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What Do You Do When You are Bored? Outcomes and Moderators of Job Boredom

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WHAT DO YOU DO WHEN YOU ARE BORED? OUTCOMES AND MODERATORS OF
JOB BOREDOM

by

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ABSTRACT

While little research on job boredom currently exists, most has focused on its connection to outcomes which are harmful to organizations. However, there is research that suggests boredom may have a positive relationship to creativity. The current study hypothesized that job boredom would be positively related to workplace creativity and that this relationship would be moderated by openness to experience. The current study also attempted to replicate previous research linking job boredom to counterproductive work behavior with boredom proneness as a moderator. Data were collected from 219 participants through a self-report survey on MTURK and analyzed with moderated regression analyses. Results showed a negative relationship between boredom and creativity and no moderation effect of openness. The results also found that boredom was related to counterproductive work behavior and that boredom proneness moderated this relationship such that it was stronger for those higher in boredom proneness. Limitations and implications of these relationships are discussed.

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CHAPTER 1: INTRODUCTION

You are sitting in your office, cubicle or desk and it's another slow afternoon. You have finished all pressing tasks for the day, or perhaps there are more, but they require little effort or thinking to complete. Now what? What will you do? You are feeling bored and have to remain in your office for 3 more hours. You could waste time on the computer looking at social media sites, or bother your coworker and distract them from their work, or you could do something productive, perhaps even something that may help your company even though it's not part of your job. For example, you start thinking about a new way meetings could be conducted that is more efficient, or you suddenly realize that some tasks you performed earlier in the day could be done in a different way, or maybe you notice that your coworker is overburdened with work and offer to help. This is the general premise the proposed study will explore. What do people do when they are bored? Is it always something negative or harmful? Or could a positive outcome develop out of this undesirable state?

The model to be tested in the current study is presented below in figure 1. Job boredom has been historically connected to negative outcomes (Kass, Vodanovich & Callender, 2001; van Hooff & van Hooft, 2014). However, the manner in which an employee responds to or copes with job boredom is inherently a choice. The emotion-centered model of voluntary work behavior theorizes that behavior is the outcome of individual characteristics that interact with environmental influences and constraints (Spector & Fox, 2002). Further, the environment is appraised by the individual psychologically and a judgement is made about that environment. Based on that appraisal, either a positive or negative emotion follows. These emotions interact with personality traits and perceptions of the individual's level of control to impact behavior. I

propose that an individual may feel bored, but if he or she is highly open to experience, they may respond with creative behaviors; if they are low in this trait they may respond with less productive behaviors. While Spector and Fox argued that positive emotions lead to positive behaviors and negative emotions lead to negative behaviors there is evidence that job boredom, which is widely regarded as a negative psychological state, may in some cases actually lead to workplace creativity, a generally positive and desirable behavior. The proposed study will replicate previous research linking boredom with counterproductive work behavior, but will extend previous research by examining whether boredom is also related to workplace creativity. The following sections of this introduction review previous research on job boredom, while making specific hypotheses related to job boredom, counterproductive work behavior, boredom proneness, workplace creativity and openness to experience.
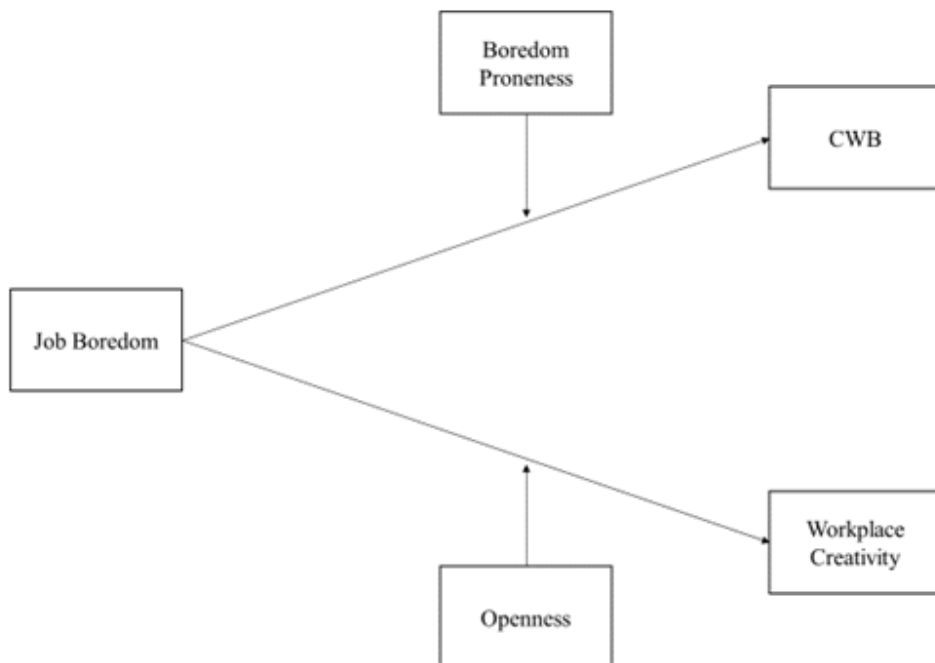
Figure 1. Theoretical Model

Defining Job Boredom

Before proposing hypotheses regarding the effects of job boredom it is important to define what boredom actually is. According to Mikulas and Vodanovich (1993), boredom is characterized by both low arousal and dissatisfaction due to a lack of stimulation in the environment. Other features of boredom include an inability to concentrate on an activity due to a lack of interest and a perception of a lack of meaning in the activity (Barbalet, 1999; Fisher, 1993). Job boredom is the feeling of boredom due to characteristics of a job (Bruursema, Kessler & Spector, 2011). The most common job characteristics that are related to increasing boredom are monotony and repetition (Mael & Jex, 2015), although a lack of skill variety may be a causal factor (Bruursema et al., 2011). Boredom can be experienced in many different work settings (Farmer & Sundberg, 1986). According to one survey, some of the most boring jobs are in the areas of law, accounting, engineering, finance, IT, sales and marketing (The Sun, 2017). These areas represent a variety of important and common jobs.

Boredom is similar to depression, due to the negative emotional experience however, boredom differs from depression in a number of ways. For instance, depression is directed internally while boredom is more often directed externally (Barbalet, 1999). Barbalet also contrasted the two by pointing out that depression leads to a loss in self-esteem while boredom leads to a perceived loss of meaning. Depression leads to a general loss of interest in activities or stimuli, while boredom is a reaction to a specific situation (Mael & Jex, 2015), namely one's work activities. Furthermore, empirical studies have also shown that while boredom is positively associated with depression, the two constructs appear to be distinct (Goldberg, Eastwood, LaGuardia & Danckert, 2011; van Hooff & van Hooft, 2014; Wiesner, Windle & Freeman,

2005). This distinction is suggested based on both the magnitude of correlations and confirmatory factor analyses.

Effects of Job Boredom

Job boredom has been linked to a variety of negative outcomes for organizations such as turnover and low job satisfaction (Kass et al., 2001). It has been shown to have negative effects on individual workers, both mentally and physically. Specifically, Harju, Hakanen and Schaufeli (2014) found that job boredom was negatively related to both a person's physical health, as well as their job attitudes. van Hooff and van Hooft (2014) found job boredom to be positively related to depressive complaints and distress. Additionally, some research has found that boredom leads to lapses in attention and increased fatigue (Cummings, Gao & Thornburg, 2016). Finally, as will be shown in the next section, job boredom has also been found to be related to counterproductive work behavior.

Counterproductive Work Behavior

Counterproductive work behavior (CWB) refers to behavior that is intentionally carried out by an employee and that is detrimental to an organization and/or its stakeholders (Spector & Fox, 2005). These stakeholders can include the employee's supervisor, coworkers, or even an organization's customers and clients. A conceptualization of CWB devised by Spector et al. (2006) contains five types of these behaviors. These include abuse against others, theft, production deviance, sabotage, and withdrawal. Abuse against others refers to someone inflicting physical and psychological harm on others in an organization. Theft is stealing from the company or other employees. Production deviance refers to intentionally carrying out tasks

ineffectively. Sabotage is similar to vandalism but in relation to organization owned property.

Finally, withdrawal entails working less than what is expected by the organization such as

leaving early, taking too many days off or showing up late.

Bruursemaa et al. (2011) measured the previously mentioned CWB subcomponents of

production deviance, withdrawal, abuse, sabotage and theft. They also added a sixth

subcomponent called horseplay. Horseplay is defined as behaviors that waste time and/or

resources such as playing a game, gossiping about others or playing a practical joke on a

coworker. The mechanisms by which they proposed job boredom would be related to each

subcomponent varied. For example, they proposed that sabotage would occur due to the

perceived need for excitement in the bored employee while theft may occur due to feelings of

injustice toward the organization. Bruursemaa et al. did not find a relationship between job

boredom and horseplay but did find a positive relationship with abuse, sabotage, withdrawal,

production deviance, and theft for self-report responses. As a result, the horseplay subcomponent

will not be included in the current study.

van Hooff and van Hooft (2014) hypothesized and found that job boredom was positively

related to CWB, and had based their hypothesis upon the work of Bruursemaa et al. (2011). Both

studies examined the relationship between boredom and CWB through the lens of the emotion-

centered model of Spector and Fox (2002). The explanation of the relationship based on this

model is that employees look for a way to cope with negative emotions (like boredom) and CWB

is one way to do that. As such, they hypothesized and found support for job boredom being

related to CWB with bored behavior mediating this relationship. They defined bored behavior as

withdrawal measures taken by an employee to reduce the negative feeling of boredom. These

behaviors do not directly assist in achieving work-related goals. Examples of such bored

behaviors are engaging in other activities, stopping performance of the boring activity, working more slowly, and daydreaming. They argued that to initially cope with boredom employees will engage in bored behavior, but if nothing in the boredom inducing environment changes then the behavioral response will grow more extreme, eventually resulting in CWB. For the current study it is expected based on previous works that job boredom will be positively related to CWB (theft, sabotage, abuse, withdrawal and production deviance).

      Hypothesis 1: Job boredom will be positively related to CWB (abuse, sabotage, withdrawal, production deviance and theft).

Boredom Proneness

      Boredom proneness is a construct that is by nature highly related to job boredom. Boredom proneness is defined as a personality trait characterized by the tendency to experience the state of boredom across situations. Individuals high in boredom proneness often see tasks as requiring high effort, and are more likely to report lower job satisfaction and psychological wellbeing. They also may be at higher risk for depression and experience more frequent negative emotions (Farmer & Sundberg, 1986). Boredom proneness has been conceptualized as both a unidimensional and multidimensional construct (Bruursemaa et al., 2011). For the purposes of this study, the conceptualization with a two factor structure will be used. This includes factors based on external and internal stimulation (Vodanovich, Wallace & Kass, 2005). Those high in boredom proneness-external stimulation (BP-ext) focus on the environment around them and perceive it as lacking in stimulation, while those high in boredom proneness-internal stimulation (BP-int) look inward to create enough stimulation or interest in their current activities. For the

purposes of this study only BP-ext will be examined due to its focus on the external environment at work.

