

EXAMINING THE RELATIONSHIP BETWEEN ORGANIZATIONAL CONSTRAINTS  
AND INDIVIDUAL DEFICITS IN EXECUTIVE FUNCTIONING ON EMPLOYEES'  
EXTRA-ROLE WORK BEHAVIORS

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## ABSTRACT

Steve Jex, Advisor

Although the relationship between organizational constraints and task performance has received much empirical scrutiny, largely showing a negative relationship between the two variables, the relationship between constraints and extra-role behaviors has received less attention. Thus, one purpose of this study was to examine the relationship between organizational constraints and extra-role behaviors – both positive extra-role behaviors (OCB and creativity) and negative extra-role behaviors (CWB). Furthermore, in order to explore the frequently hypothesized moderating effect of “control” on the stressor (here, organizational constraints) – strain (here, extra-role behaviors) relationship, this study examined deficits in executive functioning (DEF), an alternative measure and conceptualization of control, as a moderator in the relationship between organizational constraints and extra-role behaviors. Data was collected from approximately 500 full-time employees and subsequently analyzed to test the current study’s hypothesis. The results showed that both organizational constraints and DEF significantly predicted all outcome variables; however, the directionality of some of the relationships between predictor and outcome variables found in this study’s analyses did not match the initial hypotheses. Theoretical and practical implications are discussed.

This paper is dedicated to my loving and supportive husband, Chris Price.

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I wanted to write something more heartfelt and meaningful, but I waited until the last minute to write this section. This may be partially attributed to my deficits in executive functioning.

## TABLE OF CONTENTS

	Page
INTRODUCTION.....	1
Organizational Constraints .....	4
Counterproductive Work Behaviors .....	5
Organizational Constraints & CWBs .....	10
Organizational Citizenship Behaviors .....	11
Organizational Constraints & OCBs .....	13
Creativity .....	14
Organizational Constraints & Creativity .....	17
Control & Deficits in Executive Functioning.....	18
Executive Functioning in the Workplace .....	21
Summary of Current Study and Hypotheses .....	25
METHOD .....	27
Participants.....	27
Sample 1.....	27
Sample 2.....	27
Procedure.....	28
Measures .....	28
CWB Checklist .....	28
OCB Checklist .....	29
Creative Performance .....	29
Deficits in Executive Functioning Short-Form Scale.....	29
Organizational Constraints Scale .....	30

Demographics and Control Variables .....	31
Overview of Analyses .....	31
RESULTS .....	32
Descriptive Statistics & Bivariate Correlations .....	32
Factor Analyses .....	33
BDEFS .....	33
OCS .....	33
Multiple Regression Analyses.....	34
DISCUSSION.....	36
Main Effects of Organizational Constraints and DEF.....	36
Interactive Effects of Organizational Constraints and DEF.....	38
Limitations and Future Directions .....	40
Implications .....	41
Conclusions .....	44
REFERENCES.....	45
APPENDIX A: TABLES .....	55
APPENDIX B: FIGURES .....	66
APPENDIX A: SURVEYS & INFORMED CONSENT .....	68



## INTRODUCTION

Organizational constraints represent situations or objects that prevent employees from performing up to their capabilities (Spector & Jex, 1998). Although the relationship between organizational constraints and task performance has received much empirical scrutiny, which largely shows a negative relationship between these two variables (e.g., Gilboa, Shirom, Fried, & Cooper, 2008), the relationship between constraints and extra-role behaviors has received less attention. Thus, one purpose of this study was to examine the relationship between organizational constraints and extra-role behaviors. Extra-role behaviors refer non-technical aspects of the job, such as effective communication and demonstrating motivation and enthusiasm at work (Campbell, 1990). These extra-role behaviors can include behaviors that help the organization and/ or those within the organization (e.g., organizational citizenship behaviors; innovation/ creativity), as well as behaviors that harm or are intended to harm the organization and its constituents (e.g., counterproductive workplace behaviors).

Of the various extra-role behaviors described above, the relationship between organizational constraints and CWBs has received the most empirical scrutiny, as compared to other types of extra-role behaviors. Meta-analyses have shown a positive relationship between the two constructs (e.g., Spector, 2011; Zhou et al., 2014), suggesting that employees will react in negative, or counterproductive, behaviors in response to organizational constraints. On the other hand, OCBs tend to show a negative relationship with organizational constraints (e.g., Britt, et al., 2012). This suggests that employees are less likely to engage in helpful workplace behaviors when they are constrained, or frustrated, by their work environment.

As implied by the definition, organizational constraints hinder employees' from reaching performance goals at work (Spector & Jex, 1998), which has been empirically supported (e.g.,

Gilboa, et al., 2008). The literature on organizational constraints and their impact on, or relationship to extra-role behaviors suggests that such constraints have a negative impact on an employee's overall performance. However, it is possible that certain person characteristics, or qualities of the individual employees, may buffer the negative consequences of organizational constraints.

In order to better understand the relationship between organizational constraints and extra-role behaviors (e.g., CWB, OCB, creativity) in the workplace, it is important to take a person-by-situation interactionist perspective. In other words, the situation alone does not adequately explain one's behavior, nor do the characteristics of the individual. Rather, the interaction between the situation and the person helps to explain differences in how individuals respond to similar situations. In line with this perspective, the current study aims to test the interaction between organizational constraints (i.e., characteristics of the situation) and executive functioning (i.e., characteristics of the individual) on employees' engagement in extra-role behaviors (CWB, OCB, and creativity).

Executive functioning, often referred to as "supervisory" cognitive processes because they involve higher level organization and execution of complex thoughts and behavior, is an umbrella term for cognitive functions, including working memory, planning and execution, problem solving, mental flexibility, and inhibition (Barkley & Murphy, 2009; Biederman, et al., 2006; Wasserstein, 2005). In the clinical psychology literature, deficits in executive functioning are often associated with patients who have attention-deficit hyperactivity disorder (ADHD), as they relate to impulsivity and the inability to regulate and/ or appropriately respond to certain behaviors and emotions.

Although this construct, deficits in executive functioning (DEF), have been largely examined under a clinical framework, using clinical samples, it has been examined on non-clinical samples as well. Similar to constructs such as personality and cognitive abilities, an individual's level of executive function lies somewhere on a spectrum, ranging from very low functioning to very high level functioning (Barkley, 2010; Rabin, Fogel, & Nutter-Upham, 2011). In this study, EF is conceptualized as a form of control, and DEF as a lack of control, – control over one's higher-order cognitive processes and goal-directed behavior. Since it is important for employees to be able to accomplish multiple work-related goals on a daily basis, it seems quite relevant to study DEF as an individual characteristic that might influence how they interpret and/ or respond to stimuli in the work environment,. In fact, several studies have shown a positive relationship between DEF and negative work-related behaviors. However, to this author's knowledge, DEF has not been examined within the I-O psychology literature. This will be the first study to examine the relationship between DEF and commonly studied variables in the I-O literature.

Before further delving into the literature on executive functioning, the other key variables included in the current study will be reviewed. First, a review on organizational constraints will be provided. Next, each of the extra-role behaviors measured in the current study will be reviewed, including a discussion of the relationship between these behaviors and organizational constraints. From there, the concept of “control” as it is often conceptualized in the organizational literature (e.g., job autonomy, locus of control, self-efficacy) will briefly be reviewed, followed by an introduction to “control” as it is being conceptualized and measured in the current study. Lastly, a discussion of executive functioning as it relates to cognitive processes

and behaviors in the workplace will be provided, ending with a summary of the current study's hypotheses.

### **Organizational Constraints**

As stated earlier, organizational constraints represent situations or objects that prevent employees from performing up to their capabilities (Peters & O'Connor, 1988; Spector & Jex, 1998). In their seminal manuscript on organizational constraints, Peters and O'Connor (1988) identified eleven sources of such constraints: 1) job related information, 2) tools and equipment, 3) budgetary support, 4) materials and supplies, 5) required services and help from others, 6) task preparation, 7) time availability, 8) work environment, 9) scheduling of activities, 10) transportation, and 11) job-relevant authority. It is proposed that the more severe the constraints, the greater the negative impact on employee behaviors will be.

When examining organizational constraints from a stressor-strain framework, these constraints would be representative of stressors in the workplace that potentially lead to strain (i.e., any of several maladaptive responses to the stressor) on the part of the employees. Although there are several ways to categorize stressors in the workplace, the hindrance/ challenge taxonomy provides an appropriate framework under which to examine organizational constraints. In general, hindrance stressors differ from challenge stressors in that the former represent things that block one's performance, while the latter are seen as a source of challenge and motivation for employees (Cavanaugh, Boswell, Roehling, & Boudreau, 2000). For example, heavy workloads and impending deadlines (i.e., challenge stressors) have the potential to motivate employees, and further, do not frustrate or block employees from reaching their performance goals. On the other hand, hindrance stressors such as receiving conflicting demands

(role conflict) or lacking a clear idea of what one's role is at work (role ambiguity) can prevent employees from reaching their performance goals.

Under this framework, many organizational constraints, as conceptualized and measured in this area of research, appear to be more conceptually similar to hindrance stressors (e.g., lack of resources needed to perform work tasks; faulty equipment; frequent interruptions); however, some organizational constraints may also have the potential to motivate, rather than deter employees from performing their work tasks (e.g., inadequate help from others; conflicting job demands). Still, given the definition of organizational constraints presented above (Spector & Jex, 1998), and keeping in line with the stressor-strain framework, employees may experience some form of strain (i.e., any of several possible maladaptive responses) when confronted with these frustrating conditions. The strain can manifest in various forms, such as engaging CWBs (a behavioral strain), falling ill (a physical strain), or increased anxiety and depression (a psychological strain). Thus, it is important for organizations to create a work environment that is relatively free of such constraints.

### **Counterproductive Work Behaviors**

Counterproductive work behavior (CWB) is defined as actions taken by employees that harm or are intended to harm their employing organizations (Spector, et al., 2007). These acts can be directed toward either the organization (CWB-O) or individuals associated with the organization (CWB-I; Robinson & Bennett, 2000). Although these behaviors can manifest in a variety of ways, two significant CWB models have been proposed to describe the factor structure of CWB: the 11-factor model proposed by Sackett and Gruys (2002) and the 5-factor model proposed by Fox and Spector (2006). The behavioral CWB sub-dimensions of the latter model include abuse towards others (includes both verbal and physical), sabotage (e.g., destroying

company property), theft, withdrawal (e.g., leaving work early; showing up late; taking extra breaks), and production deviance (e.g., purposefully making errors in your work; using work time to surf the internet). The 11-factor model includes mostly dimensions that are the same or very similar to those in the 5-factor model; however, there are a few dimensions present in this model that are not in the 5-factor model (e.g., drug use, alcohol use, misuse of information (Sackett & Gruys, 2002).

Similar to the two-factor structure proposed by Robinson and Bennett (2000), the CWBs proposed by Fox and Spector (2006) can be directed toward either the organization or individuals within the organization. For instance, an employee stealing money from the cash register at work would be a CWB-O, whereas an employee stealing money out of a co-worker's purse would be a CWB-I. There is quite a bit of overlap between the 5-factor and 11-factor models of CWB; however, the 11-factor model includes a few additional types of CWB that are not included in Fox and Spector's model – these are: misuse of information (i.e., employee using information for purposes that run counter to the organization), unsafe behavior (e.g., disobeying safety rules and procedures), and drug and alcohol use. Again, these behaviors can be conceptualized as CWB-I or CWB-O<sup>i</sup>.

As researchers have come to better understand the structure of CWB and its impact on organizations and those associated with these organizations, research in this domain has started to focus more on situational and person-based predictors of CWBs. Within the organizational literature, frequently studied situational predictors of CWB include workplace stressors (e.g., organizational constraints, interpersonal conflict, role stressors), social norms (e.g., group-level

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<sup>i</sup> It has been proposed that some of the factors in the 11-factor model may more harmful to the individual engaging in the behavior (e.g., drug/ alcohol use, unsafe behavior) than to the organization or its constituents. However, that discussion is beyond the scope of this paper. See Marcus et al. (2012) for a more detailed explanation.

expectations of how members should behave in the workplace, within work unit, or some work-related situation), and unfair treatment and perceptions (Spector, 2011).

In terms of person-based predictors, or individual difference variables related to CWB, personality variables have received the most empirical scrutiny. Consistent findings have shown that individuals higher on trait negative affectivity (NA) and trait anger engage in CWBs more often than those who are lower on these traits (Bowling & Eschelman, 2010; Hershcovis, et al., 2007). Among the big 5 personality constructs, conscientiousness is often considered to be the best predictor of CWB, such that those low in trait conscientiousness are more likely to engage in CWB (Bowling & Eschelman, 2010; Jensen & Patel, 2011; Spector, 2011). Conscientiousness is a personality trait characterized by being organized, self-disciplined, vigilant, diligent, dependable, and motivated. In general, a highly conscientiousness person demonstrates more control over his or her behaviors, and further, directs that behavior toward more positive and productive goals. The person who lacks this trait acts more impulsively than the conscientious individual, and in turn, is more likely to engage in riskier, and at times, harmful behaviors.

Similarly, individuals with an internal locus of control have been shown to engage in fewer CWBs than those with an external locus of control, such that those who have the tendency to perceive personal control across situations (internal LOC) generally behave more appropriately than those who tend to perceive situations at outside of their control (external LOC; Sprung & Jex, 2012). For instance, a person with a high internal LOC may interpret a stressor as a challenge, while one with an external LOC would perceive it as a hindrance. Thus, where the internal LOC individual takes control by facing the stressor and taking action to reduce or remove it, the external LOC individual may take control by retaliating against the organization and acting out in harmful ways. This external LOC employee may also engage in

withdrawal behaviors, while not necessarily engaged with the intent to harm, still do harm the organization.

Self-efficacy, or one's belief in his or her own capabilities, is another individual difference variable that has been empirically linked to CWB. In general, research shows that those with higher self-efficacy are less likely to engage in CWBs than those who do not have strong beliefs in their personal abilities (Spector, 2011). Much like the conscientious individual, and the one with an internal LOC, the person with high self-efficacy perceives a greater amount of personal control over different situations. In order to perceive controllability in a situation, one must believe that he or she has the ability to exert control in that situation. For instance, an employee who is given a last-minute assignment must believe that he or she can meet that deadline in order to do so. Again, this person perceives greater control over a given situation<sup>ii</sup>. The aspect of *control* is important to the study of CWB and other workplace behaviors that impact the organization's ability to reach its goals, which is a point that I will return to and elaborate on later in the paper.

