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## INSOMNIA IN SUBCLINICAL PARANOID PARTICIPANTS

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INSOMNIA IN SUBCLINICAL PARANOID PARTICIPANTS

by

LAUREN J. BENNETT-LELEUX

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Master of Science  
Department of Psychology

Dennis Combs, Ph. D., Committee Chair

College of Education and Psychology

The University of Texas at Tyler

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The University of Texas at Tyler  
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This is to certify that the Master's Thesis of

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Abstract

INSOMNIA IN SUBCLINICAL PARANOID PARTICIPANTS

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Insomnia has always been thought to be a consequence of schizophrenia and may be predicted by paranoid thoughts. Individuals with a diagnosis of schizophrenia have reported symptoms of insomnia, which can in turn increase psychosis. It is thought that these symptoms can come from decreased daytime activity, reduced cognitive functioning, or distress from psychotic experiences increasing arousal (Waite et al., 2016a; Hodgenkins et al., 2015; Stubbs et al., 2016). However, recent evidence has demonstrated that insomnia can predict later paranoid thoughts. Individuals with comorbid psychotic disorder and insomnia tend to have more severe psychotic experiences such as paranoid thoughts (Freeman et al., 2009; Xianget et al., 2009). The current study explores how insomnia affects an individual who experiences paranoid thoughts. It is expected that insomnia will increase paranoid thoughts in individuals who show varying levels of paranoid ideation ranging from sub-clinical to clinical levels.

## **Chapter One**

### **Introduction**

Individuals who have schizophrenia and paranoid thoughts can be difficult to treat (Fenigstein, 2001). The first line of treatment for this population is antipsychotics. Despite optimal treatment with medications, residual symptoms often remain. One such symptom is insomnia, which is not generally assessed or treated. A study by Reeve and colleagues (2018a) found that simulating insomnia in a nonclinical population induced psychotic experiences, including paranoid ideation. The next logical step would be to study the relationship between insomnia symptoms in persons with subclinical and clinical paranoid ideation. This would improve our understanding of the etiology of paranoid thoughts and their relationship to insomnia.

### **Delusions**

Delusions are defined as beliefs an individual holds that are often impervious to change even if there is evidence to prove otherwise (American Psychiatric Association, 2013). Delusions can be further classified as bizarre or non-bizarre depending on content. Bizarre delusions are plausible, do not make sense to the individual's culture, or did not come from life experience. Non-bizarre delusions are those that can arise from misinterpretations of life experiences and the most common type of non-bizarre delusions is paranoia. Paranoid thoughts, also known as persecutory delusions, are beliefs that the individual will be harmed by another individual, group, or organization without evidence (American Psychiatric Association, 2013).

## **Insomnia**

A lack of sleep can affect many areas in an individual's life such as mental health and quality of life (Friedrich et al., 2018). The effects on an individual's mental health include an increase in fatigue, depression, anxiety, stress, and stimulant use (Taylor et al., 2013). A decrease in sleep can affect an individual's quality of life by negatively impacting physical health, increasing negative emotions, decreasing leisure activities, decreasing household duties and their course work (Taylor et al., 2013; Wong et al., 2013).

Insomnia can occur in every part of the sleep cycle, such as initial insomnia, middle insomnia, and late insomnia (American Psychiatric Association, 2013). Initial insomnia takes place when an individual has difficulty initiating sleep. Middle insomnia encompasses frequent or prolonged periods of being awake throughout the night. Late insomnia has characteristics of waking up in the early morning with an inability of returning to sleep. Reeve and colleagues (2018a) found that inducing insomnia-like sleep loss in a non-clinical population resulted in increased paranoia by stimulating the development of psychotic experiences temporarily. We hypothesize that individuals in the subclinical population and clinical population who have insomnia symptoms will have increased paranoid thoughts. For the criteria for an insomnia disorder as stated by the American Psychiatric Association (2013) refer to Table A. While considering the symptoms of insomnia and its effects on physical health, the next logical step would be to examine the effects in clinical populations.