As mentioned previously Bruursema et al., (2011) examined the relationship between job boredom and several forms of CWB (abuse, sabotage, withdrawal, production deviance, theft and horseplay). They also examined boredom proneness (BP-ext) as a moderator of this relationship. They hypothesized that job boredom and boredom proneness (BP-ext) would be positively related with these forms of CWB, and that boredom proneness would moderate the relationship between boredom and CWB. They reasoned that this moderated relationship was due to BP-ext being positively related to trait anger. Trait anger is highly predictive of workplace aggression so they reasoned that highly boredom prone individuals would be more likely to engage in the direct forms of CWB such as abuse, sabotage and production deviance. For the other forms of CWB they proposed various mechanisms. For theft, this could be a coping mechanism the employee does for fun to reduce the boredom or in retaliation for a perceived injustice on the part of the organization. For withdrawal they explained that these behaviors were done as a means to escape the boring situation. Bruursema et al. (2011) found that boredom proneness moderated the relationship between job boredom and multiple forms of CWB (sabotage, production deviance, withdrawal and theft). In all cases, high boredom proneness strengthened relationships between boredom and the various forms of CWB. Based on previous research it was expected that boredom proneness (BP-ext) would moderate the relationship between job boredom and CWB (sabotage, production deviance, withdrawal and theft) such that the relationship will be stronger for those higher in boredom proneness (BP-ext) than those lower in it.

Hypothesis 2: The relationship between job boredom and CWB (sabotage, production deviance, withdrawal and theft) will be moderated by boredom proneness (BP-ext) such that the relationship will be stronger for those higher in boredom proneness than those lower in boredom proneness.

Research Question: Given that Bruusema et al. (2011) proposed that the moderating effect of boredom proneness was due to trait anger, in the present study I measure trait anger and examine whether it is in fact related to boredom proneness.

Workplace Creativity

Throughout this paper, and the research literature on job boredom, the consequences of being bored on the job have largely been negative. In fact, there has been little if any research on any positive benefits of job boredom (van Hooff & van Hooft, 2014). Thus, a second purpose of the present study is to extend the literature on job boredom by examining a positive outcome; namely, workplace creativity. Workplace creativity refers to individuals or a small team of individuals producing novel and useful ideas on the job (Amabile, 1996). As can be seen in this definition, the literature typically defines creativity as an outcome. A creative idea can be related to a product, service, process or something else that benefits the organization. Creativity can vary in individuals due to differences in personality, values, affect, cognitive styles and job attitudes (Zhou & Hoever, 2014). Workplace creativity is also related to other constructs such as innovativeness and voice behaviors. The creative idea can be the start of organizational change that requires voice in order for others to become aware of the idea and then implement (innovate) it to achieve the desired outcome that inspired the creative idea (Rank, Pace, & Frese, 2004).

Outside of the organizational literature there have been findings linking boredom to creativity. Mann and Cadman (2014) conducted two experiments where boredom was induced through either a writing or reading activity. The first experiment split participants up into two groups. In one group where they were asked to write down numbers from a phonebook for a set period of time (bored condition) and another where they immediately moved to the next part of the experiment. The next part of the experiment was a creative task that required participants to list as many uses for a styrofoam cup as possible during a set period of time. It was found that those in the bored comparison group were able to list more uses than participants in the control group.

The second experiment added an additional comparison group to those in experiment 1. This additional group was also induced to boredom, but in this case they read numbers in the phone book instead of writing them down. The second experiment also added additional creative tasks. Participants were now asked to additionally write down consequences for having narcolepsy and give as many solutions to a set of word problems as possible. Both bored comparison groups performed the same on the cup and narcolepsy tasks while also outperforming the control group in both tasks. For the word problem task, only the bored group that read the phonebook outperformed the control group.

The mechanism by which these researchers explained the positive relationship between boredom and creativity was daydreaming. More specifically, due to the lack of stimulation in an individual's environment they seek out a remedies to reduce boredom. One such remedy can be found in retreating to their inner thoughts through daydreaming. Here they spend more time thinking about their situation as well as other thoughts, feelings and memories. From this, the person can think of new ways to accomplish the boring tasks that might make it more interesting,

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alternatively they may think of more efficient ways to complete the task so that it will be completed sooner. Either way, in the daydreaming state various cognitive processes are stimulated which may bring about novel ideas.

Ohly, Sonnentag & Pluntke (2006) studied the relationship between routinization at work, job characteristics, proactive behaviors and creative behaviors. Routinization is characterized by monotony and repetition, both of which have been traditionally associated with boredom (Mael & Jex, 2015). Creativity was measured using a self-report scale that captured each individual's general propensity to engage in creative behaviors. Routinization was measured using items that captured a job's level of automaticity or how little thinking is involved in the job. They found that routinization was positively related to creative behaviors. The authors' explanation for this finding was that in routine, automatic tasks, there is a surplus of cognitive resources that a person can use to come up with novel ideas. Additionally, routine and automatic tasks are typically completed faster than non-routine tasks so extra time is available for creative pursuits.

Gasper & Middlewood (2014) also tested the relationship between boredom and creativity. They tested a variety of affective states with different valences, orientations and activation levels to see how they affected associative thoughts. They classified boredom as negative valence, positive approach and deactivated state. They theorized that negative affective states would signal a problem in the environment that needed to be addressed. A positive approach would activate a greater openness to experience and more frequent original associations. Thus, they proposed that experiencing boredom would motivate a person to remedy this negative state by stimulating their creativity to find a way to reduce this emotion. They hypothesized that boredom would increase associative thoughts and do so in a way that is more

effective than other types of emotions. Their results provided evidence supporting their hypotheses.

It is important to note that the previously mentioned studies did not examine boredom and creativity in a work or organizational context. However, based on these results, and the idea that creativity may be a way to cope with boredom, I propose that similar outcomes will happen at work. Creativity can be a response to boredom for two primary reasons. First, while feeling under stimulated and lacking in meaning, individuals may think of new ways of accomplishing the boring task. Secondly, they may also notice other novel tasks they could be doing that would stimulate their interest and further the organization's goals. As such, in the current study it is expected that feelings of job boredom will be positively related to workplace creativity.

Hypothesis 3: There will be a positive relationship between job boredom and workplace creativity.

Openness to Experience

As with the previously described interaction between boredom and boredom proneness in predicting CWB, it is possible that some individuals may be more likely to engage in creative behaviors than others when experiencing boredom on the job. As the emotion-centered model proposed, the behavior that people engage in is due to their appraisal of the environment, the emotions that result from this appraisal and individual factors such as personality. One personality trait that is applicable to creativity is openness to experience, which is one of the Big Five personality traits and has been widely studied. Individuals high in openness are characterized by having unusual thinking patterns, valuing intellectual matters, having a wider range of interests and being introspective (McCrae & John 1992). Some have called artists and

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other creative individuals exemplars of those high in openness (McCrae & Costa, 1997). They are naturally curious and seek out things that are different.

Openness to experience, by its very definition, would appear to be related to creativity. Indeed studies have shown a link between openness to experience and creativity (Griffin & McDermott, 1998; Raja & Johns, 2010; Tan, Lau, Kung & Kailsan, 2019). As such, it is expected that this will be the case in relation to workplace creativity. Those high in openness will be more likely to engage in creative behaviors in a variety of environments. I propose that in response to boredom these individuals will be more likely to respond to this negative emotion with creative behavior as opposed to other types of behaviors. To further elaborate, it is not that people high in openness are more accepting of boredom than those who are lower in this trait, rather when experiencing feelings of boredom on the job they will be more likely to cope by coming up with creative thoughts and behaviors. As mentioned in a previous section, feelings of boredom compel an individual to increase stimulation and meaning. One way to do this is by retreating into the mind and thinking about other things as well as what they can do about the current situation. From this cognitive activity novel ideas arise. Open people are more likely to have novel thoughts in general and in response to boredom. Because of this, I propose that they will be more likely to cope this way than other people that are not as high in openness. To summarize, the relationship between job boredom and workplace creativity will be moderated by openness to experience such that the relationship will be stronger for those high in openness than those low in openness.

Hypothesis 4: The relationship between job boredom and workplace creativity will be moderated by openness to experience such that the relationship will be stronger for those higher in openness than those lower in openness.

CHAPTER 2: METHODOLOGY

Participants

225 participants were recruited to take part in this study through Amazon's Mechanical Turk online system and were paid 3.75 dollars for taking a survey. Participants were not restricted to any one job but did have to meet certain criteria for compensation. Participants were required to be at least 18 years old and work at least 30 hours per week. Additionally, certain participants were excluded from the study if they failed to pass several attention checks, took the survey too quickly, took the survey multiple times or had low quality responses to open ended questions. After data cleaning for these various concerns the final sample size was 219. This sample was 63.5 % male, 36.5% female, 67.1% Caucasian, 10.5% African American, 4.6% Hispanic or Latino, 16.4% Asian or Pacific Islander, .5 % Native American and .6% other ethnicities. Additionally, the average age was 35.32 ($SD = 9.95$) and the average hours each participant typically worked was 42.07 ($SD = 6.13$).

Measures

Job Boredom. A thirteen item inventory which measures the extent to which an individual is experiencing job boredom created by Lee (1986) was used. Items were measured on a seven point Likert scale: (1 - Never, 2 - Very Rarely, 3 - Sometimes, 4 - Often, 5 - Very Often, 6 - Almost always, 7 - Always). The Cronbach's alpha for this scale is .95 (Kass et al, 2001). An example of an item on this scale is, "Is your work tedious?" This scale is provided in Appendix A.

Boredom Proneness. A shortened version of the Boredom Proneness Scale (BPS) was used (Farmer & Sundberg, 1986). The 16 items in this tool were converted to a seven point

Likert scale (1 - Strongly Disagree to 7 - Strongly Agree) as in Bruursema et al. (2011). The inventory includes an external simulation subscale with 8 items featuring a Cronbach's alpha of .75 and an internal simulation subscale also containing 8 items and an alpha of .63 (Bruursema et al., 2011). This scale is provided in Appendix B.

Counterproductive Work Behavior. For CWB a 32 item version of the Counterproductive Work Behavior Checklist (CWB-C) was used (Spector et al., 2006). Items are separated into five categories (abuse, production deviance, sabotage, theft and withdrawal). Items are rated on a five point frequency scale (1 - Never, 2 - Once or twice, 3 - Once or twice per month, 4 - Once or twice per week, 5 - Every day). The Cronbach's alpha of a very similar 33 item version is .91 (Bruursema et al., 2011). For each item the participant is asked "How often have you done each of the following things on your present job?" An example of an abuse item on this scale is, "Started or continued a damaging or harmful rumor at work". An example of a production deviance item is "Purposely did your work incorrectly". An example of a sabotage item is "Purposely wasted your employer's materials/supplies". An example of a theft item is "Stolen something belonging to your employer". An example of a withdrawal item is "Stayed home from work and said you were sick when you weren't". This scale is provided in Appendix C.

Workplace Creativity. 13 items adapted from Zhou & George (2001) for self-report response were used. Items were measured using a five point Likert scale (1 - Not at all characteristic to 5 - Very characteristic). Cronbach's alpha has been measured to be .96 for this scale. An example of an item on this scale is "Suggests new ways to achieve goals or objectives". This scale is provided in Appendix D.

Openness. To measure openness the Work-specific Openness Scale was used (Pace, 2005). This is a 48 item scale that is meant to assess openness in a workplace setting. Items were

rated on a five point Likert scale (1 - Strongly Disagree to 5 - Strongly Agree). The Cronbach's

alpha is .86 for this scale. An example item on this scale is "I find tricky problems more

enjoyable than simple ones". This scale is provided in Appendix E.

Trait Anger. To measure trait anger a facet scale was taken from the International

Personality Item Pool (Goldberg et al., 2006). This trait anger scale has a Cronbach's alpha of

.88 (NEO Facets Key, n.d.). Items were rated on a five point Likert scale (1 - Strongly Disagree

to 5 - Strongly Agree). Examples of items on this scale include "get angry easily" and "seldom

get mad". This scale is provided in Appendix F.