As previously mentioned, although it is important to explore the independent effects of situational and person-based variables on the occurrence of CWBs, testing the interaction has become equally, or perhaps even more important, which is demonstrated in much of the recent literature in this domain. The person-by-situation interaction is included in many theoretical models proposed and tested in CWB research, and more broadly, in psychological research in general. Within the realm of organizational psychology, these models provide both a conceptual and empirical framework by which to study the nature of CWBs.

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<sup>ii</sup> It is important to note that LOC and self-efficacy are typically studied as domain-specific traits. That is, within the organizational literature, LOC and self-efficacy are related to workplace matters.



For instance, the stressor-emotion model of stress (Spector & Fox, 2005) suggests stressors experienced in the work environment may induce negative emotions in some individuals, which, in turn, may lead them to engage in behaviors that are harmful to the organization, such as theft or aggression. However, environmental stressors, or situational factors, do not fully explain why certain individuals engage in such behaviors. Individual characteristics, such as trait anger and negative affectivity, are proposed to moderate the stressor-strain relationship – when faced with a given stressor, or set of stressors, those who are more prone to experience anger and other negative emotions are also more prone to engage in maladaptive behaviors in response to stressors. Furthermore, the stressor-emotion model suggests that an individual's perceived control over a given situation also impacts the likelihood of one engaging in CWBs. Again, those with a more external LOC are likely to engage in CWB, and under stressful workplace conditions, those with an external LOC would be more likely to engage in CWB is even greater. In other words, an internal LOC acts as a buffer in the stressor-strain relationship.

As another example, the job demands-control model of occupational stress suggest that the most stressful situations are those in which job demands (i.e., workload) are high and job control (i.e., job autonomy) is low. Indeed, research has shown that, independently, job demands (and other workplace stressors) and job control (and other personal resources) are valid predictors of CWBs. However, empirical evidence for the interaction between the characteristics of the person and the situation is sparse. The current study aims to address this by including and testing “control” as one's ability rather than one's perception of control over a given (set of) situation(s).

**Organizational Constraints & CWB.** As previously mentioned, one of the primary goals in the current study was to examine the relationship between organizational constraints and extra-role behaviors. Within the CWB literature, organizational constraints and related stressors have demonstrated the greatest empirical relationship with these behaviors in their most general form. Furthermore, research has shown that these constraints are better predictors of the more common CWBs (i.e., those with higher base-rates), such as abuse towards others and withdrawal behaviors, while unfair treatment is a better predictor of low base-rate CWBs, such as theft and sabotage (Fox, Spector, & Miles, 2001).

As previously mentioned, the stressor-strain framework of occupational stress suggests that organizational constraints (a stressor) may result in emotional (e.g., anxiety, anger), behavioral (e.g., CWB), and/ or physical strains (e.g., increased heart rate). Similarly, Conservation of Resources (COR) theory assumes that people are motivated to acquire and retain resources, and when those resources are threatened or are insufficient to meet demands, they can experience a variety of strains (e.g., burnout, exhaustion, withdrawal behaviors; Hobfoll, 1989). Thus, the actual or threatened resource loss experienced in the face of organizational constraints may lead to a behavioral strain – in this case, employees engaging in some form of CWB, a behavioral strain. For instance, an employee using faulty, unreliable equipment to perform his job tasks may become frustrated, or exhausted, and withdraw from all work-related activities. In this example, the organizational constraint (poor equipment) created a need for the employee to expend additional personal resources (e.g., time and energy) to complete his work tasks. After failing to complete the task, and further, depleting his personal resources, the employee withdraws from work as a means to replenish some of his personal resources (e.g., energy, effort, focus). Alternatively, this employee may experience a lack of personal control over his work

situation (not able to perform task because of improper equipment), and in order to regain a sense of control, he withdraws from work and uses that time for himself (e.g., taking an unscheduled, extended break). Overall, the consistent finding that organizational constraints positively relate to CWBs (e.g., Dalal, 2005; Spector & Fox, 2002; Spector, Bauer, & Fox, 2010; Zhou, et al., 2014) supports the general propositions of predominant occupational stress theories in the field.

However, the interpretation of resource threat or loss is also influenced by individual differences, such as personality. For instance, Giumetti and colleagues (2012) found a positive relationship between supervisor incivility and burnout, turnover intentions, and absenteeism; furthermore, that relationship was moderated by employees' levels of trait neuroticism. Similarly, the current study hypothesizes that there will be a positive relationship between organizational constraints and CWB. Furthermore, this relationship is predicted to be stronger for individuals with greater deficits in executive functions – a point which will be elaborated on in a subsequent section of this paper. Before delving into this further, the remaining work outcomes measured in the current study will be reviewed.

### **Organizational Citizenship Behaviors**

Organizational citizenship behaviors (OCBs) represent helping behaviors that are not part of employees' formal job descriptions, and are not attached to any formal rewards (Organ & Ryan, 1995). Similar to CWBs, OCBs can be conceptualized as OCB-I (OCBs directed towards individuals within the organization) or OCB-O (directed towards the organization). Also similar to CWB, OCB is a multidimensional construct, which typically includes five subtypes of OCBs: a) *altruism* (helping behaviors); b) *courtesy* (demonstrating consideration for others); c) *sportsmanship* (refraining from complaining about minor problems or inconveniences in the

workplace); d) *conscientiousness* (being a good citizen in the workplace); and e) *civic virtue* (supporting the organization outside of work).

In general, OCBs are presumed to have a positive effect on work-group, unit-level, and organizational performance, which has been supported by empirical research. For example, Podsakoff & Mackenzie (1997) found that helping behaviors and sportsmanship positively contributed to the teams' overall performance and to customer service performance. Additionally, OCB has been shown to be positively related to team cohesion and job satisfaction (Podsakoff, 2000). However, because OCBs are not required by the job, and in turn, are not rewarded in the same means as task performance, employees do not have as much incentive to engage in these behaviors. Furthermore, Spector and Fox (2010) suggested that when employees do engage in OCBs and are not rewarded or acknowledged for their extra efforts, they may grow to resent the organization, and in turn engage in CWBs as a means of retaliation. Still, as implied by the definition, OCBs are largely considered to be productive behaviors that facilitate reaching organizational goals, and thus, are considered to be desirable employee behaviors.

Researchers have explored various predictors of OCBs. In general, the research in this area has focused on situational conditions or person-based variables that facilitate engagement in OCBs. For instance, studies have shown that perceptions of organizational justice are positively related to OCBs (Blakely, Andrews, & Moorman, 2005; Moorman, 1991), suggesting that employees are more likely to engage in helpful behaviors when they perceive fair treatment by their organization. Other job attitudes, such as job satisfaction and job involvement have also demonstrated positive relationships with OCBs (Organ & Ryan, 1995). In terms of person-based predictors, trait conscientiousness and trait openness to experience have shown positive relationships with OCBs (Borman, et al., 2001; Bourdage, Lee, Lee, & Shin, 2012; Podsakoff, et

al., 2009). However, the research in this area is somewhat scarce. Thus, this study will contribute to the literature by testing a novel individual difference variable (i.e., EF) in relation to OCBs.

**Organizational Constraints & OCB.** Although much research has focused on variables that are presumed to facilitate OCBs, less attention has been paid to situation or person-based variables that may impede engagement in OCBs. The current study aims to address this by examining the relationship between organizational constraints and OCBs.

It is predicted that OCBs will demonstrate a negative relationship with organizational constraints, which has been empirically supported in previous studies. For instance, Jex and colleagues (2003) found a negative relationship between altruism and organizational constraints, suggesting that these constraints deter employees from engaging in helpful behaviors beyond their formal work roles. However, altruism was the only subscale of OCB that was significantly related to organizational constraints. Furthermore, this relationship was moderated by one's affective commitment, such that a positive relationship between altruism and organizational constraints emerged for those who with high levels of affective commitment, while those with low affective commitment showed a negative relationship between constraints and OCBs.

In line with the stressor-strain framework, organizational constraints (a stressor) may result in emotional (e.g., anxiety, anger), behavioral (e.g., CWB), and/ or physical strains (e.g., increased heart rate). As job satisfaction and positive mood are among the best predictors of OCBs, it is logical that organizational constraints may elicit employees' negative emotions, which in turn, may reduce the likelihood that they will engage in behaviors outside of their in-role job tasks. Conservation of resources (COR) theory may also help to explain the negative relationship between organizational constraints and OCBs, such that an employee needs to focus

all of their efforts towards in-role tasks when faced with constraints, and in turn, would not have any additional resources to engage in OCBs. Since they stand to lose more by failing to complete in-role tasks, the available resources need to be used to complete such tasks first. Since responding to organizational constraints requires the use of additional resources to complete in-role tasks, employees faced with many constraints would simply not have enough energy to engage in additional helping behaviors, such as OCBs.

In support of this, a recent meta-analysis found a negative relationship between organizational constraints and OCBs, which was mediated by work engagement (Britt, et al., 2012). Thus, if employees are required to use and/ or acquire additional resources to achieve in-role job tasks in response to organizational constraints, they may not possess the resources needed to feel engaged (e.g., energetic, vigorous, dedicated) at work in general, and in turn, would lack the resources necessary to engage in tasks that go beyond one's formal job duties. Another possible explanation might be that work engagement is an additional resource that can be allocated to helpful extra-role tasks, and if organizational constraints prevent employees from acquiring this resource, they would not possess the resources needed engage in OCBs.

### **Creativity**

In general, creativity involves finding relationships between ideas that have not previously been linked. This differs from analytic thinking in which the individual is using previously related ideas to solve a problem. While analytic thinking requires directed focus and sustained attention, with a focus on central cues provided by the problem in which they are attempting to solve, creative thinking requires individuals to attend to peripheral cues which are seemingly irrelevant information, but can actually lead to insight and the generation of ideas relevant to the problem at hand (Ansburg & Hill, 2003). Relating this to the workplace, a design

engineer may engage in analytic thinking to figure out why a certain part he has designed did not turn out as expected once manufactured. In this case, he or she would focus on central pieces of the problem (e.g., which piece is “off”, what are the dimensions recorded in the software design program) in order to solve this issue. Keeping with this example of a design engineer, a scenario calling for creative problem solving might one in which a client has asked him to design something that he or the company has never designed before and is provided with little direction or information to go off of other than a vague description of how the part will be used.

Within the organizational literature, individual creativity refers to an employee’s generation of novel and useful ideas concerning procedures and processes used at work (Amabile, 1988). Similarly, innovation refers to instances in which employees come up with very novel ideas or concepts that further the goals of the organization. However, individual creativity differs from organizational innovation such that it involves an individual employee’s idea generation whereas innovation includes idea generation and implementation throughout the organization (Zhou, 2003). That being said, individual creativity is needed to propel innovation in organizations, and thus, individual employees’ creative performance can be quite important in trying to reach the innovation standards or goals set by the organization.

Compared to the other extra-role behaviors previously discussed, innovation and creative performance has received far less attention in the literature. Perhaps this is due to the fact that not all jobs require creative problem solving, and in some cases, creativity may be counterproductive. For instance, searching for novel ways to perform factory work – a job that requires a custodial approach to performing job tasks – would likely be a waste of time for that employee. Thus, engaging in creative problem-solving for a task that does not require this may be considered a form of production deviance (e.g., purposefully ignoring rules/ protocol to

complete job tasks). Although creativity is not required by all jobs, it is still important for many. For instance, research and development (R&D) scientists are likely needed to engage in creative behaviors from time to time, and employees' creative performance may be more influential on reaching the organization's goals than task performance alone. Thus, there is a need to explore different situational characteristics that may facilitate or inhibit creativity in the workplace, as well as characteristics of individuals that influence creativity.

In her seminal work on organizational creativity, Amabile (1988) identified several situational predictors of creativity, including autonomy, sufficient time to complete tasks, challenge, pressure (not time pressure), and good project management. These situational aspects will be elaborated on in the following section on organizational constraints and creativity. In terms of person-based predictors of creativity, she found several variables related to higher levels of creativity such as self-motivation, risk-orientation, technical expertise, intrinsic motivation, flexibility, social skills, intelligence, and intellectual curiosity.

Within the organizational literature, there is not much deviation from the person-based predictors originally cited by Amabile (1988). However, subsequent studies have examined this issue in more detail over the last few decades, which have contributed to a greater, and perhaps more complex, understanding of characteristics associated with creative employees. For instance, a recent meta-analysis demonstrated significant relationships between creativity and various personality traits. Specifically, Feist (1998) found that, among the big 5 personality traits, openness to experience and conscientiousness demonstrated the strongest relationships with creativity. As one might expect, there was a positive relationship between openness to experience and creativity, which has been found in several studies since Feist's study was published (e.g., Ma, 2009; Mussell, Winter, Gelleri, & Schuler, 2011). Somewhat surprisingly,



however, conscientiousness was negatively related to creativity, suggesting that highly conscientiousness individuals may have a weakness— a lack of creativity. Highly conscientiousness people may be better at analytic problem solving than they are at creative problem-solving, and since the former type of problem-solving is likely required more often than the latter, the consistently found positive relationship between job performance and conscientiousness in general would not contradict the result found by Feist (1998).

**Organizational Constraints & Creativity.** Compared to CWBs and OCBs, the research on organizational constraints and creativity is quite scarce, and as a result, the relationship between these two variables is not well understood. To further complicate matters, there is little consistency in the ways in which constraints are defined and measured across studies and across disciplines. For instance, several studies have examined some type of organizational constraint, but not exactly as conceptualized by Peters & O'Connor (1988). For instance, some studies focused on time constraints (e.g., Baer & Oldham, 2006), while others have looked at social constraints (e.g., Mueller & Kamdar, 2011). However, considering the fact that little to no research has examined the relationship between creativity and organizational constraints specifically, these studies can help to shed light on this relationship.

In a recent meta-analysis, Ma (2009) found that work environments that were more “natural and unrestrained”, providing more “freedom” in the problem-solving process, showed the strongest positive relationships with creativity. Although the measures used in these studies differ from those typically seen in the organizational literature, the general implications are consistent. In relation to the organizational literature, a work environment that frustrates employees and/ or does not allow them freedom over their work may be conceptualized as an

environment in which several hindrance stressors are present, and in turn, these stressors negatively impact employees' creative processes and/or outcomes.

### **Control & Deficits in Executive Functioning**

In the organizational literature, control often appears in theoretical models and frameworks related to employees' appraisals of and reactions to workplace stimuli. For instance, a lack of job autonomy or control over the way one performs his or her job, is often conceptualized as a source of workplace stress. In this case, control is a resource provided by the organization. However, control has also been conceptualized as a person-based attribute. For instance, an internal locus of control, or one's tendency to perceive situations as within one's own control, is has been proposed to buffer the impact of workplace stressors on employee outcomes. Along these lines, self-efficacy, or one's belief or confidence in his or her abilities, is also related to this aspect of control. For instance, a person who has confidence in his abilities to perform his work effectively may not be as bothered by workplace stressors as someone who does not have confidence in his abilities (Jex & Bliese, 1999). Self-efficacy and locus of control both represent a personal resource that may buffer the negative impact of workplace stress. However, the research in this area has shown mixed support for the buffering effects of these resources. Furthermore, represent one's appraisal of his or her abilities to exert control over certain situations. It does not indicate one's actual ability to exert such control.