## **Concept of Schizophrenia/Psychosis**

Schizophrenia is a mental disorder with symptoms that range from cognitive, behavioral, and emotional dysfunctions, however, no one symptom is indicative of this disorder (American Psychiatric Association, 2013). A diagnosis of this disorder involves recognizing symptoms that cause impairment in an individual's occupational or social functioning. Individuals with schizophrenia will vary greatly on which symptoms are present. It is estimated that the prevalence rate of schizophrenia is approximately 1% and ranges from 0.3% to 0.7% depending on the sample. Schizophrenia can present independently or alongside other medical or mental disorders. The rates for comorbidity with a substance-related disorder is high. Schizophrenia presenting as a comorbid condition with anxiety disorders is increasing. Finally, a schizotypal or paranoid personality disorder can sometimes precede the onset of schizophrenia. The psychotic features an individual may experience usually begins between the late teens and the mid-30s. An onset before this is considered rare (American Psychiatric Association, 2013). For the criteria for a schizophrenic disorder as stated by the American Psychiatric Association (2013) refer to Table B. Individuals who experience symptoms of schizophrenia will present in unique ways. The next critical component to consider is how these symptoms interact with paranoia.

## **Etiology of Paranoia: The role of Negative Affect and Insomnia**

Several theories explain what causes paranoia including, recreational drug use, neurological disease, severe trauma and stress (HealthDirect, 2018), and insomnia (Taylor et al., 2015). Recreational drugs such as amphetamine or heroin can cause an increase in paranoid thoughts. Neurological diseases such as Lewy Bodies Dementia or Parkinson's Disease cause develops paranoid thoughts when the disease progresses. Trauma and stress can cause an

individual to develop paranoid thoughts as a way to protect the individual from the thoughts. Finally, insomnia is thought to increase paranoid thoughts as insomnia symptoms increase (HealthDirect, 2018).

Freeman and colleagues (2011) developed a theoretical model that emphasizes the role of negative affect such as depression and anxiety in the development of paranoia (Freeman, 2017; Freeman et al., 2002). Freeman and colleagues (2011) state that anxiety, the anticipation of danger, provides an individual with threat themes of paranoid fears; whereas depressive negative ideas about the self make the individual feel more vulnerable to harm; and worry brings improbable ideas to mind and makes them more distressed. These emotional states are linked to insomnia symptoms. This allows insomnia to further exacerbate the negative effect and leaves the individual open to misinterpretation of experiences (Freeman et al., 2010). However, Reeve and colleagues (2018b) found that paranoia is a predictor of later insomnia. This suggests a bidirectional relationship between insomnia and paranoia that is mediated by negative affect. The question then turns to how insomnia and paranoia affect each other. A study done by Waite and colleagues (2016a) stated that distress from a psychotic experience could increase arousal and prolong the onset of sleep. Other factors as discussed by (Hodgenkins et al., 2015; Stubbset et al., 2016) is lowered daytime activity which can lead to sleep disturbances by destabilizing the individual's circadian rhythms (Waite et al., 2016b). Kraepelin (1919) shares that clients express that they do not want to go to sleep because they want to know what happens during the night or fear that someone will harm them while they are asleep. This suggests that helping a client with their paranoid thoughts will increase their chances of going to sleep. Additionally, Ben-Zeev and Colleagues (2009) found that self-esteem affects paranoid ideation both directly and indirectly with its association with increased depression and anxiety. This suggests that individuals with

paranoid ideation and low self-esteem was associated with anxiety and depressive symptoms may be at risk for an increase of paranoid ideation.

In summary, schizophrenia is a mental disorder with symptoms that cause dysfunction in several areas of an individual's life with the estimated prevalence rate being 0.3% to 0.7% of the general population. Schizophrenia can present by itself or as a comorbid disorder. Many symptoms need to be met for a diagnosis of schizophrenia one of these being delusions. Delusions are beliefs that do not change even with evidence to prove they are not true. An individual who is experiencing delusional thinking believes their delusions without conviction. The most common type of delusional is a persecutory delusion. This is when an individual believes they are going to be harmed by another individual or group. Several studies support paranoid thoughts influencing sleep patterns. Reeve and colleagues (2018a) found that paranoia is a predictor of later insomnia. A study conducted by Waite and colleagues (2016a) found that distress from paranoid thoughts can result in increased arousal in an individual causing them to delay their sleep. Another study by Hodgenkins and colleagues (2015) and Stubbs and colleagues (2016) found that an individual who has low daytime activity usually increases sleep disturbances. The exact role of paranoia in insomnia is unclear and needs further study.