Job Diagnostic Survey. The shortened version of this survey includes 21 items (Hackman

& Oldham, 1974). Some of the items were slightly modified so that all items would be measured

on the same Likert scale. Cronbach's alpha is .71 for skill variety, .59 for task identity, .66 for

task significance, .66 for autonomy, .71 for feedback from the job. The items were measured on

a seven point Likert scale: (1 - very inaccurate 2 - mostly inaccurate 3 - slightly inaccurate 4 -

uncertain 5 - slightly accurate 6 - mostly accurate 7 - very accurate) Examples of items on this

scale include "The job requires me to use a number of complex or high-level skills" (Skill

variety). "The job provides me the chance to completely finish the pieces of work I begin" (Task

identity). "The job is arranged so that I do not have the chance to do an entire piece of work from

beginning to end" (Task significance). "The job gives me considerable opportunity for

independence and freedom in how I do the work" (Autonomy). "Just doing the work required by

the job provides many chances for me to figure out how well I am doing" (Feedback from the job

itself). This scale was included so that the various job characteristics could be used as control

variables in the analyses for workplace creativity. This scale is provided in Appendix G.

Demographics. A custom created demographic questionnaire was given at the end of the survey to collect general information about each participant. This included questions asking the participant to give their gender, age, ethnicity, hours worked per week, job title and industry. Both age and gender were used as control variables in analyses for CWB and workplace creativity. These questions can be found in Appendix H.

Procedure

This study was completed entirely online. Participants were required to have a computer with internet access to take part in the study. When participants accessed the online study link they were first told the general purpose of the study and the general procedure for completing the study after which they were asked to provide their informed consent by clicking "agree". The participants were then screened to make sure they worked at least 30 hours per week and were at least 18 years of age. Any participants who indicated they did not meet these requirements were not allowed to continue. Participants were also asked to provide their MTURK ID to match them with Amazon's system information. From this point on the participants were asked to complete a series of inventories previously discussed. Additional items were included in each inventory to detect and deter careless responses. After completing these inventories, they were asked a series of demographic questions. When they completed all questions they were thanked for their time and given a code they had to input into Amazon's online system. Responses were reviewed for the previously mentioned criteria and then the participants were granted compensation for completing the survey.

Data Analysis

Hypotheses presented earlier in this paper were tested using moderated multiple regression analyses. The procedure for the analyses conducted was similar to the method recommended by Aiken, West & Reno (1991). Prior to running the regression analyses the predictor variables of job boredom, boredom proneness and openness were centered around the grand mean of each variable. Then interaction variables were created for the two separate analyses. For the relationship between job boredom and CWB, an interaction term of job boredom x boredom proneness was created. For the relationship between job boredom and workplace creativity, an interaction term of job boredom x openness was created. After this, two sets of regression analyses were performed. One with job boredom, boredom proneness, the interaction of both variables and CWB and the other with job boredom, openness, the interaction of both variables and workplace creativity. In step one of each analysis only the control variables and outcomes were entered. In step two, the predictors and moderators were entered. In the third step the interaction terms were added. The b's of each term were examined for significance in addition to the change in variance explained by adding the interaction terms. Also, a simple slopes test was conducted to further test the nature of the interactions and line graphs were generated to see the interaction effects visually. Finally, to answer the research question regarding boredom proneness and trait anger a number of analyses were performed. The correlations between these two variables were examined for significance and effect size. Further, trait anger was used as a control variable in the same analyses testing the interaction between boredom and boredom proneness. Additionally, trait anger was tested as a moderator of the relationship between boredom and CWB, both by itself and in conjunction with the hypothesized interaction between job boredom and boredom proneness.

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CHAPTER 3: RESULTS

Descriptive statistics for all study variables are displayed in Table 1. These include means, standard deviations, observed and possible ranges and reliability estimates as measured by Cronbach's alpha. As can be seen, observed ranges for each variable were relatively similar to the possible ranges, suggesting that range restriction was not a major concern. Most reliability estimates were above .80. However, reliability estimates for boredom proneness (external), and for 6 out of the 7 job characteristics were lower than the generally accepted guideline of .7. This may in part be due to the low number of items, particularly for the job characteristics as they were measured with only three items each.

Table 2 contains intercorrelations among all study variables. Job boredom has a negative correlation with workplace creativity ($r = -.27$, p $< .01$) which is contrary to what was expected. Conversely, job boredom has a positive relationship with overall CWB ($r = .57$, $p < .01$) which is consistent with past research. Additionally, job boredom was positively related to each sub-dimension of CWB (sabotage, production deviance, withdrawal, theft and abuse). Openness, which was investigated as a moderator of the relationship between job boredom and workplace creativity was strongly and positively correlated with workplace creativity ($r = .65$, $p < .01$), and negatively correlated with job boredom ($r = -.27$, $p < .01$). Boredom proneness, another proposed moderator, was positively related to both job boredom ($r = .27$ $p < .01$) and CWB ($r = .38$, $p < .01$) as expected. Trait anger, which has been proposed as being closely linked to boredom proneness, was found to be positively related to job boredom ($r = .49$, $p < .01$), and CWB ($r = .40$, $p < .01$), yet was only weakly related to boredom proneness ($r = .15$, $p < .05$).

To test hypotheses 1 and 2 a series of moderated regression analyses were conducted. Tables 3, 4 and 5 contain separate regression results relating to the outcomes of CWB (overall) and it's sub-dimensions (production deviance, sabotage, theft, withdrawal and abuse). Prior to conducting the regression analyses, each control and independent variable was centered by the mean of that variable as recommended by Aiken, West and Reno (1991). In the first step of each analyses, age and gender were entered as control variables. In the second step, job boredom and boredom proneness were entered. Finally, in the third step, the interaction variable which was the product of job boredom and boredom proneness was entered. As shown in Tables 3-5, Hypothesis 1, which stated that job boredom would be positively related to CWB ($B = .86$, $p < .01$) and the sub-dimensions of production deviance ($B = .09$, $p < .01$), sabotage ($B = .08$, $p < .01$), theft ($B = .14$, $p < .01$), withdrawal ($B = .10$, $p < .01$) and abuse ($B = .44$, $p < .01$), was supported.

Hypothesis 2, which stated that the relationship between job boredom and CWB (production deviance, sabotage, theft and withdrawal) would be moderated by boredom proneness such that the relationship would be stronger for those higher in boredom proneness than those lower in it, was largely supported. As shown in Tables 3-5, the interaction term was found to be significant for CWB ($B = .07$, $p < .01$) and it's sub-dimensions of production deviance ($B = .01$, $p < .01$), sabotage ($B = .01$, $p < .01$), theft ($B = .14$, $p < .01$) and withdrawal ($B = .01$, $p < .01$). Step 3 of the models for CWB ($\Delta R^2 = .12$, $p < .01$) production deviance ($\Delta R^2 = .08$, $p < .01$), sabotage ($\Delta R^2 = .12$, $p < .01$), theft ($\Delta R^2 = .10$, $p < .01$) and withdrawal ($R^2 = .40$, $\Delta R^2 = .07$, $p < .01$) all produce additional variable explained beyond each model without the interaction terms.

In order to further explore these significant interaction effects, a simple slopes test was conducted to test the nature of the moderation effect. The results of these show that the slope for boredom proneness was significant at high levels (+1 *SD)* for CWB ($t(213) = 11.99, p < .01$), production deviance ($t(213) = 10.76, p < .01$), sabotage ($t(213) = 10.56, p < .01$), theft ($t(213) = 10.74, p < .01$) and withdrawal ($t(213) = 9.79, p < .01$) but not significant at low levels (-1 SD) for CWB ($t(213) = 1.74, p > .05$), sabotage ($t(213) = .94, p > .05$) and theft ($t(213) = 1.63, p > .05$). Additionally, relationships between boredom and the various CWB measures were plotted for those high (+1 *SD*) and low (-1 *SD*) on boredom proneness (Figures 2-6). Notice that in each of these plots the pattern is quite consistent. Specifically, boredom is more strongly related to all CWB measures for those high as opposed to low boredom proneness. Thus, Hypotheses 2 was supported.

To further investigate the role of trait anger in the job boredom, CWB relationship, additional analyses were conducted. First, trait anger was used as a control variable with job boredom and boredom proneness as predictors of CWB and an interaction term to again test boredom proneness as a moderator. The results were similar to the analysis described in the previous paragraph with a significant interaction between boredom proneness and job boredom ($R^2 = .54, \Delta R^2 = .12, p < .01$). Additionally, a separate moderated regression analysis with trait anger as the moderator instead of boredom proneness was conducted. Trait anger was a significant predictor ($B = .50, p < .05$) and the interaction term including trait anger was significant ($R^2 = .39, \Delta R^2 = .02, p < .01$). Also, the form of the interaction between trait anger and job boredom was similar to that of boredom proneness and job boredom where people experiencing low boredom engaged in similar levels of CWB regardless of their level of trait anger. People experiencing high levels of job boredom engaged in different levels of CWB

depending on whether their trait anger was low or high. A final analysis was conducted with the same steps as previously described, except that the interaction between trait anger was tested in conjunction with the interaction between boredom and boredom proneness. In this analysis, trait anger was a significant predictor of CWB ($B = .49$, $p < .05$) but the interaction term with trait anger and job boredom was not ($B = .02$, $p > .05$). Conversely, the interaction term with job boredom and boredom proneness was significant ($B = .07$, $p < .01$).

To test hypotheses 3 and 4 moderated regression analyses were again conducted and the results are contained in table 6. As in the previous analyses, control variables (age, gender, and job characteristics) were entered in step 1. Job characteristics were included in this analyses because job complexity is thought to influence creativity. An individual has less opportunity to be creative in their job when complexity is low. In the second step, job boredom and openness were entered, and in the third step the interaction term which was entered. As can be seen in Table 3, job boredom and workplace creativity were not significantly related ($B = .02$, $p > .05$) and therefore hypothesis 3 was not supported. Hypothesis 4, which stated that the relationship between job boredom and workplace creativity would be moderated by openness to experience, was also not supported ($B = .00$, $\Delta R^2 = 0$, $p > .05$). The only significant predictors of workplace creativity were openness ($B = .33$, $p < .01$) and gender ($B = -3.29$, $p < .05$).