Thus, the current study conceptualizes executive functioning (EF) as a person's ability to control, or regulate, their personal resources (e.g., attention, motivation, emotional reactions). The remainder of this section will discuss executive functioning as described in the clinical neuroscience literatures, followed by a discussion of executive functions relating to employee behaviors at work.

Executive functioning is an umbrella term used to describe higher-order, regulative processes, including but not limited to self-reflection, self-control, planning, forethought, delay of gratification, anticipatory set, future orientation, working memory, planning, set shifting, selecting, dividing and sustaining attention, affect regulation, resistance to distraction, and metacognition (Wasserstein, 2005). Furthermore, failures in one component of executive functioning, such as inhibition or attention regulation, are proposed to negatively affect other executive, or regulative, abilities indirectly.

In the clinical psychology literature, deficits in executive functioning (DEF) have been associated with a variety of mental disorders in the Diagnostic and Statistical Manual of Mental Disorders (DSM). For instance, DEF is often associated with patients with attention-deficit hyperactivity disorder (ADHD), as they relate to impulsivity and the inability to regulate and/ or appropriately respond to certain behaviors and emotions (e.g., Barkley & Murphy, 2009; Resnick, 2005; Wasserstein, 2005). Other neurodevelopmental disorders<sup>iii</sup> such as autism spectrum disorder (ASD), oppositional defiant disorder (ODD) and conduct disorder have also been linked to DEF (Rosenthal et al., 2013; Ozonoff & Jensen, 1999). Furthermore, the mood disturbances and displays of inappropriate affect seen in patients with bipolar disorder, schizophrenia, and certain personality disorders (e.g., schizoid, histrionic) may be partially attributed to impairments in the emotion regulation and response inhibition, which are both components of EF (Coolidge, Thede, & Jang, 2004; Soeiro-de-Souza, Dias, Bio, Post, & Moreno, 2011).

Within the neuroscience literature, executive functions have been linked to the prefrontal cortex. Specifically, three primary cortices or circuits within this region have been linked to

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<sup>iii</sup> Onset of disorder occurs in the individual's developmental period (typically before school-age)

various executive functions: a) the dorsolateral prefrontal cortex (DPC), which is responsible for response inhibition, goal setting, attention, set shifting, working memory, design fluency, and organizing and planning; b) the anterior cingulate cortex (ACC), which is associated with task initiation, motivation, behavioral inhibition, and self-monitoring/ self-regulation; and finally c) the orbitofrontal cortex (OFC), which is related to emotional control, sensitivity, and tactfulness (Best & Miller, 2010; Mega & Cummings, 1994; Miyake & Friedman, 2012; Nigg, 2000).

According to Miyake and Friedman (2012), although there is unity amongst these different components of EF, there is diversity amongst them as well. That is to say, dysfunction in one area of executive functioning does not necessarily mean that all executive functions will be impaired to the same degree. For instance, one may have the tendency to become more easily upset or frustrated than others, but does not experience significant problems when it comes to organizing and scheduling tasks, and thus, this individual may exhibit more substantial impairments in the OFC, as compared to the DPC. Keeping in line with this example, we would also predict that this individual, as compared to someone who does not experience problems with emotion regulation or response inhibition, would demonstrate more deficits in all areas of EF. Essentially, EF, like many other constructs we study in psychology is multidimensional; and thus, there is utility in examining different subscales of EF in addition to the construct as a whole. Table 1 provides an overview of the EF subscales examined in the current study and their relation to the three aforementioned brain regions associated with DEF.

The clinical and neuroscience literatures, which demonstrates a link between DEF and many of the dysfunctional behaviors and thought processes associated with certain clinical mental disorders, suggests that higher DEF would negatively impact one's overall level of functioning, including but not limited to the workplace. Although the impaired executive

functions (i.e., DEF) of the participants within this area of research are likely more severe than that of the “normal” or general population, that is not to say that those without mental disorders do not differ in their levels of EF or DEF. Similar to constructs such as personality and cognitive abilities, an individual’s level of executive function lies somewhere on a spectrum, ranging from very low functioning to very high level functioning. In support of this notion, a recent study found that various executive functions (e.g., organization, impulse control, emotional control) were significantly related to academic procrastination in a non-clinical population, such that students with higher levels of DEF reported procrastinating on academic work more often than those with lower levels of DEF (Rabin, et al., 2011).

Since executive functioning represents one’s ability to demonstrate control over various mental processes (e.g., managing one’s time, planning ahead, and managing one’s emotional responses to certain events and stimuli in the environment), the use of this construct as a measure of control under an occupational stress framework seems justified, as several models have conceptualized control as a personal attribute or resource that buffers the negative impact of stressors. Furthermore, since much of the research in this domain has failed to support the moderating effects of control, examining control through a different lens may shed light on the rather weak, and sometimes inconsistent, findings that appear in the literature.

**Executive Function in the Workplace.** A handful of studies in the clinical psychology literature have linked deficits in executive functioning to impairments in occupational functioning. For instance, Barkley and Murphy (2010) found that self-report ratings of deficits in executive functioning (DEF) were negatively to both self-report and supervisory ratings of occupational functioning. Specifically, self-ratings on the DEFS subscales (e.g., self-management to time, self-organization and problem-solving, self-discipline, self-motivation,

emotional control) were found to relate significantly to self- and supervisor-rated work performance, the percentage of jobs in which they had experienced various behavioral and/ or interpersonal problems, and the percentage of jobs in which they were fired, the percentage of jobs in which they quit due to boredom. Similarly, Biederman and colleagues (2006) used psychomotor tests and clinical assessments of executive functioning, as opposed to self-report ratings, and also found a correlation between DEF and occupational functioning. Specifically, participants in this study who demonstrated greater deficits in EF, as compared to those lesser deficits, experienced significantly greater impairments in occupational functioning and other aspects of daily “adult” life (e.g., more criminal convictions; more traffic tickets and car accidents; academic pursuits).

Also, in line with the stressor-emotion model of CWB, Bridgett and colleagues (2013) found a positive association between DEF and negative affectivity. This latter finding may be interpreted such that those with higher DEF may be more easily ‘rattled’, which in turn increases the frequency with which they will experience negative emotions or thoughts in general. Alternatively, DEF may exacerbate the experience of negative emotions for a person who is also high on trait NA.

Within the organizational literature, DEF has not been examined specifically as it relates to employees’ engagement in extra-role behaviors; however, similar constructs have been assessed. For instance, effortful control (i.e., a measure of child temperament, which refers to one’s ability to plan future actions and inhibit inappropriate responses) has demonstrated a positive relationship with CWB (Spector, 2011; Wu, Zhang, Chiu, Kwan & He, 2013). Also, as previously mentioned, personality traits associated with behavioral, cognitive and emotional

control (e.g., conscientiousness, self-efficacy, locus of control) have demonstrated significant relationships with both CWBs and OCBs as well.

Trait impulsivity (i.e., the tendency to act with less forethought than people of equal or similar ability) is another person-based variable that has associated with engagement in CWBs (Spector, 2011). Dickman (1990) suggested that there are two types of trait impulsivity – dysfunctional impulsivity (i.e., the tendency to act with less forethought than people of equal or similar ability when such a style is a source of frustration) and functional impulsivity (i.e., the tendency to act with less forethought than people of equal or similar ability when such a style is beneficial). Thus, those with greater DEFs may engage in more dysfunctional behaviors (e.g., counterproductive work behaviors) and functional behaviors (e.g., creativity) than those with less impairment in executive functioning.

Roberts and colleagues (2007) conducted a 23-year longitudinal study in which they examined the relationship between several background factors and counterproductive workplace behaviors. Background factors included various personality traits, intelligence, diagnosis of adolescent conduct disorder, and criminal conviction records. The background factors were assessed several times across 23 years (beginning at age 3, with follow-ups every 2-3 years), and workplace characteristics and CWBs were assessed at the end of the study (age 26). The results showed that being diagnosed with conduct disorder as a child was the best predictor of CWB as an adult. The authors suggested that the inhibitory problems associated with this disorder may provide a logical explanation as to why being diagnosed with this disorder as a child was the greatest predictor of CWB as an adult. Thus, it is possible that these individuals have greater DEFs than those who were not diagnosed with conduct disorder as children.

In relation to the present study, those with greater DEF, particularly those with deficits in emotional control, may be more prone to experience stress and frustration in the presence of workplace stressors, such as organizational constraints. Since these individuals may also have deficits in impulse control and self-discipline, they may then also be more prone to respond to those stressors in counterproductive ways (e.g., yelling at a co-worker for interrupting one's work). Therefore, it is possible that DEF moderates the relationship between workplace stressors (e.g., organizational constraints) and work-related strain (e.g., CWBs), such that it is strengthened for those with greater DEFs,

In summary, the studies above highlight the negative consequences associated with DEF (e.g., CWB). Although it is recognized that DEF can impeded various aspects of daily functioning, some researchers have also pointed out the potential benefits of such impairments, such as increased creativity (Ansburg & Hill, 2003; Collins & Koechlin, 2012; Chrysikou, et al., 2013; Thompson-Schill, Ramscar, & Chrysikou, 2009). This is often seen in patients with ADHD. For instance, one of the problematic symptoms of ADHD is inattentiveness and distractibility. In other words, these individuals have a difficult time maintaining focus on the task at hand. By the same token, they are also prone to hyperfocus, and sometimes have difficulty shifting from a particular task to another. In fact, some studies have shown that individuals with ADHD produce more creative solutions than those without this disorder (e.g., White & Shah, 2011).

This pattern of inflexible thinking may inhibit task performance, but at the same time can also facilitate creative solutions. Interestingly, Reverberi and colleagues (2005) found that patients with PFC damage solved insight-problem-solving tasks better than their healthy counterparts. Thus, these studies suggest that impairments to normal cognitive functioning may



actually be beneficial in some cases. In relation to the current study, the literature reviewed here suggests that although greater impairments in EF may serve as a detriment to employees and their employing organizations (i.e., greater levels of CWBs), this same impairment may also be beneficial to the organization (i.e., higher levels of creativity and workplace innovations).

### **Summary of Current Study and Hypotheses**

Although control, in some form or another (e.g., job autonomy, locus of control) has been widely proposed to serve as a buffer in the stressor-strain relationship, evidence regarding this effect has been mixed. Since executive functioning represents one's ability to demonstrate control over various mental processes (e.g., managing one's time, planning ahead, and managing one's emotional responses to certain events and stimuli in the environment), the use of this construct as a measure of control under an occupational stress framework seems justified, as several models have conceptualized control as a personal attribute. Furthermore, since much of the research in this domain has failed to support the moderating effects of control, examining control under a different lens may shed light on the rather weak, and sometimes inconsistent, findings that appear in the literature.

To summarize, the current study aims to test the relationship between organizational constraints and extra-role behaviors; between DEF and extra-role behaviors; and further, to examine DEF as a potential moderator in the relationship between organizational constraints and extra-role behaviors. This study makes the following hypotheses:

1. There will be a positive relationship between organizational constraints and counterproductive work behaviors.
2. There will be a negative relationship between organizational constraints and organizational citizenship behaviors.

3. There will be a positive relationship between deficits in executive functioning and counterproductive work behaviors.
4. There will be a positive relationship between deficits in executive functioning and creative performance.
5. DEF will moderate the relationship between organizational constraints and CWB, such that the relationship between organizational constraints and CWBs will be stronger for those with higher DEFs but not for those with lower DEFs.

## METHOD

**Participants**

**Sample 1.** In order to obtain a diverse and representative sample of the workplace in terms of race, gender, and job types, 500 participants were recruited through Amazon's Mechanical-Turk (M-Turk), in which they were offered \$1.00 for completing the full survey. After removing participants that provided incomplete and/ or duplicate survey ratings, a total of 446 participants were obtained for this study's analyses. There have been some concerns raised regarding the use of M-Turk participants, such as selection bias (e.g., those who view task but do not complete it) and relevance of the sample to general working population; however, these concerns are common in all types of convenience samples (Landers & Behrend, 2015), and thus, the use of M-Turk participants here seems appropriate.

**Sample 2.** In order to reduce the impact of common method variance associated with the sole use of self-report data, ratings were obtained from close confidants in addition to the employees' self-report ratings for this sample. A second sample was recruited using non-probability sampling techniques (i.e, network and snowball sampling), which resulted in a total of 119 useable self-report surveys. Upon completion of the self-report survey, these participants were asked to provide contact information for a close confidant/ someone who knows them well (e.g., spouse, parent, sibling, friend), and from there, an additional survey was sent to the close confidant indicated by the employee in the self-report survey in which the confidants were asked to rate the target employee's DEF (see description of measure below). From these 119 participants, only 71 (approximately 60%) provided contact information for their confidant. From the 71 confidants contacted, a total of 30 responded (response rate of 42%). Although the intention was to use confidant data to test the study's hypotheses, due to the small

sample size, this data was ultimately used to assess the convergence between self- and other-ratings on the DEF measure.

### **Procedure**

All participants filled out an anonymous survey online. Only self-report data was collected from the first sample (see subsequent section for description of measures included in the self-report survey). For Sample 2, employees were recruited using convenience sampling techniques (e.g., posts on social media and professional networking websites). Employees were asked to first complete the same survey used for the first sample; however, at the end of the survey, they were asked to provide contact information for a close confidant. Using the contact information provided by these participants, follow-up surveys were sent to their confidants. Confidants were asked to complete a brief survey which included basic demographic information and ratings for the items in the DEF measure (see description in subsequent section) in regards to the target individual. Self-report surveys from the combined sample (sample 1 and sample 2) were used to conduct all primary analyses discussed in the results section.

### **Measures**

For both samples, the anonymous self-report survey included measures of CWBs, OCBs, creativity, organizational constraints, deficits in executive functioning, and basic demographic information. For supervisors in the second sample, ratings of their subordinates' CWBs, OCBs, and creativity were obtained, as well as some basic demographic information. A description of each measure is provided below.

**CWB Checklist (Spector, Bauer, & Fox, 2010).** The 10-item short-form CWB scale used in the current study was designed to be scored as either overall CWB (all items), or as two subscales that are classified into CWB directed toward the organization (CWB-

O) versus individuals (CWB-I). Responses are made on a 5-point frequency scale: never, once or twice, once or twice per month, once or twice per week, and every day. This measure demonstrated adequate reliability for sample 1 ( $\alpha = .81$ ) and sample 2 ( $\alpha = .70$ ).

