DO WORKPLACE AESTHETICS MATTER? TESTING THE MODERATING EFFECTS OF NEED FOR AESTHETICS AND GENERAL MINDFULNESS

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ABSTRACT

Minimal research has examined the impact of workplace aesthetics on employee outcomes such as negative work attitudes, job satisfaction, or resource recovery needs. The present study tested if aesthetic elements in workplace matter to employees and if this effect is moderated by the extent to which employees are generally mindful and have a need for an aesthetically pleasing workspace (NFAPW). Data were collected from adult fulltime employees (N = 175) and were analyzed using correlational and regression-based techniques. Results suggest that together, need for an aesthetically pleasing workplace and general mindfulness affect employees' work attitudes. Specifically, for individuals with high NFAPW and mindfulness, negative work attitudes were lower in more aesthetically pleasing workplaces, but higher for those in non-aesthetically pleasing workplaces. When analyses were conducted without covariates, NFAPW moderated the relationship between workplace aesthetics and resource recovery needs. Main effects or moderation effects were not identified for job satisfaction.

DEDICATION

This work is dedicated first to my husband, Nick, who has given me amazing support and encouragement through not one, but two theses. Additionally, many of the ideas explored within this work would not exist today without your brilliance, curiosity in my field, and hours of long conversations. This work is also dedicated to all other visual artists who have bravely dove deep within both art and science, only to discover that they are not so different at all.

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LIST OF ABBREVIATIONS

AJIG, Abridged Job in General Scale

AWA, Acting with awareness KIMS dimension

AWJ, Accepting without judgement KIMS dimension

DES, Describing KIMS dimension

Enviro., Environment

IRB, Institutional Review Board

JIG, Job Satisfaction

KIMS, Kentucky inventory of mindfulness skills shortened version

MAAS, Mindful Attention Awareness Scale

Mini-IPIP6, Short form of the International Personality Item Pool-Six-Factor Model Measure

NFAPW, Need for an aesthetically pleasing workplace

NFRR, Need for Resource Recovery

NFRRS, Need for Resource Recovery Scale

OBSIN, Observing inside KIMS dimension

OBSOUT, Observing outside KIMS dimension

PAE, Prevalence of aesthetic elements

PANAS-X, Positive and Negative Affect Schedule

PWA, Perceived workplace aesthetics

TIS-6, Six-item Turnover Intention Scale

TIS, Negative Work Attitudes/Turnover Intention

UTC, University of Tennessee at Chattanooga

WDQ, Work Design Questionnaire

LIST OF SYMBOLS

α, Cronbach's alpha

b, Beta weight

BootLLCI, Lower limit confidence interval from bootstrapping

BootMean coeff, Coefficient from bootstrapping

BootULCI, Upper limit confidence interval from bootstrapping

coeff, Coefficient

Df, Degrees of freedom

F, the ANOVA test statistic

M, Mean

Max, Maximum

Mdn, Median

Min, Minimum

MSE, Mean squared error

N, Total number of cases (i.e., overall sample size)

p, Probability

R, Correlation coefficient

r, Estimate of Pearson product-moment correlation coefficient

R2 or R-sq, Proportion of variance accounted for

SD, Standard deviation

se, Standard error

t, Ratio of departure of the estimated value to its standard error

CHAPTER I

INTRODUCTION

A common focus of fields such as industrial-organizational (I-O) psychology is designing interventions that address a variety of threats (e.g., stress, safety hazards) or challenges to workers and their organizations. A subset of these interventions focuses on changing the physical environment of a workplace by adding elements to the space or changing the look of existing elements. For example, even simple environmental interventions such as adding indoor plants, changing the color of the walls, and increasing the amount of artwork within a workplace can lead to positive impacts on important individual and organizational outcomes such as employee stress levels, anxiety, fatigue, attention, productivity, and sick leave (Dijkstra, Pieterse, & Pruyn, 2008a; Dijkstra, Pieterse, & Pruyn, 2008b; Nejati, Rodiek, & Shepley, 2016). These environmental interventions are promising because they require less direct and conscious participation from employees, are relatively quickly implemented, and are often lower in cost compared to person-centered behavior change efforts (Sonnentag & Frese, 2012).

Although the existing research on environmental interventions is promising, additional research is needed to discover exactly why changing the appearance of work environments has a positive effect. Preliminary research suggests that the effectiveness of these interventions may be due, in part, to the improvement in a work environment's attractiveness and aesthetics. For example, one study found that the addition of indoor plants to a hospital room had positive

psychological benefits for patients, due to the increase in the perceived attractiveness of the room (Dijkstra et al., 2008a).

For the present project, aesthetics is defined as the visual look and feel of a space. Given the present focus on a work environment in this study, the more specific focus in this study is on aesthetics as the workspace's visual attractiveness and beauty (or lack thereof). In a built environment (i.e., man-made environments or structures such as buildings), this includes more controllable elements (i.e., aspects that can be added or changed relatively easily such as plants) and less controllable architectural aspects (e.g., windows, natural light, ceiling height).

Relatively little research has considered factors that might influence the effectiveness of these interventions. One rather important gap in the research along these lines involves how much participation is needed from employees before an environmental intervention is likely to impact them. Although an intervention such as placing indoor plants into a workspace seems to require no active participation from employees, to my knowledge there remains an unanswered question of whether environmental interventions that alter the appearance of the workplace are effective if employees do not tend notice them. Further, are there individual differences in employees that influence the degree to which people perceive and value the visual elements of their work environments?

These questions drive the present research. Given the possible need for worker attention to aesthetics for these types of environmental aesthetic interventions to be successful, it is necessary to understand the importance of aesthetics and the role that mindfulness may play as a critical individual difference in this context.

Importance of Aesthetics

Several theories and related fields of research support the notion that the perceived attractiveness of a space has psychological benefits. For example, Kaplan's attention restoration theory (Kaplan & Kaplan, 1989) describes a restorative environment, which enables people to recover from mentally draining and stressful experiences. Such environments are characterized by four factors: extent, compatibility, the degree they allow one to experience being away, and the sense of fascination they create. Essentially, these environments are places where one can escape from their stressors (being away) by relaxing and allowing their attention to be effortlessly pulled to their surroundings (fascination). Additionally, these places are compatible to one's needs or demands (compatible; i.e., provide a space to sit if one is desired), and are large enough to explore and feel comfortable (extent). Kaplan et al. (1993) also argued that the aesthetic component of the environment also influences the degree of a restorative experience. After spending time in a restorative space, an individual has restored attention capabilities, decreased stress levels, and increased productivity (Kaplan, Bardwell, & Slakter, 1993).

William James' (1892) work on voluntary attention is at the core of Kaplan's attention restoration theory (James, 1984). James proposed that there are two types of attention – voluntary attention and involuntary attention/fascination. Here, voluntary attention reflects effort to focus attention on specific stimuli. By contrast, involuntary attention, or fascination, occurs when stimuli naturally capture attention and require no effort to sustain attention. Kaplan argues that the act of sustaining voluntary attention for long periods of time results in attention fatigue, stress, and other negative effects. However, settings that gently capture your fascination (such as a natural environment), create a restorative environment where one can recover from the fatigue of directed attention (Kaplan & Kaplan, 1989). Restorative environments in turn lead to lower

levels of recovery needs, or the need to recover from one's stressors, demands, and fatigue levels (Smolders, de Kort, Tenner, & Kaiser, 2012). In contrast, individuals who do not recover from their stressors while at work will have higher recovery needs and still feel depleted of their mental resources.

This theory by James (1984) has important implications for the present research. As aesthetically pleasing environments and objects tend to capture our fascination more than unaesthetic objects and places, this theory supports the assertion that an aesthetically pleasing environment is also more likely to be a naturally restorative environment. Aesthetically pleasing environments or objects tend to result in higher degrees of fascination and thus also be a more restorative environment. Thus, a more aesthetically pleasing workspace might function as a more restorative (or at least less draining) environments than a less aesthetically pleasing workspace.

Maslow's theory of human motivation (Maslow, 1954) provides a second theory that supports the notion that the attractiveness of a space may have psychological benefits. Although Maslow's hierarchy of needs associated with this theory often only contains five subsets of human needs, in his early writings he also spoke for a need for aesthetics as a fundamental human motivation (Maslow, 1954). He described this need as "impulses to beauty, symmetry, and possibly to simplicity, completion, and order…and the need to express, to act out, and to motor completion that may be related to these aesthetic needs" (Maslow, 1954, p. 2). Maslow suggests that there may be individual differences in the degree that one possesses or feels the need for aesthetics. Over 60 years later, there is still relatively little research on this concept of a person's need for aesthetics. Even less research has examined the way that need for aesthetics within the workplace may influence important psychological and organizational outcomes.

One rare study on the subject by Schell, Theorell, and Saraste (2011) began examining the need for aesthetics in the workplace by focusing on workers' perceived need for aesthetic improvements at work. This study compared self-reported need for aesthetic improvements and need for ergonomic improvement within full time working adults in Sweden. To evaluate need for aesthetic improvements, Schell et al., asked participants, "Do you consider that your workplace aesthetics need to be improved?" Schell et al., (2011) found that a high need for aesthetic improvement (46%) was more frequently reported than a high need for ergonomic improvement (34%). This preliminary study into the issue of aesthetics at work highlights a very large disconnect between research and practice—although there is an entire field devoted to human factors and ergonomic interventions, comparatively few studies examine the potential benefits of an "aesthetic interventions" that could affect the look and feel of work environments in different, yet very important ways. Thus, more research is needed to examine the effects that having one's need for aesthetics met or not met within the workplace may have on individual and organizational outcomes such as job satisfaction, negative work attitudes, and engagement.

Importantly, Schell et al., (2011) also found significant differences between occupational groups on need for aesthetic improvements. For example, musicians and individuals employed in TV-production jobs reported a significantly higher need for aesthetic improvements than individuals in informational technology or research and development technicians (Schell et al., 2011). A possible implication of these findings is that individual differences may also influence the degree individuals report a need for aesthetic improvements. More research is needed to identify what these individual differences might be. Additionally, it is worth noting that although this study measured need for aesthetic improvements, the degree that the workplace was already aesthetically pleasing. Thus, more research is needed to evaluate if individual differences may

influence the relationship between the degree the workplace is aesthetic and the degree that workers wish for the aesthetics to be improved.

A second study that supports this line of inquiry was completed by Vilnai-Yavetz, Rafaeli, and Yaacov (2005). They proposed a three-factor model to use when analyzing the physical environment of organizations: instrumentality (i.e., functionality), aesthetics (i.e., visual attractiveness), and symbolism (i.e., associations or symbolic value) (Vilnai-Yavetz et al., 2005). Vilanai-Yavetz et al., used a combination of qualitative interviews and quantitative data to test their proposed model. Vilnai-Yavetz et al., found support for their three-factor model of instrumentality, aesthetics, and symbolism, showing that aesthetics is an important and distinct attribute to consider when examining the physical environment of an organization. Additionally, Vilnai-Yavetz et al., found that aesthetics was significantly and positively related to employees' overall job satisfaction, suggesting that aesthetics may be an important variable to consider in relation to organizational outcomes such as job-related attitudes. In fact, aesthetics was found to have a larger correlation with job satisfaction than almost all other measured variables, including symbolism and instrumentality.

The theories and studies described in the preceding paragraphs support further investigation into the effects of an aesthetically pleasing work environment and the intrapersonal and contextual factors that might condition these effects. There are many issues to examine within this space, including the potential negative ramifications of failing to meet one's need for aesthetics. It is also necessary for us to better understand the individual difference factors that might influence workers' awareness of and need for aesthetics at work.

Mindfulness as a Pertinent Individual Difference

Little to no research has examined the possible relationships between general mindfulness, the tendency to notice elements of the work environment, and need for aesthetics. Mindfulness is commonly defined as "the state of being attentive to and aware of what is taking place in the present" (Brown & Ryan, 2003, p. 822). Other definitions of mindfulness include, "focusing one's attention in a nonjudgemental or accepting way on the experience occurring in the present moment" (Baer, Smith, & Allen, 2004, p. 192; see also Kabat-Zinn, 1990; Linehan, Heard, & Armstrong, 1993; Marlatt & Kristeller, 1999). Because of this focus on the present moment, mindfulness leads to a heightened awareness of current events and experience (Brown & Ryan, 2004).

Given this connection of mindfulness to being attuned to one's current experience, and presumably by extension one's surroundings, it is reasonable to assume that one's mindfulness levels influence the degree to which one notices elements in their surroundings. Assuming the benefits of an environmental aesthetic intervention do depend on the degree to which an employee notices the positive stimuli, then it is important to examine the way mindfulness levels may influence the effectiveness of an environmental aesthetic intervention.

Although mindfulness has been highlighted as a generally beneficial trait in many studies (e.g., see Brown & Ryan, 2003 for a review) discussion continues regarding how to best or adequately define (and therefore measure) mindfulness (Brown & Ryan, 2003). One important dimension to this discussion is the distinction between different underlying dimensions or factors of mindfulness, including awareness/concentration and observation (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). According to researchers such as Baer et al. (2006), observation refers to the general observation and perception of the internal and external stimuli present at any

given moment (Buchheld, Grossman, & Walach, 2001). Such awareness has been defined as a state of "choiceless awareness, where any and all experiences can be included as objects of observation" (Buchheld et al., 2001, p. 7). In contrast, awareness and/or concentration is defined as the focusing of this awareness to highlight a specific stimulus or object (Buchheld et al., 2001). Certain mindfulness practices focus on attention (e.g., concentration meditation), while others focus more on awareness (e.g., awareness or insight meditation), and others equally incorporate both aspects (Buchheld et al., 2001).

Although research supports the existence of different dimensions or facets to mindfulness, there is not currently a consensus of what each of these dimensions is or should be labeled (Höfling, Ströhle, Michalak, & Heidenreich, 2011). This means that certain researchers refer to the same dimensions (i.e., having a general awareness and observation of one's surroundings) by different names. For the present research, mindfulness dimensions will be referred to in accordance to the following dimension labels and definitions from the Kentucky Inventory of Mindfulness Skills (KIMS; Baer et al., 2004).

The KIMS measures distinct mindfulness skills: observe, describe, act with awareness, and accept without judgement. Baer et al., (2004) use the term *observe* to refer to the open monitoring of one's surroundings, general observation, and choiceless awareness of internal and external stimuli. The KIMS-Short further separates observing into two types of observing—observing inside stimuli (OBSIN) and observing outside stimuli (OBSOUT; Hofling, Strohle, Michalak, & Heidenreich, 2011). *Acting with awareness* (AWA) refers to the focusing of this awareness onto a specific stimulus with one's undivided attention. They define *describing* (DES) as the act of describing, labelling, or noting of observed phenomenon by applying words in a nonjudgmental way (Baer et al., 2004). Finally, *accepting without judgement* (AWJ) refers to

accepting the current moment in an accepting, nonjudgmental, and nonevaluative way (Baer et al., 2004).

Due to the different factors within the overall construct of mindfulness, it is valuable to measure these constructs separately when conducting research on mindfulness because these factors may affect relationships in this study in different ways. An example of this is found in a study by Lebuda, Zabelina, and Karwowski (2016), who examined the linkage between different factors of mindfulness and creativity. Lebuda et al., defined the difference between the overall observation of one's experience and a focused-attention aspect of meditation (awareness). They found that the different factors of mindfulness appeared to affect creativity in completely unanticipated ways – namely, that increased general observation added to creativity and increased focused awareness hindered creativity (Lebuda et al., 2016). Examples such as this show that more research is needed to understand how different types of mindfulness may affect the degree to that workers are influenced by their surrounding environment.

The Present Study

As discussed in the preceding sections, a theoretical framework and at least some preliminary research support the idea that the aesthetic elements present in a work environment may have important benefits for workers and organizations. However, more research is needed to examine the types of workspaces individuals perceive to be aesthetically pleasing and the factors influencing this judgement. The present study, therefore, is designed to address these issues and potentially open the door to an entirely new and important area of inquiry within I-O psychology and other related fields.

For this study, *workspace* is used to refer to one's personal workspace, or the area of the work environment in which one spends the most time working. This space includes everything within roughly a 10-foot radius of their main work position (e.g., cubical, desk, workstation). *Work environment* is used to refer to the broader environment in which one's workspace is located (e.g., a large room where a cubical or suite in which an office is located). This distinction is important to some of the measures used for the present research. This is because one may have a greater influence on an individual than the other, as well as the possibility that one is highly aesthetically pleasing while the other is not. For example, participants may consider their cubicles aesthetically pleasing because they have painstakingly decorated it, while the broader office environment the cubical resides in is not aesthetically pleasing. Finally, when referring to both workspaces and work environments jointly, *workplace* is used.

This study was designed to examine the positive impact of an aesthetically pleasing workspace and work environment on employee outcomes such as job satisfaction, negative work attitudes, and post-work recovery needs. The degree to which a workplace is aesthetically pleasing was measured in two ways: via participants' subjective rating of how aesthetically pleasing their workspaces and work environments were perceived to be and, more objectively, via an evaluation of the number of aesthetically pleasing elements present in workers' primary work environments (i.e., prevalence of aesthetic elements). These measures, and the reasoning behind creating the new measures designed for this study, are described more in the next section of this manuscript. This study was also designed to examine what individual differences might influence these effects, including workers' general mindfulness levels and need for an aesthetically pleasing workplace (NFAPW).

To achieve the primary goal of this study, two new measures were designed and preliminarily tested. One of these measures evaluates the degree to which participants feel their workplaces are aesthetically pleasing (Perceived Workplace Aesthetics; PWA), and one to measure participants' need for an aesthetically pleasing workplace (NFAPW). More information on these measures is included in the Method section of this document.

Hypotheses and Research Questions

The following figure provides an illustration of the conceptual model to be tested in this research:

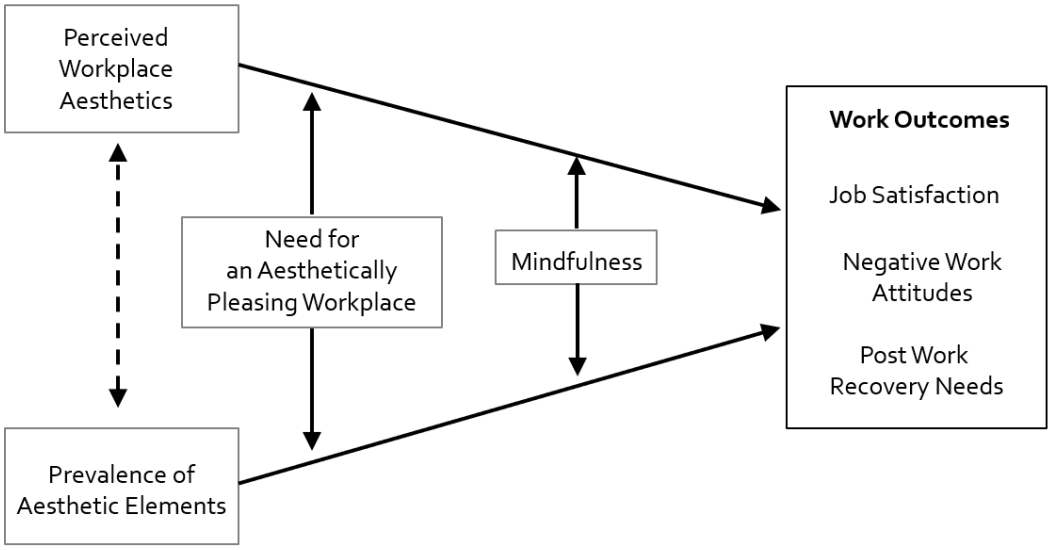

Figure 1 Theoretical model of proposed hypotheses

As summarized in the preceding conceptual figure, the hypotheses driving the present study are as follows:

1) The relationship between PWA and organizational and individual outcomes is moderated by an individual's NFAPW. Specifically, as an individual's NFAPW increases, the following is expected:
    a. The relationship between PWA and job satisfaction is stronger and more positive.
    b. The relationship between PWA and negative work attitudes is stronger and more negative.
    c. The relationship between PWA and post work recovery needs is stronger and more negative.

    In contrast, when an individual's NFAPW levels are low, it is expected that the above relationships decrease in strength.
2) The relationship between PWA and organizational and individual outcomes is moderated by an individual's mindfulness levels. Specifically, as an individual's mindfulness levels increases, the following is expected:
    a. The relationship between PWA and job satisfaction is stronger and more positive.
    b. The relationship between PWA and negative work attitudes is stronger and more negative.
    c. The relationship between PWA and post work recovery needs is stronger and more negative.

Again, when an individual's mindfulness levels are low, the above relationships decrease in strength.

3) The relationship between the prevalence of aesthetic (PAE) elements and organizational and individual outcomes is moderated by an individual's NFAPW. Specifically, as an individual's need an aesthetically pleasing workplace increases, the following is expected:
    a. The relationship between PAE and job satisfaction is stronger and more positive.
    b. The relationship between PAE and negative work attitudes is stronger and more negative.
    c. The relationship between PAE and post work recovery needs is stronger and more negative.

    When an individual's NFAPW levels are low, the above relationships decrease in strength.

4) The relationship between prevalence of aesthetic elements and organizational and individual outcomes is moderated by an individual's mindfulness levels. Specifically, as an individual's mindfulness levels increases, the following is expected:
    a. The relationship between PAE and job satisfaction is stronger and more positive.
    b. The relationship between PAE and negative work attitudes is stronger and more negative.
    c. The relationship between PAE and post work recovery needs is stronger and more negative.

When an individual's mindfulness levels are low, the above relationships decrease in strength.

Additionally, the following research questions were tested:

1. Do different dimensions of mindfulness affect the relationship between the independent variables and dependent variables in different ways?
2. What are the descriptive statistics for NFAPW in our sample (e.g., average, range, etc.)?
3. What visual elements are most commonly present in workplaces that are rated as aesthetically pleasing?
4. What visual elements are rated as the most and least important to have present and visible to participants in their workplace?
5. How does considering both moderators (mindfulness and need for an aesthetically pleasing workspace) together change the relationship between the independent variables and dependent variables? In other words, is there a three way interaction present?

CHAPTER II

METHDOLOGY

Participants

The sample for this study consisted of working adults. Although most participants were considered full-time employees of various companies, participants who work part-time were also included. This study was designed to be applicable to office and non-office workers; however, due to the sampling techniques used in this study, office workers comprised the majority of the ultimate sample. Due to the unknown, but anticipated small effect size for the hypothesized effects, a sample size of at least 602 participants was targeted to achieve the desired statistical power. However, due to sampling and recruitment challenges, our final sample was 198 participants who at least partially responded to the survey. After removing respondents who completed less than 30% of the survey or who did not complete critical measures for the study, the final sample for analysis included 170 mostly complete survey records. Recruiting was in large part challenging due to the confidentiality and privacy concerns many organizations had about employees uploading photographs of their workspaces, as well as the sensitive nature of some of the measures (e.g., negative work attitudes, job satisfaction). All reported statistics past this point are based on this final sample. A total of 44 of these participants completed phase two of the study by uploading three photographs of their workplace.

Respondents ranged in age from 20 to 75 years (M = 38.88, SD = 12.65 years). Female respondents made up 71% of the sample. A majority of respondents identified their race as White

(92.8%), followed by Black/African American (2.9%), Multiracial (2.2%), Asian (1.4%), and Other (0.7%). Most respondents reported their ethnicity as not Hispanic/Latino (96.4%). A majority of respondents reported their highest level of completed education to be a Master's degree (37.7%), followed by a Bachelor's degree (31.2%), Doctorate degree (13.8%), some graduate school (8%), Associate's degree (4.3%), some college (3.6%), and a High School diploma (1.2%). Respondents had worked in their current organization for an average of 7.69 years (*SD* = 9.23), and in their work environment for an average of 6.24 years (*SD* = 8.81). Respondents worked an average of 42.20 hours a week (*SD* = 10.1), and an average of 30.48 in their primary personal workspace (e.g., cubical, office; *SD* = 10.44). Respondents came from a total of 23 different industries, with the most commonly reported industries being education (26%), manufacturing (17%), and utility/power (11%). Respondents most frequently described their workspace as some type of office (76%; i.e., cubical, personal office, home office), however non-office spaces were also cited (e.g. classroom, workshop, van/car, hospital, showroom). Respondents most frequently reported learning about the study via the researcher's personal and professional networks (64.8%).

Procedure

All procedures for this study were approved by the university's Institutional Review Board (IRB). Before primary data collection, a pilot study was conducted using working graduate students at The University of Tennessee at Chattanooga (UTC). This pilot study tested the measures developed for this study (i.e., Need for an Aesthetically Pleasing Workspace and Perceived Workplace Aesthetics), and participants completed a trial run of phase two of the study (i.e., taking and sharing pictures of their workspace and work environment).

To increase the likelihood of variability in work environments among respondents, participants were contacted through a variety of methods, including direct and indirect personal appeal through personal and professional networks (e.g., LinkedIn, Facebook). Additionally, local companies were contacted to request distributing an email to their employees, thus some participants were contacted through various company communication methods (e.g., Slack, email). A web-based, structured survey was administered to participants through the Qualtrics internet-survey system.

Recruited participants received an emailed invitation to complete the online survey. This survey included an informed consent letter and the measures described below. This survey additionally included a qualitative open response format item asking participants to describe what they find visually attractive or unattractive about their workspace. Following completion of this survey, participants were thanked and given instructions to complete phase two of the study if they desired to continue. As incentive to respond to the survey, participants had the opportunity enter their email address into a drawing for one of 15, $50 Visa gift cards (participation was not required to enter the drawing) provided by UTC's SEARCH grant.

For phase two of this research, participants received an email that asked them to submit two or three photos of their most frequently used workspace by uploading these photos into a second Qualtrics based forum. Data from the first phase of the study were linked to photographs from the second phase of the study using participant's email addresses. Once participants uploaded their photographs, they were again thanked and informed that they have been successfully given two additional entries into the gift card incentive drawing. The following instructions were used for phase two of the study.

Instructions for phase two

For the final stage of the study, we would like you to submit three photos of your workplace. You can take these photographs with a phone/tablet camera or any other camera you wish. Please follow the following directions:

- For all photos, please take a photo of your workspace (the area of your work environment in which you spend the majority of your worktime, e.g., cubical) in its usual condition. In other words, please do not tidy up, organize, or rearrange your space if it is not usually in that condition. We would like these photos to represent the way your workspace normally looks.
- If you work in several offices/spaces, please submit the one that you spend the most time in. If you spend equal amounts of time in multiple workspaces, pick any one to photograph.
- *Before you take any photos to share with us, please make sure that any confidential, private, or proprietary information is not viewable that you would not like to be submitted in these photos. For example, you may wish to first close any open programs on your computer and/or flip over or remove any confidential materials from your desk before taking these pictures.*
- *Here are the details on the three photos we need:*
    - Photo one: If you work at a desk, please take one photo while sitting in your chair, showing the view you normally see (e.g., if you normally are looking at a computer, this would likely be your computer screen and its immediate surroundings). Note that your vision's area of focus is likely wider than your phone/camera lens, so you may need to push your chair about 2 feet farther back than it normally is to capture this view. If you do not work at a desk, then please capture whatever view you tend to see for the majority of a typical work day.