Table 1. Descriptive Statistics and Internal Consistencies

Variable	Mean	SD	Observed Range	Possible Range	Alpha
Job Boredom	44.39	16.37	13-84	13-91	.93
Boredom Proneness (External)	34.71	7.01	14-52	8-56	.59
CWB	53.47	29.06	32-144	32-160	.99
Sabotage	4.61	3.00	3-15	3-15	.91
Production Deviance	5.18	3.05	3-15	3-15	.84
Withdrawal	8.30	3.60	4-19	4-20	.83
Theft	8.01	5.04	5-24	5-25	.93
Abuse	27.37	15.84	17-74	17-85	.98
Workplace Creativity	43.47	13.16	13-65	13-65	.96
Openness	158.78	23.41	73-220	48-240	.90
Trait Anger	22.71	9.33	10-47	10-50	.90
Skill Variety	13.96	4.03	3-21	3-21	.65
Task Identity	14.12	4.11	3-21	3-21	.61
Task Significance	14.38	3.80	3-21	3-21	.63
Autonomy	15.04	3.98	4-21	3-21	.67
Feedback from job	15.05	3.29	5-21	3-21	.46
Feedback from agents	14.69	4.14	3-21	3-21	.74
Dealing with others	14.09	4.14	3-21	3-21	.68

Note: $N = 219$

Table 2. Intercorrelations among Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Job Boredom	-																			
2. Boredom Proneness (External)	.27**	-																		
3. CWB (Composite)	.57**	.38**	-																	
4. Sabotage	.51**	.35**	.94**	-																
5. Production Deviance	.56**	.30**	.92**	.88**	-															
6. Withdrawal	.53**	.33**	.80**	.69**	.73**	-														
7. Theft	.54**	.36**	.96**	.91**	.86**	.74**	-													
8. Abuse	.54**	.38**	.99**	.93**	.90**	.74**	.94**	-												
9. Workplace Creativity	-.27**	.44**	.09	.09	.05	.07	.08	.10	-											
10. Openness	-.33**	.25**	-.16*	-.16*	-.15*	-.13	-.17*	-.16*	.65**	-										
11. Trait Anger	.49**	.15*	.40**	-.36*	.37**	.35**	.41**	.39**	-.28**	-.28**	-									
12. Age	-.10	-.06	-.22**	-.21**	-.20**	-.16*	-.22**	-.22**	-.10	-.07	-.12	-								
13. Gender	-.10	-.08	-.14*	-.14*	-.09	-.07	-.14*	-.15*	-.11	.04	.04	.14*	-							
14. Skill Variety	-.43**	.13	-.14*	-.14*	-.21**	-.10	-.13	-.13	.37**	.34**	.18**	.11	-.07	-						
15. Task Identity	-.13	.07	-.22**	-.20**	-.23**	-.17*	-.20**	-.22**	.15*	.11	-.16*	.09	.01	.09	-					
16. Task Significance	.34**	.15*	-.14*	-.13	-.20**	-.05	-.11	-.14*	.30**	.22**	-.10	.16*	.07	.57**	.18**	-				
17. Autonomy	-.40**	.02	-.27**	-.26**	-.31**	-.19**	-.26**	-.26**	.30**	.27**	-.27**	.08	-.01	.54**	.27**	.36**	-			
18. Feedback from job	-.37**	.04	-.18**	-.17**	-.18**	-.07	-.18**	-.20**	.28**	.33**	-.18**	.01	-.03	.34**	.29**	.40**	.35**	-		
19. Feedback from agents	-.40**	.01	-.18**	-.19**	-.20**	-07	-.21**	-.18**	.35**	.32**	-.27**	-.01	-.05	.35**	.21**	.35**	.29**	.58**	-	
20. Dealing with others	-.23**	.01	-.16*	-.15*	-.15*	-.05	-.19**	-.16*	.19**	.25**	-.17**	.09	.11	.36**	-.15*	.22**	.20**	.37**	.43**	-

Note: $N = 219$, * = $p < .05$, ** = $p < .01$

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Table 3. Summary of Regression Results - CWB

	CWB		
	Step 1	Step 2	Step 3
	B	B	B
Age	-.59**	-.44**	-.50**
Gender	-6.59	-3.09	-2.76
Job Boredom		.86**	.73**
Boredom Proneness		.97**	.77**
JB * BP			.07**
R^2	.06**	.40**	.52**
ΔR^2	.06**	.34**	.12**

Note: Regression weights are unstandardized. * = p < .05, ** = p < .01
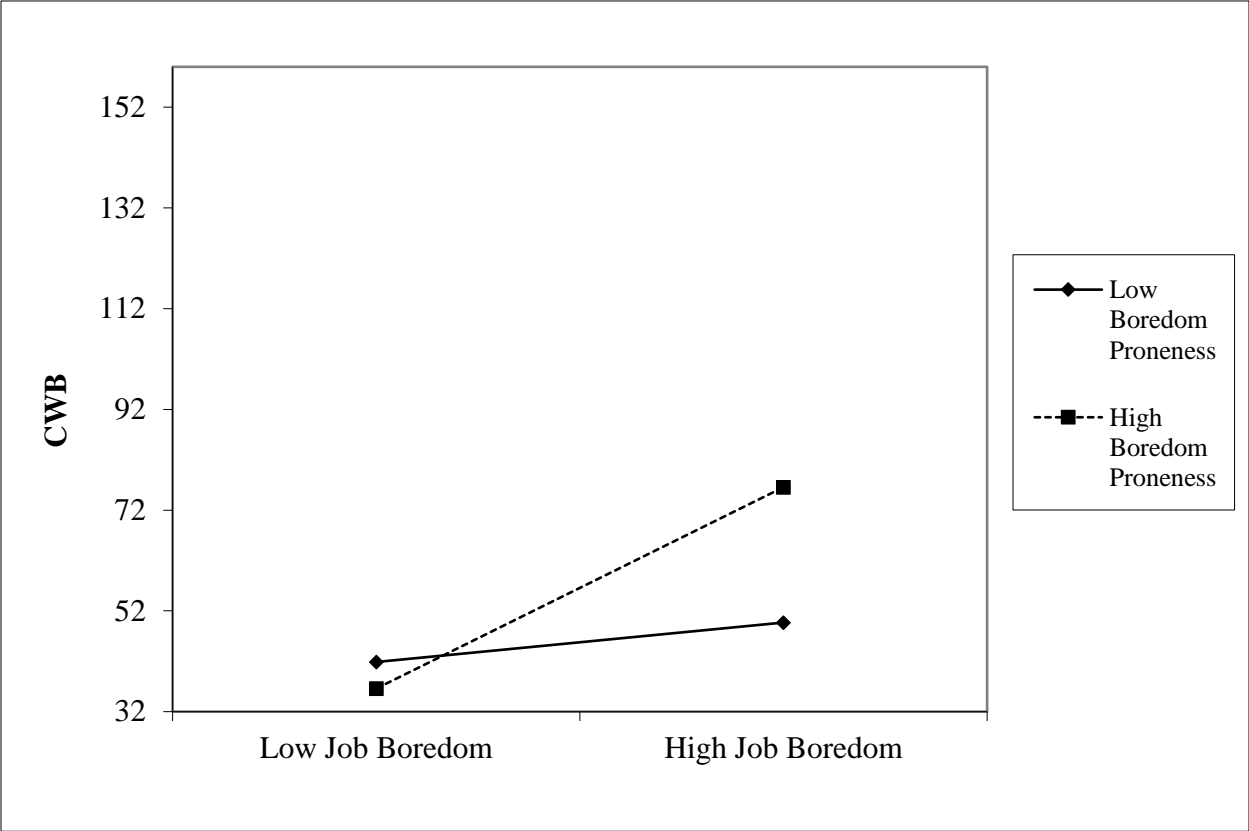
Figure 2. Interaction of Job Boredom and Boredom Proneness on CWB

Table 4. Summary of Regression Results - Production Deviance, Sabotage and Theft

	Production Deviance			Sabotage			Theft		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
	B	B	B	B	B	B	B	B	B
Age	-.06**	-.04*	-.05**	-.06**	-.05**	-.05**	-.10**	-.08**	-.09**
Gender	-.39	-.05	-.02	-.69	-.36	-.32	-1.15	-.57	-.52
Job Boredom		.09**	.08**		.08**	.07**		.14**	.12**
Boredom Proneness		.07**	.05*		.09**	.07**		.16**	.13**
JB * BP			.01**			.01**			.01**
R^2	.04**	.36**	.44**	.06**	.34**	.46**	.06**	.37**	.47**
ΔR^2	.04**	.31**	.08**	.06**	.28**	.12**	.06**	.31**	.10**

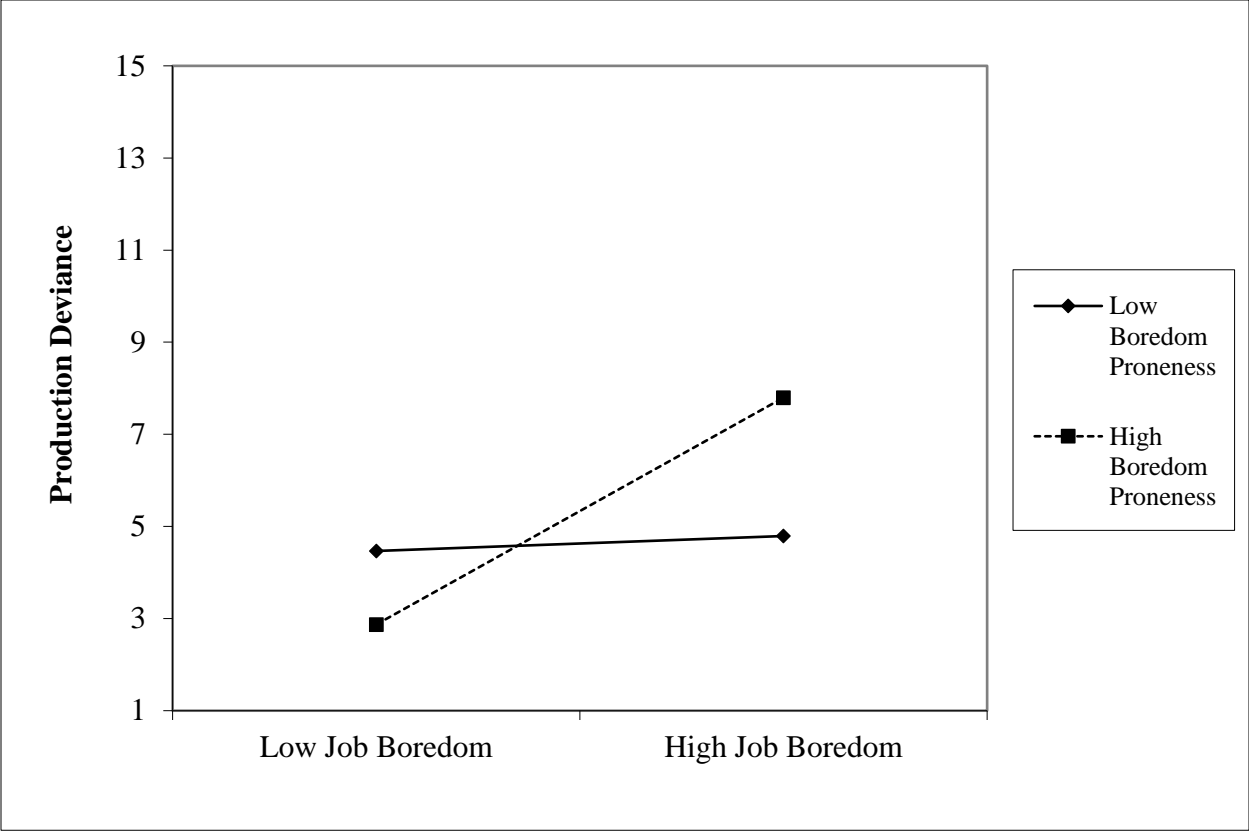Note: Regression weights are unstandardized. * = $p < .05$, ** = $p < .01$

Figure 3. Interaction of Job Boredom and Boredom Proneness on Production Deviance

Figure 4. Interaction of Job Boredom and Boredom Proneness on Sabotage

Figure 5. Interaction of Job Boredom and Boredom Proneness on Theft

Table 5. Summary of Regression Results - Withdrawal and Abuse

	Withdrawal			Abuse		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
	B	B	B	B	B	B
Age	-.05*	-.04	-.04*	-.32**	-.24**	-.28**
Gender	-.39	.02	.05	-3.98	-2.13	-1.95
Job Boredom		.10**	.09**		.44**	.37**
Boredom Proneness		.10**	.08**		.55**	.43**
JB * BP			.01**			.04**
R^2	.03	.33**	.40**	.06**	.38**	.50**
ΔR^2	.03	.30**	.07**	.06**	.32**	.12**