**OCB Checklist (Spector, Bauer, & Fox, 2010).** The short form OCB-C is a 10 item measure of organizational citizenship behaviors. Consistent with the CWB-C format, each item on the OCB-C asks the employee to indicate how often the target person (self or other) has engaged in each of the behaviors on the present job. The five response choices range from 1 = never to 5 = every day. A “not applicable” option will also be present for each item.

Respondents will be instructed to select “N/A” for instances in which they do not have the opportunity to engage in the behaviors being questioned. This measure demonstrated adequate reliability for sample 1 ( $\alpha = .89$ ) and sample 2 ( $\alpha = .87$ ).

**Creative Performance (Zhou & George, 2001).** This scale consists of 13 items and is used to assess creativity. Respondents are asked to assess how characteristic each item is of themselves, using a 5-point Likert response scale (Not at all characteristic – Very characteristic). A “not applicable” option was also be present for each item. Respondents were instructed to select “N/A” for instances in which they do not have the opportunity to engage in the behaviors being questioned. This measure demonstrated good reliability for sample 1 ( $\alpha = .95$ ) and sample 2 ( $\alpha = .95$ ).

**Deficits in Executive Functioning Short-Form Scale (Barkley & Murphy, 2009).** This scale was developed to identify the nature of EF deficits in the following constructs, assessed with 5 separate subscale measures: 1) behavioral inhibition (Self-Discipline), 2) nonverbal working memory and sense of time (Self-Management to Time), 3) verbal working memory and rule following (Self-Motivation), 4) emotional, motivational, and

arousal self-regulation (Self-Regulation of Emotions), and 5) planning and problem-solving (Self-Organization and Problem-Solving). Although executive functioning is not typically assessed via self-report ratings, this scale has demonstrated convergent validity with more objective measures of EF (e.g., Connors Continuous Performance Test, Wisconsin Card Sort Test; see Barkeley & Murphy, 2010 for more details). Also, the DSM-IV symptoms of ADHD were specifically excluded from this scale by the scale developers. Since this scale is not intended to diagnose a clinical disorder, it seems appropriate to use on a subclinical population. The scale consists of 20 items (4 items per subscale) with each item being answered on a 0–3 Likert scale (0 = rarely or not at all, 1 = sometimes, 2 = often, and 3 = very often). Employees from both samples provided self-report ratings for the items in this scale; however, for sample 2, additional ratings of these items were provided by close confidants of the target individuals. In the other-report survey, the items were preceded by the following prompt: “You are being asked to describe the behavior of someone whom you know well. How often does that person experience each of these problems?”, while in the self-report survey, the participants were instructed to report on their personal experiences for each item. This measure demonstrated good reliability for sample 1 ( $\alpha = .93$ ) and sample 2 ( $\alpha = .92$ ). For sample 2, inter-rater reliability was assessed for the 30 self-other dyads on this measure. Each subscale demonstrated adequate consistency between raters, with ICCs ranging from 0.23-0.51 (see Table 3).

**Organizational Constraints Scale (Spector & Jex, 1998).** This 11-item scale asks respondents to report the frequency with which their job performance is hindered by constraints such as rules and procedures, availability of resources, co-workers, interruptions, and inadequate training. A “not applicable” option will also be present for each item. Respondents will be instructed to select “N/A” for instances in which they do not have the opportunity to

engage in the behaviors being questioned. This measure demonstrated adequate reliability for sample 1 ( $\alpha = .91$ ) and sample 2 ( $\alpha = .87$ ).

**Demographics and Control Variables.** Participants will be asked to report several demographic characteristics, including age, gender, race/ethnicity, work hours, job title, and job status. Furthermore, since these variables are particularly relevant in occupational stress research, self-report ratings of job autonomy and workload were collected and subsequently used as control variables in this study's analyses (see Results section for further explanation). Both measures demonstrated adequate reliability for sample 1 ( $\alpha = .93$ ;  $\alpha = .88$ ) and sample 2 ( $\alpha = .92$ ;  $\alpha = .85$ ).

### Overview of Analyses

**Factor Analysis.** Since the measure of deficits in executive functioning (DEF) was originally developed for a clinical population, the current study will test the factor structure of this measure on the current sample just as a precautionary measure. Although this measure has been validated against a sub-clinical population in a few previous studies, this analysis will just be done for safe measure.

**Hierarchical Multiple Regression.** A hierarchical multiple regression analysis was conducted to assess the independent and interactive effects of the two independent variables (DEF and organizational constraints) on each of the three dependent variables (CWB, OCB, and creativity). Since both job autonomy and workload have been theoretically and empirically linked to the key variables in this study (e.g., Bakker & Demerouti, 2006; Bakker, et al., 2003; Hu, Schaufeli, & Taris, 2011), it is quite possible that these variables would impact the relationships between the predictor and outcome variables in the current analyses. Therefore, these variables were included as control variables in the regression models tested in this study.

## RESULTS

### Descriptive Statistics and Bivariate Correlations

The participants in this study were relatively diverse in terms of basic demographics and job-related characteristics (see table 2). Participants also reported a wide array of job titles, covering a broad range of industries including but not limited to: office administration, education, health care, law enforcement, retail, customer service, food service, engineering, manufacturing, and computer/ technology support. The most frequently reported jobs were those that fell within the domain of office administration, retail, sales, and customer service. However, the overall sample was still fairly diverse.

Also, as can be seen in table 3, the agreement between self- and other-ratings on the BDEFS was significant in most cases, which adds support to the validity of self-reported ratings on this measure, especially given the small sample size here ( $N=26-30$ ). Furthermore, the employees in this study rated their own DEF slightly higher than their close confidants did, which is to be expected. According to Barkley (2010), one should expect to see some disparity between self- and other-ratings, in which self-ratings are generally slightly higher than other-ratings on the same items. Although there were not enough other-reports obtained to conduct further analyses, the correlations between the self- and other-ratings suggest that the self-report ratings are sufficient to use in subsequent analyses.

As can be seen in table 4, significant relationships were found between many of the key variables in this study. In support of this study's hypotheses, organizational constraints showed a significant relationship with CWBs in the expected direction,  $r(438) = .41, p < .001$ . Also in line with this study's hypotheses, a significant and positive relationship was found between CWBs and DEF,  $r(477) = .49, p < .001$ . Although the relationship found between organizational



constraints and OCBs was significant, it was in the opposite direction of what was predicted,  $r(390) = .27, p < .001$ . The same was true for the relationship between creativity and DEF,  $r(446) = -.17, p < .001$ .

### Factor Analyses

**BDEFS.** A factor analysis was conducted, using principal component analysis (PCA) as the extraction method and oblimin rotation, for the 20 items of the BDEFS. Oblimin rotation was chosen because it allows the factors to correlate (Costello & Osborne, 2005), which would be expected in this case. Consistent with the proposed factor structure for this measure, the factor analysis revealed five factors (see Table 5), explaining 70% of the variance. Also, the content or items within each factor found in this analysis did not differ from those indicated in the original measure. This result supports the use of this measure on a non-clinical sample.

**OCS.** Although organizational constraints are typically assessed as a single dimension, it is possible that this construct is multidimensional. In support of this notion, two factors were extracted from this measure in previous studies (Liu, 2003; Liu, Spector, & Shi, 2007): job context organizational constraints (i.e., poor equipment or supplies, lack of equipment or supplies, inadequate training, conflicting job demands, organizational rules and procedures, and lack of information regarding how to perform one's job tasks) and interpersonal organizational constraints (i.e., interruptions by other people, problems with co-workers and supervisors, and inadequate help from others). Thus, a factor analysis was conducted for the current study, using PCA as the extraction method and oblimin rotation, for the 11 OCS items. The current analysis revealed two factors (see table 6), explaining 62% of the variance. However, the items within each factor differ slightly from those found in the previous studies

(Liu, 2003; Liu, et al., 2007). Since this is the only known study to factor analyze this particular measure, the current study used the factors extracted here to conduct subsequent analyses. Also, since the factors extracted here differ from those found in prior studies, different labels were selected to represent these factors – interpersonal organizational constraints and technical organizational constraints.

The primary difference between the factors in these two studies is that the technical organizational constraints found here are specifically related to inadequate equipment or supplies, while Liu's job context dimension includes these items in addition to inadequate information and instructions. Because inadequate instructions and lack of proper training likely involve interpersonal interactions, it seems logical that those items would fall under the interpersonal, or interpersonal organizational constraints dimension; thus, the first factor extracted in the present analysis will also be referred to as *interpersonal* organizational constraints. However, since the second factor extracted here is narrower than the job-context dimension identified by Liu and colleagues (2007), the current study will refer to this dimension as *technical* organizational constraints.

### **Multiple Regression Analyses**

Three separate multiple regressions were calculated to predict each of the extra-role behaviors (i.e., CWB, OCB, and creativity), based on employees' self-reported levels of organizational constraints and DEF, and controlling for perceived job-related autonomy and workload (see tables 7-9). Significant regression equations were found for each dependent variable: a) CWB:  $F(4,406) = 47.6, p < .001$ , adjusted  $R^2 = .31$ ; b) OCB:  $F(4,358) = 27.3, p < .001$ , adjusted  $R^2 = .23$ ; c) Creativity:  $F(4,372) = 15.2, p < .001$ , adjusted  $R^2 = .13$ .

In order to examine the interaction between organizational constraints and DEF on each of the extra-role behaviors, an interaction term was added to the final step for each of the aforementioned regression analyses (see tables 7-9). Contrary to this study's hypotheses, the interaction between total organizational constraints and DEF did not significantly predict any of the primary dependent variables in this study. However, exploratory analyses revealed significant interactions at the sub-dimension level. Specifically, a significant interaction was found between technical organizational constraints and total DEF for CWB-I (i.e., CWBs directed towards individuals within and/ or associated with the organization),  $F(5,466) = 21.7$ ,  $p < .001$ ,  $R^2 = .18$ ;  $\Delta R^2 = .02$ ,  $p = .004$  (see table 10 and figure 1). Analyses also revealed a significant interaction between technical organizational constraints and the self-discipline subdimension of DEF (DEF-SD) in the prediction of OCB-I (i.e., OCBs directed towards individuals within the organization),  $F(5,410) = 17.5$ ,  $p < .001$ , adjusted  $R^2 = .16$ ;  $\Delta R^2 = .01$ ,  $p = .01$  (see table 11 and figure 2). The interaction between total organizational constraints and DEF-SD was significant in the prediction of OCB-I as well,  $F(5,410) = 15.7$ ,  $p < .001$ , adjusted  $R^2 = .15$ ;  $\Delta R^2 = .01$ ,  $p = .02$ .

## DISCUSSION

The current study aimed to test the relationship between organizational constraints and extra-role behaviors; between DEF and extra-role behaviors; and further, to examine DEF as a potential moderator in the relationship between organizational constraints and extra-role behaviors. In summary, the results from this study support the general hypothesis that both characteristics of organizations and individual employees influence the extent to which employees engage in behaviors that fall outside of their in-role tasks. Both organizational constraints and DEF, individually, were found to be significant predictors of each of the extra-role behaviors examined in this study (i.e., CWB, OCB, creativity). Furthermore, when examining these constructs at narrower level, analyses revealed significant interactions between subdimensions of OC and DEF when predicting person-directed extra-role behaviors (i.e., CWB-I and OCB-I). Before elaborating on these interactions, the main effects are discussed below.

### **Main Effects of Organizational Constraints and DEF**

Overall, CWB demonstrated the strongest relationships with the primary predictors in this study. This is not surprising, as these relationships have already received considerable attention and support in previous studies (e.g., Pindek & Spector, 2016). In regards to the stressor-strain framework, CWB is the only outcome variable assessed here that would be considered a “strain”, as OCBs and creativity are not likely to be conceptualized as maladaptive responses. Thus, it seems logical that the stressor examined in this study, organizational constraints, is a better predictor of negative versus positive behaviors. In a similar vein, considering the fact that DEF are associated with certain mental disorders, and these disorders are expected to interfere with one’s daily level of functioning, including but not limited to occupational functioning, it also seems logical that DEF are better at predicting negative versus positive behaviors at work.

Although the key predictors were significantly related to the outcome variables in this study, some of the relationships differed from a priori hypotheses in terms of their directionality. Specifically, organizational constraints were significantly and positively related to OCBs, while creativity and DEF were found to be significantly and negatively related, both of which were predicted to correlate in the opposite direction. Possible explanations for these unexpected findings are discussed below.

Considering that the hypothesized relationship between creativity and DEF was largely based on findings from laboratory studies and research outside of I-O psychology (e.g., Collins & Koechlin, 2012; Chrysikou, et al., 2013; Thompson-Schill, et al., 2009; White & Shaw, 2011), paired with the scant amount of creativity research in the I-O literature, it is perhaps not all too surprising that results from the analyses here did not support the original hypothesis. Rather than have participants demonstrate their creativity via objective tests and creativity tasks, participants in the current study were asked to rate the extent to which they engage in creativity behaviors at work in general. In other words, the subjectivity and situational specificity associated with the creativity measure used in this study may shed some light as to why the relationship found here contradicts findings from the aforementioned studies on creativity and DEF.

Also, the strength of the relationship found between creativity and OCBs ( $r = .53$ ) might suggest that the creativity measure used in the current study tapped into other aspects of contextual performance; however, given the different patterns of relationships seen between OCBs and creativity, it is reasonable to assume that these are two distinct, albeit related, constructs. Furthermore, regardless of one's ability to generate novel solutions and come up with new ideas, it takes additional resources to turn such ideas into tangible work outcomes. It is

possible that greater deficits in executive functioning facilitate creative thinking and generating but inhibit proper execution of those ideas.

Finally, the results from the current study suggest that the more employees are constrained, or blocked from completing their job tasks, the more likely they are to engage in OCBs. This finding seems somewhat counterintuitive as organizational constraints are considered to a source of stress in the workplace which, in theory, should facilitate employees' maladaptive behavioral responses rather than adaptive and productive behaviors, such as OCBs. However, that is not to say that employees who experience these constraints do not experience any form of strain. For instance, they may experience frustration and anxiety when faced with organizational constraints, but still manage to engage in more productive behaviors in the face of those constraints. As previously mentioned, Hobfoll's (1989) COR (conservation of resources) theory might suggest that organizational constraints would deplete one's resources, making it less likely for them to engage in additional helping behaviors. Alternatively, it is possible that when faced with organizational constraints and blocked from performing their job duties, they reallocate the resources needed to complete in-role tasks towards other activities, such as helping another co-worker with his or her work. Lastly, even though the positive relationship found between these two constructs contradicts this study's hypotheses, it parallels results found in some previous studies (e.g., Britt et al., 2012; Fox et al., 2012; Spector et al., 2006). For instance, a recent meta-analysis (Fox et al., 2012) demonstrated a positive relationship between these two variables, for both self- and co-worker- ratings of OCBs ( $r = .29$  and  $.20$ , respectively).