### **Rationale for Present Study**

Theoretical models of paranoia proposed that insomnia may lead to paranoid ideation by affecting cognitive processing for threat and increasing negative affect due to a lack of sleep. However, insomnia can also be thought of as a consequence of paranoia and the relationship between the two variables is unclear at present. Even with insomnia being associated with psychotic episodes it was found by Rehman and colleagues (2016) that clinicians do not usually

use formal assessments for sleep disorders. Implementing insomnia screenings and interventions would help to improve effective symptoms (Koyanagi et al., 2017) and decrease insomnia which will in turn decrease paranoia. Improving an individual's affective symptoms not only helps to decrease their paranoid thinking, but it also decreases their distress. (Koyanagi, 2016).

Building on the work of Freeman and colleagues (2005) and Reeve and colleagues (2018a), we will examine the role of insomnia in paranoia in a sample of sub-clinical and clinical participants. Paranoia will be measured across the continuum. Other measures such as negative affect and self-esteem will be included to determine the specific role of insomnia in paranoia. We hope the results will clarify these relationships and help us understand how insomnia is related to paranoia, but also negative affect as well.

## **Hypotheses**

### **Hypothesis 1**

We expected to find a significant positive correlation between participants' symptoms of paranoia and insomnia.

### **Hypothesis 2**

We examined the relationship between insomnia and paranoia where the relationship is expected to be mediated by negative affect.

## **Method**

### **Participants**

Participants consisted of a sample of undergraduate students ( $N = 61$ ; age 18-59;  $M = 21.59$ ;  $SD = 7.44$  ; 62.3% female) who were enrolled in a psychology course at a large public

university in the southern U.S. These participants were recruited from the departmental research website, Sona Systems, where students can volunteer to participate in research studies in exchange for course credit. Regarding race/ethnicity, 60% identified as white/Caucasian, 19.7 % identified as Latinx, 11.5% identified as black/African American, 3.3% identified as multi-racial or other, and 1.6% identified as Asian/Pacific Islander.

## **Measures**

*Paranoia Scale.* The Paranoia Scale (PS) is a 20-item scale that measures sub-clinical paranoid ideation found in normal individuals in response to everyday events and situations (Fenigstein & Venable, 1992). Each item is scored on a Likert scale ranging from 1 (not at all) to 5 (extremely applicable) with total scores ranging from 20-100. Higher scores reflect higher levels of sub-clinical paranoia. The PS was developed for use in analog samples and was not originally intended for clinical or diagnostic use, but the PS has demonstrated validity in persons with paranoid schizophrenia (Smari, Stefansson, & Thorgilsson, 1994). The scale has good psychometric properties and has been widely used in paranoia research (Combs, Penn, & Fenigstein, 2002; Martin & Penn, 2001).

*Paranoia/Suspiciousness questionnaire.* The Paranoia/Suspiciousness Questionnaire (PSQ; Rawlings & Freeman, 1996) is a 47-item scale designed to measure paranoid ideation in non-clinical samples. Each of the items is rated using a true or false format, and scores range from 0-47. Higher scores reflect greater non-clinical paranoia. The PSQ was developed using both item analysis and factor analytic methods in a large sample of undergraduate students (N = 561). In previous research, the PSQ demonstrated excellent internal consistency (Cronbach's  $\alpha = .89$ ) and test-retest reliability over a 12-week period was good ( $r = .82$ ; Rawlings & Freeman, 1996).

*Emotional Stroop Test.* The Emotional Stroop Test was used to assess cognitive interference effects for paranoia and depression (Bentall & Kaney, 1989). For this task, the participant was required to read a list of non-threatening words, paranoid-content words (e.g. spy, threat), and depression-content words (e.g. sad, cry). Due to its sensitivity to paranoid ideation, we predicted that participants in the high paranoia group, relative to the low paranoia group, should show a selective interference for color-naming only paranoid words. An interference index can be calculated for both the paranoia and depression lists in which the time to read the control list is subtracted from the time to read the paranoia and depression lists respectively (thus controlling for the effects of non-threatening words). Prior research showed that persons with persecutory delusions and high levels of sub-clinical paranoia showed slowed color naming to threat words as compared to depressed and neutral words (Bentall & Kaney, 1989; Fear et al., 1996).