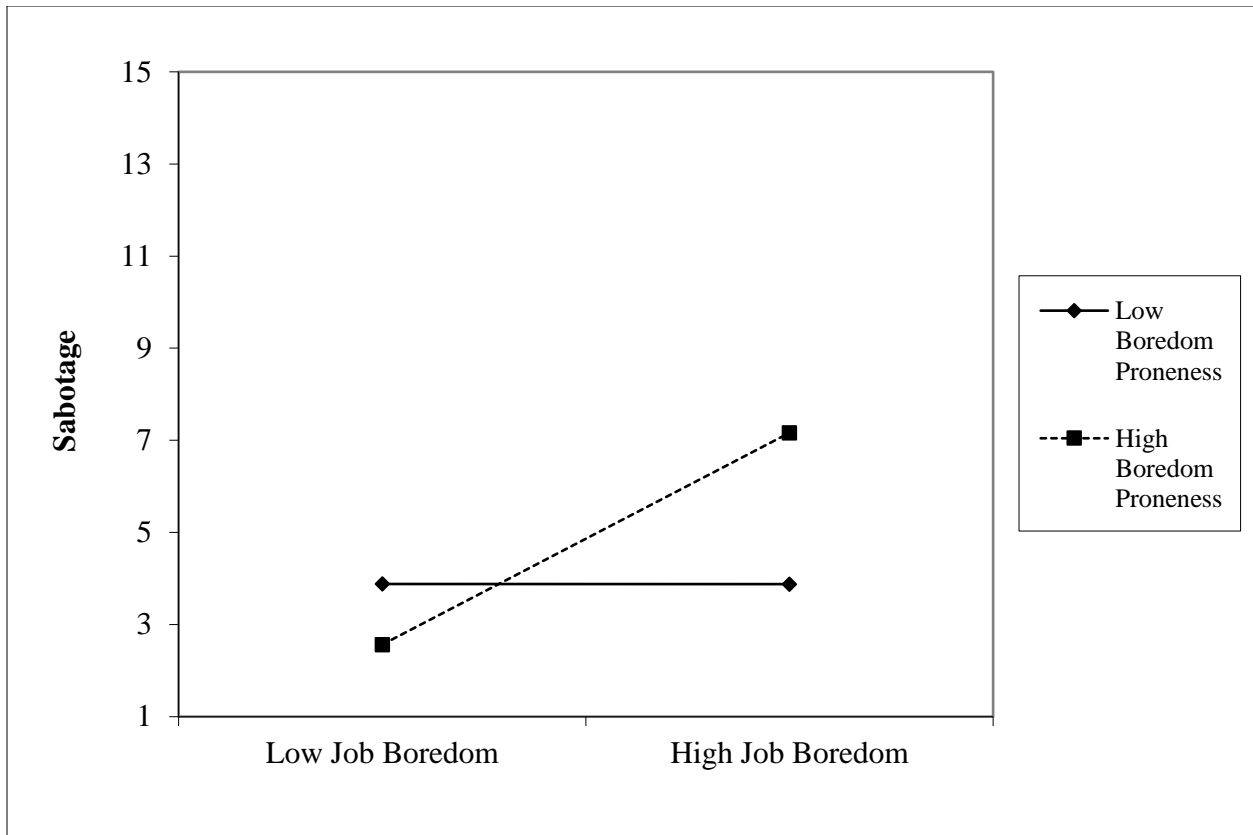Note: Regression weights are unstandardized. * = $p < .05$, ** = $p < .01$
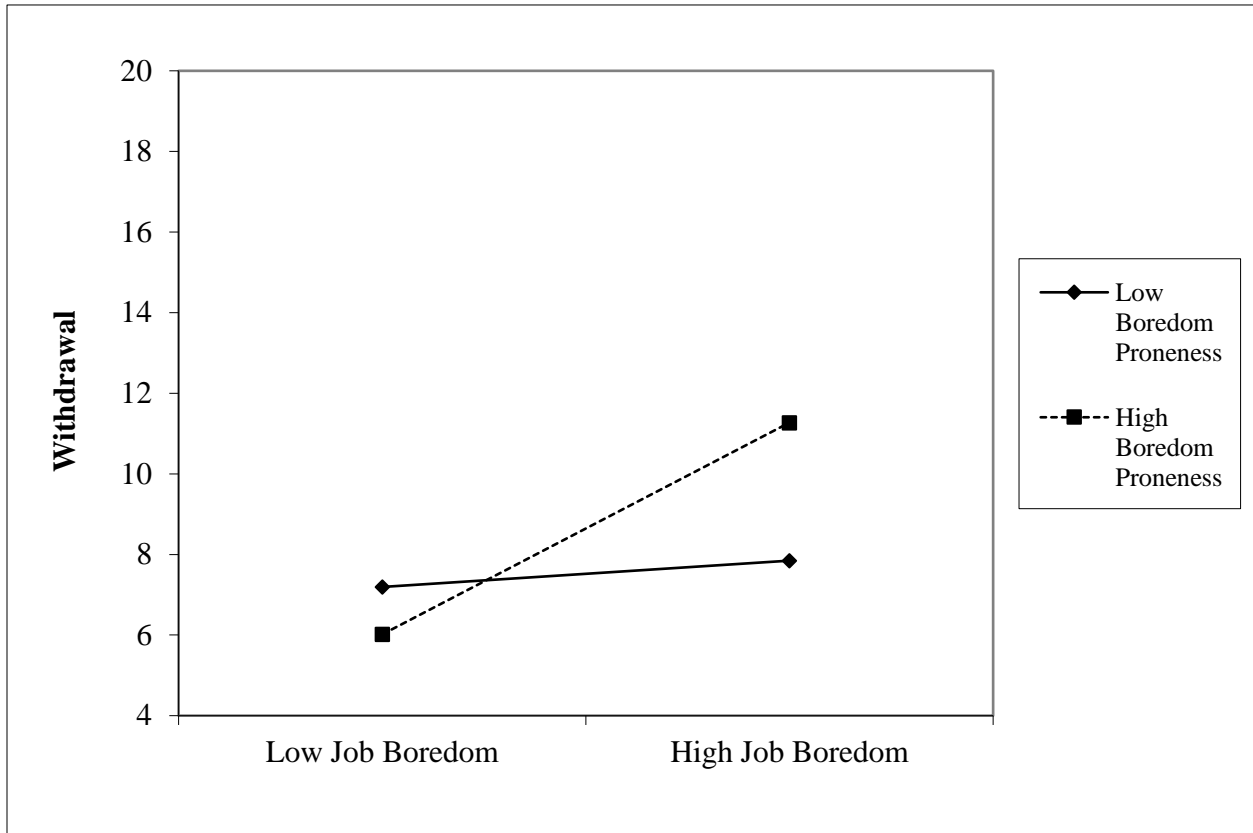
Figure 6. Interaction of Job Boredom and Boredom Proneness on Withdrawal

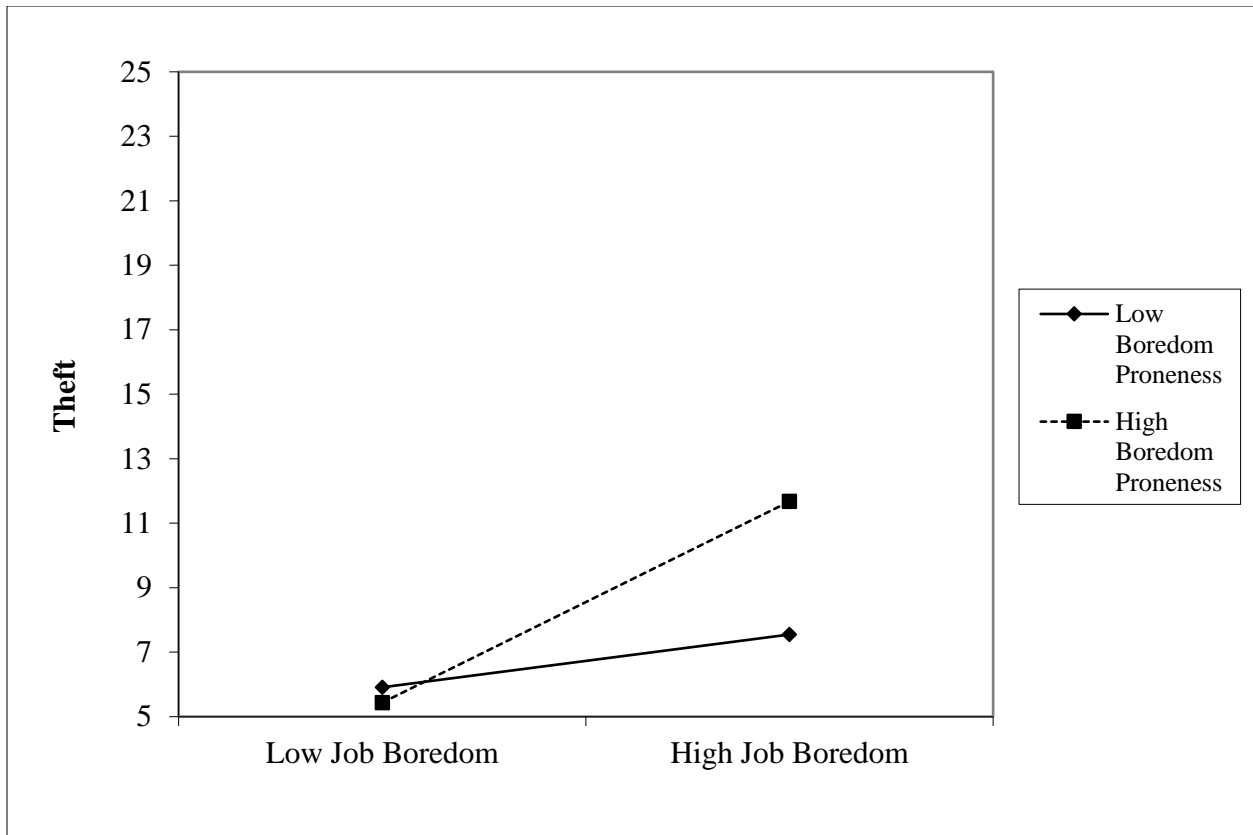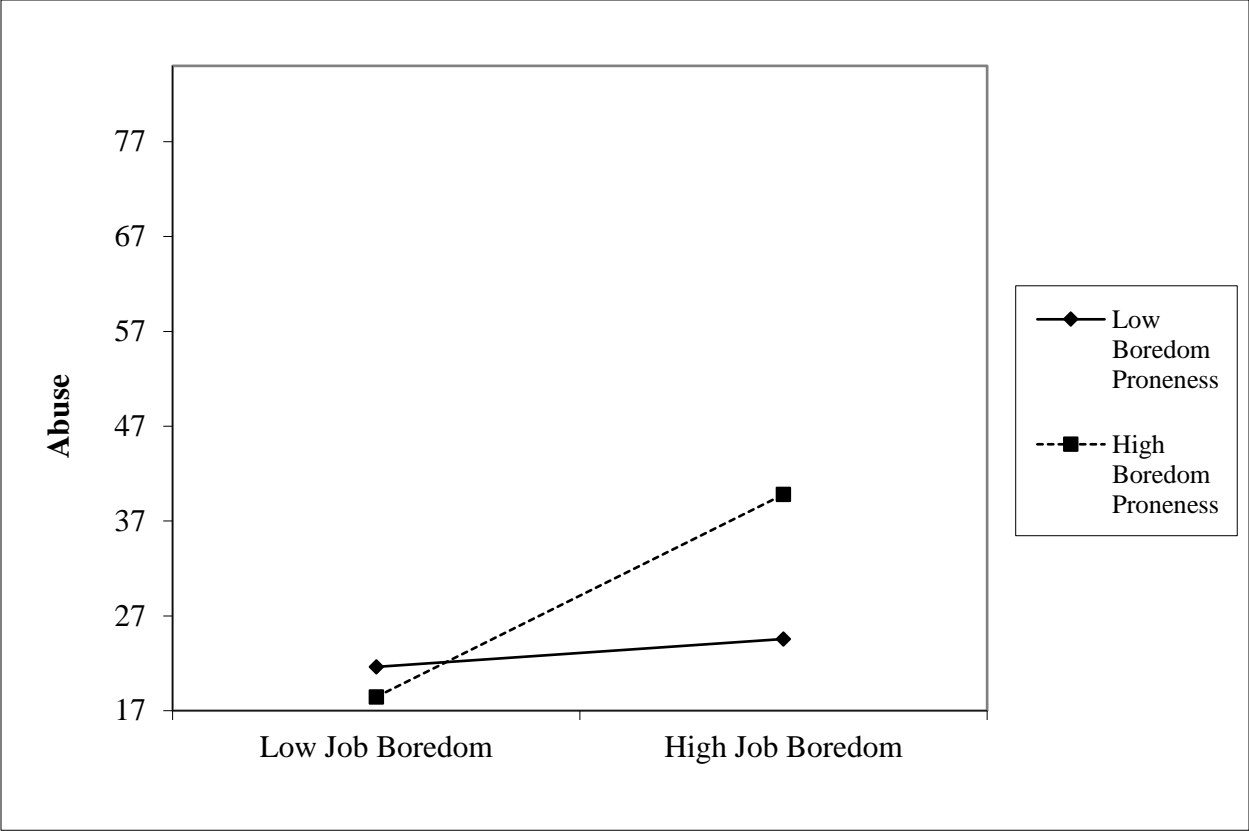*Figure 7. Interaction of Job Boredom and Boredom Proneness on Abuse*