### **Interactive Effects of Organizational Constraints and DEF**

Although the results from regression analyses did not support the hypothesis that DEF would moderate the relationship between organizational constraints and extra-role performance

variables, as initially proposed, exploratory analyses revealed a significant interaction between technical organizational constraints and total DEF in the prediction of CWB-I. As can be seen in figure 1, those with greater DEF engaged showed a stronger relationship between technical organizational constraints (OC) and CWB-I than that seen for those with lower levels of DEF. Also, a significant interaction between organizational constraints (both overall and technical) and deficits in self-discipline (DEF-SD) was found in the prediction of OCB-I, such that those with fewer DEF-SD demonstrated a stronger relationship between OCB-I and organizational constraints than those with greater deficits in this domain.

Taken together, these results suggest that the interaction between characteristics of the organization (organizational constraints) and the employee (DEF) have the greatest impact on how individuals behave towards other people within the organization (CWB-I and OCB-I). However, it seems as though these interactions are more pronounced when examining technical organizational constraints specifically, as can be seen in tables 10-11 and figures 1-2. In order to make better sense of these findings, consider the following example:

College professors often create visual presentations to accompany their verbal class lectures. If they were not able to access this presentation due to problems with the university's computers and/ or internet network, we could say that they have been presented with a technical organizational constraint. When faced with this constraint, their levels of executive functioning will, in part, determine how they respond. The professor with greater DEF may respond by cursing in front of the students or yelling at the students who are starting to walk out of the classroom – both examples of CWB-Is. The professor with fewer DEF may decide to cancel that particular lecture and instead use that time to help students with their papers for that class – an example of an OCB-I. Of course, there are various other ways in which one may respond to this

situation, as well as other factors contributing to their response. However, for the purpose of illustrating the interactions found in this study, the simplistic examples offered here are warranted. Lastly, it is important to note that, given the large number of statistical tests conducted, it is possible that the results found here were simply due to chance. Additional research is needed to assess the external validity of these findings.

### **Limitations and Future Directions**

As with any study, the results from the current study must be considered in light of its limitations. First of all, it is problematic that the study's primary hypotheses were all tested with the use of single-source self-report data. For one, it is possible that participants responded in a way that presents them in the best light, or engaged in impression management when completing the survey, which would alter the accuracy of the results found here. Also, it has been well-established that this mono-method bias results in inflated correlations (Podsakoff, et al., 2003). Although there was an attempt to gather data from a second source, the sample size of the self-other dyads was too small to draw any meaningful conclusions.

As mentioned earlier, another limitation is related to the creativity measure used in this study. Considering the importance of external validity and generalizability in I-O related research, the measure chosen here seems appropriate. However, the hypothesized creative abilities unique to those with greater DEF were not able to be tested in this particular study. Future studies should employ objective creativity tests in addition to the self-report subjective measures.

Also, it is important to note that it is possible that some participants in this study may not be in job positions that require and/ or provide opportunities for creativity. However, item frequency analyses on the creativity measure used in this study revealed that fewer than 2% of participants indicated that any item on this scale was "not applicable" to their jobs. Thus, it



appears as though the participants in this study did at least have some opportunity to engage in creativity while on the job.

Another limitation is the cross-sectional nature of this research, as these types of studies are not able to determine causal relationships. Future studies should consider the use of experimental designs to test the relationships between keys variables in this study. As far as predictors of work-related behaviors are concerned, organizational constraints seem better fit to test under an experimental design and in laboratory settings than other commonly studied antecedents (e.g., supervisor support, organizational justice). For instance, it would be easier to introduce a variable that is designed to block one's task-related performance than it would be to introduce a variable that is designed to create a sense of injustice. Furthermore, under a laboratory setting, opportunities to engage in CWBs and OCBs could be included in the study, as well as a creativity task that is more akin to those described in the literature review.

In addition to conducting experimental studies on this topic, future research should also examine other aspects of the workplace that might influence the relationship between DEF and work-related behaviors. For instance, job boredom is a different type of work stressor that has also been related to extra-role behaviors such as CWBs and OCBs (Bruursema, Kessler, & Spector, 2012; Spector & Fox, 2010). Since individuals with greater DEF are more impulsive and prone to exacerbated emotional responses, it is possible that high levels of job boredom may result in greater levels of off-task behaviors as a means to cope with that boredom, whereas those without such deficits would be better equipped to maintain their focus on boring in-role tasks.

### **Implications**

From a theoretical standpoint, the results from this study complement the dominant stress theories in occupational research. According to the job-demands-resources (JD-R) framework,

personal resources buffer the relationship between job demands and negative work-related outcomes. The significant interactions found between technical organizational constraints and DEF in the prediction of CWB-I support this theory. Attempting to complete job tasks without proper equipment or supplied could be considered an additional demand placed on employees, whereas DEF is a personal resource that will in part determine how one responds to such demands. The findings from the current study suggest that those with higher DEF are more likely to engage in negative behaviors (e.g., CWB) in response to this situation, while those with lower DEF are more likely to engage in positive behaviors (e.g., OCB). Furthermore, the strength of the relationship between organizational constraints and CWB supports the general tenets of the stressor-strain framework mentioned earlier in the paper.

From a practical standpoint, the results from this study could be used to inform EF-based interventions designed to mitigate the negative consequences associated with organizational constraints. In a recent study, Halbesleben and colleagues (2013) found that individuals with ADHD experienced more negative work-outcomes and demonstrated lower performance levels than those who did not exhibit ADHD-related symptoms. The authors offered several practical recommendations, mostly from a training or job design perspectives, which are applicable to the current study. For instance, they suggested that employers provide employees with both written and verbal instructions, as well as visual aids, in order to reduce confusion regarding job tasks. Also, they recommended implementing time management tools to help employees better manage their work tasks, as well as quiet work areas for prevent interruptions and distractions at work. While these recommendations were offered as accommodations for employees with ADHD, these tools could be useful for most employees, regardless of their level of impairment.

In addition to employees with ADHD, another population of employees that might be of particular interest here are teenage employees. Because it has proposed that the areas of the brain that are linked to one's executive functions may not fully develop until one's late teens or early twenties (Giedd, et al., 1999; Shaw, et al., 2008), organizations that employ a large number of teenage employees (e.g., fast food industry), should be aware that their impulsive, moody teenage employees have not yet fully matured, and thus, they may need additional and/ or different *external* tools (e.g., aspects of or cues from the work environment) set in place that can help them maintain focus and accomplish work-related goals, as they are not yet working with a fully functioning set of *internal* tools (e.g., a fully developed frontal lobe).

The findings from this study also suggest that technical organizational constraints or lack of proper equipment and supplies needed to complete job tasks, have a greater impact on how employees with differing levels of DEF respond than do interpersonal constraints. Thus, employers could set in place policies and procedures for how to manage these constraints when and if they arise. For instance, they could offer instructions as to how to acquire proper equipment or supplies in cases where they run out of supplies and/ or their equipment is not functioning properly. They could also just inform employees that when these situations arise, to consult their supervisors and inquire about what to do.

Finally, the results from this study suggest that employees with greater DEF are less successful in terms of creative performance, while studies from other disciplines within psychology suggest that those with DEF perform better on creativity tasks than those without such deficits. As mentioned earlier, perhaps the same personal characteristics that provide creative ideation also prevent those ideas from being properly executed. Thus, employers could

implement interventions designed to transform creative thoughts into creative actions, whether this be through additional training, workshops, or mentorships.

### **Conclusion**

Overall, the findings from the current study contribute to the literature in several ways. First, it employed a multidisciplinary approach to the study of work-related phenomena, which is not common in the I-O psychology research domain. Second, it focused exclusively on extra-role behaviors as the primary outcomes of interest. Although it may be more important for researchers and practitioners to better understand and predict performance on in-role job tasks, it does not negate the importance of studying extra-role behaviors, as they behaviors also contribute to the overall performance of the individual employees and the organization. Finally, the exploratory analyses conducted at the sub-dimension level of the primary constructs in this study provide more insight into the dynamics between these variables.

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## APPENDIX A: TABLES

Table 1.

*EF Components, Associated Brain Regions, and Weaknesses related to DEF*

Executive Function (EF)	Associated Brain Region(s)*	Behavioral Outcomes Associated with Deficits in EF:
Self-Management to Time	DPC	Poor planning/ organizational skills; Inefficient use of time; Poor attention; Distractibility
Self-Organization	DPC	Perseveration on thoughts, concepts, or tasks; Difficulty shifting tasks; Difficulty multitasking; Difficulties accessing knowledge; Forgetfulness
Self-Discipline	DPC & ACC	Difficulty inhibiting responses; May blurt out answers; May seem to act without thinking; Poor self-control; Reduced insight; Difficulty learning from past experiences; Difficulty generating individual strategies for problem-solving
Self-Motivation	DPC & ACC	Reduction in self-generated behaviors; Procrastination; Difficulty initiating tasks; Difficulty setting appropriate goals and maintaining course
Self-Regulation of Emotions	OC	Emotional lability; Poor frustration tolerance; A tendency to blame others

\* Note: DPC = Dorsolateral Prefrontal Cortex; ACC = Anterior Cingulate Cortex; and OC = Orbitofrontal Cortex.

**Table 2.**  
*Employee Demographics*

Variable	Category	Sample 1		Sample 2		Total	
		N	Pct.	N	Pct.	N	Pct.
Gender	Male	212	47.6%	34	31.2	246	44.4%
	Female	233	52.4%	75	68.8	308	55.6%
Race	White	329	73.9%	89	82.4	418	75.6%
	Black	43	9.7%	5	4.6%	48	8.7%
	Hispanic/ Latino	34	7.6%	7	6.5%	41	7.4%
	Asian/ Pacific Islander	29	6.5%	2	1.9%	31	5.6%
	Native American	3	.7%	0	0%	3	.5%
	Other	7	1.6%	5	4.6%	12	2.2%
Marital Status	Married	158	35.6%	51	47.2	209	37.9%
	Single	217	48.9%	36	33.3	253	45.8%
	Other	69	15.5%	21	19.4	90	16.3%
Age	18-22 years old	39	8.7%	3	2.8%	42	7.6%
	23-30 years old	179	40.1%	54	49.5	233	42.0%
	31-40 years old	140	31.4%	25	22.9	165	29.7%
	41-50 years old	53	11.9%	11	10.1	64	11.5%
	51-60 years old	28	6.3%	14	12.8	42	7.6%
	61+ years old	7	1.6%	2	1.8%	9	1.6%
Job Tenure	Less than 1 year	60	13.5%	21	19.3	81	14.6%
	1-2 years	124	27.9%	37	33.9	161	29.1%
	3-5 years	138	31.1%	22	20.2	160	28.9%
	6-10 years	67	15.1%	12	11.0	79	14.3%
	10+ years	55	12.4%	17	15.6	72	13.0%
Job Level	Non-supervisory	297	66.7%	70	64.2	367	66.2%
	Supervisory position	148	33.3%	39	35.8	187	33.8%
		<b>M</b>	<b>SD</b>	<b>M</b>	<b>SD</b>	<b>M</b>	<b>SD</b>
Hours/	Onsite	35.8	14.8	39.7	10.7	36.6	14.1
	Offsite	6.6	12.0	5.4	9.7	6.37	11.6
	Total	42.4	11.3	45.0	14.5	42.9	12.0



**Table 3.**  
*BDEFS Subscale Correlations for Sample 2*

	Self-Report		Other-Report		1	2	3	4	5	6
	M	SD	M	SD						
Self-Management of Time	2.40	.65	2.27	.62	<b>.35</b>	.60**	.52**	.30	.26	.72**
Self-Organization	1.84	.51	1.90	.49	.42*	<b>.39*</b>	.24	.24	.17	.54**
Self-Discipline	1.89	.59	2.03	.69	.41*	.41*	<b>.41*</b>	.36	.42*	.76**
Self-Motivation	1.61	.51	1.33	.43	.65**	.34	.34	<b>.16</b>	.32	.67**
Self-Regulation of Emotions	2.04	.79	2.38	.88	.34	.39*	.57**	.41*	<b>.42*</b>	.73**
Total DEF	1.96	.45	1.97	.43	.76**	.67**	.75**	.72**	.78**	<b>.55**</b>

Note: \* $p < .05$ ; \*\* $p < .001$ . Sample sizes ranged from  $N = 26 - 30$ .

Self-report correlations are below the diagonal, other-report correlations are above the diagonal, and the correlations between self- and other-reports for each subscale are bolded along the diagonal.

**Table 4.**  
*Bivariate Correlations*

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Gender	1.6	0.5	--																	
2 Age	2.7	1.1	0.05	--																
3 Total CWB	1.7	0.51	-0.07	-0.03	<i>0.79</i>															
4 CWB-I	1.5	0.59	-.16**	0	.87**	<i>0.8</i>														
5 CWB-O	1.9	0.58	0.02	-0.06	.87**	.52**	<i>0.61</i>													
6 OCB	3.1	0.8	.11**	.09*	.11*	.14**	0.04	<i>0.89</i>												
7 CRTV	4	0.84	0.08	0.08	0.01	0.01	0	.53**	<i>0.95</i>											
8 AUT	3.6	0.98	0.02	0.08	-.10*	-0.07	-.11*	.14**	.26**	<i>0.93</i>										
9 WKLD	3.2	1.1	.09*	0.04	.12**	0.07	.13**	.37**	.16**	-.17**	<i>0.87</i>									
10 Total OC	2.1	0.83	0.05	-0.02	.41**	.30**	.41**	.27**	0.08	-.32**	.41**	<i>0.91</i>								
11 Technical OC	1.8	1	0.04	-0.02	.26**	.24**	.23**	.18**	0.07	-.27**	.30**	.72**	<i>0.85</i>							
12 Social OC	2.1	0.87	0.04	-0.03	.42**	.30**	.42**	.26**	0.06	-.30**	.40**	.98**	.59**	<i>0.89</i>						
13 Total DEF	1.8	0.51	0.05	-0.07	.49**	.38**	.47**	-0.02	-.17**	-.09*	0.02	.37**	.24**	.38**	<i>0.93</i>					
14 DEF-SMOT	2.1	0.72	0.01	-.11*	.42**	.31**	.42**	-0.01	-.13**	-0.07	0.03	.33**	.19**	.34**	.80**	<i>0.85</i>				
15 DEF-SO	1.8	0.65	0.01	-0.04	.31**	.25**	.29**	-0.07	-.25**	-.15**	0.03	.27**	.18**	.28**	.80**	.59**	<i>0.84</i>			
16 DEF-SD	1.7	0.61	0.04	0.05	.44**	.39**	.37**	0.04	-0.02	-0.03	0.05	.32**	.21**	.33**	.80**	.53**	.57**	<i>0.83</i>		
17 DEF-SM	1.5	0.55	-.09*	-.10*	.43**	.34**	.43**	-0.06	-.19**	-.11*	-0.03	.33**	.25**	.33**	.76**	.58**	.51**	.53**	<i>0.78</i>	
18 DEF-SROE	1.8	0.75	.12**	-0.05	.31**	.26**	.28**	-0.05	-.11*	-0.05	0.03	.26**	.16**	.27**	.75**	.43**	.48**	.54**	.43**	<i>0.92</i>

Notes: \*p<.01; \*\*p<.001. The sample size ranged from N = 440 to 555. Reliability coefficients are italicized and located along the diagonal.