*Expanded Brief Psychiatric Rating Scale.* The Expanded Brief Psychiatric Rating Scale (BPRS) is a 24 item semi-structured interview that measures psychiatric symptom severity (Lukoff, Nuechterlein, & Ventura, 1986). For this study, the BPRS was used to assess for the presence of persecutory delusions for the clinical participants. BPRS items are rated on a scale ranging from 1 (not present) to 7 (extremely severe); a score of 5+ indicated the presence of paranoid delusions. The BPRS comprises four-factor scores: Anergia, Affect, Thought Disorder, and Disorganization (see Mueser, Curran, & McHugo, 1997). Raters were trained to an ICC value of .80+ with a criterion-trained rater.

*Rosenberg Self-Esteem Scale.* The Rosenberg Self-Esteem Scale (RSES) is a 10-item scale used to assess self-esteem levels (Rosenberg, 1965). This scale is scored on a Likert scale of 1 - 4 with scores ranging from 10 - 40; higher scores reflect increased levels of self-esteem.

Internal consistency reliability is excellent ( $\alpha = .92$ ). This scale has excellent validity data and correlates highly with other measures of self-esteem (Robinson and Shaver, 1973). The RSES is negatively correlated with the PS scale across several studies (Combs et al., 2000; Martin and Penn, 2001).

*Beck Depression Inventory -2.* The Beck Depression Inventory - 2 (BDI-2) is a 21-item scale that measures the severity of depressive symptoms (Beck et al., 1996). The scale is rated on a Likert scale from 0 - 3 and scores range from 0 - 63. Higher scores reflect an increased severity of depressive symptoms. The BDI-2 has demonstrated good reliability and substantial convergent (with other measures of depression) and discriminant validity and has been widely used in research on depression. The BDI scales are related to the level of paranoid ideation in several studies (Kinderman & Bentall, 1996; Martin & Penn, 2001).

*Brief Fear of Negative Evaluation Scale.* The Fear of Negative Evaluation scale (FNE; Leary, 1983) is a 12-item scale that measures social anxiety and fear of criticism and negative evaluation. It is scored on a 1 - 5 Likert scale with a range of 12 - 60. Higher scores reflect more social anxiety and fear of evaluation and criticism. Internal consistency data was found to be excellent for this brief scale ( $\alpha = .90$ ; Leary, 1983). Validity data showed that the brief FNE positively correlated with other clinical and structured interview measures of social anxiety and behavioral avoidance (Leary, 1983) and sub-clinical paranoid ideation (Martin & Penn, 2001).

*The Insomnia Severity Index.* The Insomnia Severity Index (ISI; Morin et al., 2011) is a brief self-report instrument measuring the participant's perception of both nocturnal and diurnal symptoms of insomnia. The ISI comprises seven items assessing the perceived severity of difficulties initiating sleep, staying asleep, and early morning awakenings, satisfaction with

current sleep pattern, interference with daily functioning, noticeability of impairment attributed to the sleep problem, and degree of distress or concern caused by the sleep problem.

*Pittsburgh Sleep Quality Index.* The Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989) is a self-rated questionnaire that assesses sleep quality and disturbances over one month's time interval. It differentiates “poor” from “good” sleep by measuring seven domains: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction over the last month. The participant was asked to rate each of these seven areas from 0 to 3 where 3 reflects a negative extreme.

## **Procedure**

All participants completed the informed consent forms which emphasize their confidentiality. Next, they completed the tests which lasted approximately 1 hour and 30 minutes. The subclinical participants received extra credit for participation.

## **Results**

A review of the Pearson correlation coefficients showed a positive relationship between insomnia and paranoia symptoms, ( $r = .35, p = .05$ ;  $r = .26, p = .05$ ). That is, the more insomnia symptoms an individual experienced, the more paranoia symptoms they experienced. A full table of all of the bivariate correlations among the participants are displayed in Table 1.

A hierarchical regression was conducted to examine the relationships between paranoia, negative affect, and insomnia. For this analysis, the predictor variables were- FNES, RSES, Emotional Stroop Depression, and BDI. For this analysis the DV was ISI total score. It was predicted that paranoia would be a significant predictor of insomnia after accounting for negative affect measures. As showed Model 1, with negative affect as the only predictor, explained 5.5%

of variance was a trend in terms of significance, ( $F(4,56) = 2.44, p < .057$ ). Model 2, in which levels paranoia were added, explained no significant variance ( $R^2$  change = .02,  $F(8,52) = 1.39, p < .222$ ).