- Photo two: Please take a photo that provides a broader perspective of your workspace. For example, if you work at a cubical, take a photo that shows the entirety of your cubical.
- Photo three: Please take a photo that captures the larger work environment of which your personal workspace is one part. For example, (a) if you work in a cubical, please take a picture of the room that your cubical is in, or (b) if you work primarily at a retail counter, please provide a picture of the larger retail space that you oversee.

Measures

The variables for this study were measured using the following scales and measurement tools. The self-reported measures were administered to participants via a single internet survey hosted on Qualtrics. Observed internal consistency reliabilities from the present study for the following measures are summarized in Table 2.

Mindfulness

This individual difference was measured with the Shortened Kentucky Inventory of Mindfulness Skills (KIMS; Höfling et al., 2011). This is a 20-item scale that assess five separate mindfulness skills (awareness, observing inside, observing outside, describing, and acceptance without judgement). This scale has shown adequate internal consistency within each subscale in previous studies (α = .75-.88). Participants responded to the items in this measure using a five-point Likert scale measuring the degree to which each statement is generally true for them; higher scores mean higher levels of mindfulness. An example item is: “When I do things, my mind wanders off and I’m easily distracted.” Although the full KIMS was administered to

participants in the present study, all analyses testing the main hypotheses reported here use the Acting with Awareness dimension alone, as the KIMS is not designed to create an overall mindfulness score that includes all four dimensions. Thus, the Acting with Awareness dimension is the most representative of mindfulness as it is most commonly conceived and measured. For example, it is the dimension most highly correlated with the Mindful Attention Awareness Scale (MAAS), which is a frequently used instrument to measure mindfulness (Baer et al., 2004). The other KIMS subdimensions will be explored in the discussion section of this manuscript.

Need for an Aesthetically Pleasing Workplace (NFAPW)

Ten items were developed to measure this individual difference. Responses are made on a five-point Likert scale of agreement; higher mean scores represent a stronger need for an aesthetically pleasing workplace. An example item is: "Working in a visually attractive space is important to me." Internal consistency and other descriptive statistics were measured as part of this study. This measure was created for this study as no other measures exist to measure an individual's need for aesthetics in a workplace context, or even in a general context.

Several items were loosely adapted from Saran, Morris, and Minor (2017), who created a scale for the Desire for Visual Aesthetics in a Store Environment. For example, Saran et al., use the item, "Attractive looking stores give me a sense of satisfaction," and the NFAPW scale includes the item "An attractive looking work environment gives me a sense of satisfaction." However, most items in the NFAPW are well beyond the scope of the Desire for Visual Aesthetics in a Store Environment, as this scale is very targeted to shoppers' behaviors and decisions based off the aesthetics of a store. In contrast, NFAPW includes five items that specifically refer to need for aesthetics within one's workplace (e.g., "Working in a visually

attractive space is important to me"), and five items that refer to non-workplace specific need for aesthetics (e.g., "A space's visual atmosphere and appearance is important to me").

Perceived Workplace Aesthetics (PWA)

The degree to which participants perceive their workplace as aesthetically pleasing was measured with a six-item measure designed for the present study. This measure was developed for this study as to our knowledge, no other measures that examine the degree to which employees find their workplace to be aesthetically pleasing exist. Items for this measure were loosely adapted from Vilnai-Yavetz et al., (2005) who used three items to measure the aesthetics of an office environment ("My office looks very nice, my office is very pleasant, and my office is ugly"). Vilnai-Yavetz et al.'s three items were not used in this study, however, due to their direct referencing of an office environment only. Perceived Workplace Aesthetics was additionally designed to measure presence of aesthetics, instead of including a measure of ugliness/lack of aesthetics as Vilnai-Yavetz's items did.

Additionally, this six item scale was modeled after items from the work design questionnaire (WDQ; Morgeson & Humphrey, 2006) questions so that after further validation, these six items may be useful as additions to use along with the WDQ or other similar measures. For example, like the WDQ, the PWA scale does not include any attitudinal or evaluative wording (i.e., satisfaction, important) and instead asks questions that aim to directly measure perceived workplace aesthetics. Additionally, the PWA scale is measured on the same response scale as the WDQ. For example, an item from the PWA is "My workplace is visually attractive," and an item from the WDQ is "The workplace is free from excessive noise."

Responses to this measure are made on a five-point Likert scale of agreement; higher mean scores represent greater satisfaction with the aesthetics of the respondent's workplace. This measure includes three items that measure respondent's evaluation of their workspace, and three nearly identical items that measure their evaluation of their work environment. The three items to measure workspace are: "My workspace looks nice," "The appearance of my workspace is pleasing," and "My workspace is visually attractive." Internal consistency and other descriptive statistics of this scale were measured as a part of this study.

Aesthetically Pleasing Visual Elements Questionnaire

This list of visual elements was developed for the present study to evaluate the prevalence and importance of visual stimuli and/or environmental features that might affect the visual aesthetics of a person's workplace. This list includes 12 items that are both relatively controllable (e.g., indoor plants, decorations) and uncontrollable (i.e., architectural and environmental elements; e.g., number of windows, view outside of window). The aesthetic elements included in this measure include items that have been demonstrated by previous research to impact the aesthetic quality of an indoor space (Dijkstra et al., 2008a; Dijkstra et al., 2008b; Nejati et al., 2016). Examples include live indoor plants, artwork of photographs of nature elements or scenes, and colorful walls (e.g., walls that are any color besides a neutral color such as white, beige, or grey).

This list of 12 elements was used in two separate ways. First, participants were presented with a list of all 12 elements and asked to select which elements were visible to them from their immediate work area. Responses to this question was then used to create a total score of the number of aesthetically pleasing elements a participant reported having. Possible scores ranged

from 0 to 12, with higher scores representing more of the elements being present in participant's workplace.

Next, participants were asked to evaluate each element on the degree it is important to them to have that element present and visible to them in their work environment. Responses to these questions were made using a five-point scale of importance; higher scores represented higher ratings of importance. These items are unique from the NFAPW scale, as the NFAPW scale measures general need for aesthetics within a workplace context, and these items ask participants to evaluate how important it is to have specific visual elements within their workplace.

Finally, participants were asked to list any other features that they feel contribute the visual attractiveness of a space that were not included in the 12 previously listed items.

Other individual differences

Given the perceptual nature of the phenomena being studied here, a variety of individual difference variables were also measured to serve as covariates in the hypothesis testing analyses. The Mini-IPIP6 was used to measure *personality* (Sibley et al., 2011). This is a 24-item scale that assesses six personality constructs including extraversion, conscientiousness, neuroticism, openness to experience, agreeableness, and honesty-humility (Sibley et al., 2011) This scale has shown adequate internal consistency and reliability within each subscale in previous studies. Participants responded to the items in this measure using a five-point Likert scale measuring the degree that each statement accurately describes them; higher scores mean higher levels of each personality construct. An example item is: "I am the life of the party."

Positive and Negative Affect was measured using 20 items that measure general negative and positive affect from the Positive and Negative Affect Schedule (PANAS-X; Watson & Clark, 1994). The PANAS-X is a 60-item scale that measures both general positive and negative affect as well as 11 specific affects (e.g., fear, joviality) with single word or short phrase items. This scale has shown adequate internal consistency in previous studies (α=.83-.90). Participants respond to the items in this measure using a five-point Likert scale that ranges from "very slightly or not at all" to "extremely"; higher scores represent higher levels of positive or negative affect. Example items are: "Cheerful", "Attentive", "Surprised."

Demographics

Several *demographic variables* were measured as a part of this study. Variables measured include age, sex, ethnicity, race, education, tenure at their organization, and job title. Additionally, participants were asked how long they have worked in their workspace in its current state, to describe their basic job function, how many hours they spend working a week, and how many hours they spend working in their current/main workspace. Finally, participants were asked what industry their employer is in.

Work related variables

In addition to the above individual differences, this study used two scales to measure various aspects of participant's work that may also influence the core variables targeted with this research. Participant's *physical work conditions* were measured using Morgeson and Humphrey's (2006) Work Conditions, which is part of the Work Design Questionnaire (WDQ). The Work Conditions scale has shown adequate internal consistency in previous studies (α=.87).

These 5-items measure physical working conditions using a 5-point Likert scale of agreement. Higher scores represent a workplace that is relatively safe and physically comfortable. An example item is: “The workplace is free from excessive noise.”

The degree to which participants have control over the visual appearance of their workspace was measured using a question that asks: “How much control do you have over the visual appearance of your workspace (the area of your work environment in which you spend the majority of your worktime e.g., cubical)?” To measure control over work environment, participants were asked: “How much control do you have over the visual appearance of your work environment (the broader environment in which your workspace is located)?”

Participants were also asked to indicate the extent to which their personal workspace provides all of the basic features they need to complete their job (i.e., utility) with the question, “My personal workspace provides all of the basic features I need to do my job.” Finally, to measure participants’ desire for aesthetic improvements, participants were asked: “If I could, I would have the visual appearance of my workspace and work environment improved.”

Individual outcome variables

Several pertinent individual outcomes were measured as well. *Job satisfaction* was measured using the abridged version of the Job in General (AJIG) scale that measures global satisfaction with one’s job (Russell et al., 2004). This is an eight-item scale that has shown adequate internal consistency in previous studies (α=.85). Participants respond to items in this measure using descriptive adjectives or short phrases with response choices of “yes”, “no” and “?”. After reverse coding where necessary, these responses were then scored as follows, as

typical for this scale: 3 for “yes”, 1 for “?”, and 0 for “no.” Higher scores represent higher levels of job satisfaction. Example items are: “Good,” “Makes me content,” and “Excellent.”

Generalized negative work attitudes were measured using the six-item version of the turnover intention scale (TIS-6; Bothma & Roodt, 2013). This measure has shown adequate internal consistency in previous studies (α=.80). Participants respond to the items using five-point Likert scales of frequency, likelihood, and extent; higher scores represent higher levels of turnover intention. Example items are: “How likely are you to accept another job at the same compensation level if it should be offered to you?” and “To what extent is your current job satisfying your personal needs?” For the present study we broadened the labeling of this measure, given its items do not just target turnover intention, but rather capture a more generalized sense of negative attitude about one’s work.

Post work need for recovery was measured using Cunningham’s 2008 Need for Resource Recovery Scale (NFRRS Cunningham, 2008, March). The NFRRS is a 12-item scale that measures lack of attention/cognitive resources and need for detachment. This scale has shown adequate internal consistency in previous studies (α=.72-.92). Participants respond to the items in this measure using a five-point Likert scale of accuracy; higher scores represent higher levels of post work need for recovery. An example item is: “I have been working so hard today that I am losing my ability to concentrate on what I am doing.”

Open Response Item

This study included one qualitative open response item asking participants to describe what they find visually attractive or unattractive about their workspace and work environment. Specifically, participants were asked to note specific elements or objects that they think affect

the visual aesthetics/attractiveness of their space as well. This question served as a way of validating the a priori defined list of aesthetic elements used in our aesthetically pleasing visual elements questionnaire and provided a mechanism for generating additional elements or design features that help increase the attractiveness of a space.

CHAPTER III

RESULTS

The quantitative data for this project were gathered through the main survey administered in Phase 1 of this project. To prepare for analysis, all cases that were completely blank or had less than 30% of the survey completed were removed. Where appropriate for multi-item scales, we used mean imputation for missing items. The following analyses were conducted with data collected from the final analyzable data set (N = 175). Descriptive statistics were calculated using SPSS (v24). The hypotheses were tested using the PROCESS V3.2 syntax by Hayes and Little (2018) within the SPSS program. The results of the PROCESS analyses testing the hypotheses are summarized in Tables 3 –8 and Figure 2-6. Results were identified as statistically significant at alpha = .05 and/or when the 95% confidence interval around an estimate excluded 0.

Descriptive Statistics

Several interesting and important correlational patterns were found related to the main variables in this study. These are discussed below.

The PWA measure had high overall internal consistency (α = .95). This measure included two theoretical dimensions, 3 questions to evaluate the aesthetics of one's workspace and 3 to measure the work environment. These two dimensions were significantly correlated (r = .68), yet appear to still measure relatively different constructs. This measure was also significantly and negatively correlated with desire for aesthetic improvements (r = -.40), which lends to the

content validation of this measure. The PWA measure and the Aesthetically Pleasing Visual Elements Questionnaire were significantly correlated at $r = .43$.

This study included a question that evaluated participant's desire for aesthetic improvements within their workplace. This question was in part included to help validate the two measures of workplace aesthetics. Desire for aesthetic improvements was found to correlate with these measures as expected, as it was significantly and negatively correlated with PWA ($r = -.40$) and PAE ($r = -.32$). Desire for aesthetic improvements was also found to be negatively correlated with job satisfaction ($r = -.26$), positively correlated with negative work attitudes ($r = .30$).

Next, it is worth noting need for resource recovery was significantly correlated with job satisfaction ($r = -.25$), negative work attitudes ($r = .38$), and several of the covariates such as sex, affect, and certain personality characteristics. Additionally, the correlation between need for resource recovery and desire for aesthetic improvements to one's workplace approached significance ($r = .16$, $p = .06$).

Finally, the two items designed to measure workers' perception of personal control over their workspace and work environment were notably correlated with many core study variables and had some of the largest correlations with the outcome variables. For example, control over workspace and work environment were significantly correlated with perceived workplace aesthetics: $r = .26$ and $r = .23$, respectively; prevalence of aesthetic elements: $r = .23$ and $r = .24$, respectively; job satisfaction: $r = .41$ and $r = .20$, respectively; and negative work attitudes: $r = -.42$ and $r = -.18$, respectively. Additionally, control over workspace and work environment were correlated with each other at $r = .51$, suggesting that these constructs are related yet distinct.

Table 1 Descriptive Statistics for all Study Variables

Variables	N	M	Mdn	SD	Min	Max
Age	136	38.88	35.50	12.65	20	75
Female	138	0.71	1.00	0.46	0	1
Education	138	6.09	7.00	1.41	2	8
Tenure	137	7.69	4.00	9.23	0	44
Environmental tenure	136	6.24	3.00	8.81	0	48
Work hours	138	42.20	41.00	10.12	5	70
Hours in environment	136	30.48	30.00	10.45	3	60
PANAS Negative	142	16.65	15.00	6.03	10	44
PANAS Positive	141	30.03	30.00	9.55	10	50
Extraversion	139	3.24	3.25	1.00	1	5
Agreeableness	139	4.10	4.00	0.73	1	5
Conscientiousness	139	3.53	3.50	0.88	1	5
Neuroticism	139	2.73	2.75	0.83	1	5
Openness	139	4.03	4.00	0.74	2	5
Honesty-Humility	139	3.94	4.00	0.76	2	5
WDQ: Work conditions	139	3.64	3.60	0.87	1	5
Control (workspace)	139	3.78	4.00	1.18	1	5
Control (work enviro.)	139	2.32	2.00	1.38	1	5
Aesthetic improvement	139	3.61	4.00	1.02	1	5
Utility of workspace	138	4.36	5.00	0.88	1	5
Perceived workplace aesthetics (PWA)	159	3.32	3.67	0.95	1	5
PWA Workspace	159	3.30	3.67	1.04	1	5
PWA Work environment	159	3.35	3.67	1.03	1	5
Prevalence of aesthetic elements (PAE)	170	3.27	3.00	2.76	0	9
Need for an Aesthetically Pleasing Workspace (NFAPW)	159	3.77	3.90	0.70	1	5
KIMS: Observing inside (OBSIN)	169	9.98	10.00	2.15	3	15
KIMS: Observing outside (OBSOUT)	169	11.27	11.00	2.17	3	15
KIMS: Describing (DES)	169	17.88	18.00	3.35	10	25
KIMS: Acting with awareness (AWA)	169	11.31	11.00	3.20	4	20
KIMS: Accepting without Judgement (AWJ)	169	17.73	18.00	5.05	5	25
Job satisfaction (JIG)	158	2.46	2.75	0.72	0	3
Negative work attitudes (TIS)	141	16.58	17.00	5.95	6	30
Need for Resource Recovery (NFRR)	150	2.98	2.92	0.78	1	5

Note. Female (0=Male, 1=Female)

Table 2 Correlation Matrix for All Study Variables

Variables	1.		2.		3.		4.		5.		6.		7.	
1. Age														
2. Female	-.23	**												
3. Education	.04		.12											
4. Tenure	.68	**	-.24	**	-.03									
5. Environmental Tenure	.40	**	-.06		-.05		.37	**						
6. Work hours	.25	**	-.18	*	.25	**	.22	*	.13					
7. Hours in environment	.22	*	.01		-.03		.18	*	.14		.40	**		
8. PANAS Negative	-.34	**	.15		-.05		-.27	**	-.15		-.08		-.19	*
9. PANAS Positive	.06		-.21	*	.15		.08		.03		.11		.10	
10. Extraversion	.02		.17	*	.02		-.06		.05		-.05		-.03	
11. Agreeableness	.03		.17	*	.05		-.11		-.12		-.09		-.04	
12. Conscientiousness	-.16		-.05		-.10		-.10		-.06		-.05		-.01	
13. Neuroticism	-.30	**	.22	*	-.11		-.26	**	-.10		-.10		-.09	
14. Openness	.04		-.02		.28	**	-.12		-.14		-.03		-.17	
15. Honesty-Humility	.16		-.03		.10		.09		-.03		.02		-.06	
16. WDQ: Work conditions	.06		.04		.11		.01		-.03		-.11		.06	
17. Control (workspace)	.27	**	-.05		.13		.25	**	.03		.06		.13	
18. Control (work enviro.)	.27	**	-.12		.03		.40	**	.18	*	-.01		.12	
19. Aesthetic improvement	.14		.09		-.06		.18	*	.09		-.08		-.05	
20. Utility of workspace	-.10		-.08		-.03		-.04		-.05		-.13		.20	*
21. PWA	.07		.11		-.04		.02		.04		-.04		.01	
22. PWA Workspace	.10		.07		-.05		.03		.06		-.02		.02	
23. PWA Work enviro.	.03		.14		-.02		.01		.02		-.06		.01	
24. PAE	.09		.20	*	.19	*	.05		.11		-.04		-.01	
25. NFAPW	-.13		.15		-.10		-.01		-.04		-.27	**	-.13	
26. OBSIN	-.08		.15		-.10		-.04		.04		-.13		-.06	
27. OBSOUT	-.06		.24	**	-.01		-.13		-.01		-.20	*	-.11	
28. DES	.08		-.03		.16		.06		-.02		.02		-.05	
29. AWA	.06		-.33	**	.01		.16		.07		.07		.04	
30. AWJ	.27	**	-.02		.12		.23	**	.09		.04		.04	
31. JIG	.14		-.08		.12		.11		.05		.08		-.02	
32. TIS	-.05		.02		-.03		-.02		.00		.08		-.01	
33. NFRR	-.11		.18	*	-.14		-.10		-.12		.09		.02	

Table 2, cont'd

	8.		9.		10.		11.		12.		13.		14.	
8. PANAS Negative	*.86*													
9. PANAS Positive	-.28		*.94*											
10. Extraversion	-.07		.15		*.85*									
11. Agreeableness	.02		.04		.12		*.77*							
12. Conscientiousness	-.02		.11		-.10		-.11		*.77*					
13. Neuroticism	.45	**	-.26	**	-.13		-.02		-.12		*.68*			
14. Openness	-.04		.14		.18	*	.37	**	-.09		-.07		*.72*	
15. Honesty-Humility	-.10		-.02		-.22	**	.17	*	.04		-.11		-.01	
16. WDQ: Work conditions	-.29	**	.05		.08		.12		.01		-.10		.06	
17. Control (workspace)	-.28	**	.17	*	.04		.09		-.06		-.28	**	.10	
18. Control (work enviro.)	-.24	**	.19	*	.19	*	-.01		-.14		-.11		.12	
19. Aesthetic improvement	.16		-.20	*	-.01		.06		.05		.16		-.11	
20. Utility of workspace	-.19	*	.13		.08		.04		.05		-.10		.04	
21. PWA	-.13		.29	**	.08		.18	*	.08		.02		.03	
22. PWA Workspace	-.13	**	.31	**	.07		.18	*	.09		.03		-.02	
23. PWA Work enviro.	-.11	**	.22	**	.07		.15		.06		.00		.08	
24. PAE	-.03	**	.17	*	.06		.22	*	.01		.02		.14	
25. NFAPW	.06	**	.04		-.09		.19	*	.22	*	.11		.09	
26. OBSIN	.16		.05		-.08		.18	*	.19	*	.07		.22	**
27. OBSOUT	.08		-.08		-.06		.18	*	.01		.10		.12	
28. DES	-.18	*	.19	*	.34	**	.17	*	.07		-.15		.22	*
29. AWA	-.05		.09		-.18	*	.04		.08		-.21	*	.10	
30. AWJ	-.39	**	.18	*	.28	**	-.04		.09		-.53	**	.12	
31. JIG	-.28	**	.46	**	.06		-.06		.04		-.17		.05	
32. TIS	.46	**	-.41	**	-.09		.00		.04		.27	**	-.02	
33. NFRR	.52	**	-.32	**	-.30	**	-.04		-.07		.39	**	-.13	

Table 2, cont'd

	15.		16.		17.		18.		19.		20.		21.	
15. Honesty-Humility	*.62*													
16. WDQ: Work conditions	.04		*.76*											
17. Control (workspace)	.20	*	.28	**										
18. Control (work enviro.)	.06		.25	**	.51	**								
19. Aesthetic improvement	-.12		-.16		-.25	**	-.11							
20. Utility of workspace	-.02		.24	**	.20	*	.15		-.16					
21. PWA	.09		.42	**	.26	**	.23	**	-.40	**	.08		*.95*	
22. PWA Workspace	.04		.36	**	.23	**	.21	*	-.31	**	.05		.92	**
23. PWA Work enviro.	.13		.40	**	.26	**	.22	**	-.43	**	.09		.92	**
24. PAE	.22	**	.37	**	.23	**	.24	**	-.32	**	-.01		.43	**
25. NFAPW	.02		.14		.01		.02		.21	*	-.03		.28	**
26. OBSIN	.08		.04		-.15		-.08		.12		-.15		.09	
27. OBSOUT	.24	**	.06		-.08		-.01		.07		-.09		-.01	
28. DES	.09		.08		.15		.24	**	.00		.07		.20	*
29. AWA	.06		.13		.07		.10		-.09		.01		.03	
30. AWJ	.04		.07		.19	*	.18	*	-.03		.02		.08	
31. JIG	.05		.22	*	.41	**	.20	*	-.26	**	.06		.48	**
32. TIS	-.03		-.27	**	-.42	**	-.18	*	.30	**	-.20	*	-.34	**
33. NFRR	-.01		-.28	**	-.14		-.14		.16		-.21	*	-.11	

Table 2, cont'd

	22.		23.		24.		25.		26.		27.		28.	
22. PWA Workspace	*.96*													
23. PWA Work enviro.	.68	**	*.97*											
24. PAE	.38	**	.40	**										
25. NFAPW	.28	**	.23	**	.08		*.92*							
26. OBSIN	.05		.11		.06		.34	**	*.66*					
27. OBSOUT	.01		-.03		.10		.29	**	.47	**	*.61*			
28. DES	.20	*	.17	*	.11		.04		.01		-.01		*.77*	
29. AWA	.00		.06		.09		-.01		-.03		-.10		-.01	
30. AWJ	.07		.07		.02		-.03		.01		-.03		.37	**
31. JIG	.44	**	.44	**	.23	**	.16		-.02		-.15		.19	*
32. TIS	-.35	**	-.27	**	-.25	**	-.02		.05		.07		-.15	
33. NFRR	-.12		-.08		-.07		.06		.06		.10		-.26	**

Table 2, cont'd

	29.		30.		31.		32.		33.
29. DES									
30. AWA	*.87*								
31. AWJ	.13		*.92*						
32. JIG	-.05		.06		*.85*				
33. TIS	.04		-.27	**	-.61	**	*.86*		
34. NFRR	-.09		-.44	**	-.25	**	.38	**	*.84*

Table 3 PROCESS Output: PAE Predicting Job Satisfaction

Variable	**Coeff**	**BootMean Coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	10.4302	10.5	9.6733	-5.7272	26.1473
PAE	1.6187	1.5621	1.5752	-0.9085	4.2375
NFAPW	1.6878	1.6198	1.478	-0.7039	4.1327
PAE X NFAPW	-0.2567	-0.2473	0.3052	-0.7635	0.2299
AWA	-0.2656	-0.2648	0.2839	-0.7215	0.2099
PAE X AWA	-0.0018	0.001	0.0566	-0.0922	0.0927
Age	0.0091	0.0122	0.0484	-0.0645	0.0946
Female	-0.4366	-0.4313	1.3598	-2.6532	1.8448
Education	-0.3412	-0.3421	0.3255	-0.8635	0.2086
Tenure	-0.0081	-0.0117	0.0654	-0.121	0.0935
Environmental Tenure	-0.0101	-0.0131	0.0488	-0.09	0.0701
Work hours	0.0901	0.0929	0.0627	-0.0101	0.1949
Hours in enviro.	-0.0836	-0.0791	0.0558	-0.1695	0.0143
PANAS Negative	-0.1158	-0.1113	0.1074	-0.2878	0.0661
PANAS Positive	0.2074	0.2087	0.0574	0.114	0.3018
Extraversion	-0.1221	-0.1818	0.5559	-1.1032	0.7267
Agreeableness	-1.1107	-1.0497	0.7107	-2.2394	0.1079
Conscientiousness	-0.0384	-0.0905	0.5342	-0.9662	0.7814
Neuroticism	0.1358	0.1448	0.5804	-0.8029	1.1045
Openness	0.0115	0.0003	0.7971	-1.2774	1.3308
Honesty-Humility	-0.4013	-0.4553	0.7973	-1.7675	0.8593
WDQ: Work conditions	0.303	0.3537	0.7029	-0.7605	1.543
Control (workspace)	1.5799	1.5333	0.4672	0.7731	2.3062
Control (work enviro.)	-0.4272	-0.4162	0.3981	-1.0766	0.2437
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4248	22.6753	3.4675	23	108	0.0000