Table 6. Summary of Regression Results - Workplace Creativity

	Workplace Creativity		
	Step 1	Step 2	Step 3
	B	B	B
Age	-.18*	-.09	-.09
Gender	-2.12	-3.29*	-3.29*
Skill Variety	.61*	.18	.19
Task Significance	.35	.46*	.45
Task Identity	.21	.15	.16
Autonomy	.32	.21	.20
Dealing with others	.10	-.03	-.03
Feedback from job	.04	-.31	-.30
Feedback from agents	.56*	.37	.37
Job Boredom		.02	.02
Openness		.33**	.33**
JB * OP			.00
R^2	.23**	.49**	.49**
ΔR^2	.23**	.26**	0

Note: Regression weights are unstandardized. $* = p < .05$, $** = p < .01$

CHAPTER 4: DISCUSSION

The purpose of this study was to replicate previous research linking job boredom with CWB. Additionally, the present study sought to test whether job boredom would be related to other more positive outcomes such as workplace creativity. Hypothesis 1, which stated that job boredom would be positively related to CWB (abuse, sabotage, production deviance, withdrawal and theft), was fully supported. This supports the emotion-centered model of voluntary work behavior which states that those who experience a negative emotion based on appraisals of their environment will be more likely to engage in negative behaviors (Spector & Fox, 2002). Additionally, this result replicates previous findings of studies done by Bruursema et al. (2011) and van Hooff and van Hooft (2014) which hypothesized and found similar results. Hypothesis 2 which stated that job boredom (sabotage, production deviance, withdrawal and theft) would be moderated by boredom proneness (BP-ext) such that the relationship would be stronger for those higher in boredom proneness than those lower in boredom proneness was also supported. This result again replicates and further supports the findings of Bruursema et al. (2011).

Hypothesis 3 which stated that there would be a positive relationship between job boredom and workplace creativity was not supported. In fact, job boredom actually had a significant negative correlation with workplace creativity. Hypothesis 4 which stated that the relationship between job boredom and workplace creativity would be moderated by openness such that the relationship would be stronger for those higher in openness than those lower in openness was also not supported. There was no significant interaction between openness and job boredom. It is worth noting however that openness to experience was positively related to workplace creativity ($r = .65$, $p < .01$) and a significant predictor of workplace creativity ($B = .33$,

p < .01). This replicates previous research which has consistently shown a relationship between openness and creativity (Griffin & McDermott, 1998; Raja & Johns, 2010; Tan et al., 2019).

One potential reason the present study did not support a positive relationship between boredom and creativity was that previous research was conducted in a laboratory setting while the present study was not. Studies in a lab and studies in the field often differ due to the varying circumstances and lack of control that field studies have. Mann and Cadman (2014) had the participants perform one of two tasks depending on which experiment the participant was in. They also induced boredom with a controlled manipulation. In the current study a variety of tasks were performed featuring a variety of boring stimuli depending on the job, organization and work environment. The lack of experimental control could have allowed an infinite number of possible factors to impact the results of the current study.

Additionally, these constructs were measured by previously created scales instead of with more direct methods. These scales require the user to think about their job and give their perception of how boring it is and answer items asking them to rate how accurately various creative behaviors align with their work behavior. The results actually fall in line with the emotion-centered model (Spector & Fox, 2002). The participants made appraisals about their environment which in this case was their level of job boredom. As previously discussed, job boredom is commonly perceived as a negative state of mind. Due to this perceived negative state the behaviors they engage in are more likely to be negative. In lab studies no such appraisal or perceptions are required. The participants were simply induced into boredom and their creative behaviors measured directly. The nature of the measurement method used in the current study may have fundamentally changed the strength and direction of the relationships between these constructs. Another potential explanation is that creative people at work may be finding ways to

alleviate their boredom more quickly and efficiently than others and so they do not remain bored for long. This would obscure the possible positive relationship that exists.

A final explanation for these results is that the relationship may depend on the nature of the job. In the current study no restriction on job type was placed so that the effect of boredom on creativity could be observed across a variety of jobs. Some of the jobs included in the sample were manager, nurse, data analyst, financial analyst, retail clerk and teacher. These various jobs have different tasks, work environments and job characteristics. Additionally they require varying levels of creativity to perform at a high level. It could be that when the job does not require a high level of creativity for performance that the relationship is negative but when creativity is important for the job the relationship is positive. Opportunity for creativity in the job may also be important. Autonomy is an important characteristic that affects the opportunity for creativity. Autonomy was included as a control variable but other factors that influence the opportunity for creativity could have affected the relationship and were not measured. If there is no opportunity to be creative then this will affect the relationship between boredom, openness and creativity.

An open ended research question about the nature of the mechanism by which boredom proneness moderated the relationship between job boredom and CWB was proposed. The results related to this are somewhat mixed. The correlation between boredom and boredom proneness was significant but low ($r = .15$, $p < .05$). Additionally, when trait anger was controlled, boredom proneness was still a significant moderator and the relationship operated very similarly. Also, when trait anger was tested as a moderator there was a significant interaction and the relationship was similar to that of the interaction between boredom proneness and job boredom. Finally when both trait anger and boredom proneness were included as moderators simultaneously the

interaction with job boredom and trait anger was not significant while the interaction between job boredom and boredom proneness was. Taken together these results suggest that while trait anger may play a role in the relationship between job boredom and CWB it is likely not the primary mechanism explaining why boredom proneness moderates this relationship.

Theoretical Implications

This study has multiple important theoretical implications. It is the first known attempt to study the relationship between boredom and creativity in work settings. Previous studies were conducted in a lab setting or measured related but distinct constructs. Additionally, this is the first known study to replicate the work done by Bruursema et al. (2011) which found a positive relationship between job boredom and multiple forms of CWB, as well as a moderating effect of boredom proneness. It also replicates findings from van Hooff and van Hooft (2014) which again found a positive relationship between job boredom and CWB. By extension, these findings provide further support for the emotion-centered model of voluntary work behavior (Spector & Fox, 2002) of which both of these studies were based on. As the model states, negative feelings lead to negative behavior not positive behavior and the results agree with this prediction. The current study also provides evidence that trait anger is not the primary mechanism explaining the relationship boredom proneness has job boredom and CWB. While trait anger is related to these other variables and individuals high in trait anger may be more likely to be boredom prone, there could be another variable that explains these relationships beyond trait anger. This is an area that will require additional research so that the reason boredom proneness moderates the relationship between these variables may be further understood.

Little research has been done on job boredom in general and the research relating to outcomes of job boredom has been entirely focused on the negative. The current study breaks new ground by exploring the nature of relationships between job boredom and more positively regarded outcomes such as workplace creativity. The results of the current study suggest that creativity may be more of a function of personality than the work environment. Interestingly, boredom proneness and openness were both positively related to workplace creativity. It could be that because open individuals seek new and novel ideas they are also are generally more apt to experience boredom across situations prone than others. This is obviously speculative, but may be an opportunity for further examination. The current study also calls into question the nature of the relationship between boredom and creativity in general as the relationship was in the opposite direction of what was expected. Further research is needed to understand in what direction, magnitude and conditions affect the relationship job boredom has to workplace creativity.

Practical Implications

Results of this study also suggest some practical implications for organizations. Organizations should try where possible to limit job boredom. This can be done through allowing employees to job craft. Van Hooff and van Hooft (2014) found that job crafting helped reduce the harmful effects of job boredom. Additionally, organizations will want to take special care to make sure boredom prone individuals are placed in situations where they have sufficient stimulation as this study shows that boredom prone individuals are even more likely to engage in harmful behavior to the organization when experiencing job boredom. Finally, organizations may look at measuring applicants levels of boredom proneness and openness during selection. As shown in the present study, individuals prone to boredom are more likely to cope with the

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boredom in harmful ways so organizations could simply choose to select individuals lower in

boredom proneness to help avoid these issues. However, as noted above highly boredom prone

individuals may also be higher on openness to experience which suggests that they could

potentially add creative contributions to an organization. Therefore, it might be an issue of

placing boredom prone individuals in jobs where they can use their creativity.

Limitations

This study has a number of limitations to consider when interpreting it's results. First, the

data for his study were collected cross-sectionally and as such causality cannot be established.

Also, while several control variables were included in this study, the design does not rule out the

possibility other variables may better explain the relationships found. Second, data in this study

was collected entirely through self-report measures. Due to this, common-method bias could be

inflating the magnitude of the relationships found. Additionally, as mentioned earlier, the self-

report methodology may have altered the nature of the relationships from what they could have

been if other methods were used. Finally, there are some issues with the Lee (1986) scale used to

measure job boredom. The various items on this scale assess boredom in different ways, with

some measuring more objective characteristics of the job thought to lead to boredom, others

measuring behaviors that individuals engage in while bored, and the rest measuring an

individual's state of mind or feelings associated with boredom. Unfortunately , there are very

few scales currently in existence to measure job boredom and the scale used in this study did

exhibit good reliability. Nevertheless, in future studies research should consider using more

precise measures of job boredom.

Future Directions

      This study examined job boredom's relationship to workplace creativity, an outcome typically thought of as positive. While no relationship was found, further research should examine the nature of the relationship between boredom and creativity through other methods and in other contexts. Future research should examine whether the type of job is important. This study examined individuals in a variety of occupations and settings. It may be that boredom is only related to creativity in jobs where creativity is important for performance. Future research should also use alternative methods for measuring boredom and creativity. It is possible that using self-report scales fundamentally changes the nature of how job boredom and workplace creativity are connected. Future research should also look at how job boredom may be related to other positive outcomes. For example, it would be interesting to examine whether there is any relationship between job boredom and organizational citizenship behavior and under what circumstances such a relationship might exist. Similar to boredom and creativity, it could be that there is a relationship in general or that it may depend on whether individuals have certain characteristics such as a particular personality trait.

