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The Effects of Positive and Negative Stress in the Workplace

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Bachelor of Arts

Submitted in partial fulfilment of the requirements for

College Honors

Departmental Distinction in Psychology

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The Effects of Positive and Negative Stress in the Workplace

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Abstract

This study investigated whether different types of stress (positive vs. negative) within the workplace had an impact on employees' perceived stress, productivity, motivation, satisfaction, and anxiety. Participants completed an online, anonymous survey that included ten vignettes that depicted stress in the workplace; five of these vignettes were examples of positive stress, and five were examples of negative stress. The participants then rated on a 7-point scale how stressed, productive, motivated, satisfied, and anxious they would feel following each stressor. Results showed that participants' perceived stress and anxiety were higher in negative stress situations, while their productivity, motivation, and satisfaction ratings were higher in positive stress situations. Participants also indicated that they could handle more positive stressors in a 3-month period than negative stressors. Multiple regression models were conducted to show the effects of predictors such as gender, Depression Anxiety Stress Scale (DASS) scores, ambition, and job satisfaction on perceived stress, productivity, motivation, satisfaction, and anxiety in positive and negative stress situations. These findings suggest that positive and negative stress, when combined with certain predictors, can have differing impacts on an individual.

The Effects of Positive and Negative Stress in the Workplace

Stress is an inevitable part of nearly every individual's life; even from a young age, children can experience stress in the form of schoolwork and pressure to do well in sports and activities, among other things. However, these stressors change throughout an individual's life, and often times, the stressors that individuals experience as adults come in the form of their jobs. In 2015, 65% of the United States workforce identified work as being a significant cause of stress (American Psychological Association, 2015). Stress can interfere with life satisfaction; 79% of individuals with low stress at work are satisfied with their jobs, whereas only 50% of individuals with high stress at work reported high job satisfaction (American Psychological Association, 2011). Additionally, productivity can be negatively impacted by workplace stress; 66% of working individuals reported losing focus on the tasks at hand as a result of stress, and 21% reported that stress caused them to make errors and miss deadlines (Smith, 2012). Not only does workplace stress negatively impact employees, but it can also have a harmful impact on businesses. The World Health Organization reported that stress in the workplace results in business costs up to $300 billion per year in the United States (Smith, 2012). The high prevalence of stress within the workplace elicits the need for a greater understanding of different types of stress that employees face, and how this may ultimately impact employees and their overall stress level, productivity, motivation, job satisfaction, and anxiety.

Very little research has been conducted regarding the differences between the effects of positive and negative stress. However, distinguishing between these two classifications of stress is important because of the different impacts that they may have on an individual's overall stress level, productivity, motivation, job satisfaction, and anxiety. Negative stress is a type of stress that impairs normal functioning, whereas positive stress is a type of stress that elicits

constructive outcomes (Hargrove, Nelson, & Cooper, 2013). For instance, Kuo (2015) noted that individuals with more positive relationships with their coworkers and supervisors indicated a higher job satisfaction, whereas those experiencing the negative stress of poor relationships with their coworkers and supervisors reported significantly lower job satisfaction. Kuo (2015) also found that receiving promotions or on-the-job trainings, which are both examples of positive stress, increase job satisfaction.

Job satisfaction, motivation, and productivity can each be impacted by stress and are important because they affect not only employees, but also employers. Job satisfaction is negatively related to anticipated turnover rates (Hudgins, 2016), which can be costly to an organization. According to the Society for Human Resource Management, the total costs to replace an employee are typically between 90% and 200% of the employee's annual salary (Daniel, 2012); because of this, keeping job satisfaction high and turnover rate low is beneficial to businesses. With regards to the relationship between stress and job satisfaction, Mark and Smith (2012) found that employees' job demands were negatively correlated with their satisfaction; those who experienced more job demands tended to be less satisfied with their jobs. However, results showed that social support and the authority to make decisions, which can both be positive stressors, were positively correlated with satisfaction (Mark & Smith, 2012). Additionally, Ozkan and Ozdevecioğlu (2013) showed a negative correlation between occupational stress and life satisfaction. The study also found that occupational stress was positively correlated with emotional exhaustion, a feeling of low personal accomplishment, and burnout (Ozkan & Ozdevecioğlu, 2013), all of which could be related to employees' motivation and productivity.