Table 4 PROCESS Output: PAE Predicting Negative Work Attitudes

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-8.1695	-7.7322	8.4895	-21.3152	6.4052
PAE	3.36	3.2326	1.4848	0.7516	5.6577
NFAPW	1.8119	1.7361	1.3418	-0.6259	3.7821
PAE X NFAPW	-0.4944	-0.4715	0.3152	-0.9915	0.0521
AWA	0.7674	0.7564	0.2381	0.3506	1.1329
PAE X AWA	-0.1609	-0.1589	0.0546	-0.2483	-0.0694
Age	0.0172	0.018	0.0512	-0.0668	0.102
Female	-0.1927	-0.2682	1.1595	-2.2124	1.6033
Education	0.1202	0.1389	0.3768	-0.4881	0.7521
Tenure	0.0656	0.0618	0.0686	-0.0506	0.1748
Environmental Tenure	0.0082	0.0139	0.0561	-0.0713	0.111
Work hours	0.0684	0.0682	0.0546	-0.0205	0.1584
Hours in environment	0.0203	0.0223	0.0496	-0.0572	0.1048
PANAS Negative	0.3163	0.3169	0.0914	0.1657	0.4642
PANAS Positive	-0.1668	-0.163	0.0523	-0.2492	-0.0777
Extraversion	0.1321	0.1457	0.5431	-0.717	1.0495
Agreeableness	0.5978	0.5507	0.7293	-0.662	1.7262
Conscientiousness	0.8668	0.8687	0.5433	-0.0314	1.7661
Neuroticism	0.7038	0.7515	0.6297	-0.2923	1.7975
Openness	0.2804	0.261	0.7201	-0.8972	1.4821
Honesty-Humility	0.3986	0.3691	0.6162	-0.6148	1.4052
WDQ: Work conditions	0.0018	0.0076	0.5631	-0.9485	0.9018
Control (workspace)	-1.8866	-1.8994	0.4128	-2.5817	-1.2328
Control (work enviro.)	0.7164	0.7205	0.4519	-0.0121	1.4781
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.5216	21.0104	5.119	23	108	0.0000

Table 5 PROCESS Output: PAE Predicting Recovery Needs

Variable	**Coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	1.7094	1.7678	1.176	-0.1059	3.7354
PAE	0.1792	0.1436	0.2179	-0.2224	0.4966
NFAPW	0.2412	0.227	0.1957	-0.115	0.5302
PAE X NFAPW	-0.0566	-0.0508	0.0423	-0.1184	0.0208
AWA	-0.0129	-0.0148	0.0415	-0.0827	0.0547
PAE X AWA	0.0012	0.002	0.0084	-0.0118	0.0157
Age	0.0065	0.0068	0.0074	-0.0052	0.019
Female	0.2862	0.2768	0.1551	0.0206	0.5294
Education	-0.1084	-0.1048	0.0449	-0.1787	-0.031
Tenure	0.0011	0.0004	0.0103	-0.0167	0.0172
Environmental Tenure	-0.0104	-0.0107	0.007	-0.0214	0.0012
Work hours	0.0184	0.0185	0.0067	0.0079	0.0297
Hours in environment	-0.0009	-0.0003	0.0063	-0.0108	0.01
PANAS Negative	0.0574	0.0591	0.0121	0.0406	0.0797
PANAS Positive	-0.0086	-0.0083	0.0069	-0.0194	0.0032
Extraversion	-0.1684	-0.1633	0.0718	-0.28	-0.0439
Agreeableness	-0.0536	-0.0708	0.1043	-0.2474	0.0974
Conscientiousness	-0.0438	-0.048	0.0669	-0.1577	0.0625
Neuroticism	0.1077	0.1008	0.0796	-0.0303	0.231
Openness	-0.0066	-0.0056	0.1071	-0.1843	0.1689
Honesty-Humility	-0.0222	-0.0098	0.0959	-0.1661	0.1474
WDQ: Work conditions	-0.0289	-0.0369	0.0873	-0.1847	0.1021
Control (workspace)	0.051	0.0525	0.0669	-0.0591	0.1617
Control (work enviro.)	0.0343	0.0391	0.0581	-0.0568	0.1354
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4965	0.3625	4.631	23	108	0.0000

Table 6 PROCESS Output: PWA Predicting Job Satisfaction

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	10.3337	10.6388	16.7995	-17.3	37.4532
PAE	2.1035	1.9786	4.1292	-4.5143	8.97
NFAPW	0.9313	0.7945	3.1281	-4.2473	5.9976
PWA X NFAPW	-0.1571	-0.1158	0.8499	-1.5112	1.2441
AWA	-0.4436	-0.4361	0.6086	-1.4441	0.5633
PWA X AWA	0.0529	0.0524	0.1639	-0.219	0.3205
Age	-0.0067	-0.005	0.0472	-0.0809	0.0739
Female	-0.485	-0.5138	1.241	-2.5232	1.5683
Education	-0.0035	0.0035	0.3503	-0.5568	0.5859
Tenure	0.0216	0.0159	0.0701	-0.1009	0.1267
Environmental Tenure	0.006	0.0022	0.0478	-0.0759	0.0778
Work hours	0.0616	0.0628	0.061	-0.0369	0.1627
Hours in environment	-0.066	-0.0606	0.0576	-0.1544	0.0353
PANAS Negative	-0.0959	-0.0869	0.1023	-0.254	0.0818
PANAS Positive	0.1752	0.1776	0.0572	0.0839	0.2718
Extraversion	-0.1479	-0.2025	0.4896	-1.0246	0.5956
Agreeableness	-1.2586	-1.2718	0.6543	-2.3642	-0.1915
Conscientiousness	-0.1063	-0.1611	0.5387	-1.0325	0.7348
Neuroticism	-0.0184	-0.022	0.5572	-0.9202	0.921
Openness	0.426	0.4416	0.7573	-0.7523	1.7286
Honesty-Humility	-0.0389	-0.0934	0.7461	-1.326	1.1262
WDQ: Work conditions	0.0415	0.0934	0.657	-0.9409	1.2067
Control (workspace)	1.4558	1.4264	0.4591	0.6751	2.1664
Control (work enviro.)	-0.5269	-0.4958	0.3754	-1.1014	0.1337
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4533	21.2639	3.8941	23	108	0

Table 7 PROCESS Output: PWA Predicting Negative Work Attitudes

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-11.5442	-12.2175	16.2011	-38.727	14.4657
PWA	4.3797	4.6447	4.1515	-2.3291	11.3513
NFAPW	2.67	2.8826	3.03	-2.0885	7.8364
PWA X NFAPW	-0.7638	-0.8257	0.86	-2.2334	0.5733
AWA	0.8848	0.8999	0.5526	-0.0436	1.7565
PWA X AWA	-0.2327	-0.2371	0.1628	-0.4935	0.0363
Age	0.0434	0.0408	0.052	-0.044	0.1265
Female	-0.1286	-0.2433	1.2661	-2.3613	1.8188
Education	0.1084	0.0945	0.3588	-0.4864	0.6735
Tenure	0.0354	0.0356	0.078	-0.091	0.1638
Environmental Tenure	-0.0108	-0.0024	0.0721	-0.1111	0.12
Work hours	0.0781	0.0791	0.0581	-0.0142	0.1773
Hours in environment	0.0341	0.0361	0.0556	-0.0564	0.1281
PANAS Negative	0.3362	0.3328	0.096	0.1719	0.4846
PANAS Positive	-0.1591	-0.1543	0.0563	-0.2469	-0.0638
Extraversion	0.2119	0.2395	0.5574	-0.6639	1.1606
Agreeableness	0.6064	0.5443	0.7358	-0.6779	1.7343
Conscientiousness	0.9014	0.9232	0.5553	0.0061	1.8218
Neuroticism	0.6886	0.7659	0.6388	-0.2798	1.8179
Openness	0.0672	0.0452	0.7573	-1.1605	1.3245
Honesty-Humility	0.4394	0.3811	0.6223	-0.6224	1.4279
WDQ: Work conditions	-0.1533	-0.1093	0.6396	-1.1671	0.9182
Control (workspace)	-1.8211	-1.8555	0.4825	-2.6539	-1.0794
Control (work enviro.)	0.6257	0.6202	0.4245	-0.0742	1.319
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.486	22.5725	4.4398	23	108	0

Table 8 PROCESS Output: PWA Predicting Recovery Needs

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	3.3023	3.14	2.1188	-0.4178	6.4669
PWA	-0.2098	-0.1586	0.5541	-1.0217	0.7677
NFAPW	0.0594	0.1074	0.4021	-0.5283	0.7864
PWA X NFAPW	-0.0091	-0.0208	0.1162	-0.2155	0.1626
AWA	-0.0742	-0.0724	0.0707	-0.1901	0.0437
PWA X AWA	0.0208	0.0203	0.0205	-0.0129	0.0544
Age	0.0081	0.0081	0.0069	-0.0032	0.0195
Female	0.2671	0.2561	0.1611	-0.004	0.5208
Education	-0.0993	-0.1026	0.0437	-0.1746	-0.0308
Tenure	-0.0008	-0.0015	0.0103	-0.0184	0.0155
Environmental Tenure	-0.0111	-0.0116	0.007	-0.0225	0
Work hours	0.0167	0.017	0.0064	0.0068	0.0275
Hours in environment	0.001	0.0012	0.0061	-0.0089	0.0111
PANAS Negative	0.0568	0.0577	0.012	0.0391	0.0781
PANAS Positive	-0.0107	-0.0104	0.0077	-0.023	0.0023
Extraversion	-0.1716	-0.1644	0.0732	-0.2843	-0.0423
Agreeableness	-0.0644	-0.0817	0.108	-0.2595	0.0958
Conscientiousness	-0.0475	-0.0491	0.0684	-0.1615	0.0627
Neuroticism	0.0904	0.0876	0.0779	-0.0388	0.2158
Openness	-0.0009	-0.0022	0.1113	-0.1868	0.1794
Honesty-Humility	-0.0313	-0.0221	0.095	-0.1803	0.1314
WDQ: Work conditions	-0.0538	-0.0621	0.0935	-0.2206	0.0879
Control (workspace)	0.0458	0.0465	0.0667	-0.0666	0.1544
Control (work enviro.)	0.0141	0.0188	0.0566	-0.0749	0.1129
		3.14	2.1188	-0.4178	6.4669
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4868	0.3694	4.4544	23	108	0

Hypothesis Tests

All hypotheses were tested using the PROCESS tool noted earlier in this section. Specifically, all hypotheses were tested using PROCESS Model 2 with a 90% confidence interval to provide a suitable estimate for the hypothesized one-tailed or directional effects. In these analyses, the following covariates were also included, to ensure that the effect estimates of interest were over and above the influence of these other known and rational impacts: Age, sex, education, tenure, tenure within the work environment, hours worked in a week, hours in the main work environment a week, general negative affect, general positive affect, extraversion, agreeableness, contentiousness, neuroticism, openness, honesty-humility, work conditions, control over one's workspace, and control over one's work environment. The hypotheses were also tested without covariates in order to examine the relationships without these variables, however unless otherwise noted, all results presented in this section are over and above the full set of covariates.

Hypothesis 1 was that the relationship between perceived workplace aesthetics and organizational and individual outcomes is moderated by an individual's need for an aesthetically pleasing workplace. This hypothesis was not supported, as NFAPW was not found to significantly moderate the relationship between perceived workplace aesthetics and (a) job satisfaction (b = -.1571; Table 6), (b) negative work attitudes (b = -.7638*;* Table 7), or (c) resource recovery (b = -.0091; Table 8).

Hypothesis 2 was that the relationship between perceived workplace aesthetics and organizational and individual outcomes is moderated by an individual's mindfulness levels. Mindfulness was not found to significantly moderate the relationship between perceived workplace aesthetics and (a) job satisfaction (b = -.0529; Table 6). Mindfulness *was* found to

significantly moderate the relationship between perceived workplace aesthetics and (b) negative work attitudes (*b* = -.2327; Table 7), such that for individuals high on general mindfulness who were in work environments that they perceived has aesthetically pleasing had lower levels of negative work attitudes. This effect was not found when these analyses were run without the covariates. Finally, although mindfulness was not found to moderate the relationship between perceived workplace aesthetics and (c) resource recovery (*b* = -.0208; Table 8) with covariates, once covariates were removed, mindfulness approached moderation for this relationship (*b* = .0365, CI 90% [-.0034, .0742]). However, this relationship was not in the predicted direction, as the degree to which the workplace was perceived as aesthetically pleasing impacted resource recovery needs, but only for those low (not high) on mindfulness.

Hypothesis 3 was that the relationship between prevalence of aesthetic elements and organizational and individual outcomes is moderated by an individual's need for an aesthetically pleasing workplace. Hypothesis 3a was not supported, as NFAPW was not found to significantly moderate the relationship between perceived workplace aesthetics and (a) job satisfaction (*b* = -.2567; Table 3). However, hypothesis 3b was supported, as NFAPW did moderate the relationship between prevalence of aesthetic elements and negative work attitudes (*b* = -.4944; Table 4), such that negative work attitudes were highest for individuals high on NFAPW in environments with fewer aesthetically pleasing elements. Finally, hypothesis 3c was that NFAPW would moderate the relationship between prevalence of aesthetic elements and resource recovery needs. Although this interaction approached significance, the 90% CI around the observed estimate did not exclude 0 (*b* = -.0566; Table 5). However, NFAPW was found to significantly moderate this relationship when all covariates were removed (*b* = -.0668, CI 90%

[-.1224, -.0039]), such that individuals high on NFAPW in workplaces with more aesthetically pleasing elements had the lowest levels of resource recovery needs.

Hypothesis 4 was that relationship between prevalence of aesthetic elements and organizational and individual outcomes is moderated by an individual's mindfulness levels. Hypothesis 4a was not supported, as prevalence of aesthetic elements was not found to significantly moderate the relationship between perceived workplace aesthetics and (a) job satisfaction (b = -.0018; Table 3). However, hypothesis 4b was supported, as mindfulness levels were found to be a significant moderator of the relationship between prevalence of aesthetic elements and (b) negative work attitudes (b = -.1609; Table 4), such that for individuals high on general mindfulness who were in environments that contained fewer aesthetic elements had higher levels of negative work attitudes. No moderation was found for hypothesis 4c, resource recovery (b = .0012; Table 5).

Qualitative Findings

Included in this study were additionally several forms of qualitative data. The two open response survey items were coded by multiple coders and analyzed for content similarity, using thematic coding techniques. Results from the qualitative analyses are summarized below, and are also discussed more in-depth in relevant sections of the Discussion and Implications section.

In the first open response question, participants were asked to submit any other aesthetic elements or features that might contribute to a visually attractive workplace. This question was included in order to evaluate if any other elements may need to be added to the Aesthetically Pleasing Visual Elements Questionnaire. After coding, responses to this question were coded into 13 elements that were not included in the original list of elements. The most frequently

reported new visual elements were lamps/aesthetic lighting, personally meaningful items, and other decorations. Interestingly, several non-visual elements were also reported very frequently, including functionality, pleasing audio sounds, and ergonomic work arrangements.

In the second open response question participants were asked to describe what they find visually attractive or unattractive about their workspace, and to include any specific elements or objects that they feel may affect the visual aesthetics/attractiveness of their workspace. The most frequently recorded responses were related to presence of or lack of windows, natural light, and adequate lighting. The next most commonly reported theme was the workspace being (or not being) cluttered or dirty as an attribute that subtracts to or ads to the visual aesthetics of a workspace.

The photos submitted in phase two of the study was additionally coded by a trained coder. The coder used the 12 elements from the aesthetically pleasing visual elements questionnaire as well as additional elements that were found to be common from the open response coding to mark if each element was present in each of the three photos submitted by participants. The visual elements most common in these photos were decorations, personally meaningful items, and colorful accent. The least common elements were plants (live or artificial) and windows with a nature view. These findings align well with the frequency of visual elements that participants reported, suggesting that each may be a valid way of reporting visual element frequency within the workplace.

CHAPTER IV

DISCUSSION AND CONCLUSION

The purpose of the present study was to determine whether aesthetic elements in a workspace or work environment matter to employees and can affect workers' attitudes and work-related recovery needs. Also examined, was whether this effect is moderated by the extent to which employees are generally mindful and have a need for an aesthetically pleasing workspace.

Probing the Statistically Significant Hypothesis Tests

As discussed above, several of our findings emerged with clear statistical support. First, hypothesis 2b, that an individual's mindfulness levels would moderate the relationship between perceived workplace aesthetics and general negative work attitudes (TIS), was significant (*b* = -.2327; Table 7). This effect is represented in Figure 2. It is evident that individuals who are high on mindfulness and who are in work environments that they perceive to be aesthetically pleasing have lower levels of negative work attitudes than those who are high on mindfulness and in work environments that are perceived as less aesthetically pleasing. The magnitude of this effect grows stronger as individual's mindfulness levels increase. This suggests that the degree to which a workplace is aesthetically pleasing may have significantly different impacts on individuals based on their mindfulness levels.

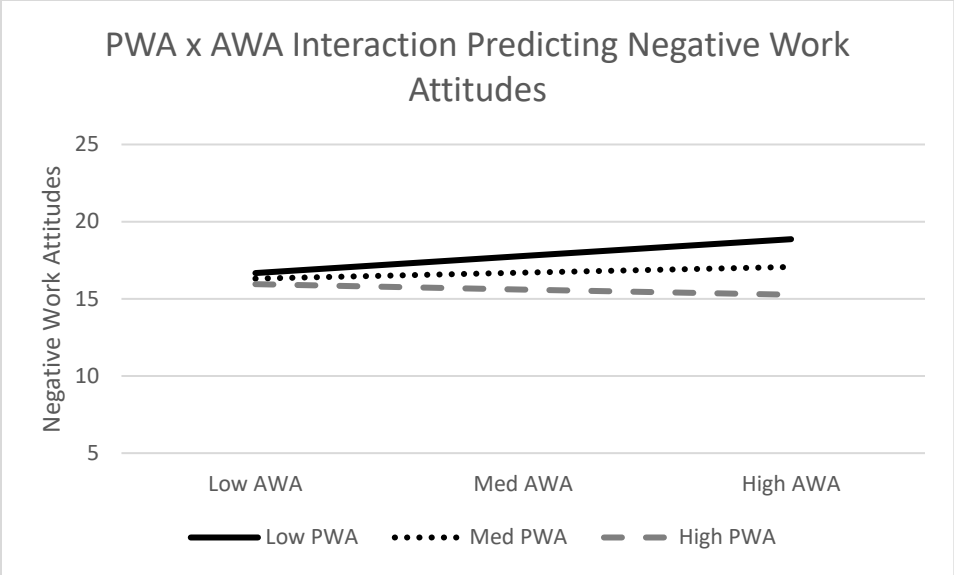

Figure 2 Moderating effects of general mindfulness on the relationship between perceived workplace aesthetics and negative work attitudes

Second, hypothesis 3b was supported, which was that an individual's need for an aesthetically pleasing workplace would moderate the relationship between prevalence of aesthetic elements and generalized negative work attitudes (b = -.4944; Table 4). As shown in Figure 3, it appears that individuals who have NFAPW and who are in work environments that have more aesthetically pleasing elements present, report lower rates of negative work attitudes than those who are high on NFAPW and in work environments that lack aesthetically pleasing elements. This implies that prevalence of aesthetic elements may have significantly different impacts on individuals based on their NFAPW, with those high on NFAPW being the most impacted by the presence or lack of aesthetically pleasing elements.

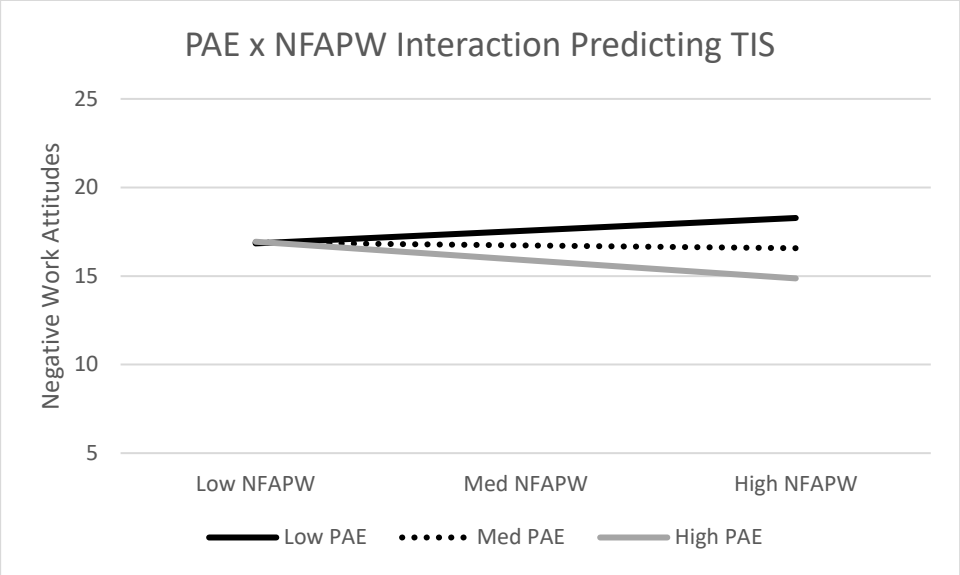

Figure 3 Moderating effects of need for an aesthetically pleasing workplace on the relationship between prevalence of aesthetic elements and negative work attitudes

Third, hypothesis 4b was found to have clear statistical support. Specifically, mindfulness levels were found to be a significant moderator of the relationship between prevalence of aesthetic elements and negative work attitudes (b = -.1609; Table 4). This effect is illustrated in Figure 2. The nature of this effect is that negative work attitudes were highest for individuals with high general mindfulness in environments that contained few aesthetic elements, and lowest for individuals with low mindfulness in environments that contained few aesthetic elements. The lowest level of negative work attitudes was observed for individuals who were high in mindfulness and in work environments with higher levels of aesthetic elements. The implication of this finding is that very aesthetically pleasing or displeasing workplaces are likely to have very different effects on individuals depending on their mindfulness levels.

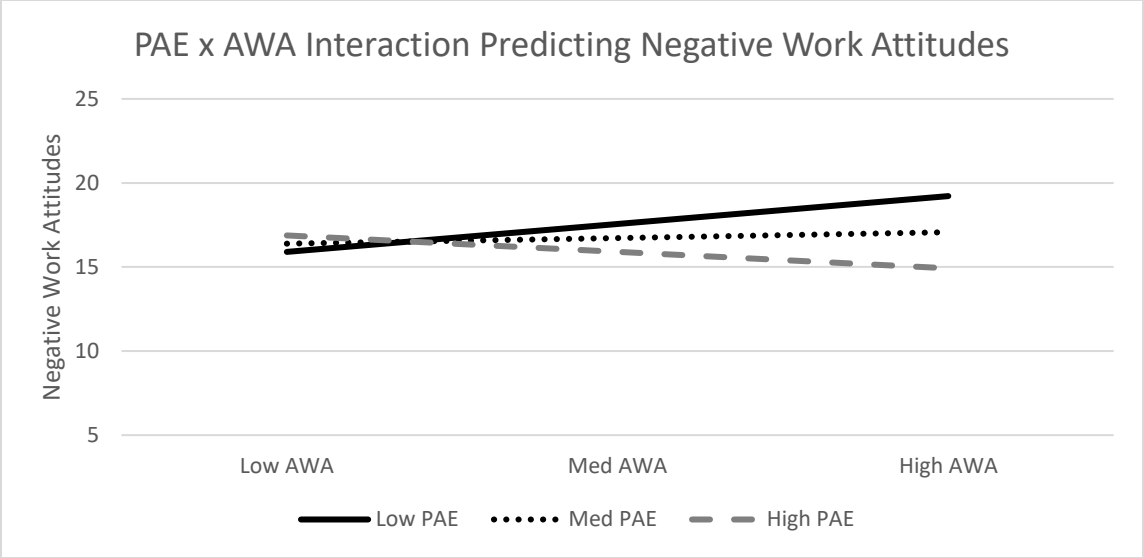

Figure 4 Moderating effects of general mindfulness on the relationship between prevalence of aesthetic elements and negative work attitudes

The Impact of Removing Covariates on Analysis Involving Resource Recovery Needs

In addition to our statistically significant findings pertaining to the job attitude outcomes when including the many covariates included in this study, a couple of hypothesized moderation effects were found to be significant without these covariates. As mentioned earlier, all hypotheses were tested both with and without covariates, and this differential pattern of findings may indicate that the relatively exhaustive set of covariates included in the present study may have obscured meaningful findings from emerging if the covariates were excluded. Removing the covariates from the analyses had the greatest impact on the findings related to resource recovery needs.

Specifically, once covariates were removed, hypothesis 2c, that mindfulness would moderate the relationship between perceived workplace aesthetics and resource recovery needs, approached significance (b = .0365, 90% CI [-.0034, .0742]). However, as pictured in Figure 5,

this relationship was not in the predicted direction, as for those low on mindfulness the degree the workplace was perceived as aesthetically pleasing impacted resource recovery needs, but there was no impact for those high on mindfulness.

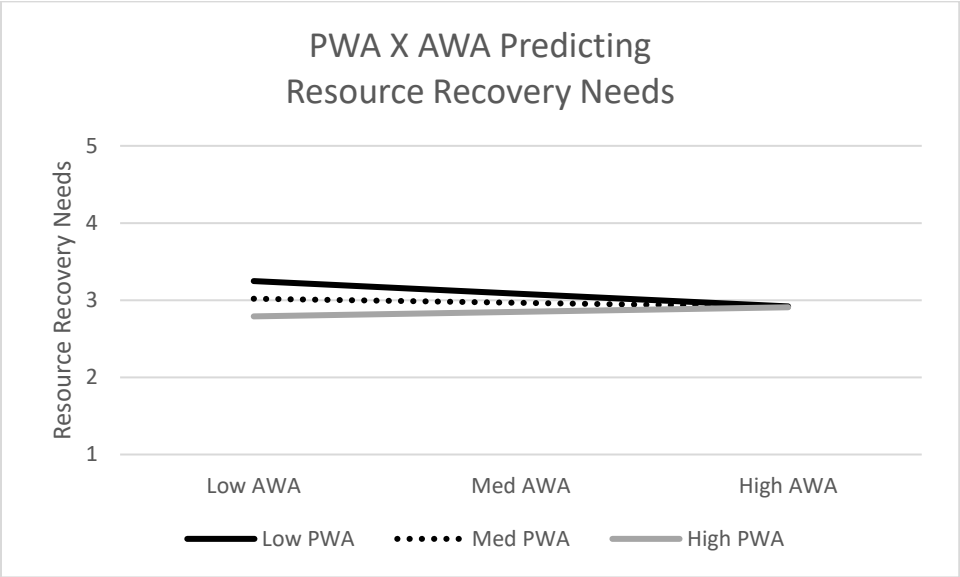

Figure 5 Moderating effects of general mindfulness on the relationship between perceived workplace aesthetics and resource recovery needs

It may seem counterintuitive to find that the aesthetics of a workplace have less of an impact on individuals high on the mindfulness dimension acting with awareness. However, acting with awareness refers to the ability to focus one's complete awareness onto a specific stimulus with one's undivided attention. Thus, it may be that those with higher levels of acting with awareness tend to focus their attention so much on the work at hand that they fail to notice the environment around them as often as those with lower acting with awareness, and thus the workplace aesthetics have less of an impact. Additionally, it is understandable that this mindfulness dimension that is specific to being able to focus one's attention has a different

relationship with resource recovery needs, which is also related to focusing attention onto stimuli, then it does with other more attitudinal outcomes such as negative work attitudes and job satisfaction. Future research should continue to examine the unique relationship between acting with awareness and resource recovery needs.