A second hierarchical regression was conducted to examine the relationships between paranoia, negative affect, and insomnia. For this analysis, the predictor variables were- FNES, RSES, Emotional Stroop Depression, and BDI. For this analysis the DV was the PSQI total score. It was predicted that paranoia would be a significant predictor of insomnia after accounting for negative affect measures. As showed Model 1, with negative affect as the only predictor, explained 3.1% of variance was not significant ( $F(4,56) = 1.84, p < .133$ ). Model 2, in which levels of paranoia were added, explained no significant variance ( $R^2$  change = .02,  $F(8,52) = 1.14, p < .351$ ).

## **Discussion**

This study explored the relationship between insomnia and paranoia while accounting for the role of negative affect as possible mediator. Insomnia and negative affect are often associated with paranoia based on the emotional distress and the effect of sleep during paranoid states (Reeve et al., 2018b). Participants completed a variety of self-report questionnaires regarding any paranoia, negative affect, and insomnia. Paranoia was examined as a continuous variable given the findings that paranoid ideation exists in both normal and clinical samples.

Results showed that there was a significant relationship between insomnia symptoms and paranoia with generally small to moderate effect sizes. The strongest relationships were between ISI and BPRS. Regression analyses showed that there was not a significant relationship between

insomnia symptoms and paranoia while controlling for negative affect. Negative affect seemed to account for insomnia symptoms in this sample.

The results provide information about how insomnia is related to negative emotional states such as anxiety and depression and paranoia. Insomnia may be best treated by addressing the underlying negative emotional states instead of addressing and reducing paranoia.

Traditional CBT approaches may be beneficial as a treatment.

### **Limitations and Future Directions**

There are several limitations to be discussed. Due to COVID-19, we were unable to complete the collection of data for the subclinical and clinical group. This resulted in a smaller than desired sample size for the subclinical sample and no clinical sample. Having a smaller sample sizes reduces the generalizability of the results and reduces the ability to detect differences in the measures. Additionally, this study relied on several self-report questionnaires which increases the risk of participants answering in a way that makes them more socially desirable. It is recommended that future studies gather a larger sample size for the subclinical sample. It would be beneficial to add in more insomnia questionnaires to get a well-rounded view of sleep disturbances. Additionally, comparing the subclinical paranoid population to the clinical paranoid population would expand the knowledge on how insomnia affects paranoia. Finally, exploring how treatment for insomnia can reduce individual's paranoia symptoms.

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## Appendix A

### Insomnia Disorder Criteria

- A. A predominant complaint of dissatisfaction with sleep quantity or quality, associated with one (or more) of the following symptoms.
  - 1. Difficulty initiating sleep.
  - 2. Difficulty maintaining sleep, characterized by frequent awakenings or problems returning to sleep after awakenings.
  - 3. Early-morning awakening with the inability to return to sleep.
- B. The sleep disturbance causes clinically significant distress or impairment in social, occupational, educational, academic, behavioral, or other important areas of functioning.
- C. The sleep difficulty occurs at least 3 nights per week.
- D. Sleep difficulty is present for at least 3 months.
- E. The sleep difficulty occurs despite adequate opportunity for sleep.
- F. The insomnia is not better explained by and does not occur exclusively during another sleep-wake disorder.
- G. The insomnia is not attributable to the physiological effects of a substance.
- H. Coexisting mental disorders and medical conditions do not adequately explain the predominant complaint of insomnia.

Appendix B  
Schizophrenia Disorder Criteria

- A. Two (or more) of the following, each present for a significant portion of time for 1 month. At least one of these must be (1), (2), or (3):
1. Delusions.
  2. Hallucinations.
  3. Disorganized speech.
  4. Grossly disorganized or catatonic behavior.
  5. Negative symptoms.
- B. For a significant portion of the time since the onset of the disturbance, the level of functioning in one or more major areas, such as work, interpersonal relations, or self-care, is markedly below the level achieved before the onset.
- C. Continuous signs of the disturbance persist for at least 6 months. This 6-month period must include at least 1 month of symptoms that meet Criterion A and may include periods of prodromal or residual symptoms. During these prodromal or residual periods, the signs of the disturbance may be manifested by only negative symptoms or by two or more symptoms listed in Criterion A present in an attenuated form.
- D. Schizoaffective disorder and depressive or bipolar disorder with psychotic features have been ruled out because either 1) no major depressive or manic episodes have occurred concurrently with the active-phase symptoms, or 2) if mood episodes have occurred during the active-phase symptoms, they have been present for a minority of the total duration of the active and residual periods of the illness.