      Researchers should also further examine job boredom's relationship to negative outcomes. As mentioned previously, the results of this study suggest that trait anger may not be the mechanism that explains why boredom proneness moderates the relationship between job boredom and workplace creativity. Future research should further explore why individuals prone to boredom respond more destructively to feeling bored than other individuals. Additionally, research into the effectiveness of interventions to reduce boredom besides job crafting would be helpful. Buursema et al. (2011) mentioned that taking breaks and switching between tasks could

be helpful. Research could examine the effects of these specific ideas on helping bored individuals cope in more productive ways.

Conclusion

The current study looked at the possibility that job boredom could be related to positive outcomes such as workplace creativity. This study also sought to provide further support for research that linked job boredom to counterproductive work behavior. While no support was found linking job boredom to workplace creativity, strong support is accumulating showing that job boredom can lead to behavior that is harmful to organizations. Working individuals and the organizations that employ them should take steps to minimize job boredom where possible to avoid these behaviors. Finally, future research should continue to examine the connections between job boredom and various outcomes both positive and negative as job boredom can occur in a variety of roles and settings.

APPENDIX A
JOB BOREDOM SCALE

(Lee, 1986)

The questions that follow all deal with your experience of your job as dull or exciting. Please

answer the questions with respect to your own reactions to your **present** job.

Instructions. Please use the scale that follows to answer the questions.

1 = Never 5 = Very Often
2 = Very rarely 6 = Almost always
3 = Sometimes 7 = Always
4 = Often

1. Do you get bored with your work?
2. Is your work tedious?
3. If the pay were the same, would you like to change from one type
of work to another from time to time?
4. Do you like the work you do?
5. Do you get tired on the job?
6. Do you find the job dull?
7. Does the job go by too slowly?
8. Do you become irritable on the job?
9. Do you get apathetic on the job?
10. Do you get mentally sluggish during the day?
11. Do you get drowsy on the job?
12. Does the time seem to go by slowly?
13. Are there long periods of boredom on the job?

APPENDIX B
BOREDOM PRONENESS SCALE

(Farmer & Sundberg, 1986)

1. Having to look at someone's home movies or travel slides bores me tremendously. (E)
2. I have projects in mind all the time, things to do. (I)
3. I find it easy to entertain myself. (I)
4. I get a kick out of most things I do. (I)
5. In any situation I can usually find something to do or see to keep me interested. (I)
6. I often wake up with a new idea. (I)
7. It would be very hard for me to find a job that is exciting enough. (E)
8. I would like more challenging things to do in life. (E)
9. I feel that I am working below my abilities most of the time. (E)
10. Many people would say that I am a creative or imaginative person. (I)
11. I have so many interests, I don't have time to do everything. (I)
12. Among my friends, I am the one who keeps doing something the longest. (I)
13. Unless I am doing something exciting, even dangerous, I feel half-dead and dull. (E)
14. It takes a lot of change and variety to keep me really happy. (E)
15. It seems that the same things are on television or the movies all the time; it's getting old. (E)
16. When I was young, I was often in monotonous and tiresome situations. (E)

APPENDIX C
COUNTERPRODUCTIVE WORK BEHAVIOR CHECKLIST (CWB-C)

Spector, Fox, Penney, Bruursema, Goh, & Kessler (2006)

How often have you done each of the following things on your present job?

1 = Never
2 = Once or Twice
3 = Once or Twice per month
4 = Once or Twice per week
5 = Every Day

1.   Purposely wasted your employer's materials/supplies (Sabotage)
2.   Purposely did your work incorrectly (Production Deviance)
3.   Came to work late without permission (Withdrawal)
4.   Stayed home from work and said you were sick when you weren't (Withdrawal)
5.   Purposely damaged a piece of equipment or property (Sabotage)
6.   Purposely dirtied or littered your place of work (Sabotage)
7.   Stolen something belonging to your employer (Theft)
8.   Started or continued a damaging or harmful rumor at work (Abuse)
9.   Been nasty or rude to a client or customer (Abuse)
10. Purposely worked slowly when things needed to get done (Production Deviance)
11. Taken a longer break than you were allowed to take (Withdrawal)
12. Purposely failed to follow instructions (Production Deviance)
13. Left work earlier than you were allowed to (Withdrawal)
14. Insulted someone about their job performance (Abuse)
15. Made fun of someone's personal life (Abuse)
16. Took supplies or tools home without permission (Theft)
17. Put in to be paid for more hours than you worked (Theft)
18. Took money from your employer without permission (Theft)
19. Ignored someone at work (Abuse)
20. Blamed someone at work for error you made (Abuse)
21. Started an argument with someone at work (Abuse)
22. Stole something belonging to someone at work (Theft)
23. Verbally abused someone at work (Abuse)
24. Made an obscene gesture (the finger) to someone at work (Abuse)
25. Threatened someone at work with violence (Abuse)
26. Threatened someone at work, but not physically (Abuse)
27. Said something obscene to someone at work to make them feel bad (Abuse)
28. Did something to make someone at work look bad (Abuse)
29. Played a mean prank to embarrass someone at work (Abuse)
30. Looked at someone at work's private mail/property without permission (Abuse)

31. Hit or pushed someone at work (Abuse)
32. Insulted or made fun of someone at work (Abuse)

APPENDIX D
WORKPLACE CREATIVITY SCALE

(Zhou & George, 2001)

Suggests new ways to achieve goals or objectives.
Comes up with new and practical ideas to improve performance.
Searches out new technologies, processes, techniques, and/or product ideas.
Suggests new ways to increase quality.
Is a good source of creative ideas.
Is not afraid to take risks.
Promotes and champions ideas to others.
Exhibits creativity on the job when given the opportunity to.
Develops adequate plans and schedules for the implementation of new ideas.
Often has new and innovative ideas.
Comes up with creative solutions to problems.
Often has a fresh approach to problems.
Suggests new ways of performing work.

APPENDIX E
WORK-SPECIFIC OPENNESS SCALE

Pace (2005)

Ideas
1. I find tricky problems more enjoyable than simple ones.
2. I like to think about different ways to structure work groups.
3. I am curious about competitors' ideas.
4. Extremely unusual ideas are seldom worth considering. (R)
5. I get ideas for work solutions from seemingly unrelated knowledge and situations.
6. I am very interested in what people in other departments and other firms are doing.
7. I like to hear about how others develop their ideas.
8. I like training in new ways of working.

Values
9. 'If it ain't broke, don't fix it' is a good motto. ®
10. I think American business practices should be applied everywhere in the world. ®
11. I have a hard time understanding why other people in similar jobs to mine do things differently than I do. ®
12. I believe everyone in the company should share the same vision of the direction for development. ®
13. I think people who want to change the workplace would probably be better off finding a different workplace. ®
14. Making changes to a system that works is a bad idea. ®
15. It is best to rely on supervisors for most work decisions. ®
16. I think it is best if people who work together are very similar. (R)

Aesthetics
17. The visual appeal of my work area is important to me.
18. I consider aesthetics important in my work.
19. I get a great deal of pleasure from creating beautiful things.
20. The form my work takes is just as important to me as its function.
21. I expect my work to please the senses.
22. I take great pains in putting on the finishing touches to my work.
23. I focus on making my work attractive to others.
24. For me, artistic considerations make the difference between good and great work products.

Fantasy
25. I am very imaginative at work.
26. I come up with involved fantasies about work projects and situations.

27. When I am considering job solutions, I like to follow very unusual thoughts to see where they might lead.
28. Sometimes I think at length about the wildest product concepts, expanding upon them in my imagination.
29. I can visualize in great detail what a product might look like before it has been made.
30. I think spending time fantasizing about projects is a waste of effort. ®
31. I spend a lot of time dreaming about how things might be.
32. I can imagine how something might work without seeing it.

Feelings
33. Different work environments affect my mood for better or worse.
34. I like to choose tasks and organize my work to fit my varying moods.
35. I sometimes feel strong emotions about my work.
36. To me, there is no place for feelings at work. ®
37. Positive or negative feedback about my work can have a real effect on how I feel.
38. I seldom notice how work tasks make me feel. ®
39. I experience many different emotions at work.
40. I am usually aware of my mood at work.

Actions
41. I prefer to stick with job tasks I do well rather than to try new tasks. ®
42. I use familiar paths within the workplace rather than exploring other areas. ®
43. I prefer to work on similar tasks each day. ®
44. I tend to use the same techniques on each project. ®
45. I like a lot of variety in my job.
46. I have structured routines I like to follow. ®
47. I believe in finding a formula for success and using it consistently. ®
48. I like jobs with tasks that change frequently.

APPENDIX F
TRAIT ANGER SCALE

(NEO Facets Key, n.d.)

Trait Anger (facet of IPIP neuroticism scale)

Get angry easily. +
Get irritated easily. +
Get upset easily. +
Am often in a bad mood. +
Lose my temper. +

Rarely get irritated. -
Seldom get mad. -
Am not easily annoyed. -
Keep my cool. -
Rarely complain. -

APPENDIX G
JOB DIAGNOSTIC SURVEY

(Hackman & Oldham, 1974)

How accurate is the statement in describing your job?
1 = very inaccurate 2 = mostly inaccurate 3 = slightly inaccurate 4 = uncertain 5 = slightly accurate 6 = mostly accurate 7 = very accurate

Skill Variety:
1. The job requires me to use a number of complex or high-level skills.
5. The job is quite simple and repetitive. ®
18. The job contains a significant amount of variety, requiring me to do many different things, using a variety of talents.

Dealing with Others:
2. The job requires a lot of cooperative work with other people.
6. The job can be done adequately by a person working alone; without talking or checking with other people. (R)
15. The job requires me to work closely with other people (either clients, or people in related jobs in your own organization)

Task Identity:
3. The job is arranged so that I do not have the chance to do an entire piece of work from beginning to end. (R)
11. The job provides me the chance to completely finish the pieces of work I begin.
17. The job involves doing a "whole" and identifiable piece of work allowing me to complete tasks that have an obvious beginning and end as opposed to tasks that involve a small part of the overall piece of work, which is finished by other people or by automatic machines.

Feedback from the job itself:
4. Just doing the work required by the job provides many chances for me to figure out how well I am doing.
12. The job itself provides very few clues about whether or not I am performing well. (R)
21. The job itself provides me with information about my work performance which includes clues about how well I am doing separate froAUm any feedback given by co-workers or supervisors.

Feedback from agents:
7. The supervisors and co-workers on this job almost never give me any "feedback" about how well I am doing in my work. (R)

10. Supervisors often let me know how well they think I am performing the job.

20. The managers or co-workers on this job let me know how well I am doing by providing frequent feedback on my performance.

Autonomy:

9. The job denies me any chance to use my personal initiative or judgment in carrying out the work. (R)

13. The job gives me considerable opportunity for independence and freedom in how I do the work.

16. The job allows significant autonomy, permitting me to decide on my own how to go about doing the work.

Task Significance

8. This job is one where a lot of other people can be affected by how well the work gets done.

14. The job itself is not very significant or important in the broader scheme of things. (R)

19. The job is significant or important; the results of the work are likely to significantly affect the lives or well-being of other people.

APPENDIX H
DEMOGRAPHIC QUESTIONS

What is your age?

What is your gender?

Are you of hispanic or latino origin?

Yes
No

Which race do you most closely identify with?
White
Black or African American
Asian or Pacific Islander
Native American or Alaska Native
Other

How many hours do you work in a typical week?

What is your current job title?

Please briefly describe your job role. (Tasks, responsibilities, duties etc.)

In months, how long have you held this position?

In months, how long have you worked for this company?

What industry do you work in?