Similarly, hypothesis 3c was that an individual's NFAPW would moderate the relationship between prevalence of aesthetic elements and resource recovery needs. This relationship was significant once covariates were removed (*b* = -.0668, CI 90% [-.1224, -.0039]). As shown in Figure 6, it appears that those with high levels of NFAPW in environments with more aesthetically pleasing elements have the lowest levels of resource recovery needs, while those high on NFAPW in environments with fewer aesthetically pleasing elements have higher resource recovery needs. In contrast, there appears to be little impact for those low on NFAPW regardless of the amount of aesthetically pleasing elements in the workplace.

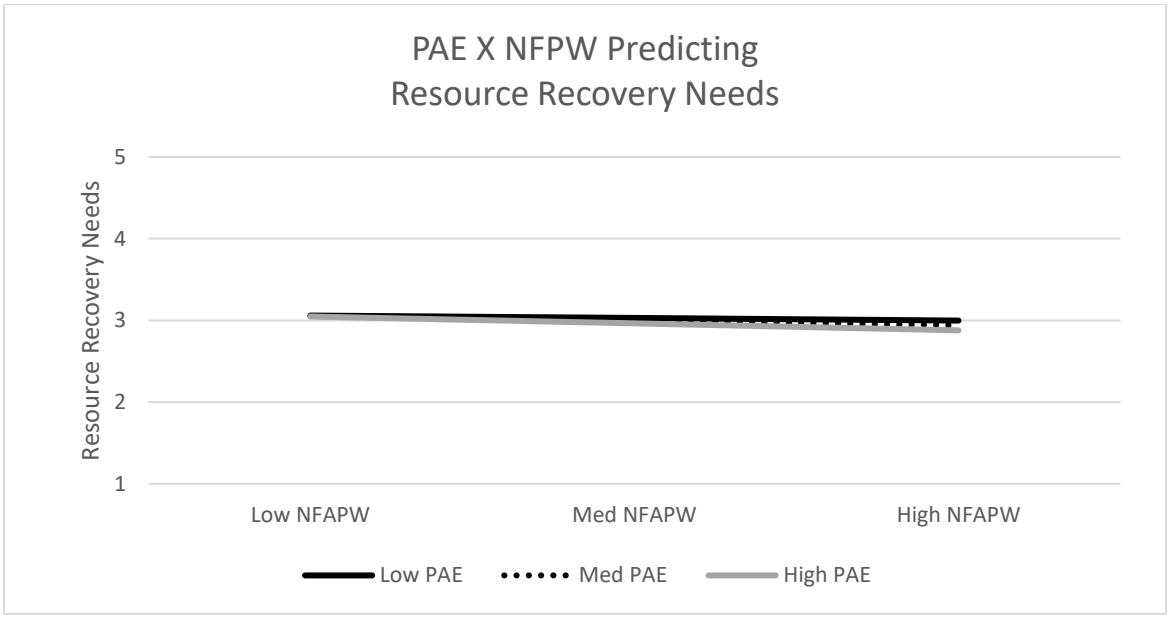

Figure 6 Moderating effects of need for an aesthetically pleasing workplace on the relationship between prevalence of aesthetic elements and resource recovery needs

It is interesting that only the ability to predict resource recovery needs was positively impacted by removing covariates. Thus, future research may wish to further examine which covariates is relevant to control for when examining need for resource recovery compared to other more attitudinal outcomes such as negative work attitudes and job satisfaction. Interestingly, several covariates tended to be significant in models predicting resource recovery needs that were not significant in models predicting negative work attitudes or job satisfaction. For example, gender, education, and work hours were all significant predictors of resource recovery needs, while they tended to not be significant predictors of the other outcomes.

Overall Models

It is worth noting that from the testing of the hypotheses, several of the overall statistical models that included the measure of workplace aesthetics (PAE or PWA), NFAPW, and Acting with Awareness were significant predictors of certain outcome variables even when all covariates were removed. When examining the models that did not include any of the covariates, the full model with prevalence of aesthetically pleasing elements was found to significantly predict (a) job satisfaction: 8.05% of the variance (R^2 = .080, F(5,152) = 2.6624 , p = .02), and (b) negative work attitudes: 14.84% of the variance (R^2 = .1484, F(5,135) = 4.706 , p = .0005). The full model with prevalence of aesthetic elements did not significantly predict (c) need for resource recovery: 3.77% of the variance (R^2 = .0377, F(5,144) = 1.1297 , p = .3473). In comparison, the full model with perceived workplace aesthetics was found to significantly predict (a) job satisfaction: 23.18% of the variance (R^2 = .2318 F(5,152) = 9.1751 , p = .0000), and (b) negative work attitudes: 13.7% of the variance (R^2 = .1370, F(5,135) = 4.2855 , p =

.0012). The full model for perceived workplace aesthetics did not significantly predict (c) need for resource recovery: 5.04% of the variance (R^2 = .0504, F(23,144) = 4.4544, p = .1842).

Research Questions

As this study explored several relatively new concepts and constructs, five research questions were evaluated in addition to the above described hypotheses. Results and analyses of each question are discussed below.

Research Question 1

As described above, the KIMS was used as it contains five different dimensions of mindfulness, which may affect the relationship between the independent variables and dependent variables in different ways. Thus, analyses related to the first research question evaluated if different dimensions of mindfulness affect the relationship between the independent variables and dependent variables in different ways. This question was evaluated using the same PROCESS tool and models used to test the core hypotheses, except that in place of the AWA dimension of the KIMS, all other mindfulness dimensions from this measure were considered, one at a time. A confidence interval of .95 was used to evaluate the statistical significance of these results, except in the case of tests that excluded all covariates, in which case a confidence interval of .90 was used. See Appendix D for PROCESS output tables.

Out of these tests, the findings with the KIMS variable Observing Outside—the tendency to openly monitor one's surroundings and to generally observe external stimuli—were particularly interesting. First, Observing Outside moderated the relationship between PWA and job satisfaction attitudes (b = .6181, 95% CI [.1532, 1.2177]). The nature of this effect, shown in

Figure 7, is that job satisfaction was highest for individuals with high levels of the mindfulness dimension Observing Outside in environments that they perceived as highly aesthetically pleasing, and lowest for individuals with high Observing Outside mindfulness in non-aesthetically pleasing environments.

It is relatively unsurprising to find that the tendency to be aware of one's environment would increase or decrease the effect that the aesthetics of a workplace has on job satisfaction. The implication of this finding is that very aesthetically pleasing or displeasing workplaces are likely to have very different effects on individuals depending on their observing outside mindfulness levels.

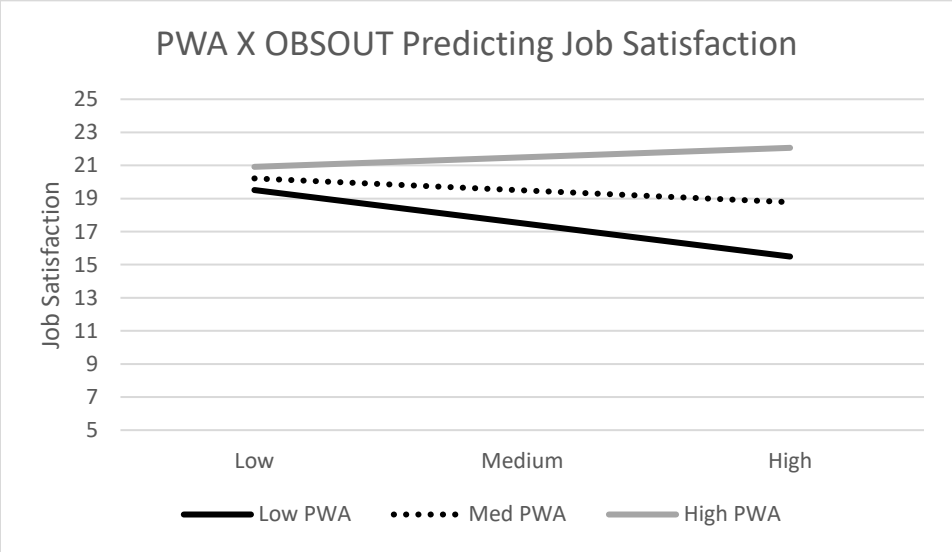

Figure 7 Moderating effects of the mindfulness dimension Observing Outside on the relationship between perceived workplace aesthetics and job satisfaction

Additionally, observing outside was found to moderate the relationship between perceived workplace aesthetics and negative work attitudes, but only when all covariates were removed from the analysis (b = -.5457, 90% CI [-1.0534, -.1191]). In this model, NFAPW was

not a significant moderator. As seen in Figure 8, this effect was such that individuals in workplaces with low PWA had higher levels of negative work attitudes than individuals in workplaces with high PWA. This effect was strongest for individuals with high levels of observing outside.

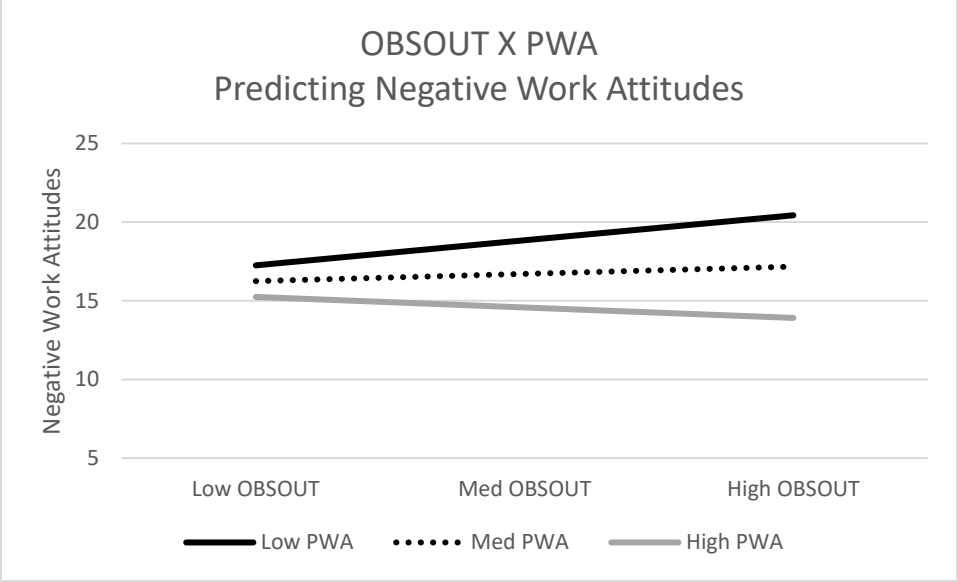

Figure 8 Moderating effects of the mindfulness dimension Observing Outside on the relationship between perceived workplace aesthetics and negative work attitudes

Finally, one other interaction approached significance and likely would have reached significance with data from a larger sample (and therefore an analysis with greater statistical power). Observing Outside's moderating effect on the relationship between prevalence of aesthetic elements and job satisfaction was close to significance, as the confidence interval range nearly excluded zero (b = .1584, CI 95% [-0.0335, .398]). In this model, need for an aesthetically pleasing workplace also approached a significant moderation effect (b = -.5353, CI 95%

[-1.2511, .1063]). This effect is represented in Figure 9, where it is evident that individuals who had high levels of Observing Outside had the lowest levels of job satisfaction when they were in environments with fewer aesthetically pleasing elements and were the most satisfied when they were in environments with many aesthetically pleasing elements. In contrast, for those low on Observing Outside, there was much less of an impact on job satisfaction depending on the prevalence of aesthetic elements within their workplace. Interestingly, the magnitude of this effect changes depending on individuals NFAPW, such that the impact of observing outside appears to be strongest for those with low need for an aesthetically pleasing workplace but not as strong for those high on need for an aesthetically pleasing workplace. It is additionally interesting that this effect tends to manifest most for those in environments with low PAE, while the effect of environments with low PAE tends to remain stable across levels of NFAPW and Observing Outside.

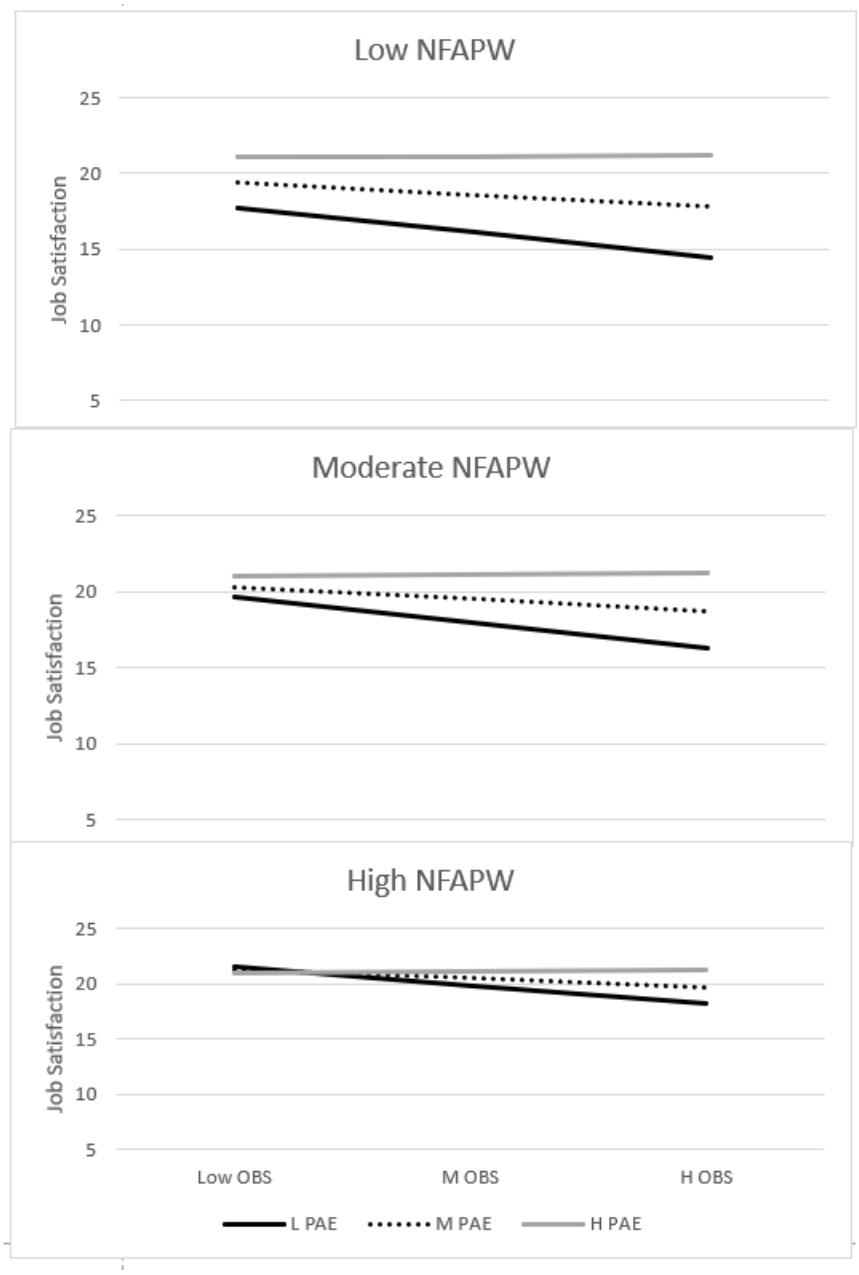

Figure 9 Moderating effects of the mindfulness dimension Observing Outside and NFAPW on the relationship between prevalence of aesthetic elements and job satisfaction

In addition to the above described effects, the KIMS dimension Describing (DES) approached a significant moderation effect on the relationship between PWA and need for resource recovery (*b* = -.0405, CI 95% [-.0805, .0094]). This dimension refers to the ability to describe, label, and note observed phenomenon by applying words in a nonjudgmental way (Baer et al., 2004). Interestingly, resource recovery needs were nearly equally high in individuals who had high levels of DES who were in environments with low perceived workplace aesthetics as they were for individuals with low DES in environments with high perceived workplace aesthetics. The reverse was true for low levels of resource recovery needs. The implication of this finding is that very aesthetically pleasing or displeasing workplaces are likely to have very different effects on individuals depending on their Describing mindfulness levels. This effect is shown in Figure 10.

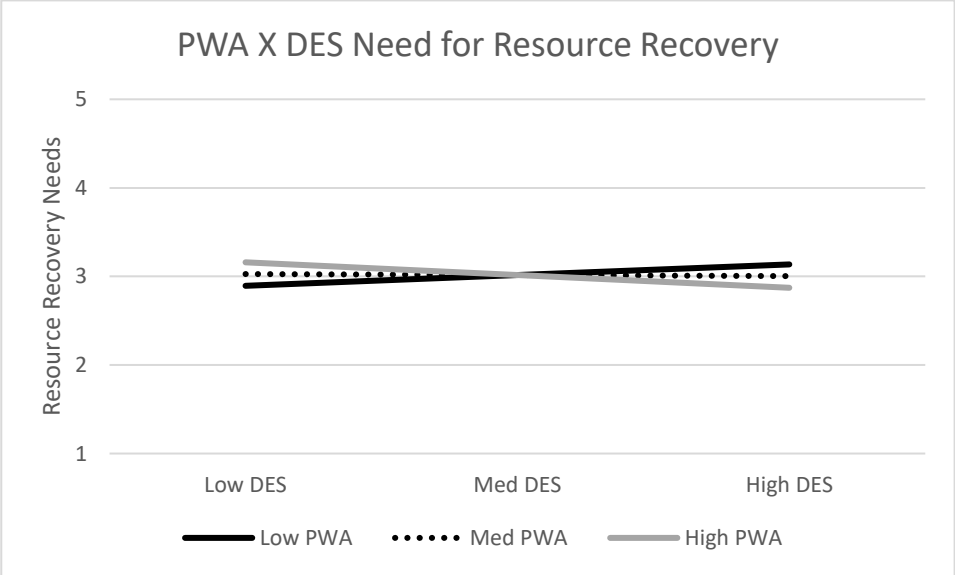

Figure 10 Moderating effects of the mindfulness dimension Describing on the relationship between perceived workplace aesthetics and need for resource recovery

Together, these observed effects suggest that different types of mindfulness may moderate the relationship between workplace aesthetics and individual outcomes in different ways. Additionally, it appears that different mindfulness dimension may tend to affect different outcomes more strongly. Future researchers in this area should consider continuing to examine the impact of individuals high on different mindfulness dimensions.

Research Question 2

An additional purpose of this study was to design and test a new scale to measure need for an aesthetically pleasing workplace. Need for an aesthetically pleasing workplace (NFAPW) was evaluated using ten items that were designed for this study. This scale showed high internal consistency ($\alpha = .92$). Mean scores for each participant were computed. Average NFAPW was 3.77 out of 5, ($SD = .70$). Need for an aesthetically pleasing workplace was non-normally distributed, with a slight skewness of -.836 ($SE = 0.19$). In other words, participants tended to use the higher end of the scale (i.e., towards agreement) when answering these items. Despite this slight skewness, this scale should be tested in a substantially larger sample before considering revising the items, as it is likely that a larger sample would result in greater variability in responses. It is possible that the participants recruited for this study tended to have higher than average levels of NFAPW, as the sample was not randomly selected and was rather homogeneous (i.e., mostly female, mostly office workers, higher than average levels of agreeableness and job satisfaction).

It is interesting to note that this scale did not show any significant correlation with many of the demographic variables measured in this study, including: age, sex, education, organizational tenure, and several personality variables. However, this scale was significantly

correlated with negative affect (r =.08), agreeableness (r = .19), conscientiousness (r = .22), and two of the KIMS mindfulness dimensions (observing inside, r = .34; observing outside, r = .29). Interestingly, there was a moderate, negative correlation with need for an aesthetically pleasing workplace and weekly work hours (r = -.27).

These findings have several implications. First, it appears that NFAPW is a potentially meaningful and valid construct that exists on a continuum. Additionally, in this sample at least, nearly half of respondents (45.9%) reported high NFAPW, as defined by having a mean score of 4 or 5 (out of 5). This suggests that workplace aesthetics is likely important to a large percentage of workers, and companies should consider taking the aesthetics of their workplace more seriously. It is also likely however that there would be more variability in NFAPW with a larger sample, so future research should consider continuing to gather data on the distribution of NFAPW within the general adult population.

Table 9 Distribution of NFPAW

NFPAW Mean	Count of Participants	Percent of Participants
Low (*M* <3)	20	12.6%
Medium (*M* 3-3.9)	66	41.5%
High (*M* 4-5)	73	45.9%

Second, as these preliminary results suggest that this scale shows high internal consistency, future researchers may wish to consider further validating this scale so that it may continued to be used in research and practice. Future researchers may also wish to consider creating a scale that measures generalized need for aesthetics, as the scale used in this study was designed to specifically evaluate one's need for an aesthetically pleasing workplace.

Third, these findings suggest there is much left to explore for future researchers on the topic of NFAPW. For example, future researchers could examine the validity and usefulness of screening employees for NFAPW and then matching them to workspaces accordingly based on their preferences. Additionally, researchers may wish to examine if NFAPW is an important individual difference that affects job applicants' job searching behaviors, as individuals with high NFAPW may be more likely to accept a job within an organization that has a highly aesthetic workplace and less likely to accept a job in an unaesthetic workplace. In both of these examples, NFAPW becomes a potential part of the Person-Environment fit theories and should be examined as an aspect of this theory accordingly (J. R. Edwards, 2008).

Research Question 3

The third research question asked in this study was "What visual elements are most commonly present in workplaces that are rated as aesthetically pleasing?" To answer this question, the mean score of the perceived workplace aesthetics measure was used to categorize survey responses into three categories—responses that were evaluating workplaces with low aesthetics, medium aesthetics, and high aesthetics. Then, the number of times each of the 12 elements was reported being present within each of the workplace aesthetics categories was calculated. The table below summarizes these findings. Results show that direct light (e.g. immediate access to a window or skylight that allows sunlight to fall directly on you), other decorations, color accents, and nature artwork were most often reported being present in workplaces that were rated as highly aesthetically pleasing.

Table 10 below summarizes these findings by first indicating how often each element was present in workplaces with low, medium, and high aesthetics. Table 10 also includes the

overall occurrence of each element and the percent of respondents who reported having the element present in their workplace. The percent of respondents reporting having the element present is interesting to consider, as some elements were much less common than others. For example, plants and other natural elements were much less common in participant's workplaces than direct natural light. Thus, in this example, there is a chance that plants were less likely to be present in highly aesthetic workplaces not because plants do not add to the aesthetics of a space, but because plants are comparatively much less common in workplaces than other elements such as natural light.

Table 10 Visual Elements Most Commonly Present in Aesthetic Workspaces

	Count of Elements Present by Workspace Aesthetics			Frequency of Respondents with Element Present	
Element	**Low Workplace Aesthetics**	**Medium Workplace Aesthetics**	**High Workplace Aesthetics**	**Count**	**Percent**
Direct natural light	6	33	36	75	47%
Other decorations	3	29	33	65	41%
Colorful accents/ decorations	1	21	32	54	34%
Nature artwork/photos	2	18	31	51	32%
Non-Nature artwork/photos	6	21	30	57	36%
Windows with nature views	3	25	29	57	36%
Colorful walls	0	14	22	36	23%
Indirect light	4	26	19	49	31%
Natural elements	2	7	17	26	16%
Plants	1	15	16	32	20%
Artificial plants	0	8	11	19	12%
Windows with urban views	4	21	10	35	22%

The qualitative data gathered in this study tend to confirm these findings. For example, in the open response question in which participants were asked to describe what they find visually attractive or unattractive about their workspace, the most frequently recorded responses were related to presence of or lack of windows, natural light, and adequate lighting.

Research Question 4

The fourth research question evaluated in this study was to evaluate which visual elements were rated as the most and least important to have present and visible to participants in their workplace. To evaluate this, respondents were asked to rate twelve different visual elements on the degree that it is important to them to have each element present and visible to them in their work environment. Each element was rated on a scale of 1 to 5, with higher scores representing greater importance. Direct light was rated as the most important element (M = 3.98, SD = 1.23). Windows that include some nature views (e.g., a mixture of buildings and several trees and grassy areas, a field, etc.) was rated as the next most important (M = 3.82, SD = 1.16). It is interesting to note windows with nature views had much higher ratings than windows that have nearly all urban/man-made views (e.g., there are only buildings and very minimal living plants such as trees visible; M = 2.96, SD = 1.18).

Table 11 Mean Importance Rating of Each Visual Element

Element	Mean	Std. Deviation
Direct natural light	3.98	1.166
Windows with nature views	3.82	1.163
Indirect natural light	3.60	1.105
Other decorations	3.41	1.145
Colorful accents/ decorations	3.11	1.209
Natural elements	2.96	1.178
Colorful walls	2.96	1.228
Non-Nature artwork/photographs	2.82	1.304
Nature artwork/photographs	2.73	1.230
Plants	2.60	1.314
Windows with urban views	2.54	1.231
Artificial plants	1.53	0.871

Research Question 5

The effect of both moderators in this study (mindfulness and need for an aesthetically pleasing workplace) on the relationship between the two independent variables (prevalence of aesthetic elements and perceived workplace aesthetics) and the outcomes was also tested to answer the fourth research question of this study. This was tested using PROCESS Model 3 and including all covariates. No significant three-way interaction effects were found. However, as illustrated in Figure 11, for individuals who are high on both mindfulness and need for an aesthetically pleasing workplace, the degree to which their workplace is aesthetically pleasing does appear to have an impact on their negative work attitudes. The implication here is that individuals who are high on both mindfulness and NFAPW are more impacted by workplace aesthetics than individuals low on both NFAPW and mindfulness. The nature of this effect is that individuals high on both NFAPW and mindfulness have lower negative work attitudes in

aesthetic workplaces and higher negative work attitudes in workplaces that are not perceived as aesthetically pleasing. In light of this finding, future and higher powered studies should consider reexamining a potential three-way interaction with both NFAPW and PWA.