- E. The disturbance is not attributable to the physiological effects of a substance or another medical condition.
- F. If there is a history of autism spectrum disorder or a communication disorder of childhood-onset, the additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations, in addition to the other required symptoms of schizophrenia, are also present for at least 1 month.

Table 1

*Bivariate Correlations Between for All Variables of Interest for Among All Participants (N = 61)*

|               | PSQI | ISI   | PSQ | PS    | ES<br>Paran<br>oia | ES<br>Depre<br>ssion | BPRS  | RSES | BDI   | FNES  |
|---------------|------|-------|-----|-------|--------------------|----------------------|-------|------|-------|-------|
| PSQI          | -    | .47** | .12 | .04   | -.02               | .04                  | .25   | .08  | .32*  | .15   |
| ISI           |      | -     | .23 | .25*  | -.10               | -.15                 | .26*  | -.02 | .31   | .23   |
| PSQ           |      |       | -   | .59** | -.05               | -.03                 | .35** | -.15 | .51** | .55** |
| PS            |      |       |     | -     | -.02               | .08                  | .40** | -.08 | .44** | .47** |
| ES Paranoia   |      |       |     |       | -                  | .52**                | .00   | -.00 | .08   | .17   |
| ES Depression |      |       |     |       |                    | -                    | .21   | -.02 | .16   | .13   |
| BPRS          |      |       |     |       |                    |                      | -     | -.13 | .50** | .32*  |
| RSES          |      |       |     |       |                    |                      |       | -    | -.07  | -.82  |
| BDI           |      |       |     |       |                    |                      |       |      | -     | .47** |
| FNES          |      |       |     |       |                    |                      |       |      |       | -     |

\* Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)

Table 2

*Hierarchical Linear Regression Model Predicting Paranoia*

|                   | <b>Step 1</b>               | <b>Step 2</b>               |
|-------------------|-----------------------------|-----------------------------|
| Model Information | $R^2$ adjusted = 0.05       | $R^2$ adjusted = 0.02       |
|                   | $\Delta R^2 = .12, p < .13$ | $\Delta R^2 = .03, p = .35$ |
| <b>Predictor</b>  | <b>Beta</b>                 | <b>Beta</b>                 |
| ES (Depression)   | -.01                        | -.01 (NS)                   |
| RSES              | .11                         | .12 (NS)                    |
| BDI               | .33                         | .31 (NS)                    |
| FNES              | -.00                        | .05 (NS)                    |
| ES (Paranoia)     |                             | -.06 (NS)                   |
| PS                |                             | -.16 (NS)                   |
| PSQ               |                             | -.01 (NS)                   |
| BPRS              |                             | .16 (NS)                    |

*Note.* \*  $p \leq .05$ , \*\*  $p \leq .01$ , \*\*\*  $p \leq .001$ , NS = not significant

Table 3

*Hierarchical Linear Regression Model Predicting Paranoia*

|                   | <b>Step 1</b>               | <b>Step 2</b>               |
|-------------------|-----------------------------|-----------------------------|
| Model Information | $R^2$ adjusted = 0.9        | $R^2$ adjusted = 0.05       |
|                   | $\Delta R^2 = .15, p < .06$ | $\Delta R^2 = .03, p = .22$ |
| <b>Predictor</b>  | <b>Beta</b>                 | <b>Beta</b>                 |
| ES (Depression)   | -.21                        | -.23 (NS)                   |
| RSES              | .00                         | .02 (NS)                    |
| BDI               | .29                         | .21 (NS)                    |
| FNES              | .12                         | .10 (NS)                    |
| ES (Paranoia)     |                             | -.01 (NS)                   |
| PS                |                             | .10 (NS)                    |
| PSQ               |                             | -.05 (NS)                   |
| BPRS              |                             | .20 (NS)                    |

Note. \*  $p \leq .05$ , \*\*  $p \leq .01$ , \*\*\*  $p \leq .001$ , NS = not significant