CWB = Counterproductive Work Behaviors  
 CWB-I = Person-directed CWB  
 CWB-O = Organization-directed CWB  
 OCB = Organizational Citizenship Behaviors  
 CRTV = Creativity  
 AUT = Autonomy  
 WKLD = Workload  
 OC = Organizational Constraints  
 DEF = Deficits in Executive Functioning  
 SMOT = Self-management of time  
 SO = Self-organization  
 SD = Self-discipline  
 SM = Self-motivation  
 SROE = Self-regulation of emotions

**Table 5.**

*Factor loadings based on a principle component analysis with oblimin rotation for 20 items from the Barkley Deficits in Executive Functioning Scale – Short Form: 5 factors extracted.*

Item	Factor				
	Self- Management of Time	Self- Regulation of Emotions	Self- Organization	Self- Discipline	Self- Motivation
1. Procrastinate or put off doing things until the last minute	.87				
2. Not motivated to prepare in advance for things I know I am supposed to do	.77				
3. Have trouble doing what I tell myself to do	.70				
4. Can't seem to hold in mind things I need to remember to do	.66				
5. I remain emotional or upset longer than others		-.90			
6. Cannot seem to distract myself away from whatever is upsetting me emotionally to help calm me...		-.89			
7. Have trouble calming myself down once I am emotionally upset		-.88			
8. Cannot seem to regain emotional control and become more reasonable once I am emotional		-.87			
9. I don't seem to process information as quickly or as accurately as others			-.81		
10. Unable to "think on my feet" or respond as effectively as others to unexpected events			-.76		
11. Have trouble learning new or complex activities as well as others			-.76		
12. Have difficulty explaining things in their proper order or sequence			-.73		
13. Make impulsive comments to others				.91	
14. Likely to do things without considering the consequences for doing them				.79	
15. Fail to consider past relevant events or past personal experiences before responding to situation				.70	
16. Unable to inhibit my reactions or responses to events or others				.58	
17. Others tell me I am lazy or unmotivated					.74
18. Unable to work as well as others without supervision or frequent instruction					.73
19. Inconsistent in the quality or quantity of my work performance					.69
20. Do not put as much effort into my work as I should or than others are able to do					.61

**Table 6.**

*Factor loadings based on a principle component analysis with oblimin rotation for 11 items from the Organizational Constraints Scale: 2 factors extracted.*

Item	Interpersonal organizational Constraints	Technical Organizational Constraints
Incorrect instructions.	.81	
Lack of necessary information about what to do or how to do it.	.81	
Inadequate help from others.	.79	
Conflicting job demands.	.78	
Your supervisor	.74	
Interruptions by other people.	.70	
Other employees	.67	
Inadequate training.	.58	
Organizational rules and procedures.	.55	
Poor equipment or supplies.		.93
Lack of equipment or supplies.		.90

**Table 7.**  
*Multiple Regression Analysis for Counterproductive Work Behaviors*

	Variables Entered	B <sup>+</sup>	SE(B)	p	F
Step 1	(Constant)	1.67	.02	.00	4.85*
	Autonomy	-.04	.03	.10	
	Workload	.05	.02	.03	
Step 2	(Constant)	1.67	.02	.00	29.75**
	Autonomy	.01	.02	.54	
	Workload	-.03	.02	.23	
	OC	.27	.03	.00	
Step 3	(Constant)	1.68	.02	.00	47.57**
	Autonomy	.02	.02	.44	
	Workload	.00	.02	.92	
	OC	.16	.03	.00	
	DEF	.39	.04	.00	
Step 4	(Constant)	1.67	.02	.00	37.98**
	Autonomy	.02	.02	.43	
	Workload	.00	.02	.93	
	OC	.16	.03	.00	
	DEF	.39	.04	.00	
	OC X DEF	.01	.04	.79	

Note: OC = organizational constraints; DEF = deficits in executive functioning

<sup>+</sup> Unstandardized beta coefficients

\*p < .05, \*\*p < .001

Step 1: Adjusted R<sup>2</sup> = .02\*

Step 2: Adjusted R<sup>2</sup> = .17; ΔR<sup>2</sup> = .16\*\*

Step 3: Adjusted R<sup>2</sup> = .31; ΔR<sup>2</sup> = .14\*\*

Step 4: Adjusted R<sup>2</sup> = .31; ΔR<sup>2</sup> = .00

**Table 8.**  
*Multiple Regression Analysis for Organizational Citizenship Behaviors*

	Variables Entered	B <sup>+</sup>	SE(B)	p	F
Step 1	(Constant)	3.03	.04	.00	37.83**
	Autonomy	.14	.04	.00	
	Workload	.30	.04	.00	
Step 2	(Constant)	3.03	.04	.00	33.38**
	Autonomy	.19	.04	.00	
	Workload	.24	.04	.00	
	OC	.23	.05	.00	
Step 3	(Constant)	3.03	.04	.00	27.28**
	Autonomy	.19	.04	.00	
	Workload	.23	.04	.00	
	OC	.29	.05	.00	
	DEF	-.20	.07	.01	
Step 4	(Constant)	3.03	.04	.00	21.90**
	Autonomy	.19	.04	.00	
	Workload	.22	.04	.00	
	OC	.28	.05	.00	
	DEF	-.19	.08	.01	
	OC X DEF	-.05	.07	.47	

*Note:* OC = organizational constraints; DEF = deficits in executive functioning

<sup>+</sup> Unstandardized beta coefficients

\*p < .05, \*\*p < .001

Step 1: Adjusted R<sup>2</sup> = .17\*

Step 2: Adjusted R<sup>2</sup> = .21; ΔR<sup>2</sup> = .04\*\*

Step 3: Adjusted R<sup>2</sup> = .23; ΔR<sup>2</sup> = .01\*

Step 4: Adjusted R<sup>2</sup> = .22; ΔR<sup>2</sup> = .001

**Table 9.**  
*Multiple Regression Analysis for Creativity*

	Variables Entered	B <sup>+</sup>	SE(B)	p	F
Step 1	(Constant)	3.94	.04	.00	18.15**
	Autonomy	.25	.05	.00	
	Workload	.15	.04	.00	
Step 2	(Constant)	3.94	.04	.00	13.02**
	Autonomy	.27	.05	.00	
	Workload	.13	.04	.00	
	OC	.09	.06	.11	
Step 3	(Constant)	3.93	.04	.00	15.15**
	Autonomy	.27	.05	.00	
	Workload	.10	.04	.02	
	OC	.19	.06	.00	
	DEF	-.39	.09	.00	
Step 4	(Constant)	3.93	.04	.00	12.09**
	Autonomy	.27	.05	.00	
	Workload	.10	.04	.02	
	OC	.19	.06	.00	
	DEF	-.39	.09	.00	
	OC X DEF	.00	.08	.97	

Note: OC = organizational constraints; DEF = deficits in executive functioning

<sup>+</sup> Unstandardized beta coefficients

\*p < .05, \*\*p < .001

Step 1: Adjusted R<sup>2</sup> = .08\*

Step 2: Adjusted R<sup>2</sup> = .09; ΔR<sup>2</sup> = .01

Step 3: Adjusted R<sup>2</sup> = .13; ΔR<sup>2</sup> = .05\*\*

Step 4: Adjusted R<sup>2</sup> = .13; ΔR<sup>2</sup> = .00

**Table 10.**  
Multiple Regression Analysis for CWB-I

	Variables Entered	B <sup>+</sup>	SE(B)	p	F
Step 1	(Constant)	1.48	.03	.00	1.94
	Autonomy	-.03	.03	.33	
	Workload	.04	.03	.13	
Step 2	(Constant)	1.48	.03	.00	8.58**
	Autonomy	.00	.03	.92	
	Workload	.01	.03	.83	
	Technical OC	.13	.03	.00	
Step 3	(Constant)	1.48	.02	.00	24.64**
	Autonomy	.01	.03	.62	
	Workload	.02	.02	.52	
	Technical OC	.08	.03	.00	
	DEF	.40	.05	.00	
Step 4	(Constant)	1.46	.02	.00	21.73**
	Autonomy	.02	.03	.51	
	Workload	.02	.02	.36	
	Technical OC	.07	.03	.01	
	DEF	.39	.05	.00	
	Tech. OC X DEF	.13	.04	.00	

Note: OC = organizational constraints; DEF = deficits in executive functioning

<sup>+</sup> Unstandardized beta coefficients

\*p < .05, \*\*p < .001

Step 1: Adjusted R<sup>2</sup> = .004

Step 2: Adjusted R<sup>2</sup> = .05; ΔR<sup>2</sup> = .04\*\*

Step 3: Adjusted R<sup>2</sup> = .17; ΔR<sup>2</sup> = .12\*\*

Step 4: Adjusted R<sup>2</sup> = .18; ΔR<sup>2</sup> = .02\*



**Table 11.***Multiple Regression Analysis for OCB-I with Technical OC and DEF-SD as the predictors.*

	Variables Entered	B+	SE(B)	p	F
Step 1	(Constant)	3.33	.04	.00	37.51**
	Autonomy	.16	.04	.00	
	Workload	.31	.04	.00	
Step 2	(Constant)	3.33	.04	.00	26.47**
	Autonomy	.18	.04	.00	
	Workload	.29	.04	.00	
	Technical OC	.08	.04	.05	
Step 3	(Constant)	3.33	.04	.00	20.09**
	Autonomy	.18	.04	.00	
	Workload	.29	.04	.00	
	Technical OC	.09	.04	.03	
	DEF-SD	-.06	.06	.33	
Step 4	(Constant)	3.36	.04	.00	17.53**
	Autonomy	.18	.04	.00	
	Workload	.28	.04	.00	
	Technical OC	.11	.04	.01	
	DEF-SD	-.04	.06	.51	
	Tech. OC X DEF-SD	-.15	.06	.01	

*Note:* OC = organizational constraints; DEF = deficits in executive functioning; SD = self-discipline.

<sup>+</sup> Unstandardized beta coefficients

\*p < .05, \*\*p < .001

Step 1: Adjusted R<sup>2</sup> = .12

Step 2: Adjusted R<sup>2</sup> = .14; ΔR<sup>2</sup> = .02\*\*

Step 3: Adjusted R<sup>2</sup> = .16; ΔR<sup>2</sup> = .02\*\*

Step 4: Adjusted R<sup>2</sup> = .17; ΔR<sup>2</sup> = .01

APPENDIX B: FIGURES

**Figure 1**

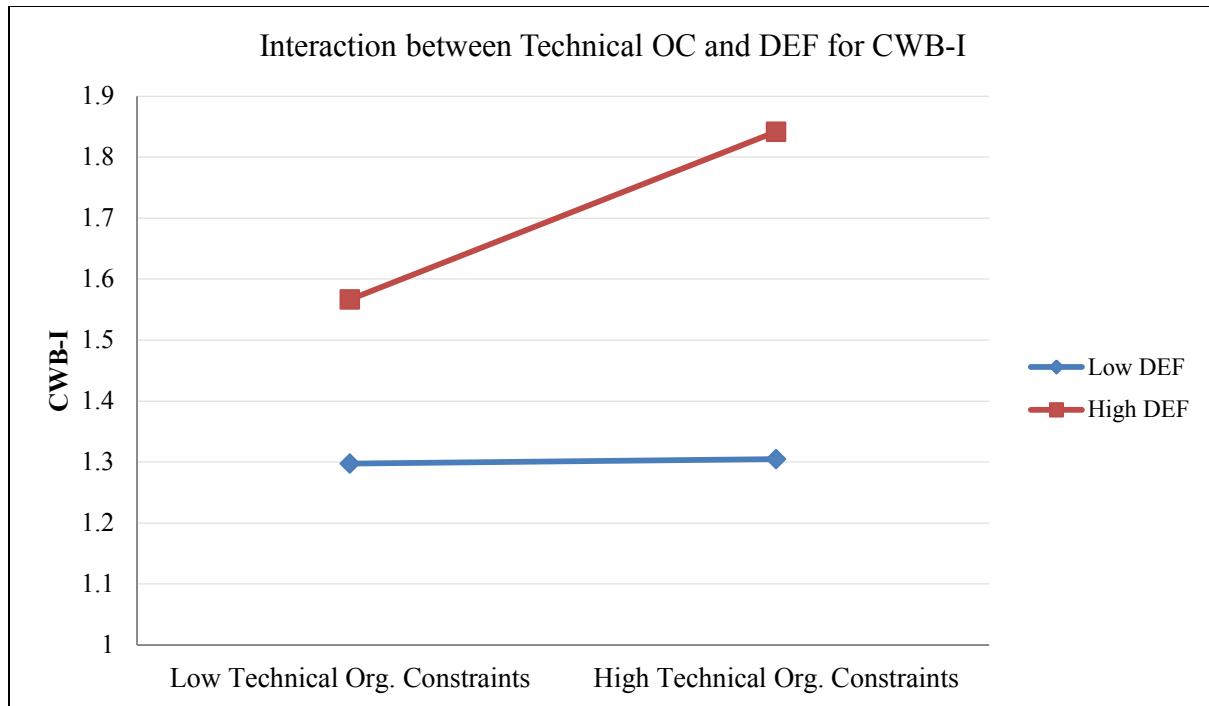


Figure 1. Graphical depiction of the significant interaction between technical organizational constraints and total DEF found in MR analysis using CWB-I as the dependent variable.