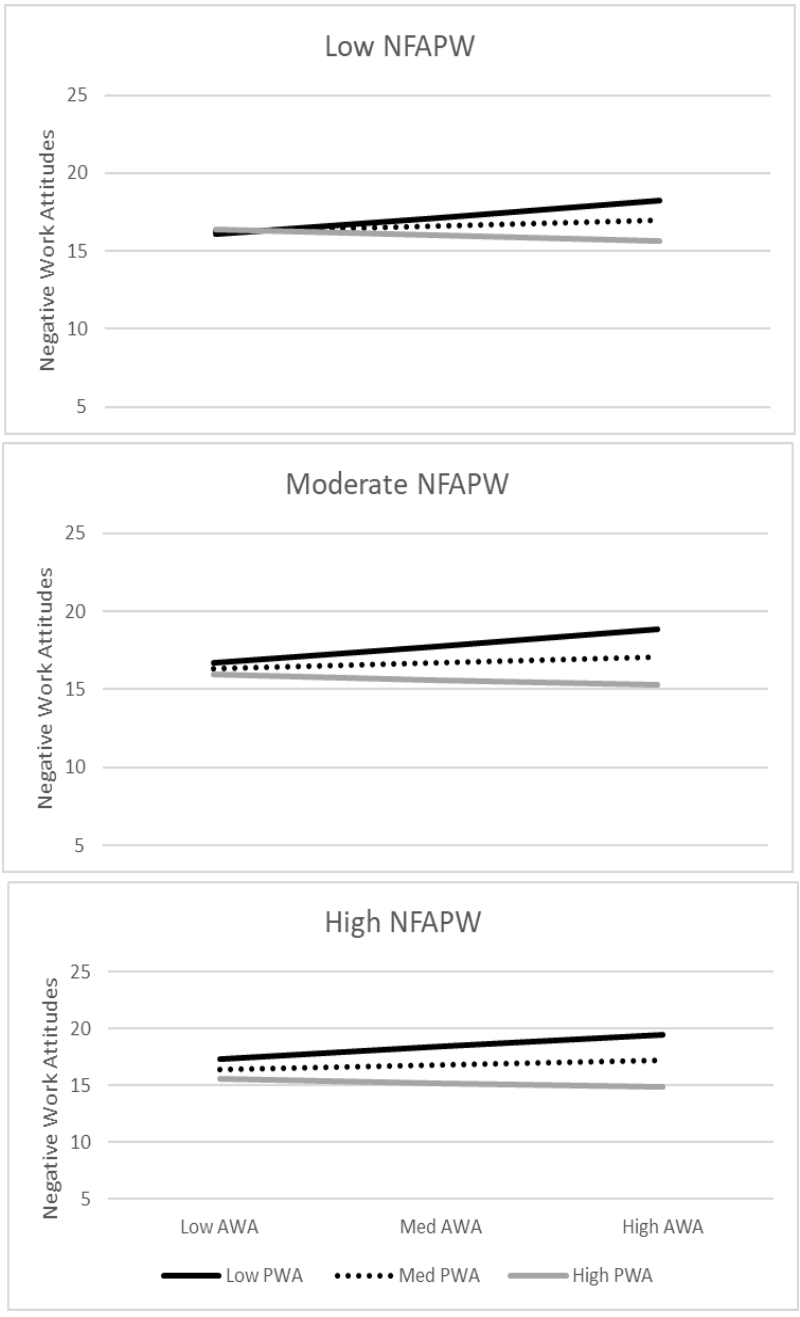

Figure 11 Impact of both need for an aesthetically pleasing workplace and general mindfulness on the relationship between perceived workplace aesthetics and negative work attitudes

In addition to testing a three-way interaction with all covariates included as described above, each of these tests were also run without any of the covariates included. Again, removing covariates from the model had the largest impact on the models predicating resource recovery needs.

First, after removing covariates, the three-way interaction of PAE, NFAPW, and Acting with Awareness approached significance (b = -.0206, CI 95% [-.0543, .0036]). This effect was such that for those low on Acting with Awareness there was almost no impact of prevalence of aesthetic elements or NFAPW on resource recovery needs. However, for those high on Acting with Awareness there was an effect of PAE and NFAPW on resource recovery needs. This effect was such that individuals high on NFAPW and Acting with Awareness in environments with low PAE had the highest levels of recovery needs. In contrast, individuals with low NFAPW and high Acting with awareness in environments with high PAE had the lowest levels of resource recovery needs. Interestingly, the effect was not nearly as strong for individuals in environments with high PAE. This effect is shown in Figure 12.

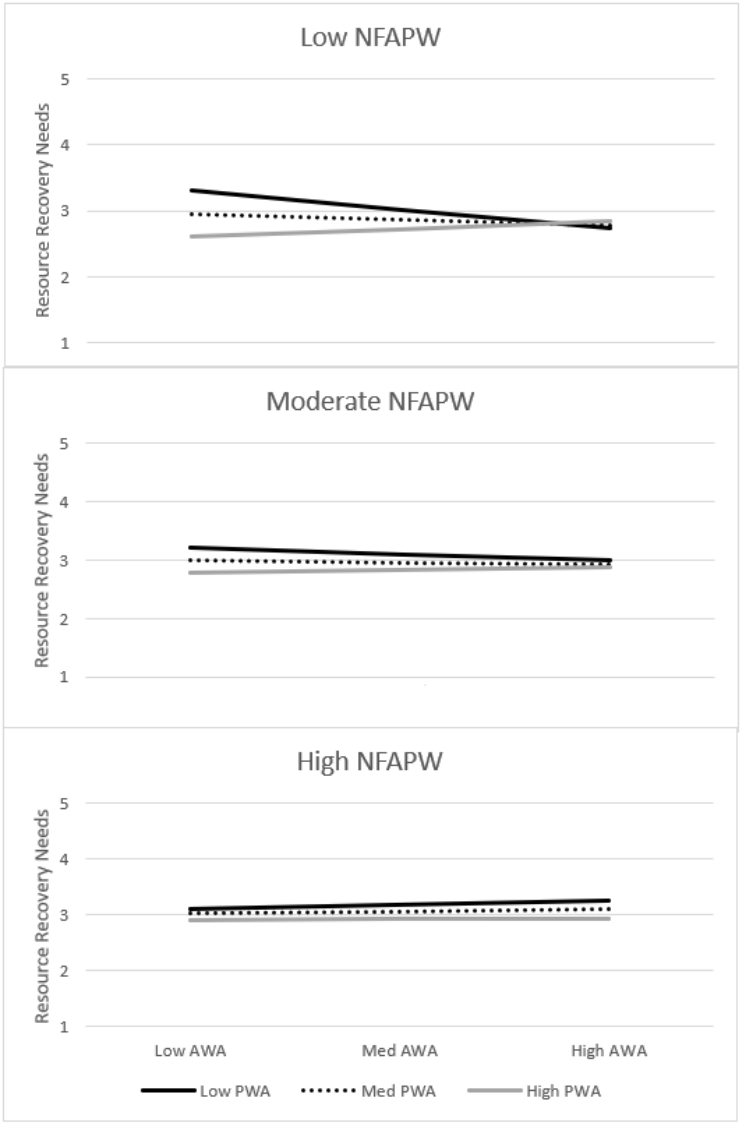

Figure 12 Impact of both need for an aesthetically pleasing workplace and general mindfulness on the relationship between prevalence of aesthetic elements and resource recovery needs

Similarly, after removing covariates, the three-way interaction of PWA, NFAPW, and Acting with Awareness approached significance (*b* = -.0531, CI 95% [-.1280, .0076]). This effect is interesting, as seen in Figure 13, as it appears that for individuals low on both NFAPW and Acting with Awareness, PWA has an impact on resource recovery needs. This effect is such that for individuals low on NFAPW and low on Acting with Awareness in environments with

low PWA have the highest levels of resource recovery needs. However and unexpectedly, this impact appears to lessen as NFAPW and Acting with Awareness increases. Future research may wish to further examine this effect. Future research should also examine the surprising differences between the three-way moderation effects of PWA and PAE on resource recovery needs when covariates are excluded, as the effects appear to be surprisingly different.

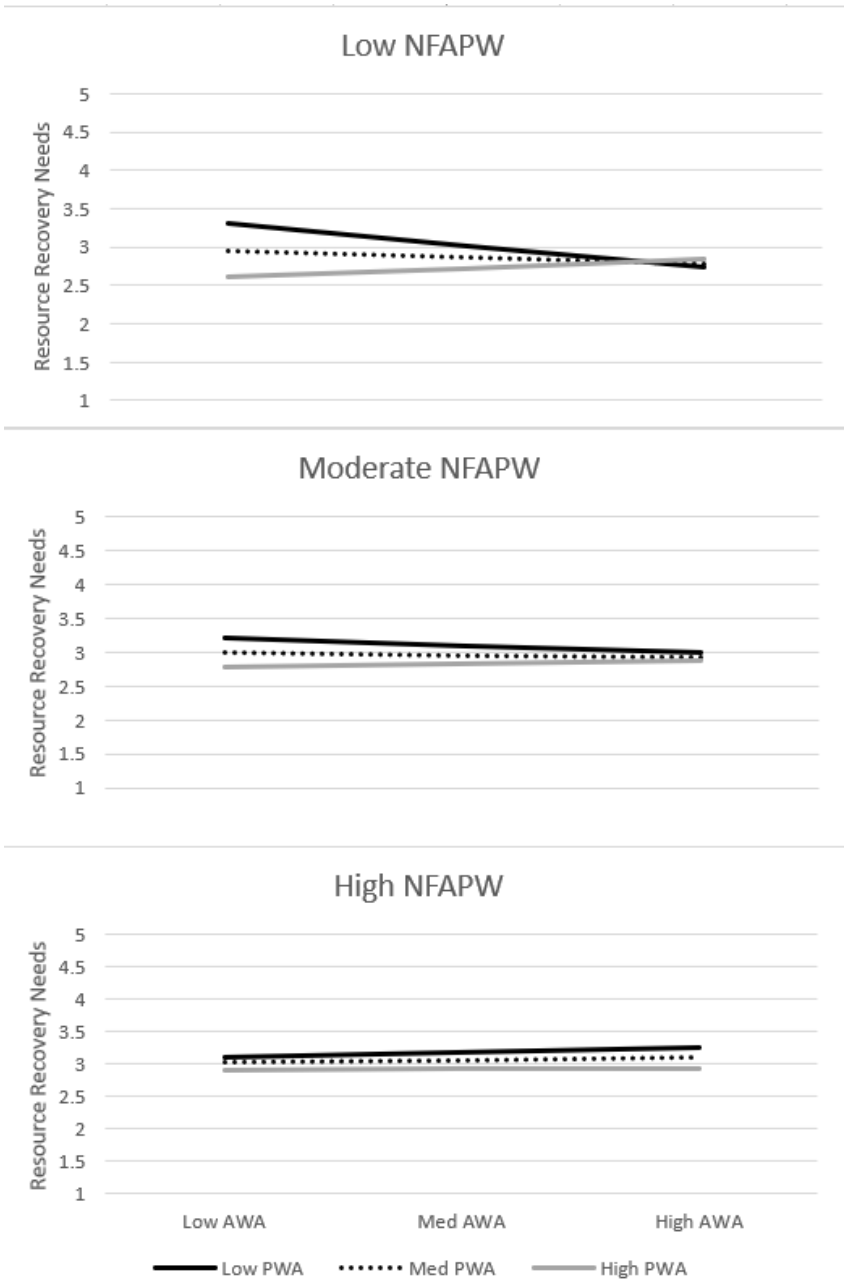

Figure 13 Impact of both need for an aesthetically pleasing workplace and general mindfulness on the relationship between perceived workplace aesthetics and resource recovery needs

Table 12 PROCESS Output: PWA Predicting Job Satisfaction, 3-Way Interaction Analysis

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	29.053	22.1012	51.3379	-88.4837	114.2687
PWA	0.9328	2.3704	13.5862	-22.0193	31.4939
NFAPW	-4.4341	-2.6937	13.4946	-27.1039	26.1958
PWA X NFPAW	0.2619	-0.1016	3.5693	-7.7518	6.3587
AWA	-2.05	-1.4613	4.3272	-9.9324	7.2429
PWA X AWA	0.1281	0.0047	1.1552	-2.3805	2.189
NFAPW X AWA	0.4663	0.3107	1.168	-2.0507	2.5813
PWA X NFAPW X AWA	-0.0309	0.002	0.3082	-0.5789	0.6324
Age	-0.0121	-0.0107	0.0472	-0.0994	0.0857
Female	-0.4318	-0.4083	1.2248	-2.7416	2.0673
Education	-0.0521	-0.0403	0.3545	-0.7101	0.6751
Tenure	0.0343	0.0308	0.0682	-0.1101	0.1601
Environmental Tenure	-0.0034	-0.0057	0.0478	-0.1041	0.089
Work hours	0.0689	0.072	0.0597	-0.0462	0.188
Hours in environment	-0.0631	-0.0545	0.0573	-0.1652	0.0601
PANAS Negative	-0.1107	-0.1005	0.1047	-0.3013	0.1077
PANAS Positive	0.1925	0.1913	0.0594	0.0777	0.3112
Extraversion	-0.2925	-0.3358	0.5193	-1.3895	0.6629
Agreeableness	-1.1078	-1.1535	0.6876	-2.5697	0.1319
Conscientiousness	-0.071	-0.1681	0.5476	-1.2324	0.913
Neuroticism	-0.0837	-0.0564	0.5752	-1.1737	1.0744
Openness	0.5086	0.5558	0.8072	-0.9757	2.2109
Honesty-Humility	-0.2103	-0.2887	0.7237	-1.6834	1.1648
WDQ: Work conditions	0.098	0.1434	0.6541	-1.0758	1.4818
Control (workspace)	1.415	1.4034	0.4663	0.4534	2.2957
Control (work enviro.)	-0.5436	-0.5204	0.3832	-1.2535	0.2501
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4672	21.1169	3.7176	25	106	0.0000

Table 13 PROCESS Output: PAE Predicting Job Satisfaction, 3-Way Interaction Analysis

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	25.606	20.251	26.4152	-34.2676	69.9625
PAE	1.7581	2.6598	5.1179	-7.051	13.1379
NFAPW	-2.3846	-0.9818	6.6787	-13.9387	12.5412
PAE X NFPAW	-0.2945	-0.5422	1.3051	-3.2539	1.9269
AWA	-1.6083	-1.1362	2.3345	-5.6088	3.572
PAE X AWA	-0.028	-0.1078	0.4329	-1.0156	0.7156
NFAPW X AWA	0.3606	0.2327	0.6064	-1.006	1.377
PAE X NFAPW X AWA	0.0067	0.0292	0.1126	-0.1831	0.2673
Age	0.0032	0.0094	0.049	-0.0843	0.1112
Female	-0.3861	-0.3161	1.37	-2.9119	2.4398
Education	-0.3907	-0.3922	0.3341	-1.0205	0.2972
Tenure	0.0088	0.0087	0.0661	-0.1251	0.1355
Environmental Tenure	-0.0198	-0.0236	0.0485	-0.1195	0.0768
Work hours	0.095	0.0986	0.0619	-0.0243	0.2191
Hours in environment	-0.0779	-0.0712	0.055	-0.1765	0.0394
PANAS Negative	-0.1264	-0.1173	0.11	-0.3311	0.0986
PANAS Positive	0.2242	0.224	0.0583	0.1109	0.3395
Extraversion	-0.2824	-0.341	0.5754	-1.5032	0.7596
Agreeableness	-1.015	-1.0167	0.7075	-2.3977	0.3733
Conscientiousness	0.0083	-0.0847	0.5447	-1.1565	0.9711
Neuroticism	0.0501	0.0858	0.5992	-1.0721	1.253
Openness	0.1594	0.1917	0.8093	-1.3449	1.7966
Honesty-Humility	-0.5522	-0.6428	0.7609	-2.1545	0.8501
WDQ: Work conditions	0.3593	0.3894	0.6951	-0.9014	1.8128
Control (workspace)	1.543	1.4972	0.48	0.5574	2.4134
Control (work enviro.)	-0.4626	-0.4568	0.3976	-1.2333	0.3265
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.441	22.1545	3.3449	25	106	0.0000

Table 14 PROCESS Output: PWA Predicting Recovery Needs, 3-Way Interaction Analysis

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	2.3299	2.3304	5.3894	-8.829	12.6709
PWA	-0.2145	-0.2081	1.5816	-3.272	2.9871
NFAPW	0.3406	0.3471	1.4616	-2.5322	3.2807
PWA X NFPAW	-0.0142	-0.0117	0.4285	-0.8565	0.838
AWA	0.0082	0.0037	0.4471	-0.8283	0.9325
PWA X AWA	0.0232	0.0251	0.1313	-0.2419	0.2782
NFAPW X AWA	-0.0241	-0.0218	0.1266	-0.279	0.2209
PWA X NFAPW X AWA	.0000	-0.0008	0.0366	-0.0718	0.0717
Age	0.0085	0.0081	0.007	-0.0059	0.0219
Female	0.2643	0.252	0.1653	-0.0715	0.5826
Education	-0.096	-0.1017	0.0441	-0.1873	-0.0141
Tenure	-0.0017	-0.0028	0.0104	-0.0237	0.0172
Environmental Tenure	-0.0105	-0.0108	0.007	-0.0242	0.0035
Work hours	0.0162	0.0167	0.0066	0.0037	0.0299
Hours in environment	0.0008	0.0008	0.0062	-0.0114	0.013
PANAS Negative	0.0576	0.0581	0.0119	0.0359	0.0828
PANAS Positive	-0.0119	-0.0117	0.0081	-0.0273	0.0043
Extraversion	-0.1618	-0.1553	0.0788	-0.3045	0.0033
Agreeableness	-0.0728	-0.087	0.1152	-0.3174	0.1367
Conscientiousness	-0.0503	-0.0543	0.0705	-0.1929	0.0849
Neuroticism	0.0949	0.0873	0.0805	-0.0695	0.2466
Openness	-0.0074	-0.0059	0.1137	-0.2307	0.2136
Honesty-Humility	-0.0202	-0.0083	0.0942	-0.1965	0.1738
WDQ: Work conditions	-0.0577	-0.0687	0.0947	-0.2654	0.1062
Control (workspace)	0.0481	0.0496	0.0702	-0.094	0.1842
Control (work enviro.)	0.0158	0.0232	0.0592	-0.0924	0.14
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4901	0.374	4.0757	25	106	0.0000

Table 15 PROCESS Output: PAE Predicting Recovery Needs, 3-Way Interaction Analysis

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	1.2052	1.7035	2.9875	-4.1762	7.6746
PAE	0.1019	-0.0108	0.6589	-1.3399	1.2981
NFAPW	0.373	0.2353	0.7797	-1.3509	1.7373
PAE X NFPAW	-0.0357	-0.0086	0.174	-0.347	0.3439
AWA	0.0319	-0.0086	0.252	-0.5163	0.4824
PAE X AWA	0.0085	0.0155	0.055	-0.0969	0.1239
NFAPW X AWA	-0.0119	-0.001	0.0688	-0.1328	0.1401
PAE X NFAPW X AWA	-0.002	-0.0037	0.0148	-0.0333	0.0255
Age	0.0068	0.007	0.0075	-0.0077	0.0219
Female	0.2838	0.2724	0.1584	-0.0354	0.5808
Education	-0.105	-0.1005	0.0451	-0.1915	-0.0136
Tenure	0.0001	-0.0009	0.0103	-0.0209	0.0197
Environmental Tenure	-0.0099	-0.0101	0.0071	-0.0234	0.0051
Work hours	0.0182	0.0184	0.0069	0.0052	0.0324
Hours in environment	-0.0012	-0.0007	0.0064	-0.0132	0.0119
PANAS Negative	0.0576	0.0588	0.0127	0.0353	0.0854
PANAS Positive	-0.0095	-0.0094	0.0075	-0.0238	0.0058
Extraversion	-0.1591	-0.1558	0.0777	-0.3085	-0.0041
Agreeableness	-0.0549	-0.0683	0.1049	-0.2725	0.1374
Conscientiousness	-0.0458	-0.0502	0.0686	-0.1848	0.0848
Neuroticism	0.1132	0.1043	0.0833	-0.057	0.2682
Openness	-0.0163	-0.0153	0.1116	-0.2403	0.201
Honesty-Humility	-0.015	-0.0018	0.0975	-0.1974	0.1901
WDQ: Work conditions	-0.0323	-0.0383	0.0886	-0.2202	0.1325
Control (workspace)	0.0516	0.0534	0.069	-0.0859	0.1862
Control (work enviro.)	0.0371	0.0434	0.0597	-0.0746	0.1633
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4989	0.3675	4.222	25	106	0.0000

Table 16 PROCESS Output: PWA Predicting Negative Work Attitudes, 3-Way Interaction Analysis

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-25.388	-28.4688	43.2718	-115.4593	59.6433
PWA	9.0669	10.6562	12.0359	-13.1774	35.4272
NFAPW	6.4926	7.3429	11.6278	-15.6564	30.604
PWA X NFPAW	-2.0428	-2.4384	3.2283	-8.9442	3.876
AWA	2.1321	2.395	3.7375	-4.9169	9.8285
PWA X AWA	-0.6578	-0.7936	1.0579	-3.0204	1.2143
NFAPW X AWA	-0.3498	-0.4127	1.0432	-2.5001	1.6029
PWA X NFAPW X AWA	0.1172	0.1502	0.2906	-0.4037	0.7443
Age	0.0411	0.0382	0.0531	-0.0677	0.1414
Female	-0.1637	-0.2704	1.29	-2.8485	2.2264
Education	0.0959	0.0859	0.3719	-0.6545	0.8156
Tenure	0.0406	0.0408	0.0778	-0.1166	0.1923
Environmental Tenure	-0.011	0	0.071	-0.1303	0.1418
Work hours	0.0769	0.0779	0.0602	-0.038	0.2018
Hours in environment	0.0369	0.0383	0.0572	-0.073	0.1505
PANAS Negative	0.3443	0.3367	0.0984	0.1382	0.5264
PANAS Positive	-0.1573	-0.1505	0.0584	-0.2677	-0.0362
Extraversion	0.1887	0.2096	0.58	-0.9099	1.3633
Agreeableness	0.5259	0.4483	0.808	-1.2218	1.9908
Conscientiousness	0.9294	0.9747	0.5669	-0.1508	2.0691
Neuroticism	0.6755	0.7827	0.6634	-0.5012	2.0905
Openness	0.1391	0.1163	0.7966	-1.4038	1.7143
Honesty-Humility	0.4405	0.3567	0.653	-0.8931	1.6583
WDQ: Work conditions	-0.1394	-0.1048	0.6616	-1.4176	1.151
Control (workspace)	-1.8042	-1.8456	0.5024	-2.8169	-0.8622
Control (work enviro.)	0.5941	0.5886	0.446	-0.3077	1.4377
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4874	22.9345	4.0319	25	106	0.0000

Table 17 PROCESS Output: PAE Predicting Negative Work Attitudes, 3-Way Interaction Analysis

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-11.055	-6.678	23.074	-47.3828	45.0569
PAE	3.8519	3.3987	4.8562	-6.6096	12.6607
NFAPW	2.6108	1.4624	6.0447	-11.8239	12.0926
PAE X NFPAW	-0.6274	-0.514	1.2863	-2.9353	2.1584
AWA	1.021	0.6532	1.9719	-4.0486	3.9433
PAE X AWA	-0.2021	-0.1775	0.4119	-0.9591	0.68
NFAPW X AWA	-0.0694	0.0252	0.527	-0.8775	1.2448
PAE X NFAPW X AWA	0.0113	0.0049	0.111	-0.2255	0.2139
Age	0.0176	0.0173	0.0534	-0.0894	0.1215
Female	-0.1972	-0.2506	1.178	-2.6265	1.9993
Education	0.117	0.1428	0.3917	-0.6599	0.8806
Tenure	0.0651	0.0637	0.0714	-0.0703	0.2093
Environmental Tenure	0.0084	0.0146	0.0579	-0.0894	0.1375
Work hours	0.0676	0.0695	0.0571	-0.0407	0.1834
Hours in environment	0.0199	0.0218	0.0502	-0.0732	0.122
PANAS Negative	0.3195	0.3147	0.0971	0.1184	0.501
PANAS Positive	-0.1675	-0.1621	0.0537	-0.2676	-0.057
Extraversion	0.134	0.1357	0.5623	-0.9671	1.2337
Agreeableness	0.5664	0.5244	0.8132	-1.075	2.1354
Conscientiousness	0.8611	0.8849	0.5542	-0.204	1.9692
Neuroticism	0.7018	0.7807	0.6553	-0.4742	2.086
Openness	0.286	0.2825	0.7642	-1.1618	1.8513
Honesty-Humility	0.4119	0.3546	0.632	-0.8407	1.6302
WDQ: Work conditions	0.0016	0.0107	0.5772	-1.1897	1.0953
Control (workspace)	-1.8752	-1.9121	0.4462	-2.8002	-1.0404
Control (work enviro.)	0.7112	0.718	0.4658	-0.1981	1.6479
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.5217	21.4007	4.6248	25	106	0.0000

Limitations

There were several limitations to this study. First, recruiting a large sample was extremely challenging, in part due to the confidentiality and privacy concerns many organizations had about having employees upload photographs of their workspace as well as the sensitive nature of some of the measures (e.g., negative work attitudes, job satisfaction). As a result, our final sample was smaller than originally hoped for and had higher than typical rates of white, highly educated females. Additionally, our sample had higher than normal rates of job satisfaction and other characteristics such as agreeableness. Finally, our sample was predominately office workers, and thus these findings may not be as generalizable to the non-office populations as desired.

Second, we had high levels of participant attrition from phase one of the study to phase two largely due to participants being unwilling, uncomfortable, or not allowed to submit photographs of their workspace. Due to these sample characteristics, the generalizability of these findings to a larger and more diverse sample needs to be evaluated by additional research. Future researchers should consider ways to increase samples sizes such as increasing the data collection timeframe of the study and working with companies to secure larger and more diverse samples.

Implications and Future Research

In addition to the implications related to the core hypotheses and research questions evaluated in this study already noted in the Discussion, the results of this study have several additional implications for practitioners and researchers.

First, an additional purpose of the present study was to develop and test two methods of measuring workplace aesthetics, as measures to evaluate the aesthetics of a workplace are few or

nonexistent. To evaluate this, two methods of measuring workplace aesthetics were developed: the Perceived Workplace Aesthetics measure and the Aesthetically Pleasing Visual Elements Questionnaire. As discussed above, the Perceived Workplace Aesthetics measure demonstrated high internal consistency and the expected correlations with other study variables. These results suggest that with further validation, the Perceived Workplace Aesthetics measure may be useful as additions to use along with the WDQ or other similar measures. Additionally, the Perceived Workplace Aesthetics measure and the Aesthetically Pleasing Visual Elements Questionnaire were significantly correlated at $r = .43$. This implies that while these two measures of aesthetics of a workplace are related, they remain relatively distinct. These measures hold potential to be used in future research regarding workplace aesthetics.

Second, as discussed above, degree of control over workspace was found to have strong correlations with negative work attitudes and the degree employees found their workplace to be aesthetically pleasing. Control over workspace was also found to be a significant predictor within the overall models of that tested the relationship between both prevalence of aesthetic elements ($b = -1.8236$) and perceived workplace aesthetics ($b = -1.8211$) to negative work attitudes. Due to these findings, future researchers may wish to incorporate these measures of control over one's workplace in other studies. It is important to note that due to moderate correlation between control over workspace and control over work environment ($r = .51$), researchers may wish to use both items to capture the full phenomenon. Additionally, these findings imply that organizations should strongly consider increasing worker's control over their personal workspace whenever possible, as it is a comparatively low cost and low effort intervention that may decrease negative work attitudes and increase the degree employees perceive their workspaces to be aesthetically pleasing. When considering this evidence, work policies that unnecessarily

restrict employees from decorating their personal workspaces may have much stronger negative ramifications than companies realize.

Third, the analysis of individual elements that add to the aesthetics of the workplace and employees perceive as being important have important implications for practice. For example, this study provides additional support for the importance of having direct natural light within the workplace that other studies have reported (*Future Workplace, The Employee Experience,* 2018). Thus, companies should strongly consider ways to increase the direct natural light that employees are exposed to (e.g., designing office buildings with ample windows, prioritizing office space to have windows). Whenever possible, these windows should include nature views instead of urban views, as results from this study show that individuals greatly prefer windows with nature elements over windows containing only urban/man-made views. These findings align with previous research, as other studies such as L. Edwards and A. Torcellini (2002) and Sop Shin (2007) have shown that windows with nature views have greater positive effects on employs than other window views.