Employees' motivation is also a key component within the workplace because employees that are not engaged in their work can cost the United States $450 billion to $550 billion per year (Gallup, 2013). One study found that motivation negatively correlated with stress levels and the extent to which individuals experienced depressive symptoms (Huang, Lv, & Wu, 2016). Productivity plays an important financial role in businesses as well. It is estimated that decreased productivity due to fatigue alone costs employers $136 billion per year (West, 2015). Halkos and Bousinakis (2010) studied the relationship between stress and productivity and found that higher levels of stress tend to decrease an individual's productivity. Results from this study also showed that work-life conflict, which is considered a negative stressor, tends to negatively impact productivity (Halkos & Bousinakis, 2010).

Anxiety and depression are slightly different from the three previously mentioned outcomes of stress because they are mental health concerns rather than job-specific issues. However, their impacts on organizations are no less severe; anxiety can cause emotional exhaustion, which ultimately can decrease an employee's performance (McCarthy, Trougakos, & Cheng, 2016). This outcome would elicit similar problems as those stemming from a decrease in productivity, as previously mentioned. Mark and Smith (2012) found that employees' job demands were positively correlated with their levels of anxiety. Similarly, Juster, Moskowitz, Lavoie, and D'Antono (2013) found that higher psychological demands were correlated with more anxiety in both males and females. Social support and the authority to make decisions, on the other hand, were both negatively correlated with anxiety levels (Mark & Smith, 2012). Thompson and Gomez (2014) showed that role ambiguity, a negative stressor, produced higher levels of anxiety in employees when combined with low self-esteem. Fan, Blumenthal, Watkins, and Sherwood (2015) found that employees with job insecurity were also more likely to feel

anxious and depressed. Collectively, these studies suggest that negative stressors are related to increased anxiety, whereas positive stressors are related to decreased anxiety.

Depression can have equally severe effects on an organization, as it has been estimated to result in $23 billion in costs for businesses in the United States as a result of absenteeism (Witters, Liu, & Agrawal, 2013). Therefore, it is important to determine if certain types of work stressors increase depression. Juster et al. (2013) showed that those with higher psychological demands, which can be considered negative stress, also tended to have more symptoms of depression, but only in men. Similarly, Bromet, Dew, Parkinson, Cohen, and Schwartz (1992) found that in women, there was a positive correlation between the number of job conflicts and the extent to which the women were experiencing depression. Thompson and Gomez (2014) found that role ambiguity in the workplace, which is a negative stressor, increases levels of depression when also combined with low self-efficacy. The previous findings seem to indicate that negative stress is related to increased depression, but does not give any indication of the relationship between positive stress and depression.

Recent literature has helped improve our understanding of the impact of workplace stress on employee life satisfaction, motivation, productivity, and anxiety. However, no studies to date have directly examined the different perceived impacts between positive and negative stressors. Therefore, the current study will distinguish between positive and negative stress by examining their impacts specifically on overall stress levels, motivation, productivity, job satisfaction, and anxiety.

I hypothesized that participants would anticipate feeling more productive, more motivated, more satisfied, and less anxious after being exposed to positive workplace stress than after being exposed to negative workplace stress. However, I predicted that there would be a

point at which the quantity of positive stress increased stress and anxiety, and hindered productivity, motivation, and job satisfaction. Furthermore, I predicted that individuals with a low tolerance for distress would report feeling less productive, less motivated, less satisfied, and more anxious after being presented with negative stressors than would those with a high tolerance for distress; however, I did not predict that the ratings would differ significantly between individuals with a high and low distress tolerance when presented with positive stress. Additionally, I hypothesized that individuals with high pre-existing depression, anxiety, and stress scores would report feeling less productive, less motivated, less satisfied, and more anxious after being presented with negative stressors than would those with low depression, anxiety, and stress scores. Given previous findings of potential gender differences in responses to workplace stress (Bromet et al., 1992; Juster et al., 2013), we also examined any such differences in our sample. Finally, to better understand the most powerful predictors of responses to both types of stress, regression models including designated predictors simultaneously were examined.