**Figure 2**

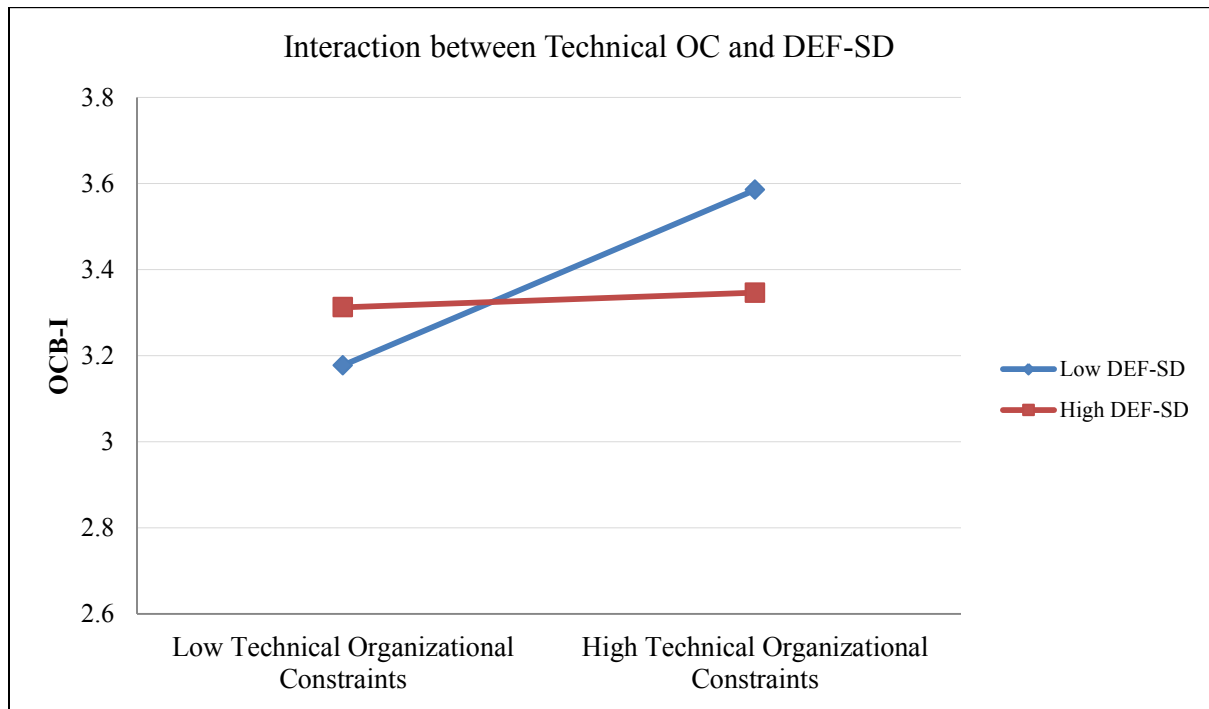


Figure 2. Graphical depiction of the significant interaction between technical organizational constraints and deficits in the self-discipline sub-dimension of executive functioning when predicting OCB-I.

## APPENDIX C: SURVEYS &amp; INFORMED CONSENT

**Self-Report Survey: Sample 1****Informed Consent:**

The purpose of this study is to the relationships between workplace stressors, individual characteristics, and work-related behaviors. This study is being conducted by Jasmine Khosravi, a doctoral student in the psychology department at Bowling Green State University (BGSU), for her Dissertation. This project is being advised by Dr. Steve Jex.

Research in this area can help us understand the complex interactions between work environment and individuals within that environment and how those interactions impact employees' behaviors at work. While you may not receive any direct benefits for participating in this research, you will be helping us increase our understanding about the complexities of workplace behaviors, and ultimately use this knowledge to improve the overall work experience. However, MTurk users will receive \$1.00 for completion of the survey. The risk of participation is no greater than that experienced in daily life.

This study consists of a series of online questionnaires. Should you decide to participate, you would be asked to complete a short survey consisting of several questionnaires. It should take you no more than 60 minutes to answer the questions. For your security, after you finish making and submitting your choices, please clear your browser history and page cache.

You must be 18 years old to participate in this study. You must also be a U.S. citizen and employed full time (working at least 30 hours per week). Your participation in this study is completely voluntary, and you are free to discontinue participation in this study at any time. However, MTurk users will not receive full compensation unless you respond to each of the items on the survey. Deciding to participate or not will not affect any relationship you may have with Bowling Green State University. You may also freely decline to respond to any questions. Completing the survey indicates your consent to participate in this study.

We hope to use the results of this study to publish an article discussing workplace stressors, individual characteristics, and work-related behaviors—only a summary of data from many participants. Your confidentiality and anonymity as a participant will be protected and your individual responses will be stored on a secured computer. The researcher is the only individual that will have access to your data. Your responses will not be provided to your employers or any other third-party members.

In addition, if you have any questions about the study, you may contact either myself, – Jasmine Khosravi, at [jkhosra@bgsu.edu](mailto:jkhosra@bgsu.edu) or (317) 716-1705 — or my thesis advisor, Dr. Steve Jex at [sjex@bgsu.edu](mailto:sjex@bgsu.edu) or (419) 372-2132. If you have questions about your rights as a research participant, you may contact the Chairperson, Human Subjects Review Board at Bowling Green State University, at (419)372-7716 or at [hsrb@bgsu.edu](mailto:hsrb@bgsu.edu).

By clicking 'Yes,' you are consenting to participate in this study.

Do you agree to the consent form?

Yes (1)

No (2)

If No Is Selected, Then Skip To End of Survey

Q2 Are you at least 18 years of age?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To End of Survey

Q3 On average, do you work at least 30 hours per week?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To End of Survey

Q4 Throughout this survey, you will be asked to share various work attitudes and behavior. Please be honest and thoughtful in your responses. Carefully read the instructions and statements before responding. Click "Continue" to proceed with the survey.

- Continue (1)

CWB0 For the next set of items, please indicate how often you have done each of the following things on your present job. If you do not have the opportunity to engage in the target behavior, select "Not Applicable to my job".

CWB1 Purposely wasted your employer's materials/ supplied

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB2 Complained about insignificant things at work

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB3 Told people outside the job what a lousy place you work for

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB4 Came to work late without permission

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB5 Stayed home from work and said you were sick when you weren't

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB6 Insulted someone about their job performance

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB7 Made fun of someone's personal life

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB8 Ignored someone at work

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB9 Started an argument with someone at work

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB10 Insulted or made fun of someone at work

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB0 For the next set of items, please indicate how often you have done each of the following things on your present job. If you do not have the opportunity to engage in the target behavior, select "Not Applicable to my job".

OCB1 Took time to advise, coach, or mentor a co-worker

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB2 Helped co-worker learn new skills or shared job knowledge.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB3 Helped new employees get oriented to the job.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB4 Lent a compassionate ear when someone had a work problem.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB5 Offered suggestions to improve how work is done.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB6 Helped a co-worker who had too much to do.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)



OCB7 Volunteered for extra work assignments.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB8 Worked weekends or other days off to complete a project or task.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB9 Volunteered to attend meetings or work on committees on own time.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB10 Gave up meal and other breaks to complete work.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CRT0 Indicate how characteristic each behavior is of yourself at work. If you do not have the opportunity to engage in the specified behavior(s) on your current job, select "Not applicable to my current job" for that item.

CRT1 Suggests new ways to achieve goals or objectives.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT2 Comes up with new and practical ideas to improve performance.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT3 Searches out new technologies, processes, techniques, and/or product ideas.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT4 Suggests new ways to increase quality.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT5 Is a good source of creative ideas.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT6 Is not afraid to take risks.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT7 Promotes and champions ideas to others.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT8 Exhibits creativity on the job when given the opportunity to.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT9 Develops adequate plans and schedules for the implementation of new ideas.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT10 Often has new and innovative ideas.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT11 Comes up with creative solutions to problems.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT12 Often has a fresh approach to problems.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT13 Suggests new ways of performing work tasks.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

OC0 How often do you find it difficult or impossible to do your job because of ... ? Note: Select "Not applicable to my current job" if the situation described is not applicable to your current job.

OC1 Poor equipment or supplies.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC2 Organizational rules and procedures.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC3 Other employees

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC4 Your supervisor

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC5 Lack of equipment or supplies.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC6 Inadequate training.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC7 Interruptions by other people.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC8 Lack of necessary information about what to do or how to do it.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC9 Conflicting job demands.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC10 Inadequate help from others.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC11 Incorrect instructions.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

DEF0 How often do you experience each of these problems? Please select the number next to each item that best describes your behavior DURING THE PAST 6 MONTHS.

DEF1 Procrastinate or put off doing things until the last minute

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF2 Can't seem to hold in mind things I need to remember to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF3 Not motivated to prepare in advance for things I know I am supposed to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF4 Have trouble doing what I tell myself to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF5 Have trouble learning new or complex activities as well as others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF6 Have difficulty explaining things in their proper order or sequence

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF7 Unable to “think on my feet” or respond as effectively as others to unexpected events

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF8 I don’t seem to process information as quickly or as accurately as others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF9 Unable to inhibit my reactions or responses to events or others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF10 Make impulsive comments to others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF11 Likely to do things without considering the consequences for doing them

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF12 Fail to consider past relevant events or past personal experiences before responding to situations (I act without thinking)

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)



DEF13 Do not put as much effort into my work as I should or than others are able to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF14 Others tell me I am lazy or unmotivated

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF15 Inconsistent in the quality or quantity of my work performance

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF16 Unable to work as well as others without supervision or frequent instruction

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF17 Have trouble calming myself down once I am emotionally upset

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF18 Cannot seem to regain emotional control and become more reasonable once I am emotional

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF19 Cannot seem to distract myself away from whatever is upsetting me emotionally to help calm me down. I can't refocus my mind to a more positive framework.

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF20 I remain emotional or upset longer than others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

AU0 Please indicate your level of agreement with each of the following statements.

AU1 My job allows me to make my own decisions about how to schedule my work.

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

AU2 My job allows me to decide on the order in which things are done on the job.

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

AU3 My job allows me to plan how I do my work

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

AU4 My job gives me a chance to use my personal initiative or judgment in carrying out the work

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

AU5 My job allows me to make a lot of decisions on my own

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

AU6 My job provides me with significant autonomy in making decisions

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

WRKLD0 Please rate each of the following items as they relate to your current job.

WRKLD1 How often does your job require you to work very fast?

- Never or Less than Once a Month (1)
- Once or Twice a Month (2)
- Once or Twice a Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)

WRKLD2 How often does your job require you to work very hard?

- Never or Less than Once a Month (1)
- Once or Twice a Month (2)
- Once or Twice a Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)

WRKLD3 How often does your job leave you with little time to get things done?

- Never or Less than Once a Month (1)
- Once or Twice a Month (2)
- Once or Twice a Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)

WRKLD4 How often is there a great deal to be done?

- Never or Less than Once a Month (1)
- Once or Twice a Month (2)
- Once or Twice a Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)

WRKLD5 How often do you have to do more work than you can do well?

- Never or Less than Once a Month (1)
- Once or Twice a Month (2)
- Once or Twice a Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)

SEX What is your biological sex?

- Male (1)
- Female (2)

RACE What is your race/ ethnic origin?

- White/ Caucasian (1)
- Black/ African-American (2)
- Hispanic/ Latino (3)
- Asian/ Pacific Islander (4)
- Native American (5)
- Other (6)

AGE Which of the following age groups do you fall into?

- 18-22 years old (1)
- 23-30 years old (2)
- 31-40 years old (3)
- 41-50 years old (4)
- 51-60 years old (5)
- 61+ years old (6)

MS What is your current marital status?

- Single (1)
- Living with partner, but not married (2)
- Married (3)

JobTitle What is your current job title?

TENURE How long have you worked in your current job position?

- Less than 1 year (1)
- 1-2 years (2)
- 3-5 years (3)
- 6-10 years (4)
- 10+ years (5)

HRS Approximately how many hours do you work per week?

- On site (1)
- Off site (2)

SUP What is your current supervisor status?

- Non-supervisory position (1)
- Supervisory position (2)

ID Thank you for completing the survey! Please enter your M-Turk ID in order to receive payment for completion. Please keep in mind that those flagged for careless and/ or incomplete responses will not be compensated. Please allow up to 1 week to receive compensation.

## Self-Report Survey: Sample 2

Informed Consent:

The purpose of this study is to the relationships between workplace stressors, individual characteristics, and work-related behaviors. This study is being conducted by Jasmine Khosravi, a doctoral student in the psychology department at Bowling Green State University (BGSU), for her Dissertation. This project is being supervised by Dr. Steve Jex.

Research in this area can help us understand the complex interactions between work environment and individuals within that environment and how those interactions impact employees' behaviors at work. While you may not receive any direct benefits for participating in this research, you will be helping us increase our understanding about the complexities of workplace behaviors, and ultimately use this knowledge to improve the overall work experience. However, participants will be entered into a raffle to win one of ten \$25.00 Amazon gift cards. The odds of winning one of the gift cards are approximately 1 out of 100 (1%). The risk of participation is no greater than that experienced in daily life.

In order to participate in this study, you **must be** at least **18 years old**, a **U.S. citizen**, and **employed full time** (working at least 30 hours per week). If you meet the above criteria and

choose to participate in this study, you will be asked to complete a series of online questionnaires in which you will be asked to rate various aspects of yourself and your work experiences, as well as your basic contact information (your first name and a valid email address). You will also be asked to provide the same basic contact information (i.e., a first name and email address) for a close confidant of yours (e.g., spouse/ partner, close friend, sibling, or anyone who knows you well), to whom we will send a survey in which they are asked to provide an additional ratings for some of the items seen in this survey (these additional ratings are necessary for statistical analyses and will only be used for such purposes). **Although it is preferred that you provide this basic contact information for a close-other, please note that it is not required for you to participate in this study.**

At no point will your close confidant or any person other than the researcher have access to your survey responses, and in turn, you will not have access to your close confidant's responses. To further ensure confidentiality, an arbitrary numerical code will be assigned to each participant, which will be used to identify participants for analyses, and all personally identifying information (including names and email addresses) will be removed from the dataset and stored in a separate, password-protected file prior to data analysis.

For your security, after you finish making and submitting your choices for this survey, please clear your browser history and page cache.

We hope to use the results of this study to publish an article discussing workplace stressors, individual characteristics, and work-related behaviors—only a summary of data from many participants. Your confidentiality and anonymity as a participant will be protected and your individual responses will be stored on a secured computer.

The researcher is the only individual that will have access to your data. Your responses will not be provided to your employers or any other third-party members.

Your participation in this study is completely voluntary, and you are free to discontinue participation in this study at any time. However, you will not be entered into the raffle unless you respond to each of the items on the survey.

Deciding to participate or not will not affect any relationship you may have with Bowling Green State University. You may also freely decline to respond to any questions. Completing the survey indicates your consent to participate in this study.

In addition, if you have any questions about the study, you may contact either myself, – Jasmine Khosravi, at [jkhosra@bgsu.edu](mailto:jkhosra@bgsu.edu) or (317) 716-1705 — or my thesis advisor, Dr. Steve Jex at [sjex@bgsu.edu](mailto:sjex@bgsu.edu) or (419) 372-2132. If you have questions about your rights as a research participant, you may contact the Chairperson, Human Subjects Review Board at Bowling Green State University, at (419)372-7716 or at [hsrb@bgsu.edu](mailto:hsrb@bgsu.edu).

