maladaptive style as a broad and pervasive cognitive pattern to cross-situationally appraise threat as rapidly rising in risk, progressively worsening, or actively accelerating and speeding up. Moreover, the looming maladaptive style is posited to represent a unique cognitive risk factor for anxiety, but not depression that functions as a danger schema (Riskind, et al., 2000).

The current study attempted to examine the presence of high prevalence disorders such as depression and anxiety in rural areas with regard to their effect on producing a general cognitive style for rural areas that exhibits a likeness to the looming maladaptive

style. Negative thoughts and beliefs, common in rural areas could potentially create the cognitive appraisal of events as rapidly rising in risk with each passing moment, and escalating toward the self, which, in turn, might make this population cognitively vulnerable to anxiety disorders. These negative thoughts, possibly resulting from exposure to negative life events and natural disasters could also have an impact on worrisome thinking, which is a key criterion in anxiety disorders.

Discovering a prevailing looming maladaptive style in rural populations as a major cognitive style for the region, which may produce a greater vulnerability to anxiety disorders, would be useful when developing treatment protocols for individuals with such symptoms. Given the potential for threatening situations in rural areas (i.e., susceptibility to natural disasters such as floods and forest fires, socio-economic decline, and health problems such as obesity and complications resulting from tobacco use), an examination for evidence of the looming maladaptive style in rural populations is warranted. It was hypothesized that scores on measures of anxiety, worry and negative life events would predict scores on the Looming Maladaptive Style Questionnaire (LMSQ) (Riskind, et al., 2000). In addition, this study examined the responses of individuals from a rural background in comparison to those from a non-rural background and also examined the potential impact of reported exposure to natural disasters.

Method

Participants.

Two hundred and seven participants (122 females, 85 males), ranging in age from 18 to 46 years ($M = 20.2$ years, $SD = 4.02$) served as participants for the present investigation. These participants were recruited from psychology courses at Marshall

University in exchange for extra credit in their respective classes. The sample was quite representative for the area with regard to living in a rural area (61 percent) or a non-rural area (39 percent).

Measures and Procedure.

Informed consent was obtained before the participants were asked to complete the battery of anonymous questionnaires. Maintaining anonymity of the participants protected the privacy of subjects and the confidentiality of data. All data was analyzed in the aggregate only.

Several instruments were administered in the battery of questionnaires completed by each participant. Each of these is described below. Participants were asked to abstain from writing their name or any other blatant identifying information on the measures to ensure anonymity of participants' responses and the confidentiality of data.

Looming Maladaptive Style Questionnaire (LMSQ) (Riskind, et al., 2000) is a validated measure of individuals' tendency to generate mental scenarios of potentially threatening situations that are rapidly rising in risk or intensifying in danger. Participants read six brief vignettes describing potentially stressful situations and then responded to six questions for each vignette using a 5 point Likert scale. The questions included:

- “How anxious do you feel imagining yourself in this situation?”
- “As this scene unfolds, are your chances of having difficulty increasing with each passing moment?”
- “As this scene unfolds, to what extent is the threat of [problem stated in vignette] increasing with each passing moment?”

- “As this scene unfolds, to what extent is your level of anxiety increasing with each passing moment?”
- “As this scene unfolds, what is the likelihood that something bad will happen to you?”
- “As this scene unfolds, to what extent do you imagine yourself being able to cope with the situation?”

Riskind and colleagues provided evidence for the predictive, convergent, and discriminant validity of the measure, as well as its internal consistency, and test-retest reliability. A total Looming Maladaptive Style score is calculated by aggregating responses to items 2-5 across the six vignettes. A separate “coping efficacy” score is calculated by taking the mean of item 6 across all vignettes.

Penn State Worry Questionnaire (PSWQ) (Meyer, Miller, Metzger, & Borkovec, 1990) is a 16 item self-report measure of the tendency to engage in worrisome thinking.

Beck Anxiety and Depression Inventories. The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) is a 21 item validated self-report measure developed to assess the severity of anxiety symptoms in both clinical and non-clinical populations and to reliably discriminate anxiety from depression. The Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a commonly used, 21-item, self-report measure of depressive symptoms.

Negative Life Events Questionnaire (NLEQ) (Needles & Alloy, 1990) is a 40-item subset of questions from the Life Events Questionnaire (LEQ) (Saxe & Abramson, 1987) self-report measure in which the respondent reports the frequency of listed events that have occurred in their life in the past six months.

Natural Disasters/Demographics Questionnaire. Participants were also be given a brief demographics questionnaire used to self-report rural or non-rural status and report exposure to natural disasters such as flood, forest fire, times short on money, times short on food etc.

All of the instruments used were administered while maintaining complete confidentiality.