Results from this study also suggest that participants perceive decorations and colorful accents to add to the aesthetics of a workplace. Thus, companies may wish to prioritize adding decorative and colorful elements when remodeling a workplace. By extension, companies may wish to encourage employees to decorate their own workspaces with decorations and other personally meaningful items, as this is a low effort and potentially free step that companies can undertake to make the workplace more aesthetically pleasing. This effort may have additional benefits as it may increase the degree participants have control over their workspace as well. However, companies must understand that other research has shown that office decorating is

greatly dictated by company norms, and thus they may have to take intentional steps to change this norm (Wells, Thelen, & Ruark, 2007).

Fourth and relatedly, future research may wish to examine other factors besides organization norms that influence the degree employees decorate their workspaces. For example, researchers should consider if individuals with lower levels of job security or job length are less likely to decorate their workspaces (i.e., does a contract worker with a contract length of 1 year tend to decorate their workspace less). Additionally, researchers should consider if hours worked per week influences the degree an employee decorates their workspaces—for example, part time employees may be less inclined to decorate their workspaces as they are not in their office as much. Researchers could also examine if hourly and salaried workers feel differently inclined to decorate their workspaces, as hourly workers may feel less comfortable spending billable hours decorating their workspaces than salaried workers. Finally, researchers may wish to consider if workload and stress levels affect workspace decorating trends, as it may be that the employees who are most stressed with the highest workloads are the least likely to spend worktime decorating their workspace—despite these workers being the ones who may most need the benefits of an aesthetically pleasing workspace.

Fifth, it is interesting to compare the percentage of participants that report having a visual element present with the mean rating that element received for being important to have in an aesthetic workplace. Table 18 below includes each of the 12 elements along with their mean importance rating and the percent of participants who reported having that element present in their workplace. When comparing mean importance rating to frequency of being present, it quickly becomes clear that there are key areas of opportunity for organizations to more strategically increase the presence certain of visual elements that are rated as highly important to

aesthetics. For example, while nature elements had average importance ratings, only 16% of workplaces had non-plant nature elements. Thus, according to these data, organizations may do well to increase the number of non-plant nature elements they have within their workplace.

Table 18 Visual Elements by Importance and Percentage of Respondents with Element Present

Element	**Mean Importance Rating**	**% of Respondents with Element Present**
Direct natural light	3.98	47%
Windows with nature views	3.82	36%
Indirect natural light	3.60	31%
Other decorations	3.41	41%
Colorful accents/ decorations	3.11	34%
Natural elements besides live plants	2.96	16%
Colorful walls	2.96	23%
Non-Nature Artwork/Photographs	2.82	36%
Nature Artwork/Photographs	2.73	32%
Live indoor plants	2.60	20%
Windows with urban views	2.54	22%
Artificial plants	1.53	12%

It is also interesting to note that participants rated having plants within the workplace as a relatively low priority. However, indoor plants were also one of the elements least frequently present in participant's workplaces. Thus, it is quite possible that many of the participants in this study have never been in workplaces with plants, and if they had then they may see them as more valuable additions to the workplace if they had. Additionally, as countless other researches have established that indoor plants have a large variety of psychological benefits, organizations should not dismiss the potential benefits of incorporating plants into workplaces too quickly (e.g., Bringslimark, Hartig, & Patil, 2009; Dijkstra et al., 2008a; Raanaas, Evensen, Rich, Sjøstrøm, & Patil, 2011).

Finally, it is worth noting that over half of participants (59.7%) reported a desire to have the aesthetics of their workplace improved. Considering the results of this study, this finding has significant implications, as it appears that many workplaces have room for improvement when it comes to the aesthetics of their workplace. Thus, workplaces should consider ways to increase the perceived aesthetics of their workplace using the recommendations outlined above.

Conclusion

This study addressed a gap in research by showing that workplace aesthetics do impact all employees to some degree, and that this impact is even stronger for employees with high general mindfulness and need for an aesthetically pleasing workplace. Results from this study also show that certain visual elements, such as natural light or colorful decorations, tend to more greatly add to the aesthetics of a workspace than other visual elements. Finally, exploratory research questions reveal that there remains much to be explored within this topic, as it appears that different types of mindfulness may influence the relationship between workplace aesthetics and employee outcomes in unique ways.

These findings are important and valuable to both future researchers and practitioners. For researchers, results from this study suggest that there are ample opportunities for future researchers to delve more deeply into this relatively unexplored and rich research area. As such a large percentage of the population works, researchers should not underestimate the potential impact of continued research on the impact of the visual appearance of the workplace on employees. For practitioners, this study suggests that many organizations have much room for improvement when it comes to the aesthetics of the workplace, and that these organizations' unattractive workplaces are negatively impacting their employees. Findings from this study

suggests that certain visual elements may be more valuable to add to the workplace than other elements, and thus offer valuable recommendations to consider when redesigning a workplace's appearance.

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APPENDIX A

IRB APPROVAL LETTER

THE UNIVERSITY OF TENNESSEE
CHATTANOOGA

Institutional Review Board
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TO: Lydia Fogo
Dr. Christopher Cunningham

IRB # 18-109

FROM: Lindsay Pardue, Director of Research Integrity
Dr. Amy Doolittle, IRB Committee Chair

DATE: 9/26/2018

SUBJECT: IRB #18-109: A Mixed Methods Study on the Impact of the Perceived Aesthetics of a Workplace

Thank you for submitting your application for research involving human subjects to The University of Tennessee at Chattanooga Institutional Review Board. Your proposal was evaluated in light of the federal regulations that govern the protection of human subjects and approved via the expedited review procedure authorized by 45 CFR 46.110 and 21 CFR 56.110.

You must include the following approval statement on research materials seen by participants and used in research reports:

***The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #* 18-109.**

Please keep in mind that all research must be conducted according to the proposal submitted to the UTC IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an Application for Changes, Annual Review, or Project Termination/Completion form to the UTC IRB. Please bear in mind that significant changes could result in having to develop a new application for submission and approval. Your protocol will be automatically closed at the end of the proposed research period unless a change request application is submitted. No research may take place under a closed or expired protocol.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the UTC IRB as soon as possible. Once notified, we will ask for a complete explanation of the event and your response. Other actions also may be required depending on the nature of the event.

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval.

For additional information, please consult our web page http://www.utc.edu/irb or email instrb@utc.edu.

Best wishes for a successful research project.

APPENDIX B

INFORMED CONSENT FORM

PLEASE REVIEW THE FOLLOWING INFORMATION CAREFULLY SO YOU CAN PROVIDE INFORMED CONSENT TO PARTICIPATE IN THIS RESEARCH:

Purpose of the Study:
This study is being conducted by Lydia Fogo, a graduate student in the Industrial and Organizational Psychology program at The University of Tennessee at Chattanooga. This research is being conducted under the supervision of Dr. Chris Cunningham. Please note that participants in this study must be at least 18 years of age. The purpose is to examine the affects that the visual appearance of an employee's work environment has on their job satisfaction, intention to stay or leave their job, and their stress levels.

What will be done:
If you agree to participate you will be asked to respond to a brief internet-based survey (requiring less than 30 minutes of your time). This survey includes questions about the visual appearance of your work environment, the degree that you value visually attractive and aesthetic settings, and how often you tend to be aware of your physical surroundings. Several demographic questions are also included so that the characteristics of the final sample can be accurately described. After completing this survey, you will be given instructions to complete the second stage of this study. In this stage you will be asked to take several photos of your main work space and submit them electronically, as well as answer a few questions about the contents of your work space.

Benefits of this Study:
You will be contributing to a growing base of knowledge regarding the affects of the appearance of one's work environment on important employee outcomes such as job satisfaction and stress levels. Additionally, this research will help researchers to identify elements which can make interventions for increasing employee satisfaction and decreasing stress levels more effective. Additionally, at the end of the survey, you will be entered into a drawing for a chance to win one of 15 $50 Visa gift cards (please note that completion of the survey is not a prerequisite to entering the drawing).

What are the risks to me?
The risks of this study are limited to the potential inconvenience of taking the survey and completing the second phase of the study. If you feel uncomfortable with a question in the survey, you can skip it. You can also withdraw from the study at any time.

What about my privacy?
Your participation in this research will be kept strictly confidential. All data you provide through this survey will be securely gathered and stored in encrypted and password protected files accessible only by the researchers listed below. No names or identifying information will ever be shared with other persons not involved with this research.

Voluntary participation:
It is your choice to participate in this research and you may withdraw from this study at any time. If you decide to quit before you have finished the survey, however, your answers will NOT be

recorded. Because we can only make use of fully complete surveys, we greatly appreciate your full participation.

How will the data be used?
The results of the study will be used for research purposes only. Group-level (not personally identified) results from the study will be presented in educational settings and at professional conferences, and the results may be published in a professional journal in the field of psychology.

Contact information:
If you have concerns or questions about this study, please contact the chair of UTC's Institutional Review Board, Dr. Amy Doolittle, at amy-doolittle@utc.edu or 423-425-5563 or the faculty supervisor for this study, Dr. Christopher Cunningham, at chriscunningham@utc.edu or 423-425-4264. By opting to continue and complete this survey, you acknowledge that you have read this information and agree to participate in this research, with the knowledge that you are free to withdraw your participation at any time without penalty.

Thank you in advance for your assistance and participation.

Sincerely,

Lydia Fogo

Christopher J. L. Cunningham, Ph.D.

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149)

has approved this research project # 18-109

I have read the preceding information and am willing to participate fully in this research.

Yes No

APPENDIX C

COPY OF SURVEY

Q1 PLEASE REVIEW THE FOLLOWING INFORMATION CAREFULLY SO YOU CAN PROVIDE INFORMED CONSENT TO PARTICIPATE IN THIS RESEARCH:

Q2

Purpose of the Study:

This study is being conducted by Lydia Fogo, a graduate student in the Industrial and Organizational Psychology program at The University of Tennessee at Chattanooga. This research is being conducted under the supervision of Dr. Chris Cunningham. Please note that participants in this study must be at least 18 years of age. The purpose is to examine the affects that the visual appearance of an employee's work environment has on their job satisfaction, intention to stay or leave their job, and their stress levels.

What will be done:

If you agree to participate you will be asked to respond to a brief internet-based survey (requiring less than 30 minutes of your time). This survey includes questions about the visual appearance of your work environment, the degree that you value visually attractive and aesthetic settings, and how often you tend to be aware of your physical surroundings. Several demographic questions are also included so that the characteristics of the final sample can be accurately described. After completing this survey, you will be given instructions to complete the second stage of this study. In this stage you will be asked to take several photos of your main work space and submit them electronically, as well as answer a few questions about the contents of your work space.

Benefits of this Study:

You will be contributing to a growing base of knowledge regarding the effects of the appearance of one's work environment on important employee outcomes such as job satisfaction and stress levels. Additionally, this research will help researchers to identify elements which can make interventions for increasing employee satisfaction and decreasing stress levels more effective. Additionally, at the end of the survey, you will be entered into a drawing for a chance to win one of 15 $50 Visa gift cards (please note that completion of the survey is not a prerequisite to entering the drawing).

What are the risks to me?

The risks of this study are limited to the potential inconvenience of taking the survey and completing the second phase of the study. If you feel uncomfortable with a question in the survey, you can skip it. You can also withdraw from the study at any time.

What about my privacy?

Your participation in this research will be kept strictly confidential. All data you provide through this survey will be securely gathered and stored in encrypted and password protected files accessible only by the researchers listed below. No names or identifying information will ever be shared with other persons not involved with this research. Please note that your email

address is a personally identifying piece of information that will be separated from the rest of the data you provide in response to this survey. Once this is done, the data gathered with the survey could be used for future research studies and/or shared with another investigator for future research, without gathering additional informed consent from you.

Voluntary participation:
It is your choice to participate in this research and you may withdraw from this study at any time. If you decide to quit before you have finished the survey, however, your answers will NOT be recorded. Because we can only make use of fully complete surveys, we greatly appreciate your full participation.

How will the data be used?
The results of the study will be used for research purposes only. Group-level (not personally identified) results from the study will be presented in educational settings and at professional conferences, and the results may be published in a professional journal in the field of psychology.

Contact information:
If you have concerns or questions about this study, please contact the chair of UTC's Institutional Review Board, Dr. Amy Doolittle, at amy-doolittle@utc.edu or 423-425-5563 or the faculty supervisor for this study, Dr. Christopher Cunningham, at chriscunningham@utc.edu or 423-425-4264. By opting to continue and complete this survey, you acknowledge that you have read this information and agree to participate in this research, with the knowledge that you are free to withdraw your participation at any time without penalty.

Thank you in advance for your assistance and participation.

Sincerely,
Lydia Fogo Johnson
Christopher J. L. Cunningham, Ph.D.
The University of Tennessee at Chattanooga
The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project # 18-109

Q5 **I have read the preceding information and am willing to participate fully in this research.**

- ○ Yes (1)
- ○ No (2)

Q51 How did you learn about this study?

- ○ Personal email (1)
- ○ Facebook post (2)
- ○ LinkedIn post (3)
- ○ Email sent through company (4)
- ○ Other: (5) _____
- ○

Q6 **We're sorry you are not able or willing to participate in this research. Would you like to be entered into the incentive drawing for this study? If so, please enter your email address below and you will have one entry into a drawing for one of 15, $50 Amazon.com gift cards. These will be distributed after the data collection for this study is completed.**

Q7 **Please respond to each of the following statements using the scale provided to indicate the extent to which each statement is generally true for you.**

	Never or very rarely true (1)	Rarely true (2)	Sometimes true (3)	Often true (4)	Very often or always true (5)
When I'm walking, I deliberately notice the sensations of my body moving. (1)	○	○	○	○	○
When I take a shower or bath, I stay alert to the sensations of water on my body. (2)	○	○	○	○	○
I pay attention to sensations, such as the wind in my hair or sun on my face. (3)	○	○	○	○	○
I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing. (4)	○	○	○	○	○
I notice the smells and aromas of things. (5)	○	○	○	○	○
I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow. (6)	○	○	○	○	○
I'm good at finding the words to describe my feelings. (7)	○	○	○	○	○
It's hard for me to find the words to describe what I'm thinking. (8)	○	○	○	○	○
I have trouble thinking of the right words to express how I feel about things. (9)	○	○	○	○	○
When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words. (10)	○	○	○	○	○
Even when I'm feeling terribly upset, I can find a way to put it into words. (11)	○	○	○	○	○
When I'm doing something, I'm only focused on what I'm doing, nothing else. (12)	○	○	○	○	○

When I do things, I get totally wrapped up in them and don't think about anything else. (13)	○	○	○	○	○
I tend to do several things at once rather than focusing on one thing at a time. (14)	○	○	○	○	○
I get completely absorbed in what I'm doing, so that all my attention is focused on it. (15)	○	○	○	○	○
I criticize myself for having irrational or inappropriate emotions. (16)	○	○	○	○	○
I believe some of my thoughts are abnormal or bad and I shouldn't think that way. (17)	○	○	○	○	○
I make judgments about whether my thoughts are good or bad. (18)	○	○	○	○	○
I tell myself that I shouldn't be thinking the way I'm thinking. (19)	○	○	○	○	○
I think some of my emotions are bad or inappropriate and I shouldn't feel them. (20)	○	○	○	○	○

Q8 **Consider your preferences for elements of the visual look and feel of your general work environment (the broader environment in which your workspace is located) in its current state as you respond to the following questions. There are no right or wrong answers on this part of the survey; just respond by selecting the option that best describes the extent to which you agree or disagree with each statement.**

	Disagree strongly (1)	Disagree (2)	Neither disagree, nor agree (3)	Agree (4)	Agree strongly (5)
Working in a visually attractive space is important to me. (1)	○	○	○	○	○
I tend to place a lot of value on the visual look and appearance of a space. (2)	○	○	○	○	○
It would not really bother me to work in a visually unattractive or ugly space. (3)	○	○	○	○	○
An attractive looking work environment gives me a sense of satisfaction. (4)	○	○	○	○	○
I have a strong desire to have beautiful things, views, or objects in my work environment. (5)	○	○	○	○	○
I personally do not see much value in spending time making a work space more visually attractive (6)	○	○	○	○	○
The more attractive a work environment is, the more likely I am to want to spend time in that space. (7)	○	○	○	○	○
I believe that visually attractive objects or views can add positive value to my day. (8)	○	○	○	○	○
A space's visual atmosphere and appearance is important to me. (9)	○	○	○	○	○
When I have a choice, I tend to make spaces that I spend a lot of time in more visually attractive. (10)	○	○	○	○	○

Q9 **Consider the visual look and feel of your general work environment in its current state as you respond to the following questions. There are no right or wrong answers on this part of the survey; just respond by selecting the option that best describes the extent to which you agree or disagree with each statement.**

Q10
For the following three items, **workspace** refers to the area of your work environment in which you spend the majority of your time, within about a 10 foot radius of your work position (e.g., your cubical or office).

	Disagree strongly (1)	Disagree (2)	Neither disagree, nor agree (3)	Agree (4)	Agree strongly (5)
The appearance of my workspace is pleasing. (1)	○	○	○	○	○
My workspace looks nice. (2)	○	○	○	○	○
My workspace is visually attractive. (3)	○	○	○	○	○

Q11 For the following three items, ***work environment*** refers to the broader environment in which your workspace is located (e.g., the larger room your cubical is in).

	Disagree strongly (1)	Disagree (2)	Neither disagree, nor agree (3)	Agree (4)	Agree strongly (5)
The appearance of my work environment is pleasing. (1)	○	○	○	○	○
My work environment looks nice. (2)	○	○	○	○	○
My work environment is visually attractive. (3)	○	○	○	○	○

Q12

Think of your job in general. All in all, what is it like most of the time? For each word or phrase below, please select "Yes" if it describes your job, "No" if it does not describe it, or "?" if you cannot decide.

	Yes (1)	No (2)	? (3)
Good (1)	○	○	○
Undesirable (2)	○	○	○
Better than most (3)	○	○	○
Disagreeable (4)	○	○	○
Makes me content (5)	○	○	○
Excellent (6)	○	○	○
Enjoyable (7)	○	○	○
Poor (8)	○	○	○

Q13 **Thinking about the past few months, how accurate are each of the following statements at describing how you would normally feel after your usual workday?**					
	Not at all accurate	Slightly Inaccurate	Neither inaccurate, nor accurate	Slightly Accurate	Completely accurate
On an average workday, I work so hard that I eventually lose my ability to concentrate on what I am doing. (1)	○	○	○	○	○
Often, I am so busy working that I am begin to feel I am losing control over all the work I have to do. (2)	○	○	○	○	○
Even when my work is finished for the day, I often still have trouble concentrating on other things. (3)	○	○	○	○	○
I work so long and so hard that I usually do not have much attention left to give to my job tasks. (4)	○	○	○	○	○
My work has takes so much effort that I have difficulty keeping my thoughts straight. (5)	○	○	○	○	○
On a typical day, despite my work efforts, I think as clearly as I was when I started working that day. (6)	○	○	○	○	○
It is often difficult for me to show interest in other people when I finish working. (7)	○	○	○	○	○
When I stop working for the day, I often need more than an hour to begin feeling recovered. (8)	○	○	○	○	○

Usually when I stop my work for the day, I hope other people will leave me alone for a little while. (9)	○	○	○	○	○
Most days after work I am too tired to start on other activities. (10)	○	○	○	○	○
I often need to step away from my work because a break would help me function better. (11)	○	○	○	○	○
When work is finished I need some time by myself to start recovering and restoring myself before starting something else. (12)	○	○	○	○	○

Q14 **This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Respond to these items thinking about the extent to which you have felt this way over the past few weeks at the end of your typical work days.**

	Very slightly or not at all (1)	A little (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
Afraid (1)	○	○	○	○	○
Scared (2)	○	○	○	○	○
Nervous (3)	○	○	○	○	○
Jittery (4)	○	○	○	○	○
Irritable (5)	○	○	○	○	○
Hostile (6)	○	○	○	○	○
Guilty (7)	○	○	○	○	○
Ashamed (8)	○	○	○	○	○
Upset (9)	○	○	○	○	○
Distressed (10)	○	○	○	○	○
Active (11)	○	○	○	○	○
Alert (12)	○	○	○	○	○
Attentive (13)	○	○	○	○	○
Determined (14)	○	○	○	○	○

Enthusiastic (15)	○	○	○	○	○
Excited (16)	○	○	○	○	○
Inspired (17)	○	○	○	○	○
Interested (18)	○	○	○	○	○
Proud (19)	○	○	○	○	○
Strong (20)	○	○	○	○	○

Q15 **The following section items are focused on additional attitudes you may have about your work. Respond to these items thinking about how you have felt about your work over the past few months.**

Q16 How often have you considered leaving your job?

- ○ 1 = Never (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ 5 = Always (5)

Q17 How likely are you to accept another job at the same compensation level should it be offered to you?

- 1 = Highly unlikely (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 = Highly likely (5)

Q18 How often do you dream about getting another job that will better suit your personal needs?

- 1 = Never (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 = Always (5)

Q19 How often are you frustrated when not given the opportunity at work to achieve your personal work-related goals?

- 1 = Never (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 = Always (5)

Q20 To what extent is your current job satisfying your personal needs?

- 1 = To a very large extent (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 = To no extent (5)

Q21 How often do you look forward to another day at work?

- 1 = Never (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 = Always (5)

Q22 **This part of the survey is asking questions about your general personality. Please select the response option that best represents how accurately each statement describes you. I…**

	1 = Very inaccurate (1)	2 (2)	3 (3)	4 (4)	5 = Very accurate (5)
Am the life of the party. (1)	○	○	○	○	○
Sympathize with others' feelings. (2)	○	○	○	○	○
Get chores done right away. (3)	○	○	○	○	○
Have frequent mood swings. (4)	○	○	○	○	○
Have a vivid imagination. (5)	○	○	○	○	○
Feel entitled to more of everything (6)	○	○	○	○	○
Don't talk a lot. (7)	○	○	○	○	○
Am not interested in other people's problems. (8)	○	○	○	○	○
Have difficulty understanding abstract ideas. (9)	○	○	○	○	○
Like order. (10)	○	○	○	○	○
Make a mess of things. (11)	○	○	○	○	○
Deserve more things in life. (12)	○	○	○	○	○

Do not have a good imagination. (13)	○	○	○	○	○
Feel others' emotions. (14)	○	○	○	○	○
Am relaxed most of the time. (15)	○	○	○	○	○
Get upset easily (16)	○	○	○	○	○
Seldom feel blue (17)	○	○	○	○	○
Would like to be seen driving around in a very expensive car. (18)	○	○	○	○	○
Keep in the background. (19)	○	○	○	○	○
Am not really interested in others. (20)	○	○	○	○	○
Am not interested in abstract ideas (21)	○	○	○	○	○
Often forget to put things back in their proper place. (22)	○	○	○	○	○
Talk to a lot of different people at parties. (23)	○	○	○	○	○
Would get a lot of pleasure from owning expensive luxury goods. (24)	○	○	○	○	○

Q23 **The questions in this section concern characteristics of the job itself. Using the scale below, please indicate the extent to which you agree with each statement. Remember to think only about your job itself, rather than your reactions to the job.**

	Disagree strongly (1)	Disagree (2)	Neither disagree, nor agree (3)	Agree (4)	Agree strongly (5)
The workplace is free from excessive noise. (1)	○	○	○	○	○
The climate at the work place is comfortable in terms of temperature and humidity. (2)	○	○	○	○	○
The job has a low risk of accident. (3)	○	○	○	○	○
The job takes place in an environment free from health hazards (e.g., chemicals, fumes, etc.) (4)	○	○	○	○	○
The job occurs in a clean environment. (5)	○	○	○	○	○

Q24 **How much control do you have control over the visual appearance of your workspace (the area of your work environment in which you spend the majority of your worktime e.g., cubical)?**

- ○ None at all (1)
- ○ A little (2)
- ○ A moderate amount (3)
- ○ A lot (4)
- ○ A great deal (5)

Q25 **How much control do you have over the visual appearance of your work environment (the broader environment in which your workspace is located)?**

- ○ None at all (1)
- ○ A little (2)
- ○ A moderate amount (3)
- ○ A lot (4)
- ○ A great deal (5)

Q26 **Please mark the response that best matches your reaction to the following statement:**
If I could, I would have the visual appearance of my workspace and work environment improved.

- ○ Disagree strongly (1)
- ○ Disagree (2)
- ○ Neither disagree, nor agree (3)
- ○ Agree (4)
- ○ Agree strongly (5)

Q52 **Please respond honestly and completely to the following questions, so we can accurately describe the overall sample of respondents in this research.**

Q27 Please type your age in years (e.g., 33)

_____

Q28 I identify most as...

- ○ Male (1)
- ○ Female (2)
- ○ Rather not say/Other (3)

Q29 I am...

- ○ Hispanic/Latino (1)
- ○ Not Hispanic/Latino (2)

Q30 With which of the following do you most closely identify?

- ○ American Indian or Alaska Native (1)
- ○ Asian (2)
- ○ Black or African American (3)
- ○ Native Hawaiian or Other Pacific Islander (4)
- ○ Middle Eastern or North African (5)
- ○ White (6)
- ○ Multi-race (7)
- ○ Other (please specify) (8) _____

Q31 Highest level of completed education:

- ○ Some high school, but no degree (1)
- ○ High school diploma (2)
- ○ Some college but no degree (3)
- ○ Associate's degree (4)
- ○ Bachelor's degree (5)
- ○ Some graduate school but no degree (6)
- ○ Master's degree (7)
- ○ Doctoral degree (8)

Q32 Please report the number of years you have worked at your current organization (round to nearest whole number).

_____

Q33 Think about the general work environment in which you spend the most time each week. For how many years have you worked in this particular work environment, in its current state (round to nearest year)?

_____

Q34 In an average week, about how many hours do you typically spend working? Please round to nearest whole hour (e.g., 40).

_____

Q48 Please briefly describe your current and primary personal workspace (e.g., cubical, office, work truck).

_____

Q35 In an average week, out of the time you spend working, about how many hours do you spend in this current/main workspace? Please enter this time in hours (e.g., 30).

_____

Q36 In what industry is your employer situated?

_____

Q37 Briefly, how would you describe your basic job function?

_____

Q38 What is your job title?

_____

Q39 **Please answer the extent that you agree or disagree with the following statement:**
My personal workspace provides all of the basic features I need to do my job.

- ○ Disagree strongly (1)
- ○ Disagree somewhat (2)
- ○ Neither disagree, nor agree (3)
- ○ Agree somewhat (4)
- ○ Agree strongly (5)

Q40 **Consider the following visual elements that may or may not be present in your work environment. For each element, first indicate if that element is visible to you from your immediate work area (e.g., you can see it while sitting at your desk). Then, on the next page, please indicate how important it is to you to have these elements present and visible to you in your workplace.**

Q41 Please select all of the following visual elements that are visible to you from your immediate work area (e.g., you can see it while sitting at your desk).