APPENDIX I
REGRESSION SUMMARY WITH TRAIT ANGER AS CONTROL AND
MODERATOR

Table 7. Summary of Regression Results - TA as Control

	CWB		
	Step 1	Step 2	Step 3
	B	B	B
Age	-.46*	-.40*	-.45**
Gender	-8.04*	-4.08	-3.93
Trait Anger	1.21**	.49*	.58**
Job Boredom		.72**	.57**
Boredom Proneness		.96**	.75**
JB * BP			.08**
R^2	.21**	.42**	.54**
ΔR^2	.21**	.21**	.12**

Note: Regression weights are unstandardized. * = p < .05, ** = p < .01

Table 8. Summary of Regression Results - TA as Moderator

	CWB		
	Step 1	Step 2	Step 3
	B	B	B
Age	-.59**	-.42*	-.43**
Gender	-6.59	-4.77	-3.51
Job Boredom		.83**	.81**
Trait Anger		.50*	.48*
JB * TA			.03*
R^2	.06**	.37**	.39**
ΔR^2	.06**	.31**	.02**

Note: Regression weights are unstandardized. * = p < .05, ** = p < .01

APPENDIX J
REGRESSION SUMMARY WITH TRAIT ANGER AND BOREDOM
PRONENESS AS MODERATORS

Table 9. Summary of Regression Results - TA and BP

| | CWB | | |
| | Step 1 | Step 2 | Step 3 |
	B	B	B
Age	-.59**	-.40*	-.46**
Gender	-6.59	-4.08	-3.17
Job Boredom		.72**	.57**
Boredom Proneness		.96**	.74**
Trait Anger		.49*	.57*
JB * BP			.07**
JB * TA			.02
R^2	.06**	.42**	.55**
ΔR^2	.06**	.36**	.13**

Note: Regression weights are unstandardized. * = p
< .05, ** = p < .01

APPENDIX K
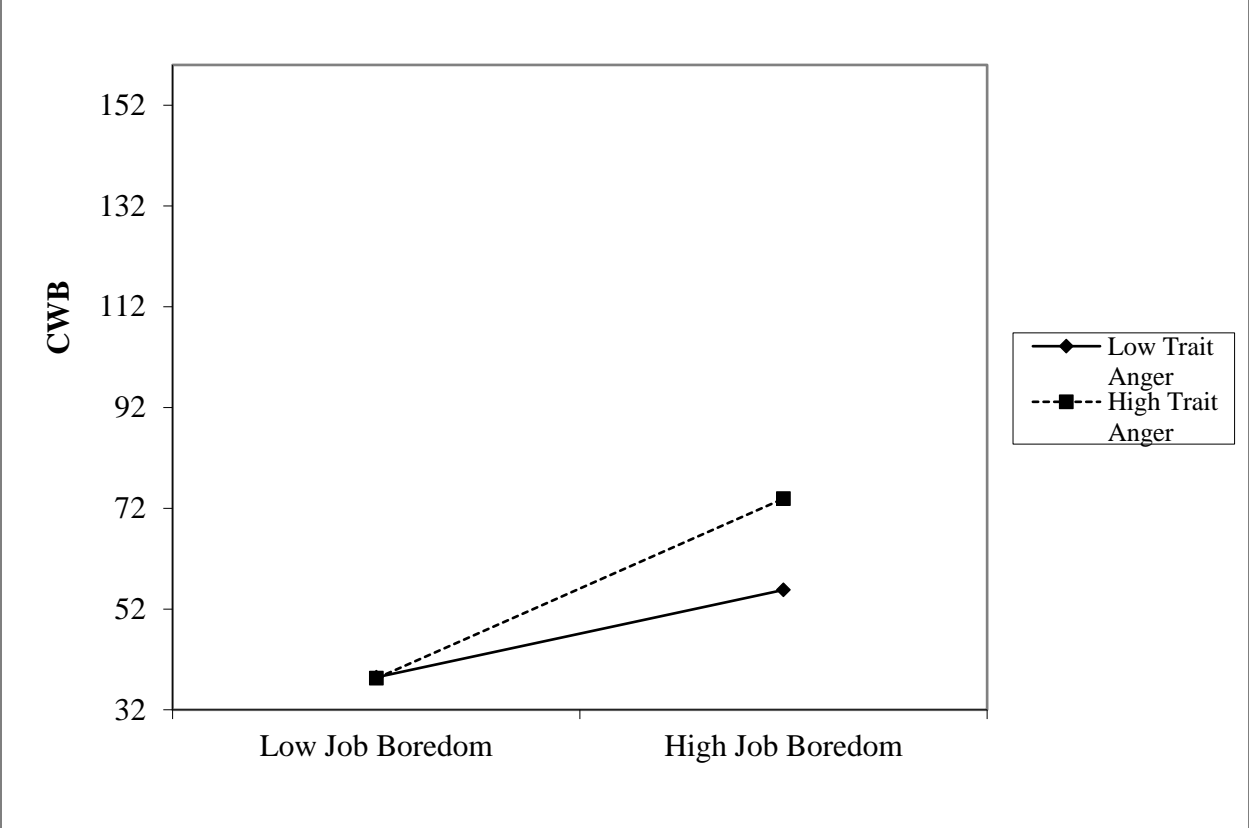# INTERACTION PLOT WITH TRAIT ANGER AS A MODERTATOR

Figure 8. Interaction of Job Boredom and Trait Anger on CWB

APPENDIX L
IRB LETTER

Institutional Review Board
FWA00000351
IRB00001138
Office of Research
12201 Research Parkway
Orlando, FL 32826-3246

<u>EXEMPTION DETERMINATION</u>

November 8, 2019

Dear Mitchell Eid:

On 11/8/2019, the IRB determined the following submission to be human subjects research that is exempt from regulation:

Type of Review:	Initial Study, Category 2(i)
Title:	What do you do when you are bored? Outcomes and Moderators of Job Boredom
Investigator:	Mitchell Eid
IRB ID:	STUDY00001111
Funding:	None
Grant ID:	None

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made, and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request so that IRB records will be accurate.

If you have any questions, please contact the UCF IRB at 407-823-2901 or irb@ucf.edu. Please include your project title and IRB number in all correspondence with this office.

Sincerely,

Renea Carver
Designated Reviewer

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REFERENCES

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Amabile, T.M. (1996). *Creativity in context*. Boulder, CO: Westview Press.

Barbalet, J. M. (1999). Boredom and social meaning. *The British journal of sociology, 50*(4), 631-646.

Bruursema, K., Kessler, S. R., & Spector, P. E. (2011). Bored employees misbehaving: The relationship between boredom and counterproductive work behaviour. *Work & Stress, 25*(2), 93-107.

Cummings, M. L., Gao, F., & Thornburg, K. M. (2016). Boredom in the workplace: a new look at an old problem. *Human factors*, *58*(2), 279-300.

Farmer, R., & Sundberg, N.D. (1986). Boredom proneness: The development and correlates of a new scale. *Journal of Personality Assessment, 50*, 4-17.

Fisher, C. D. (1993). Boredom at work: A neglected concept. *Human Relations, 46*(3), 395-417.

Gasper, K., & Middlewood, B. L. (2014). Approaching novel thoughts: Understanding why elation and boredom promote associative thought more than distress and relaxation. *Journal of Experimental Social Psychology, 52*, 50-57.

Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. C. (2006). The International Personality Item Pool and the future of public-domain personality measures. *Journal of Research in Personality, 40*, 84-96.

Goldberg, Y. K., Eastwood, J. D., LaGuardia, J., & Danckert, J. (2011). Boredom: An emotional experience distinct from apathy, anhedonia, or depression. *Journal of Social and Clinical Psychology, 30*(6), 647-666.

Griffin, M., & McDermott, M. R. (1998). Exploring a tripartite relationship between rebelliousness, openness to experience and creativity. *Social Behavior and Personality: an international journal, 26*(4), 347-356.

Hackman, J. R., & Oldham, G. R. (1974). The Job Diagnostic Survey: An instrument for the diagnosis of jobs and the evaluation of job redesign projects.

Harju, L., Hakanen, J. J., & Schaufeli, W. B. (2014). Job boredom and its correlates in 87 Finnish organizations. *Journal of Occupational and Environmental Medicine, 56*(9), 911-918.

International Personality Item Pool. (n.d.). Retrieved from https://ipip.ori.org/newNEOFacetsKey.htm

Kass, S.J., Vodanovich, S.J., & Callender, A. (2001). State-boredom proneness: Relationship to absenteeism, tenure, and job satisfaction. *Journal of Business and Psychology, 16*, 317-327.

Lee, T.W. (1986). Toward the development and validation of a measure of job boredom. *Manhattan College Journal of Business, 15*, 22-28.

Mael, F., & Jex, S. (2015). Workplace boredom: An integrative model of traditional and contemporary approaches. *Group & Organization Management, 40*(2), 131-159.

Mann, S., & Cadman, R. (2014). Does being bored make us more creative? *Creativity Research Journal, 26*(2), 165-173.

McCrae, R. R., & Costa, P. T., Jr. (1997). Conceptions and correlates of openness to experience. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology.* (pp. 825–847). San Diego, CA: Academic Press.

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality, 60*(2), 175-215.

Mikulas, W.L. & Voadanovich, S.J. (1993). The essence of boredom. *The Psychological Record, 43*, 3-12.

Ohly, S., Sonnentag, S., & Pluntke, F. (2006). Routinization, work characteristics and their relationships with creative and proactive behaviors. *Journal of Organizational Behavior, 27*(3), 257-279.

Pace, V. L. (2005). *Creative performance on the job: Does Openness to Experience matter?* Unpublished master's thesis, University of South Florida, Tampa.

Raja, U., & Johns, G. (2010). The joint effects of personality and job scope on in-role performance, citizenship behaviors, and creativity. *Human Relations, 63*(7), 981-1005.

Rank, J., Pace, V. L., & Frese, M. (2004). Three avenues for future research on creativity, innovation, and initiative. *Applied psychology*, *53*(4), 518-528.

Spector, P. E., & Fox, S. (2002). An emotion-centered model of voluntary work behavior: Some parallels between counterproductive work behavior and organizational citizenship behavior. *Human Resource Management Review, 12*(2), 269-292.

Spector, P.E., & Fox, S. (2005). A model of counterproductive work behaviour. In S. Fox & P.E. Spector (Eds.), *Counterproductive workplace behaviour: Investigations of actors and targets* (pp. 151 - 174). Washington, DC: APA.

Spector, P.E., Fox, S., Penney, L.M., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviours created equal? *Journal of Vocational Behavior, 68*, 446 - 460.

Tan, C., Lau, X., Kung, Y., & Kailsan, R. A. (2019). Openness to experience enhances creativity: The mediating role of intrinsic motivation and the creative process engagement. *The Journal of Creative Behavior, 53*(1), 109–119.

The Sun. (2017). These are the most boring professions. Retrieved from https://nypost.com/2017/02/22/these-are-the-most-boring-professions/

van Hooff, M. L., & van Hooft, E. A. (2014). Boredom at work: Proximal and distal consequences of affective work-related boredom. *Journal of Occupational Health Psychology, 19*(3), 348 - 359.

Vodanovich, S.J., Wallace, J.C., & Kass, S.J. (2005). A confirmatory approach to the factor structure of the boredom proneness scale: Evidence for a two-factor short form. *Journal of Personality Assessment, 85*, 295 - 303.

Wiesner, M., Windle, M., & Freeman, A. (2005). Work stress, substance use, and depression in young adults: An examination of main and moderator effect models. *Journal of Occupational Health Psychology, 10*, 83–96.

Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, *44*(4), 682-696.

Zhou, J., & Hoever, I. J. (2014). Research on workplace creativity: A review and redirection. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*(1), 333-359.