With regard to the definitions of “rurality,” input from both the Census Bureau definition and the OMB definitions were incorporated so that any town/city listed on the demographics questionnaire with a census population greater than 50,000 and any town/city included within an OMB nonmetropolitan would be classified as “non-rural” whereas any town/city not meeting these criteria would be classified as “rural.”

Results

Table 1.1 represents the means and standard deviations of variables. Overall scores on most measures indicated responses within the average or lower range of the total score LMSQ ($M = 2.23$, $SD = .76$), PSWQ ($M = 49.04$, $SD = 8.78$), (BAI ($M = .83$, $SD = 1.01$), BDI ($M = .61$, $SD = .93$) and NLEQ ($M = 72.36$, $SD = 20.68$). Overall scores on the measure of Natural Disasters was high ($M = 6.83$, $SD = 4.32$).

A standard forward regression was employed ($p < .05$ level of significance to include as a predictor in the model) to determine if scores on the PSWQ, BAI, BDI, NLEQ, and Natural Disasters measure predicted scores on the LMSQ.

Table 2 represents one-tailed Pearson product-moment correlations ($N = 207$) between variables. The Looming Maladaptive Style was found to vary significantly with scores on the PSWQ ($r = .371$, $p < .01$), BAI ($r = .317$, $p < .01$) and BDI ($r = .184$, $p < .01$).

Rural/non-rural status did not vary significantly with scores on the measures of the looming maladaptive style ($r = -.018, p = .396$), negative life events ($r = .029, p = .341$), worry ($r = -.053, p = .224$), anxiety ($r = .021, p = .381$), depression ($r = .048, p = .249$), or natural disasters ($r = .050, p = .238$). This is not consistent with the hypothesis that rural respondents would likely yield higher scores on these measures.

Table 3 reports a standard (forward) regression performed using the LMSQ as the dependent variable, and the PSWQ, BAI, measure of Natural Disasters, BDI, NLEQ, and rural/non-rural status as the independent variables. Only three significant variables, PSWQ, BAI, and the Natural Disasters measure were ultimately included in the model. Table 3 displays the correlations between the significant variables in the regression, the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (β), R , R^2 , and adjusted R^2 after all variables were entered into the regression. With all 3 significant variables in the equation, $R = .443, F(3, 201) = 16.35 (p < .01)$, indicating that this model represents the strongest predictor of the LMSQ.

Overall, a combination of the three variables together accounted for 19.6 percent of the variability in LMSQ scores ($R^2 = .196$). Individually, the PSWQ accounted for 7.6 percent of the unique variance ($sr^2 = .76$), the BAI accounted for 6.4 percent of the unique variance ($sr^2 = .64$), and the Natural Disasters measure accounted for 4.2 percent of the unique variance ($sr^2 = .42$) in LMSQ scores.

Within the regression model, the PSWQ showed a significant relationship with LMSQ scores ($\beta = .278, p < .01$) as did the BAI ($\beta = .265, p < .01$) which is consistent with the direction of the Pearson correlations. The Natural Disasters measure showed a significant negative relationship with LMSQ scores within the regression model ($\beta = -$

.198, $p < .01$). However the Pearson correlation between the measure of Natural Disasters and the LMSQ is not significant.

The LMSQ mean from the current study ($M = 2.23$) was almost a full point lower compared to the LMSQ mean of a previous study by Riskind, et al., (2000), ($M = 3.19$). Therefore, a post hoc single sample t test was administered between the obtained LMSQ mean of the current sample and the LMSQ mean of a sample in previous research. The mean in our sample was significantly lower $t(206) = -17.1$ ($p < .01$) than that found in previous research indicating a notable difference in the samples.

Discussion

The results are generally consistent with previous research indicating a strong relationship between measures of anxiety depression and worry with the looming maladaptive style. The inclusion of these measures provided validity for the present study considering the consistency of our results with results of previous research.

The relationship between the LMSQ and exposure to natural disasters is a novel and interesting finding. The negative standard regression coefficient suggests that greater exposure to natural disasters yields lower scores on the LMSQ. The negative direction within the regression model suggesting more experienced natural disasters yields less “looming” behavior. However, this is true when the individual scores high on measures of worry and anxiety. Positive standard regression coefficients reported for the PSWQ and BAI suggest that those reporting higher scores on such measures will likely yield higher scores on the LMSQ. The mean age of 20 years suggests that some of the participants in this study were exposed to a great many natural disasters ($M = 6.8$). Taken alone, exposure to natural disasters has no significant impact on LMSQ scores. These

results also hint at some form of coping mechanism that is acquired when looming behavior is present and a significant amount of natural disasters are experienced. We have seen that significant worry and anxiety are related to the looming maladaptive style, but when present levels of anxiety and worry are high while having experienced a significant amount of natural disasters, the looming behavior decreases.