By clicking 'Yes,' you are consenting to participate in this study.

Do you agree to the consent with the conditions outlined above in the Consent Form?

Yes (1)

No (2)

If No Is Selected, Then Skip To End of Survey

Q2 Are you at least 18 years of age?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To End of Survey

Q3 On average, do you work at least 30 hours per week?

- Yes (1)
- No (2)

If No Is Selected, Then Skip To End of Survey

Q4 Throughout this survey, you will be asked to share various work attitudes and behavior. Please be honest and thoughtful in your responses. Carefully read the instructions and statements before responding. Click "Continue" to proceed with the survey.

- Continue (1)

CWB0 For the next set of items, please indicate how often you have done each of the following things on your present job. If you do not have the opportunity to engage in the target behavior, select "Not Applicable to my job".

CWB1 Purposely wasted your employer's materials/ supplied

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB2 Complained about insignificant things at work

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB3 Told people outside the job what a lousy place you work for

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB4 Came to work late without permission

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB5 Stayed home from work and said you were sick when you weren't

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB6 Insulted someone about their job performance

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB7 Made fun of someone's personal life

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)



CWB8 Ignored someone at work

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB9 Started an argument with someone at work

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CWB10 Insulted or made fun of someone at work

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB0 For the next set of items, please indicate how often you have done each of the following things on your present job. If you do not have the opportunity to engage in the target behavior, select "Not Applicable to my job".

OCB1 Took time to advise, coach, or mentor a co-worker

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB2 Helped co-worker learn new skills or shared job knowledge.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB3 Helped new employees get oriented to the job.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB4 Lent a compassionate ear when someone had a work problem.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB5 Offered suggestions to improve how work is done.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB6 Helped a co-worker who had too much to do.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB7 Volunteered for extra work assignments.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB8 Worked weekends or other days off to complete a project or task.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB9 Volunteered to attend meetings or work on committees on own time.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

OCB10 Gave up meal and other breaks to complete work.

- Never (1)
- Once or Twice (2)
- Once or Twice per Month (3)
- Once or Twice per Week (4)
- Everyday (5)
- Not applicable to my job (6)

CRT0 Indicate how characteristic each behavior is of yourself at work. If you do not have the opportunity to engage in the specified behavior(s) on your current job, select "Not applicable to my current job" for that item.

CRT1 Suggests new ways to achieve goals or objectives.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT2 Comes up with new and practical ideas to improve performance.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT3 Searches out new technologies, processes, techniques, and/or product ideas.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT4 Suggests new ways to increase quality.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT5 Is a good source of creative ideas.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT6 Is not afraid to take risks.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT7 Promotes and champions ideas to others.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT8 Exhibits creativity on the job when given the opportunity to.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT9 Develops adequate plans and schedules for the implementation of new ideas.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT10 Often has new and innovative ideas.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT11 Comes up with creative solutions to problems.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT12 Often has a fresh approach to problems.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

CRT13 Suggests new ways of performing work tasks.

- Not at all characteristic of me (1)
- Not much characteristic of me (2)
- Neutral (3)
- Somewhat characteristic of me (4)
- Very characteristic of me (5)
- Not applicable to my job (6)

OC0 How often do you find it difficult or impossible to do your job because of ... ? Note: Select "Not applicable to my current job" if the situation described is not applicable to your current job.

OC1 Poor equipment or supplies.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

## OC2 Organizational rules and procedures.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

## OC3 Other employees

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

## OC4 Your supervisor

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

## OC5 Lack of equipment or supplies.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

## OC6 Inadequate training.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC7 Interruptions by other people.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC8 Lack of necessary information about what to do or how to do it.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC9 Conflicting job demands.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC10 Inadequate help from others.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)

OC11 Incorrect instructions.

- Never or Less than Once per Month (1)
- Once or Twice per Month (2)
- Once or Twice per Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)
- Not applicable to my job (6)



DEF0 How often do you experience each of these problems? Please select the number next to each item that best describes your behavior DURING THE PAST 6 MONTHS.

DEF1 Procrastinate or put off doing things until the last minute

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF2 Can't seem to hold in mind things I need to remember to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF3 Not motivated to prepare in advance for things I know I am supposed to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF4 Have trouble doing what I tell myself to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF5 Have trouble learning new or complex activities as well as others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF6 Have difficulty explaining things in their proper order or sequence

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF7 Unable to “think on my feet” or respond as effectively as others to unexpected events

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF8 I don’t seem to process information as quickly or as accurately as others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF9 Unable to inhibit my reactions or responses to events or others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF10 Make impulsive comments to others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF11 Likely to do things without considering the consequences for doing them

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF12 Fail to consider past relevant events or past personal experiences before responding to situations (I act without thinking)

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF13 Do not put as much effort into my work as I should or than others are able to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF14 Others tell me I am lazy or unmotivated

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF15 Inconsistent in the quality or quantity of my work performance

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF16 Unable to work as well as others without supervision or frequent instruction

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF17 Have trouble calming myself down once I am emotionally upset

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF18 Cannot seem to regain emotional control and become more reasonable once I am emotional

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF19 Cannot seem to distract myself away from whatever is upsetting me emotionally to help calm me down. I can't refocus my mind to a more positive framework.

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

DEF20 I remain emotional or upset longer than others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)

AU0 Please indicate your level of agreement with each of the following statements.

AU1 My job allows me to make my own decisions about how to schedule my work.

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

AU2 My job allows me to decide on the order in which things are done on the job.

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

AU3 My job allows me to plan how I do my work

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

AU4 My job gives me a chance to use my personal initiative or judgment in carrying out the work

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

AU5 My job allows me to make a lot of decisions on my own

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

AU6 My job provides me with significant autonomy in making decisions

- Strongly Disagree (1)
- Disagree (2)
- Neither Agree nor Disagree (3)
- Agree (4)
- Strongly Agree (5)

WRKLD0 Please rate each of the following items as they relate to your current job.

WRKLD1 How often does your job require you to work very fast?

- Never or Less than Once a Month (1)
- Once or Twice a Month (2)
- Once or Twice a Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)

WRKLD2 How often does your job require you to work very hard?

- Never or Less than Once a Month (1)
- Once or Twice a Month (2)
- Once or Twice a Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)

WRKLD3 How often does your job leave you with little time to get things done?

- Never or Less than Once a Month (1)
- Once or Twice a Month (2)
- Once or Twice a Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)

WRKLD4 How often is there a great deal to be done?

- Never or Less than Once a Month (1)
- Once or Twice a Month (2)
- Once or Twice a Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)

WRKLD5 How often do you have to do more work than you can do well?

- Never or Less than Once a Month (1)
- Once or Twice a Month (2)
- Once or Twice a Week (3)
- Once or Twice per Day (4)
- Several Times per Day (5)

SEX What is your biological sex?

- Male (1)
- Female (2)

RACE What is your race/ ethnic origin?

- White/ Caucasian (1)
- Black/ African-American (2)
- Hispanic/ Latino (3)
- Asian/ Pacific Islander (4)
- Native American (5)
- Other (6)

AGE Which of the following age groups do you fall into?

- 18-22 years old (1)
- 23-30 years old (2)
- 31-40 years old (3)
- 41-50 years old (4)
- 51-60 years old (5)
- 61+ years old (6)

MS What is your current marital status?

- Single (1)
- Living with partner, but not married (2)
- Married (3)

JobTitle What is your current job title?

TENURE How long have you worked in your current job position?

- Less than 1 year (1)
- 1-2 years (2)
- 3-5 years (3)
- 6-10 years (4)
- 10+ years (5)

HRS Approximately how many hours do you work per week?

- \_\_\_\_\_ On site (1)
- \_\_\_\_\_ Off site (2)

SUP What is your current supervisor status?

- Non-supervisory position (1)
- Supervisory position (2)

OTH\_ID Please provide an **email address** for a **close confidant** (e.g., spouse/ partner, parent, sibling, close friend, or anyone who knows you very well). Again, please note that you are not required to provide this information and that you have the option to omit any question on this survey without penalty.

OTH\_NAME Please provide the **first name of your close confidant**. Again, please note that you are not required to provide this information and that you have the option to omit any question on this survey without penalty.

EMP\_ID Please provide **your email address**. Again, please note that you are not required to provide this information and that you have the option to omit any question on this survey without penalty. However, you must provide your email address in order to be entered into the raffle to win one of ten \$25.00 Amazon gift cards.

EMP\_NAME Please provide **your first name** (use a name that will be recognized by the close confidant you indicated above). Also, please note that you are not required to provide this information in order to be eligible for the Amazon gift card. Again, please note that you are not required to provide this information and that you have the option to omit any question on this survey without penalty.

**Other-Report Survey: Sample 2**

## Informed Consent:

This study is being conducted by Jasmine Khosravi, a doctoral student in the psychology department at Bowling Green State University (BGSU), for her Dissertation. This project is being supervised by Dr. Steve Jex.

The purpose of this study is to the relationships between workplace stressors, individual characteristics, and work-related behaviors. Furthermore, in order to assess the accuracy of some of the survey items included in this study, it is preferred to obtain two separate ratings for these items, which is why you have been asked to participate in this study. By participating, you will be helping us increase the accuracy of our measurements, which lends to a deeper understanding of the complexities of workplace environments and characteristics.

If you choose to participate, you will be asked to complete a series of brief online questionnaires. In total, this survey will take approximately 5 minutes to complete. While you may not receive any direct benefits for participating in this research, you will be helping us increase our understanding about the complexities of workplace behaviors. However, participants will be entered into a raffle to win one of two \$25.00 Amazon gift cards. The odds of winning one the watch is approximately 1 out of 100 (1%). The risk of participation is no greater than that experienced in daily life.

At no point will your close confidant or any person other than the researcher have access to your survey responses, and in turn, you will not have access to your close confidant's responses. To further ensure confidentiality, an arbitrary numerical code will be assigned to each participant, which will be used to identify participants for analyses, and all personally identifying information (including names and email addresses) will be removed from the dataset and stored in a separate, password-protected file prior to data analysis.



For your security, after you finish making and submitting your choices, please clear your browser history and page cache.

We hope to use the results of this study to publish an article discussing workplace stressors, individual characteristics, and work-related behaviors—only a summary of data from many participants. Your confidentiality and anonymity as a participant will be protected and your individual responses will be stored on a secured computer.

Your participation in this study is completely voluntary, and you are free to discontinue participation in this study at any time. However, you will not be entered into the raffle unless you respond to each of the items on the survey. Deciding to participate or not will not affect any relationship you may have with Bowling Green State University. You may also freely decline to respond to any questions. Completing the survey indicates your consent to participate in this study.

The researcher is the only individual that will have access to your data. Your responses will not be provided to your confidant or any other third-party members.

In addition, if you have any questions about the study, you may contact either myself, – Jasmine Khosravi, at [jkhosra@bgsu.edu](mailto:jkhosra@bgsu.edu) or (317) 716-1705 — or my thesis advisor, Dr. Steve Jex at [sjex@bgsu.edu](mailto:sjex@bgsu.edu) or (419) 372-2132. If you have questions about your rights as a research participant, you may contact the Chairperson, Human Subjects Review Board at Bowling Green State University, at (419)372-7716 or at [hsrb@bgsu.edu](mailto:hsrb@bgsu.edu).

By clicking ‘Yes,’ you are consenting to participate in this study.  
Do you agree with the conditions outlined above in the Consent Form?  
 Yes (1)  
 No (2)

LINK\_ID Please enter the **email address** of the **confidant** you are assessing in this survey. Be sure to use the email address listed in the email from which you accessed this survey. This information will only be used to link self- and other-report ratings needed for statistical analyses. \_\_\_\_\_

OTH\_ID Please enter **your** email address (use the email address from which you received this survey link). Please note that you will be notified through this email address if you win the raffle prize (name and shipping information will be requested from the prize winner). \_\_\_\_\_

REL0 Please answer the following two questions about your relationship with the target individual.

REL What is your relationship to this person?

- Mother (1)
- Father (2)
- Brother/ Sister (3)
- Spouse/ Partner (4)
- Friend (5)
- Other (6)

REL\_TEN How long have you known this person?

- Less than one year (1)
- 1-2 years (2)
- 3-5 years (3)
- 6-10 years (4)
- 11-15 years (5)
- 16+ years (6)

DEF0 You are being asked to describe the behavior of someone whom you know well. How often does that person experience each of these problems? Please circle the number next to each item that best describes their behavior DURING THE PAST 6 MONTHS. If you are not able to observe the behavior described in the item, please select "Not Applicable".

OTH\_DEF1 Procrastinate or put off doing things until the last minute

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF2 Can't seem to hold in mind things they need to remember to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF3 Not motivated to prepare in advance for things they know they are supposed to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF4 Have trouble doing what they tell themselves to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF5 Have trouble learning new or complex activities as well as others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF6 Have difficulty explaining things in their proper order or sequence

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF7 Unable to “think on their feet” or respond as effectively as others to unexpected events

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF8 They don't seem to process information as quickly or as accurately as others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF9 Unable to inhibit their reactions or responses to events or others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF10 Make impulsive comments to others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF11 Likely to do things without considering the consequences for doing them

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF12 Fail to consider past relevant events or past personal experiences before responding to situations (They act without thinking)

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF13 Do not put as much effort into their work as they should or than others are able to do

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF14 Others tell them they are lazy or unmotivated

- Never (1)
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- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF15 Inconsistent in the quality or quantity of their work performance

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF16 Unable to work as well as others without supervision or frequent instruction

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF17 Have trouble calming down once they are emotionally upset

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- Often (4)
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OTH\_DEF18 Cannot seem to regain emotional control and become more reasonable once they are emotional

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF19 Cannot seem to distract themselves away from whatever is upsetting them emotionally to help calm them down. They can't refocus their mind to a more positive framework.

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

OTH\_DEF20 They remain emotional or upset longer than others

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Not Applicable (5)

#### Demographics

OTH\_SEX What is your biological sex?

- Male (1)
- Female (2)

OTH\_RACE What is your race/ ethnic origin?

- White/ Caucasian (1)
- Black/ African-American (2)
- Hispanic/ Latino (3)
- Asian/ Pacific Islander (4)
- Native American (5)
- Other (6)

OTH\_AGE Which of the following age groups do you fall into?

- 18-22 years old (1)
- 23-30 years old (2)
- 31-40 years old (3)
- 41-50 years old (4)
- 51-60 years old (5)
- 61+ years old (6)

OTH\_MS What is your current marital status?

- Single (1)
- Living with partner, but not married (2)
- Married (3)