Method

Participants

Of 234 surveys received, a total of 194 participants (76 women and 118 men) were included in this study. We eliminated participants that did not answer at least 3 out of 4 instructional manipulation check questions correctly, participants that submitted duplicate surveys, participants that didn't answer the questions regarding the positive and negative stress vignettes, and participants that completed the survey in less than 3 minutes. Participants were adults that worked more than 20 hours per week, solicited from Amazon Mechanical Turk. The mean age of participants was 33.46 (*SD* = 9.45, range 18-68). Table 1 shows the frequencies of

Hollingshead job categories, highest degree obtained, company size, and salary of the participants. Table 2 shows the means and standard deviations for the participants' self-reported levels of ambition, job satisfaction, depression, anxiety, stress, distress tolerance, life stress, and occupational stress.

Participation in the study was completely voluntary, and participants received $1.00 as compensation for completing the study. All procedures were approved by the local college's Institutional Review Board.

Materials and Procedure

This study was administered as an online, anonymous survey using the software program, *SurveyMonkey.* Participants accessed the survey link through Amazon Mechanical Turk. First, participants gave their informed consent. Then participants answered demographic questions concerning their sex, gender identity, age, education, and current job title, company size, and salary.

Then participants read a total of ten vignettes about various stressful situations that an individual may encounter at work. Five of the vignettes reflected positive stress, while the other five vignettes reflected negative stress. All participants read all vignettes, employing a within-subject design. The order in which the vignettes were presented alternated between positive and negative stress, but the vignette that was given first was counterbalanced so that some individuals read a positive stress vignette first and some read a negative stress vignette first.

Beneath each vignette, participants rated on a 7-point scale how stressed, productive, motivated, satisfied, and anxious they believed the situation described in the vignette would make them. Participants also completed various previously designed measures on job category,

ambition, job satisfaction, depression, anxiety, stress, distress tolerance, occupational stress, and life stress.

At the conclusion of the survey, participants were debriefed about the purpose of the study and were given a unique code to submit to Amazon Mechanical Turk in order to receive their compensation of $1.00. The survey was anticipated to take approximately 10-15 minutes to complete.

Measurements

Job category. To determine the types of jobs that the participants had, the participants were asked to complete the Hollingshead Job Categories questionnaire (Hollingshead, 1975). The questionnaire instructed participants to select which of an assortment of categories their job was classified under (see Table 1 for a list of job categories).

Depression, anxiety, and stress. Three related variables were used as predictors of perceived response to positive and negative work stressors: depression, anxiety, and stress. Participants were given 21 questions from the Depression Anxiety Stress Scale (DASS-21; Antony, Bieling, Cox, Enns, & Swinson, 1998) in order to self-report on their levels of these three variables; each variable was assessed by 7 questions. A 4-point rating scale (0 = *not at all*, 1 = *some of the time*, 2 = *good part of the time*, and 3 = *most of the time*) was used to measure how frequently participants experienced various depressed, anxious, and stressed feelings.

Distress tolerance. Another hypothesized predictor of the effects of positive and negative stress was distress tolerance. Participants were given the 15-question Distress Tolerance Scale (Simons & Gaher, 2005). The questions asked to what extent the participants agreed with statements about their mental and emotional responses to stress. The questions were measured on a 5-point rating scale, ranging from 1 = *strongly agree* to 5 = *strongly disagree*.

Ambition. Self-perceived ambition was also obtained to examine if it was a predictor of the effects of positive and negative stress. Participants were given 6 questions from the Ambition Scale (Rothwell, Herbert, & Rothwell, 2008) to assess this construct. Statements related to ambition were rated on a 5-point rating scale, ranging from 1 = *strongly disagree* to 5 = *strongly agree*.

Occupational stress. An additional measure collected to determine whether it was a predictor of the effects of positive and negative stress was occupational stress, which was measured by the 14-question Occupational Stress Scale (Kimbrel et al., 2011). These questions were formatted as 3-point rating scales (0 = *not at all*, 50 = *somewhat*, and 100 = *extremely*) in response to the question "How bothered are you by the following work-related things?"

Job satisfaction. To measure the job satisfaction predictor, participants were asked 4 questions from the Job Satisfaction Scale (Ellwardt, Labianca, & Wittek, 2012). These questions asked how satisfied participants were with specific work-related items at their current job and were formatted as a 7-point rating scale, ranging from 1 = *very dissatisfied* to 7 = *very satisfied*.