The data from this experiment suggest that rural/non-rural status does not predict prevalence of the looming maladaptive style. The lack of any significance with regard to the measure of rurality may be attributed to the sample. The majority of the non-rural respondents claimed the more “urban” areas of West Virginia (e.g. Huntington, Charleston, Beckley) as the town or city in which they were raised. According to the definition of rural employed in this study, these towns were considered non-rural based on population, however, none of these regional cities has a population in excess of 55,000 and none are actually comparable to the socio-cultural milieu of the large metropolitan centers found in other areas of the United States. It is therefore likely that there was insufficient variability between the “rural” and “non-rural” samples as defined in this study.

Suggestions for further study.

It is important to obtain data from a representative sample in order to produce reliable and valid data. Future consideration and research examining psychological, socio-economic and cultural differences between rural and non-rural populations may produce greater significance with regard to measuring rurality as a predictive factor in the study if the sample is more representative of the nation’s population.

If one were to reproduce this study with a broader, larger sample, it may produce greater variability with the looming maladaptive style. First, as previously noted, the non-rural participants in this study were probably representative of what would be considered urban or metropolitan in this particular region, but they would not be considered representative of residents from major urban and metropolitan centers found in other parts of the country. Moreover, there is tremendous heterogeneity among urban and metropolitan residents both within a given locale and across the nation. Similarly, rural residents across the United States do not constitute a single, homogenous group. Although West Virginia and Vermont are the two most rural states in the nation, neither of these states is necessarily representative of what is “rural” nationwide.

In addition to sample heterogeneity among rural and urban status, the sample was comprised solely of college students which may speak to additional heterogeneity among the sample. Perhaps those rural residents who attend college are able to overcome typical beliefs seen in rural regions such as fatalism, individualism, and traditionalism. Other barriers contributing to possible negative cognitions including access to care providers, geographical isolation, socioeconomic disadvantage and poor health related behavior may not be as prevalent in a college student population, considering most colleges and universities are typically in a more “metropolitan” area or at least have the comfort of services such as student health available to all students.

Also of interest in terms of continued research on this topic is the effect of exposure to natural disasters on anxiety and worry. Why this condition exists poses the most important question and all answers at this point are speculative. The questionnaire incorporated socio-economic variables along with the typical disasters of nature as a

single measure. It would be interesting to examine the most prevalent “disasters” seen in rural areas and compare those with the prevalent “disasters” in non-rural areas.

Subsequently, it would be interesting to see how these prevailing disasters vary with the looming maladaptive style.

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Appendices

Table 1.1 Means and Standard Deviations of Variables

Variables	Mean	Std. Deviation	N
Rural Nonrural status	1.3913	.48923	207
Natural Disaster Total	6.8309	4.32821	207
BDI Clinical Scale	.6117	.93426	206
LMSQ Mean	2.2882	.75859	207
BAI Clinical Scale	.8252	1.01142	206
PSWQ Total	49.0483	8.77538	207
Negative Life Events Total	72.3623	20.67570	207

Table 1.2 Gender Frequencies and Percentages

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	85	41.1	41.1	41.1
Female	122	58.9	58.9	100.0
Total	207	100.0	100.0	

Table 1.3 Rurality Frequencies and Percentages

Rurality	Frequency	Percent	Valid Percent	Cumulative Percent
Rural	126	60.9	60.9	60.9
Non-rural	81	39.1	39.1	100.0
Total	207	100.0	100.0	

Table 2 Pearson product-moment correlations between measures

	LMSQ	PSWQ	BAI	Nat. Dis.	BDI	NLEQ	Rurality
1. LMSQ	1	.371(**)	.317(**)	-.078	.184(**)	.061	-.013
2. PSWQ		1	.389(**)	.134(*)	.394(**)	.251(**)	-.052
3. BAI			1	.301(**)	.500(**)	.393(**)	.022
4. Natural Disasters				1	.180(**)	.235(**)	.045
5. BDI					1	.533(**)	.045
6. NLEQ						1	.027
7. Rurality							1

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Table 3 Standard (forward) Regression

Variables	LMSQ (DV)	PSWQ	BAI	Nat. Dis.	<i>B</i>	β	sr^2 (***)
PSWQ	.371(**)				.024	.278(**)	.076
BAI	.317(**)	.389(**)			.196	.265(**)	.064
Nat. Dis.	-.078	.134(*)	.301(**)		-.034	-.198(**)	.042

Intercept = 1.191

$R^2 = .196$ (**)
Adjusted $R^2 = .184$ (**)
 $R = .443$ (**)

* Correlation is significant at the 0.05 level (1-tailed).

** Correlation is significant at the 0.01 level (1-tailed).

*** sr^2 = semi-partial correlation.