- [ ] Live indoor plants (1)
- [ ] Artificial plants (2)
- [ ] Artwork or photographs of nature elements or scenes (3)
- [ ] Artwork or photographs of non-nature elements or scenes (4)
- [ ] Direct natural light (e.g. immediate access to a window or skylight that allows sunlight to fall directly on you) (5)
- [ ] Indirect natural light (e.g., part of the lighting in your area is due to sunlight, but it is filtered/does not directly fall on you) (6)
- [ ] Windows that include some nature views (e.g., a mixture of buildings and several trees and grassy areas, a field, etc.) (7)
- [ ] Windows that have nearly all urban/man-made views (e.g., there are only buildings and very minimal living plants such as trees visible) (8)
- [ ] Colorful walls (e.g., walls that are any color besides a neutral color such as white, beige, or grey) (9)
- [ ] Colorful accents on furniture or other colorful decorations (e.g., there are colors present besides neutral colors such as white, beige, or grey) (10)
- [ ] Natural elements besides live plants (e.g., wood floors, wood decorations, stone elements, running water, etc.) (11)
- [ ] Other decorations (e.g., any type of object that you feel adds to the aesthetics or attractiveness of your office space) (12)

Q42 **Consider the following visual elements that may or may not be present in your work environment. Please mark how important it is to you to have this element present and visible to you in your workplace.**

	Not at all important (1)	Slightly important (2)	Moderately important (3)	Very important (4)	Extremely important (5)
Live indoor plants (1)	○	○	○	○	○
Artificial plants (2)	○	○	○	○	○
Artwork or photographs of nature elements or scenes (3)	○	○	○	○	○
Artwork or photographs of non-nature elements or scenes (4)	○	○	○	○	○
Direct natural light (e.g. immediate access to a window or skylight that allows sunlight to fall directly on you) (5)	○	○	○	○	○
Indirect natural light (e.g., part of the lighting in your area is due to sunlight, but it is filtered/does not directly fall on you) (6)	○	○	○	○	○

Windows that include some nature views (e.g., a mixture of buildings and several trees and grassy areas, a field, etc.) (7)	○	○	○	○	○
Windows that have nearly all urban/man-made views (e.g., there are only buildings and very minimal living plants such as trees visible) (8)	○	○	○	○	○
Colorful walls (e.g., walls that are any color besides a neutral color such as white, beige, or grey) (9)	○	○	○	○	○
Colorful accents on furniture or other colorful decorations (e.g., there are colors present besides neutral colors such as white, beige, or grey) (10)	○	○	○	○	○

Natural elements besides live plants (e.g., wood floors, wood decorations, stone elements, running water, etc.) (11)	○	○	○	○	○
Other decorations (e.g., any type of object that you feel adds to the aesthetics or attractiveness of your office space) (12)	○	○	○	○	○

Q43 **We are interested in more fully understanding the aesthetic elements or features that contribute to a visually attractive workplace. If there are other specific elements not included in the statements above that you would see as important to creating a visually attractive and pleasing workplace, please share those with us now. Please enter each additional element on its own line in the box below and in parentheses after each element indicate whether this element is present in your current workplace or not - EXAMPLE: Fountain (Yes)**

_____

_____

_____

Q44 **Finally, in a few sentences or bullet-point statements, please describe what you find visually attractive or unattractive about your workspace and/or work environment. If there are specific elements or objects that you think affect the visual aesthetics/attractiveness of your space, please mention these.**

_____

_____

_____

Q45 **Thank you so much for taking the time to complete this survey.**

Would you like to be entered into the incentive drawing for participating in this study? If so, please enter your email address below and you will have one entry into a drawing for one of 15, $50 Amazon.com gift cards. These will be distributed after the data collection for this study is completed.

Q46 **Are you willing to continue on a second phase of this study? In it you will be asked to take and upload to us (the researchers) 3 pictures of your workspace and work environment...that's it, we promise! If this sounds like something you would be able to do within the next week or so, please enter your email below and you will receive an email with further details. Please note that completion of the second phase of the study will ensure you two additional entries into the incentive drawing for one of 15, $50 Amazon gift cards.**

○ Email: (8) _____

APPENDIX D

PROCESS Tables for Research Question 1

PROCESS Output: PAE Predicting Job Satisfaction with OBSIN

Variable	**Coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	10.5928	11.0399	9.6372	-8.3372	29.3664
PAE	0.7853	0.724	1.4103	-2.0238	3.5814
NFAPW	2.234	2.2003	1.5447	-0.6807	5.4408
PAE X NFAPW	-0.3136	-0.3133	0.3129	-0.995	0.2624
OBSIN	-0.3417	-0.3449	0.4523	-1.2681	0.532
PAE X OBSIN	0.1032	0.109	0.093	-0.0633	0.3013
Age	0.0283	0.03	0.0493	-0.0635	0.1305
Female	0.0549	0.0098	1.3533	-2.6485	2.6265
Education	-0.2913	-0.2849	0.352	-0.9455	0.4396
Tenure	-0.029	-0.03	0.0705	-0.1741	0.1032
Environmental Tenure	-0.0358	-0.04	0.0511	-0.1368	0.0695
Work hours	0.0864	0.0867	0.0617	-0.0338	0.2077
Hours in environment	-0.0778	-0.0743	0.0558	-0.1811	0.0382
PANAS Negative	-0.1441	-0.1389	0.1031	-0.3425	0.0622
PANAS Positive	0.2002	0.2027	0.0592	0.0894	0.3217
Extraversion	0.1318	0.0595	0.564	-1.0855	1.1319
Agreeableness	-1.3029	-1.2546	0.727	-2.6753	0.1615
Conscientiousness	-0.2238	-0.3026	0.5678	-1.4112	0.8149
Neuroticism	0.2293	0.1962	0.6005	-0.9749	1.3789
Openness	-0.2398	-0.2283	0.8616	-1.8994	1.5165
Honesty-Humility	-0.3659	-0.4074	0.8262	-2.0166	1.1984
WDQ: Work conditions	0.0469	0.07	0.6958	-1.2721	1.4746
Control (workspace)	1.5162	1.467	0.483	0.51	2.4399
Control (work enviro.)	-0.378	-0.3641	0.4044	-1.159	0.4354
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4135	22.8119	3.3112	23	108	0.0000

PROCESS Output: PAE Predicting Job Satisfaction with OBSOUT

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	10.8745	11.8217	8.6882	-5.7609	28.5213
PAE	0.8395	0.6856	1.4721	-2.2787	3.5264
NFAPW	3.5242	3.4762	1.7507	0.1093	7.0431
PAE X NFAPW	-0.5353	-0.5333	0.3466	-1.2511	0.1063
OBSOUT	-1.013	-1.0508	0.5296	-2.0894	-0.0294
PAE X OBSOUT	0.1584	0.1712	0.1088	-0.0335	0.397
Age	0.0212	0.024	0.0485	-0.0683	0.1213
Female	0.4276	0.4756	1.2832	-1.983	3.03
Education	-0.3349	-0.3365	0.3226	-0.9568	0.3126
Tenure	-0.0199	-0.0236	0.0731	-0.1707	0.116
Environmental Tenure	-0.0326	-0.0371	0.053	-0.1345	0.0744
Work hours	0.0771	0.0805	0.0632	-0.0422	0.2064
Hours in environment	-0.0692	-0.0666	0.0577	-0.1799	0.0465
PANAS Negative	-0.1365	-0.1337	0.0986	-0.3279	0.0568
PANAS Positive	0.2004	0.2021	0.0563	0.0931	0.3145
Extraversion	0.0922	0.0315	0.5303	-1.0157	1.0591
Agreeableness	-1.2579	-1.2406	0.7204	-2.6945	0.1803
Conscientiousness	-0.1889	-0.2583	0.5335	-1.2991	0.8042
Neuroticism	0.5054	0.4773	0.5811	-0.611	1.6923
Openness	-0.0923	-0.1069	0.8046	-1.6421	1.5691
Honesty-Humility	0.0314	-0.0075	0.7871	-1.4968	1.6057
WDQ: Work conditions	0.1242	0.1266	0.6536	-1.0856	1.4559
Control (workspace)	1.4188	1.384	0.4704	0.4708	2.3301
Control (work enviro.)	-0.3098	-0.2864	0.4164	-1.0988	0.5399
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4369	21.9026	3.6436	23	108	0.0000

PROCESS Output: PAE Predicting Job Satisfaction with DES

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	2.7839	2.9179	9.8367	-16.8398	22.0314
PAE	2.3521	2.3516	1.3699	-0.236	5.2346
NFAPW	1.364	1.3635	1.4209	-1.2888	4.4156
PAE X NFAPW	-0.1523	-0.1531	0.289	-0.7644	0.3848
DES	0.4593	0.4485	0.2667	-0.0669	0.9876
PAE X DES	-0.0656	-0.0653	0.0489	-0.1636	0.0295
Age	0.0281	0.0294	0.049	-0.0653	0.129
Female	0.2917	0.2692	1.2498	-2.16	2.7405
Education	-0.3333	-0.3269	0.3566	-1.005	0.4257
Tenure	-0.0285	-0.0308	0.0711	-0.1762	0.1051
Environmental Tenure	-0.0088	-0.0119	0.0539	-0.1147	0.0986
Work hours	0.0779	0.0787	0.061	-0.0426	0.1988
Hours in environment	-0.0778	-0.073	0.0544	-0.1792	0.0361
PANAS Negative	-0.1442	-0.1333	0.1044	-0.334	0.0718
PANAS Positive	0.1948	0.1961	0.0573	0.087	0.3095
Extraversion	-0.1537	-0.2097	0.5853	-1.3887	0.9211
Agreeableness	-1.2982	-1.2295	0.7115	-2.6496	0.1634
Conscientiousness	-0.1572	-0.2143	0.5561	-1.2876	0.9051
Neuroticism	0.4495	0.3951	0.5829	-0.7165	1.5628
Openness	-0.17	-0.1705	0.7841	-1.6393	1.4566
Honesty-Humility	-0.4685	-0.5012	0.8129	-2.0925	1.0886
WDQ: Work conditions	0.1701	0.1927	0.6917	-1.1251	1.5752
Control (workspace)	1.5575	1.5304	0.4412	0.6393	2.3919
Control (work enviro.)	-0.513	-0.5045	0.4038	-1.279	0.2868
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4263	22.3172	3.4887	23	108	0.0000

PROCESS Output: PAE Predicting Job Satisfaction with AWJ

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	14.2904	14.0414	9.9682	-5.5848	33.5975
PAE	0.5889	0.6101	1.5283	-2.2744	3.7088
NFAPW	1.4062	1.3739	1.4978	-1.4677	4.5753
PAE X NFAPW	-0.1672	-0.1685	0.301	-0.8025	0.4086
AWJ	-0.3069	-0.2953	0.233	-0.7184	0.198
PAE X AWJ	0.0369	0.0368	0.042	-0.053	0.1132
Age	0.0336	0.0335	0.0502	-0.0626	0.1357
Female	0.3235	0.3193	1.2453	-2.0857	2.85
Education	-0.3219	-0.3382	0.3277	-0.9694	0.3334
Tenure	-0.0269	-0.0293	0.0701	-0.172	0.1035
Environmental Tenure	-0.0289	-0.0306	0.0487	-0.1252	0.0696
Work hours	0.0817	0.0841	0.0612	-0.0354	0.2081
Hours in environment	-0.0896	-0.086	0.054	-0.1881	0.0224
PANAS Negative	-0.1467	-0.1414	0.1118	-0.3623	0.0779
PANAS Positive	0.215	0.2159	0.0581	0.1047	0.3336
Extraversion	0.2917	0.2266	0.5482	-0.8745	1.2728
Agreeableness	-1.3106	-1.2298	0.7249	-2.6568	0.1843
Conscientiousness	-0.026	-0.0852	0.5645	-1.1747	1.027
Neuroticism	-0.0308	-0.036	0.596	-1.2092	1.1353
Openness	-0.098	-0.1022	0.792	-1.6265	1.5084
Honesty-Humility	-0.3699	-0.3619	0.7859	-1.8771	1.217
WDQ: Work conditions	0.0127	0.0569	0.7096	-1.2922	1.4775
Control (workspace)	1.696	1.6546	0.4954	0.6974	2.6518
Control (work enviro.)	-0.4747	-0.4729	0.4104	-1.2863	0.3337
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4254	22.3519	3.476	23	108	0.0000

PROCESS Output: PAE Predicting Recovery Needs with OBSIN

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	1.4651	1.5226	1.0602	-0.4811	3.7081
PAE	0.2277	0.2006	0.1773	-0.177	0.5293
NFAPW	0.2454	0.2256	0.2074	-0.1885	0.6215
PAE X NFAPW	-0.0576	-0.0515	0.0435	-0.1371	0.0361
OBSIN	-0.0002	-0.0023	0.0588	-0.1167	0.1161
PAE X OBSIN	-0.0032	-0.0031	0.0117	-0.0263	0.0202
Age	0.0066	0.0072	0.0074	-0.0072	0.022
Female	0.3118	0.2996	0.1523	-0.0038	0.5994
Education	-0.1113	-0.1078	0.0465	-0.2012	-0.0163
Tenure	0.0007	-0.0007	0.0104	-0.0214	0.0193
Environmental Tenure	-0.0098	-0.0097	0.0071	-0.0225	0.0056
Work hours	0.0181	0.0183	0.0068	0.005	0.0323
Hours in environment	-0.0014	-0.0012	0.0061	-0.0136	0.0105
PANAS Negative	0.0576	0.0594	0.0126	0.0364	0.0859
PANAS Positive	-0.008	-0.0077	0.007	-0.0214	0.0065
Extraversion	-0.1694	-0.169	0.0717	-0.3107	-0.029
Agreeableness	-0.0521	-0.0648	0.1044	-0.277	0.1356
Conscientiousness	-0.0378	-0.0386	0.0681	-0.1725	0.093
Neuroticism	0.1179	0.114	0.0792	-0.046	0.2689
Openness	-0.0014	-0.0029	0.1088	-0.2178	0.2118
Honesty-Humility	-0.0203	-0.0129	0.0953	-0.2004	0.177
WDQ: Work conditions	-0.0285	-0.0304	0.088	-0.2044	0.1449
Control (workspace)	0.0524	0.0546	0.0684	-0.0842	0.1851
Control (work enviro.)	0.0331	0.0367	0.0562	-0.0728	0.1476
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4966	0.3624	4.6314	23	108	0.0000

PROCESS Output: PAE Predicting Recovery Needs with OBSOUT

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	1.3908	1.4281	0.9955	-0.4367	3.4882
PAE	0.2305	0.2159	0.1764	-0.1387	0.5616
NFAPW	0.1093	0.1227	0.2168	-0.3024	0.5492
PAE X NFAPW	-0.0347	-0.0357	0.0443	-0.1259	0.0506
OBSOUT	0.0744	0.066	0.0607	-0.0547	0.1863
PAE X OBSOUT	-0.0105	-0.0093	0.0127	-0.0336	0.0166
Age	0.0069	0.007	0.007	-0.0066	0.021
Female	0.2703	0.2627	0.1433	-0.0216	0.5445
Education	-0.1053	-0.1047	0.0444	-0.1929	-0.0168
Tenure	0.0002	-0.0008	0.0103	-0.0215	0.019
Environmental Tenure	-0.0099	-0.0102	0.007	-0.0232	0.0047
Work hours	0.0187	0.0193	0.0067	0.0064	0.033
Hours in environment	-0.0021	-0.0015	0.0059	-0.0134	0.0099
PANAS Negative	0.0567	0.058	0.012	0.0361	0.0831
PANAS Positive	-0.0081	-0.0081	0.0068	-0.0214	0.0056
Extraversion	-0.1652	-0.162	0.0705	-0.2993	-0.0228
Agreeableness	-0.052	-0.0675	0.1018	-0.27	0.1284
Conscientiousness	-0.041	-0.0464	0.0683	-0.1805	0.0863
Neuroticism	0.1033	0.0962	0.0793	-0.0613	0.2526
Openness	-0.0217	-0.0229	0.1041	-0.233	0.1776
Honesty-Humility	-0.0584	-0.0446	0.1013	-0.2367	0.1583
WDQ: Work conditions	-0.0356	-0.0379	0.0852	-0.2092	0.1238
Control (workspace)	0.0679	0.0659	0.0647	-0.0654	0.189
Control (work enviro.)	0.0225	0.0304	0.0585	-0.0858	0.1459
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.5049	0.3564	4.7894	23	108	0.0000

PROCESS Output: PAE Predicting Recovery Needs with DES

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	0.9326	0.915	1.193	-1.4495	3.2412
PAE	0.3211	0.3092	0.182	-0.0567	0.6649
NFAPW	0.2078	0.1976	0.1912	-0.2073	0.5455
PAE X NFPAW	-0.0455	-0.0415	0.04	-0.1184	0.0395
DES	0.0321	0.0369	0.0362	-0.0287	0.1128
PAE X DES	-0.0096	-0.0101	0.0067	-0.024	0.0024
Age	0.0076	0.0079	0.0071	-0.0062	0.0218
Female	0.3173	0.3121	0.1469	0.0246	0.5986
Education	-0.1006	-0.099	0.0448	-0.1896	-0.0129
Tenure	0.0001	-0.0009	0.0098	-0.0202	0.0187
Environmental Tenure	-0.0098	-0.0097	0.0071	-0.0227	0.0054
Work hours	0.018	0.0181	0.0068	0.0052	0.0319
Hours in environment	-0.001	-0.0005	0.0062	-0.0129	0.0116
PANAS Negative	0.0534	0.0555	0.0129	0.0319	0.0827
PANAS Positive	-0.0094	-0.0094	0.007	-0.023	0.0047
Extraversion	-0.1569	-0.157	0.0765	-0.3065	-0.0078
Agreeableness	-0.0583	-0.0777	0.1064	-0.289	0.1263
Conscientiousness	-0.0333	-0.0374	0.0703	-0.1756	0.0969
Neuroticism	0.1341	0.1257	0.0793	-0.0313	0.2822
Openness	0.0025	0.0032	0.1068	-0.2089	0.2091
Honesty-Humility	-0.011	-0.002	0.0924	-0.1838	0.1776
WDQ: Work conditions	-0.027	-0.0301	0.0853	-0.201	0.1351
Control (workspace)	0.0445	0.0471	0.0653	-0.085	0.1725
Control (work enviro.)	0.0374	0.0413	0.0554	-0.0673	0.1498
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.508	.3542	4.8481	23	108	0.0000

PROCESS Output: PAE Predicting Recovery Needs with AWJ

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	1.5791	1.5723	1.0943	-0.4853	3.8116
PAE	0.3441	0.3254	0.1877	-0.0564	0.684
NFAPW	0.2811	0.2739	0.1809	-0.1103	0.6037
PAE X NFAPW	-0.0639	-0.0599	0.0385	-0.1336	0.0202
AWJ	-0.0046	-0.0038	0.0228	-0.0491	0.0402
PAE X AWJ	-0.0067	-0.0068	0.0042	-0.0149	0.0016
Age	0.0085	0.0089	0.0071	-0.005	0.0229
Female	0.3405	0.3323	0.142	0.051	0.6125
Education	-0.0885	-0.0857	0.045	-0.1757	0.0036
Tenure	0.0013	0.0006	0.0101	-0.0193	0.0205
Environmental Tenure	-0.01	-0.0104	0.0067	-0.0235	0.0037
Work hours	0.0184	0.0184	0.0065	0.0058	0.0314
Hours in environment	-0.0021	-0.0018	0.0061	-0.0141	0.0101
PANAS Negative	0.0498	0.0514	0.0116	0.0304	0.0758
PANAS Positive	-0.0096	-0.0098	0.0067	-0.0227	0.0039
Extraversion	-0.1496	-0.1457	0.0716	-0.2846	-0.0014
Agreeableness	-0.0813	-0.0965	0.0941	-0.287	0.0844
Conscientiousness	-0.0173	-0.0175	0.0699	-0.1568	0.1168
Neuroticism	0.0345	0.0377	0.0796	-0.1213	0.1917
Openness	0.0034	0.003	0.1007	-0.1977	0.1996
Honesty-Humility	-0.0161	-0.0117	0.0906	-0.1914	0.1657
WDQ: Work conditions	-0.0346	-0.0362	0.0819	-0.2017	0.1201
Control (workspace)	0.033	0.0369	0.0613	-0.0871	0.1553
Control (work enviro.)	0.0485	0.0503	0.0532	-0.0518	0.1562
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.5359	0.3341	5.4215	23	108	0.0000

PROCESS Output: PAE Predicting Negative Work Attitudes with OBSIN

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-1.6757	-1.0622	9.0593	-18.008	17.9415
PAE	1.51	1.4555	1.4338	-1.3792	4.2739
NFAPW	0.97	0.7874	1.5613	-2.5023	3.7001
PAE X NFAPW	-0.2576	-0.2295	0.3342	-0.8958	0.4293
OBSIN	0.1277	0.1451	0.4668	-0.76	1.0669
PAE X OBSIN	-0.0974	-0.1031	0.0979	-0.3041	0.0848
Age	0.026	0.0253	0.0548	-0.0849	0.1308
Female	-0.167	-0.2818	1.2077	-2.7219	2.0407
Education	0.1365	0.1415	0.3722	-0.6028	0.8571
Tenure	0.0841	0.0821	0.0762	-0.0659	0.234
Environmental Tenure	0.0278	0.0328	0.0634	-0.0825	0.1641
Work hours	0.0654	0.0651	0.0572	-0.0436	0.1802
Hours in environment	0.031	0.0306	0.0537	-0.0719	0.138
PANAS Negative	0.3675	0.3681	0.0947	0.1774	0.548
PANAS Positive	-0.1715	-0.1655	0.0518	-0.2665	-0.0625
Extraversion	0.0796	0.0676	0.5565	-1.0365	1.1661
Agreeableness	0.673	0.6076	0.8064	-0.9645	2.1957
Conscientiousness	1.1173	1.1496	0.5684	0.0504	2.247
Neuroticism	0.5638	0.6431	0.6466	-0.6103	1.9314
Openness	0.7074	0.6685	0.8217	-0.9461	2.329
Honesty-Humility	0.6008	0.5527	0.6672	-0.7325	1.8871
WDQ: Work conditions	-0.0606	-0.0181	0.6135	-1.2344	1.1578
Control (workspace)	-1.8236	-1.8233	0.4591	-2.7388	-0.9297
Control (work enviro.)	0.5763	0.564	0.4509	-0.323	1.4429
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.481	22.7909	4.3522	23	108	0.0000

PROCESS Output: PAE Predicting Negative Work Attitudes with OBSOUT

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	1.9278	2.7878	9.4059	-14.664	22.2952
PAE	0.2544	0.2483	1.5724	-2.8229	3.369
NFAPW	1.4252	1.2314	1.645	-2.1739	4.3265
PAE X NFAPW	-0.3313	-0.3015	0.3459	-0.9822	0.3762
OBSOUT	-0.1543	-0.1373	0.5312	-1.1582	0.9588
PAE X OBSOUT	0.0506	0.0414	0.1065	-0.18	0.2411
Age	0.0279	0.0251	0.0531	-0.0814	0.1274
Female	-0.4003	-0.561	1.1925	-2.9694	1.6964
Education	0.2	0.2204	0.3665	-0.5147	0.9356
Tenure	0.0872	0.0856	0.0735	-0.0609	0.2261
Environmental Tenure	-0.0018	0.0032	0.0609	-0.1057	0.1346
Work hours	0.0708	0.0672	0.0583	-0.0452	0.1862
Hours in environment	0.0452	0.0465	0.0547	-0.0597	0.1552
PANAS Negative	0.3492	0.3444	0.0958	0.1459	0.526
PANAS Positive	-0.183	-0.1786	0.0531	-0.284	-0.0767
Extraversion	0.2399	0.2426	0.5387	-0.8232	1.2985
Agreeableness	0.5547	0.4626	0.786	-1.1043	2.0168
Conscientiousness	0.9069	0.9338	0.5493	-0.1534	2.0112
Neuroticism	0.5213	0.5983	0.6369	-0.6343	1.8827
Openness	0.4357	0.4231	0.7714	-1.094	1.9883
Honesty-Humility	0.5622	0.5375	0.7156	-0.8461	1.9789
WDQ: Work conditions	-0.1336	-0.1195	0.6212	-1.3889	1.0699
Control (workspace)	-1.9002	-1.9115	0.4621	-2.8199	-0.9994
Control (work enviro.)	0.6162	0.6234	0.4606	-0.3038	1.5116
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4726	23.159	4.2084	23	108	0.0000

PROCESS Output: PAE Predicting Negative Work Attitudes with DES

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-1.8681	-0.4933	9.2838	-17.581	19.122
PAE	1.2924	1.1876	1.3909	-1.591	3.9062
NFAPW	1.0033	0.8786	1.5408	-2.4494	3.6482
PAE X NFAPW	-0.228	-0.2196	0.3402	-0.8884	0.459
DES	0.1448	0.1241	0.2959	-0.4658	0.7121
PAE X DES	-0.048	-0.0441	0.0562	-0.15	0.0716
Age	0.0349	0.032	0.0548	-0.0759	0.1379
Female	-0.2932	-0.4725	1.1697	-2.8809	1.7496
Education	0.2433	0.2497	0.3614	-0.4775	0.9433
Tenure	0.0765	0.0774	0.0732	-0.0624	0.2254
Environmental Tenure	0.0096	0.0122	0.0615	-0.1022	0.1378
Work hours	0.0673	0.0655	0.0565	-0.0424	0.1803
Hours in environment	0.0394	0.0383	0.0545	-0.066	0.1479
PANAS Negative	0.3305	0.3238	0.0973	0.1239	0.5088
PANAS Positive	-0.1877	-0.1818	0.0535	-0.2867	-0.0758
Extraversion	0.256	0.2554	0.5762	-0.8554	1.4057
Agreeableness	0.5603	0.5155	0.7898	-1.0231	2.0655
Conscientiousness	0.9963	1.0056	0.5542	-0.0953	2.083
Neuroticism	0.5642	0.6399	0.6302	-0.6153	1.891
Openness	0.5568	0.4926	0.7677	-0.9981	2.0181
Honesty-Humility	0.6292	0.5754	0.6634	-0.7003	1.9201
WDQ: Work conditions	-0.1355	-0.0884	0.6044	-1.3093	1.068
Control (workspace)	-1.908	-1.9258	0.4518	-2.8376	-1.0574
Control (work enviro.)	0.6486	0.6521	0.4476	-0.2172	1.5209
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4763	22.9988	4.2704	23	108	0.0000

PROCESS Output: PAE Predicting Negative Work Attitudes with AWJ

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-1.5041	-0.8931	8.6642	-17.42	16.7023
PAE	1.9862	1.875	1.4296	-1.0046	4.6788
NFAPW	1.5343	1.3898	1.4731	-1.78	4.0419
PAE X NFAPW	-0.3552	-0.327	0.315	-0.9478	0.3095
AWJ	0.113	0.1165	0.1838	-0.2498	0.4715
PAE X AWJ	-0.0581	-0.0586	0.0348	-0.1287	0.0099
Age	0.0367	0.0352	0.0544	-0.0721	0.1415
Female	-0.2452	-0.412	1.1761	-2.796	1.8618
Education	0.3297	0.3525	0.3552	-0.3747	1.028
Tenure	0.0831	0.0833	0.0708	-0.0523	0.225
Environmental Tenure	0.0136	0.0177	0.0612	-0.0983	0.144
Work hours	0.0693	0.0671	0.0576	-0.0432	0.1841
Hours in environment	0.0353	0.0368	0.0524	-0.0655	0.1421
PANAS Negative	0.3108	0.3074	0.1001	0.1002	0.4937
PANAS Positive	-0.1947	-0.1914	0.0527	-0.2942	-0.0877
Extraversion	0.1856	0.1952	0.5526	-0.8721	1.2796
Agreeableness	0.4617	0.4071	0.75	-1.0575	1.9222
Conscientiousness	1.0592	1.0799	0.5416	0.0049	2.1336
Neuroticism	0.1432	0.2339	0.6976	-1.1538	1.6172
Openness	0.5361	0.5057	0.7552	-0.9388	2.0449
Honesty-Humility	0.5856	0.5533	0.6669	-0.7332	1.8885
WDQ: Work conditions	-0.1403	-0.1177	0.5847	-1.3006	1.0059
Control (workspace)	-2.018	-2.0193	0.4552	-2.9329	-1.1431
Control (work enviro.)	0.7244	0.7248	0.4459	-0.158	1.603
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.494	22.221	4.5838	23	108	0.0000

PROCESS Output: PWA Predicting Job Satisfaction with OBSIN

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	14.9685	15.2305	16.0592	-17.834	45.1354
PWA	-0.0623	-0.0659	3.8782	-7.1488	8.1553
NFAPW	1.277	1.1554	2.8813	-4.4704	6.9135
PWA X NFPAW	-0.2016	-0.1716	0.7733	-1.7119	1.3803
OBSIN	-0.9927	-0.943	0.8673	-2.6128	0.8062
PWA X OBSIN	0.3006	0.2877	0.2334	-0.1846	0.7363
Age	0.0173	0.0163	0.051	-0.0823	0.1191
Female	0.1421	0.1399	1.296	-2.4293	2.642
Education	0.0372	0.0278	0.3661	-0.6587	0.7771
Tenure	-0.0029	-0.0061	0.0757	-0.1609	0.1368
Environmental Tenure	-0.0167	-0.021	0.0505	-0.1242	0.0804
Work hours	0.0547	0.0559	0.0614	-0.0651	0.1757
Hours in environment	-0.0629	-0.0599	0.0571	-0.1699	0.0553
PANAS Negative	-0.1099	-0.1023	0.0966	-0.29	0.0857
PANAS Positive	0.1688	0.1729	0.0587	0.0621	0.2934
Extraversion	0.0542	-0.0107	0.5021	-1.0329	0.9344
Agreeableness	-1.4663	-1.4681	0.6556	-2.79	-0.2223
Conscientiousness	-0.2202	-0.2823	0.5444	-1.333	0.8029
Neuroticism	0.0743	0.0208	0.5612	-1.0573	1.1469
Openness	0.2023	0.2555	0.8255	-1.3274	1.9353
Honesty-Humility	-0.0127	-0.037	0.7844	-1.5292	1.5416
WDQ: Work conditions	-0.1587	-0.1592	0.6216	-1.3621	1.1113
Control (workspace)	1.3704	1.35	0.4782	0.4146	2.2991
Control (work enviro.)	-0.4699	-0.4407	0.3797	-1.1706	0.3206
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4427	21.6762	3.7308	23	108	0.0000

PROCESS Output: PWA Predicting Job Satisfaction with OBSOUT

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	23.6981	24.9576	13.5072	-2.3562	51.1032
PWA	-3.2434	-3.5786	3.6451	-10.766	3.6047
NFAPW	2.3426	2.4778	3.0046	-3.3101	8.4629
PWA X NFPAW	-0.4322	-0.4679	0.7934	-2.0495	1.0598
OBSOUT	-2.3686	-2.5173	0.9977	-4.5471	-0.6476
PWA X OBSOUT	0.6181	0.6569	0.2721	0.1531	1.2177
Age	0.0229	0.0238	0.0496	-0.0725	0.1234
Female	0.3625	0.4115	1.2028	-1.9411	2.7585
Education	0.1439	0.1362	0.35	-0.527	0.8458
Tenure	-0.0007	-0.0065	0.0782	-0.1682	0.1382
Environmental Tenure	-0.0178	-0.0235	0.0556	-0.1334	0.0868
Work hours	0.0449	0.051	0.0606	-0.0658	0.1704
Hours in environment	-0.052	-0.0487	0.0559	-0.158	0.0619
PANAS Negative	-0.0876	-0.0779	0.094	-0.2628	0.1088
PANAS Positive	0.1674	0.1727	0.0556	0.0668	0.2867
Extraversion	0.0967	0.0499	0.4581	-0.8559	0.9256
Agreeableness	-1.3468	-1.3503	0.6718	-2.7064	-0.0766
Conscientiousness	-0.1836	-0.2511	0.5384	-1.2929	0.8344
Neuroticism	0.4003	0.3552	0.5654	-0.718	1.4934
Openness	0.1516	0.1546	0.8205	-1.3825	1.8305
Honesty-Humility	0.3356	0.2988	0.7884	-1.1846	1.926
WDQ: Work conditions	0.001	0.0239	0.6327	-1.1683	1.307
Control (workspace)	1.2468	1.2148	0.4667	0.2881	2.1367
Control (work enviro.)	-0.3985	-0.356	0.385	-1.0981	0.4306
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4777	20.3177	4.2942	23	108	0.0000

PROCESS Output: PWA Predicting Job Satisfaction with DES

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-2.2654	-2.2273	18.4931	-40.342	31.7583
PWA	4.6507	4.6266	4.1328	-2.9246	13.373
NFAPW	1.1901	0.9875	3.1318	-5.1855	7.1719
PWA X NFPAW	-0.1973	-0.1345	0.8556	-1.7858	1.5887
DES	0.497	0.5432	0.7116	-0.7726	1.9705
PWA X DES	-0.1045	-0.1177	0.1891	-0.5004	0.2356
Age	0.0057	0.0064	0.0489	-0.0882	0.1048
Female	0.1168	0.0885	1.1964	-2.2628	2.4455
Education	-0.0238	-0.0262	0.3687	-0.706	0.7378
Tenure	0.0031	-0.0016	0.0745	-0.1554	0.1382
Environmental Tenure	-0.0017	-0.0067	0.0506	-0.1101	0.0942
Work hours	0.0549	0.0566	0.0596	-0.0601	0.1753
Hours in environment	-0.0647	-0.0615	0.0547	-0.1695	0.0454
PANAS Negative	-0.1193	-0.108	0.1	-0.3049	0.0907
PANAS Positive	0.1726	0.176	0.0574	0.0669	0.2914
Extraversion	-0.0889	-0.1644	0.538	-1.2592	0.8553
Agreeableness	-1.4257	-1.4395	0.6846	-2.7993	-0.1079
Conscientiousness	-0.2205	-0.2733	0.5534	-1.3374	0.8692
Neuroticism	0.3006	0.2421	0.5977	-0.9184	1.444
Openness	0.2189	0.2587	0.7967	-1.221	1.904
Honesty-Humility	-0.1637	-0.1874	0.8083	-1.7731	1.4253
WDQ: Work conditions	-0.0953	-0.0576	0.6477	-1.2834	1.2704
Control (workspace)	1.4737	1.4586	0.4585	0.5451	2.3628
Control (work enviro.)	-0.5733	-0.5375	0.3887	-1.2848	0.2487
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4419	21.7101	3.7176	23	108	0.0000

PROCESS Output: PWA Predicting Job Satisfaction with AWJ

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	8.0979	10.0191	15.3122	-18.406	41.2088
PWA	3.0791	2.4596	3.639	-5.2426	8.8912
NFAPW	1.1187	0.8091	3.1342	-5.1179	7.1701
PWA X NFPAW	-0.1919	-0.1008	0.8336	-1.7741	1.4705
AWJ	-0.1539	-0.192	0.4856	-1.1377	0.7628
PWA X AWJ	-0.0093	0.0043	0.1246	-0.2348	0.2529
Age	0.0153	0.0143	0.0497	-0.0812	0.1131
Female	0.2636	0.2923	1.1632	-1.9638	2.5944
Education	0.0856	0.0606	0.3498	-0.6171	0.775
Tenure	0.005	0.0024	0.0756	-0.1545	0.1449
Environmental Tenure	-0.0066	-0.0117	0.0483	-0.1138	0.0804
Work hours	0.0553	0.0586	0.0588	-0.0547	0.1769
Hours in environment	-0.0746	-0.0715	0.0556	-0.182	0.0371
PANAS Negative	-0.1443	-0.1321	0.0998	-0.3256	0.0663
PANAS Positive	0.1755	0.1795	0.0576	0.0683	0.2961
Extraversion	0.193	0.1377	0.5015	-0.8688	1.0886
Agreeableness	-1.4933	-1.4649	0.6814	-2.8276	-0.1546
Conscientiousness	-0.0496	-0.1368	0.5637	-1.2158	0.9901
Neuroticism	-0.2584	-0.3012	0.6024	-1.5166	0.8597
Openness	0.3118	0.346	0.7802	-1.1531	1.9204
Honesty-Humility	-0.0004	-0.0177	0.7631	-1.4889	1.4897
WDQ: Work conditions	-0.2304	-0.203	0.6333	-1.4109	1.0838
Control (workspace)	1.4732	1.469	0.4677	0.5451	2.3811
Control (work enviro.)	-0.4987	-0.4886	0.38	-1.2113	0.2758
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4503	21.3808	3.471	23	108	0.0000

PROCESS Output: PWA Predicting Recovery Needs with OBSIN

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	3.0409	2.9583	2.1003	-1.2345	7.1053
PWA	-0.1422	-0.1119	0.5386	-1.173	0.9186
NFAPW	0.1491	0.1887	0.4315	-0.5995	1.0987
PWA X NFPAW	-0.0358	-0.0449	0.1233	-0.304	0.1842
OBSIN	-0.0895	-0.0982	0.1197	-0.3456	0.1308
PWA X OBSIN	0.0279	0.0291	0.0351	-0.0381	0.1021
Age	0.0088	0.0091	0.0071	-0.0051	0.0231
Female	0.2905	0.2729	0.1588	-0.033	0.5891
Education	-0.0966	-0.1	0.0464	-0.1898	-0.006
Tenure	-0.0023	-0.0033	0.0102	-0.0235	0.017
Environmental Tenure	-0.0127	-0.013	0.0071	-0.0258	0.0027
Work hours	0.017	0.0173	0.0066	0.0048	0.031
Hours in environment	0.001	0.001	0.0061	-0.0111	0.0129
PANAS Negative	0.0571	0.0584	0.0119	0.0362	0.0833
PANAS Positive	-0.0104	-0.0104	0.0078	-0.0257	0.0052
Extraversion	-0.1676	-0.1603	0.0721	-0.3002	-0.0139
Agreeableness	-0.0732	-0.0891	0.1089	-0.3068	0.1231
Conscientiousness	-0.0551	-0.0527	0.0712	-0.1912	0.0867
Neuroticism	0.0916	0.0911	0.0769	-0.0591	0.2425
Openness	-0.0186	-0.016	0.1108	-0.2297	0.2012
Honesty-Humility	-0.0267	-0.0224	0.0915	-0.2012	0.1592
WDQ: Work conditions	-0.0546	-0.0591	0.0938	-0.2508	0.1222
Control (workspace)	0.0346	0.0364	0.0708	-0.1087	0.1706
Control (work enviro.)	0.0234	0.0267	0.0568	-0.0841	0.1385
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4828	0.3724	4.3829	23	108	0.0000

PROCESS Output: PWA Predicting Recovery Needs with OBSOUT

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	0.8927	0.8462	1.8316	-2.8619	4.3562
PWA	0.5235	0.5553	0.4611	-0.3254	1.5059
NFAPW	-0.0522	-0.0074	0.4189	-0.7667	0.8436
PWA X NFPAW	0.0074	-0.0029	0.1212	-0.2474	0.2213
OBSOUT	0.2072	0.1995	0.1131	-0.0287	0.4194
PWA X OBSOUT	-0.0487	-0.0479	0.0328	-0.1111	0.0199
Age	0.0062	0.0066	0.0067	-0.0066	0.0202
Female	0.2317	0.2212	0.1476	-0.0676	0.5097
Education	-0.1052	-0.109	0.0438	-0.1944	-0.0211
Tenure	-0.001	-0.0023	0.0101	-0.0225	0.0167
Environmental Tenure	-0.0106	-0.0111	0.0068	-0.0239	0.0033
Work hours	0.0184	0.0186	0.0064	0.0058	0.0312
Hours in environment	-0.0009	-0.0007	0.0057	-0.012	0.0106
PANAS Negative	0.0542	0.0551	0.012	0.0334	0.0803
PANAS Positive	-0.009	-0.0092	0.0078	-0.0244	0.0063
Extraversion	-0.1729	-0.1668	0.0719	-0.3032	-0.0215
Agreeableness	-0.0576	-0.0749	0.109	-0.297	0.1304
Conscientiousness	-0.051	-0.0549	0.0681	-0.1875	0.0797
Neuroticism	0.0855	0.0835	0.077	-0.0684	0.2325
Openness	-0.0204	-0.0213	0.1078	-0.2355	0.1885
Honesty-Humility	-0.0798	-0.0676	0.0977	-0.2616	0.1243
WDQ: Work conditions	-0.0682	-0.0749	0.0882	-0.2551	0.0891
Control (workspace)	0.0713	0.0697	0.0656	-0.0634	0.1956
Control (work enviro.)	-0.0012	0.0063	0.0581	-0.1085	0.1217
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.5007	0.3594	4.7094	23	108	0.0000

PROCESS Output: PWA Predicting Recovery Needs with DES

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-0.0671	-0.0557	2.1148	-4.2521	4.1948
PWA	0.7363	0.7384	0.5039	-0.3122	1.6708
NFAPW	0.0661	0.1195	0.385	-0.6006	0.9031
PWA X NFPAW	-0.0031	-0.0176	0.1102	-0.2415	0.1886
DES	0.1307	0.1219	0.082	-0.0445	0.277
PWA X DES	-0.0405	-0.0373	0.0228	-0.0805	0.0094
Age	0.0079	0.008	0.0068	-0.0054	0.0212
Female	0.2778	0.2596	0.154	-0.0429	0.5634
Education	-0.0926	-0.0961	0.0431	-0.1784	-0.0092
Tenure	-0.0014	-0.0021	0.0099	-0.0215	0.0175
Environmental Tenure	-0.012	-0.0124	0.0068	-0.0252	0.0022
Work hours	0.0171	0.0173	0.0064	0.005	0.0301
Hours in environment	0.0009	0.0011	0.006	-0.011	0.013
PANAS Negative	0.0514	0.0532	0.0121	0.0308	0.0788
PANAS Positive	-0.0109	-0.0112	0.0076	-0.0262	0.0037
Extraversion	-0.1471	-0.1427	0.0755	-0.2918	0.0052
Agreeableness	-0.077	-0.094	0.1124	-0.3234	0.1165
Conscientiousness	-0.034	-0.0376	0.0707	-0.1778	0.1011
Neuroticism	0.1383	0.1338	0.0767	-0.0148	0.2875
Openness	0.0169	0.0141	0.1097	-0.1991	0.2343
Honesty-Humility	-0.0416	-0.0349	0.0889	-0.2107	0.1402
WDQ: Work conditions	-0.0527	-0.0616	0.0923	-0.2492	0.1133
Control (workspace)	0.0362	0.0414	0.0651	-0.0918	0.1654
Control (work enviro.)	0.0196	0.0231	0.0541	-0.0819	0.1303
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.5023	0.3583	4.7383	23	108	0.0000

PROCESS Output: PWA Predicting Recovery Needs with AWJ

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	2.1213	1.9488	2.0312	-2.1517	5.6854
PWA	0.3644	0.4171	0.5426	-0.5663	1.523
NFAPW	0.1235	0.1503	0.3809	-0.5764	0.9054
PWA X NFPAW	-0.033	-0.0385	0.1101	-0.2519	0.1738
AWJ	0.009	0.0151	0.0543	-0.0932	0.1226
PWA X AWJ	-0.0127	-0.0141	0.0145	-0.0425	0.0141
Age	0.0094	0.0096	0.0068	-0.0036	0.0232
Female	0.3278	0.314	0.1477	0.0262	0.6038
Education	-0.0868	-0.0897	0.0448	-0.1773	-0.0019
Tenure	-0.0017	-0.0023	0.01	-0.0221	0.0173
Environmental Tenure	-0.0119	-0.0123	0.0065	-0.0248	0.0009
Work hours	0.017	0.0172	0.0064	0.0045	0.0296
Hours in environment	-0.0003	-0.0002	0.0061	-0.0123	0.0114
PANAS Negative	0.051	0.0516	0.0113	0.0307	0.0757
PANAS Positive	-0.0104	-0.0107	0.0076	-0.0253	0.0042
Extraversion	-0.1489	-0.1402	0.072	-0.2781	0.0024
Agreeableness	-0.1079	-0.1247	0.1022	-0.3311	0.0709
Conscientiousness	-0.0242	-0.0224	0.0714	-0.1648	0.1165
Neuroticism	0.0156	0.0205	0.0791	-0.1365	0.173
Openness	0.0078	0.0064	0.1071	-0.2053	0.2187
Honesty-Humility	-0.0148	-0.014	0.0924	-0.1958	0.1691
WDQ: Work conditions	-0.0666	-0.0752	0.0912	-0.2593	0.0954
Control (workspace)	0.033	0.0355	0.0623	-0.0904	0.1557
Control (work enviro.)	0.0311	0.0343	0.0533	-0.0708	0.1421
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.513	0.3506	4.9468	23	108	0.0000

PROCESS Output: PWA Predicting Negative Work Attitude with OBSIN

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	0.9218	-0.0971	17.0733	-33.594	33.4034
PWA	0.9136	1.3304	4.2637	-7.2448	9.7565
NFAPW	2.4228	2.526	3.0731	-3.5236	8.5815
PWA X NFPAW	-0.6488	-0.7011	0.8581	-2.3839	0.9684
OBSIN	-0.2461	-0.1933	0.9164	-1.9289	1.7023
PWA X OBSIN	0.0355	0.0167	0.2517	-0.5062	0.5031
Age	0.044	0.0416	0.0553	-0.07	0.1507
Female	-0.2333	-0.3781	1.3132	-3.0152	2.162
Education	0.0446	0.0381	0.3735	-0.7102	0.7718
Tenure	0.0547	0.0568	0.0771	-0.0942	0.2091
Environmental Tenure	-0.0038	0.0041	0.0689	-0.1194	0.1457
Work hours	0.0765	0.0751	0.0588	-0.0379	0.1919
Hours in environment	0.0416	0.0425	0.0565	-0.0667	0.1542
PANAS Negative	0.3534	0.3513	0.0976	0.1465	0.5359
PANAS Positive	-0.1655	-0.1607	0.0576	-0.2773	-0.0494
Extraversion	0.1334	0.1453	0.5429	-0.93	1.2155
Agreeableness	0.5592	0.4917	0.7993	-1.0937	2.0514
Conscientiousness	1.0141	1.0642	0.5738	-0.0804	2.1539
Neuroticism	0.4972	0.6272	0.6472	-0.6199	1.9212
Openness	0.3987	0.3935	0.809	-1.2114	1.9733
Honesty-Humility	0.4972	0.4289	0.6407	-0.8397	1.7077
WDQ: Work conditions	-0.0556	-0.0112	0.6647	-1.3338	1.3101
Control (workspace)	-1.897	-1.8931	0.4954	-2.8632	-0.9254
Control (work enviro.)	0.6218	0.5973	0.4277	-0.2421	1.4477
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4682	23.3536	4.1342	23	108	0.0000

PROCESS Output: PWA Predicting Negative Work Attitude with OBSOUT

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-2.6159	-4.3175	16.7893	-37.302	28.1313
PWA	2.0163	2.6875	4.4607	-5.7279	11.7528
NFAPW	1.8394	1.9323	3.1282	-4.166	8.0932
PWA X NFPAW	-0.523	-0.5661	0.8661	-2.2558	1.1156
OBSOUT	0.4409	0.5686	1.1751	-1.4939	3.185
PWA X OBSOUT	-0.1086	-0.1495	0.3256	-0.8684	0.43
Age	0.0401	0.0374	0.0537	-0.0688	0.1429
Female	-0.4568	-0.5627	1.2686	-3.098	1.8607
Education	0.0574	0.0573	0.3592	-0.666	0.7514
Tenure	0.0541	0.0551	0.0767	-0.0946	0.2072
Environmental Tenure	-0.0044	0.0044	0.0656	-0.1172	0.1371
Work hours	0.0786	0.0742	0.0601	-0.0418	0.1954
Hours in environment	0.0379	0.0404	0.0581	-0.0735	0.1553
PANAS Negative	0.3383	0.3353	0.0977	0.1354	0.5199
PANAS Positive	-0.1676	-0.1632	0.0574	-0.2796	-0.0519
Extraversion	0.1629	0.1785	0.5379	-0.8755	1.2301
Agreeableness	0.5788	0.4682	0.7994	-1.08	2.0549
Conscientiousness	0.9585	0.9834	0.5499	-0.1018	2.0632
Neuroticism	0.4796	0.5917	0.6436	-0.6711	1.8619
Openness	0.2787	0.2971	0.7938	-1.2044	1.9215
Honesty-Humility	0.3419	0.3098	0.6809	-0.9891	1.6823
WDQ: Work conditions	-0.1239	-0.1084	0.6739	-1.4427	1.2228
Control (workspace)	-1.7855	-1.8033	0.4955	-2.7509	-0.8147
Control (work enviro.)	0.5742	0.569	0.4348	-0.2905	1.4219
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4681	23.3573	4.1328	23	108	0.0000

PROCESS Output: PWA Predicting Negative Work Attitude with DES

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-14.513	-13.4977	15.684	-42.4	19.8367
PWA	5.0738	5.0369	3.7599	-2.8624	12.1332
NFAPW	2.0344	2.1477	2.9103	-3.5549	7.9135
PWA X NFPAW	-0.4959	-0.5564	0.8337	-2.2356	1.0499
DES	0.8393	0.7633	0.699	-0.672	2.0454
PWA X DES	-0.2461	-0.2284	0.1927	-0.5893	0.1656
Age	0.0433	0.0408	0.0539	-0.0671	0.1477
Female	-0.3475	-0.515	1.2714	-3.0629	1.9027
Education	0.0818	0.0867	0.3653	-0.6399	0.8033
Tenure	0.0569	0.0611	0.0749	-0.0825	0.2136
Environmental Tenure	-0.0093	-0.0044	0.0633	-0.1205	0.1235
Work hours	0.0768	0.0741	0.0587	-0.0388	0.1912
Hours in environment	0.0447	0.0442	0.0565	-0.0636	0.1592
PANAS Negative	0.3156	0.3072	0.1022	0.099	0.4992
PANAS Positive	-0.176	-0.172	0.0596	-0.2932	-0.0567
Extraversion	0.2664	0.31	0.5675	-0.8052	1.42
Agreeableness	0.4542	0.3979	0.8007	-1.141	2.0099
Conscientiousness	1.0419	1.0616	0.552	-0.0303	2.144
Neuroticism	0.7399	0.8547	0.6402	-0.3898	2.1057
Openness	0.4616	0.4296	0.7918	-1.119	2.0395
Honesty-Humility	0.3442	0.311	0.6264	-0.918	1.5434
WDQ: Work conditions	-0.0594	-0.03	0.6664	-1.3301	1.2722
Control (workspace)	-1.8988	-1.9237	0.4815	-2.8844	-0.9734
Control (work enviro.)	0.6177	0.6108	0.4247	-0.2389	1.4476
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4805	22.8138	4.3431	23	108	0.0000

PROCESS Output: PWA Predicting Negative Work Attitude with AWJ

Variable	**coeff**	**BootMean coeff**	**BootSE**	**BootLLCI**	**BootULCI**
Constant	-1.1169	-2.213	15.3022	-33.25	25.9618
PWA	2.4409	2.9788	4.0209	-4.2014	11.1813
NFAPW	2.1017	2.1639	3.0153	-3.8523	8.0315
PWA X NFPAW	-0.5863	-0.6205	0.8431	-2.26	1.058
AWJ	0.1269	0.1939	0.4459	-0.6634	1.0837
PWA X AWJ	-0.0751	-0.0949	0.1202	-0.3387	0.132
Age	0.0496	0.0469	0.0539	-0.0612	0.1525
Female	-0.1897	-0.3451	1.288	-2.8677	2.1361
Education	0.1187	0.1274	0.3661	-0.5928	0.8324
Tenure	0.0525	0.055	0.0735	-0.0869	0.2036
Environmental Tenure	-0.008	-0.0013	0.063	-0.1157	0.1302
Work hours	0.0761	0.0731	0.0586	-0.0377	0.1898
Hours in environment	0.0388	0.04	0.0553	-0.0654	0.1501
PANAS Negative	0.3207	0.3112	0.1034	0.0981	0.5079
PANAS Positive	-0.1731	-0.1715	0.0579	-0.2864	-0.0589
Extraversion	0.2337	0.2542	0.5482	-0.8171	1.3327
Agreeableness	0.3514	0.2582	0.787	-1.2687	1.826
Conscientiousness	1.0632	1.1105	0.5611	-0.0132	2.183
Neuroticism	0.1797	0.3022	0.7099	-1.1217	1.6808
Openness	0.3799	0.3563	0.7733	-1.1354	1.8872
Honesty-Humility	0.5018	0.4481	0.6567	-0.7849	1.7617
WDQ: Work conditions	-0.1396	-0.1197	0.647	-1.3898	1.1394
Control (workspace)	-1.9046	-1.9393	0.485	-2.9021	-0.9747
Control (work enviro.)	0.6772	0.6755	0.4309	-0.178	1.5164
Model Summary					
R-sq	*MSE*	*F*	*df*1	*df*2	*p*
0.4763	22.999	4.27	23	108	0.0000

VITA

Lydia Fogo Johnson was born in Knoxville, Tennessee to Denis and Karen Fogo. She was raised in Chattanooga, TN and graduated from Chattanooga State Middle College. After graduation, she attended The University of Tennessee at Chattanooga (UTC) as a Brock Scholar. There she majored in studio art, and eventually found a second love in Psychology. She graduated in 2017 with departmental honors, a Bachelor of Arts in studio art and humanities, and a psychology minor. After graduation, she attended UTC for graduate school. During her graduate degree, she had the honor to work for Tennessee Valley Authority as an intern and return to the Honors College as a graduate assistant. Lydia graduated in May 2019 with a Master of Science degree in Industrial-Organizational Psychology.