Life stress. Life stress was measured as a predictor as well. Participants were given the Holmes-Rahe Life Stress Inventory (Holmes & Rahe, 1967), which asked them to check off the life events (out of 43 total) that had happened to them during the previous year.

Stress score. Additionally, participants were given a list of the vignettes that they had previously read and were asked to check how many of those events they felt they could handle within one 3-month period. The total number of events that they could handle represented their stress score in our specific study. A separate total for positive vs. negative stress events was also calculated.

Data Analysis

Primary outcomes included the total number of positive or negative stressors that an individual could handle within a 3-month period as well as the total scores for ratings of overall stress, productivity, motivation, job satisfaction, and anxiety for each stress type. Due to multiple comparisons inherent in this study design, Bonferroni corrections were applied to analyses to prevent inflation of alpha. Simple effects of positive vs. negative stress situations on each of our outcome variables of interest were examined as paired-samples t-tests. Gender differences, based upon the participants' biological sex, were examined using independent-samples t-tests. We next assessed the relationship between our predictor variables and outcomes of interest noted above using bivariate correlations. Any predictor demonstrating a significant correlation with the outcome of interest (Bonferroni correction applied) was entered into a regression model to identify which predictors were non-redundant. Due to gender differences reported below with regard to several of our identified predictors, this variable was also entered into each regression model.

Results

Simple effects of positive vs. negative stress

A repeated measures t-test showed that participants rated their overall stress and anxiety response as being higher when they were presented with negative stress situations than when they were presented with positive stress situations. However, the participants' ratings of productivity, satisfaction, and motivation were higher when they were presented with positive stress situations than when they were presented with negative stress situations. Table 3 presents the means, standard deviations, and test statistics for each dependent variable in the positive and negative stress situations.

Another repeated measures t-test showed that participants scored significantly higher

when rating how many positive stress events they could handle in a 3-month period (M = 2.95, SD = 1.57) than when rating how many negative stress events they could handle (M = 1.49, SD = 1.31), $t(193) = 12.55$, $p < .001$.

A Pearson correlation showed that the number of positive stressors that participants could handle in a 3-month period was significantly negatively correlated with pre-existing depression, anxiety, and stress, but was positively correlated with ambition (shown in Table 4). A multiple regression model including these variables and gender indicated that only greater ambition and lower pre-existing anxiety predicted a higher number of positive stressors that participants could handle in a 3-month period (shown in Table 5).

The correlation also showed that the number of negative stressors that participants could handle in a 3-month period was not significantly correlated with any of the variables (shown in Table 4).

Gender Differences and Response to Stress

An independent t-test showed that women rated their perceived motivation and productivity significantly higher in positive stress situations than did men. Another independent t-test showed that women rated their perceived stress and anxiety significantly higher in negative stress situations than did men. Table 6 shows the differences between the ratings of men and women.

Independent t-tests showed that women (M = 10.67, SD = 5.57) scored lower on the depression subscale of the DASS than did men (M = 12.89, SD = 5.69), although this finding was not significant once the Bonferroni correction was applied, $t(192) = 2.67$, $p = .008$. Independent t-tests also showed that women (M = 9.67, SD = 3.52) scored lower on the anxiety subscale of the DASS than did men (M = 11.42, SD = 4.88), $t(192) = 2.70$, $p = .008$. Just as there was no sex

difference found with depression scores, similarly, no significant sex differences were found for anxiety scores after a Bonferroni correction was applied.

Predictors of the Effects of Positive and Negative Stress

Perceived stress. A Pearson correlation showed that the participants' perceived stress ratings in positive stress situations were positively correlated with pre-existing depression, anxiety, and stress levels (determined by the DASS), and negatively correlated with ambition and pre-existing job satisfaction (shown in Table 7). A multiple regression model including these variables and gender indicated that greater pre-existing stress and being female predicted higher perceived stress in positive stress situations (shown in Table 8). However, none of the variables included in the correlation matrix were significantly correlated with participants' perceived stress ratings in negative stress situations (shown in Table 9) and thus, were not included in a multiple regression model.

Productivity. A correlation also showed that the participants' perceived productivity ratings in positive stress situations were positively correlated with both self-reported levels of ambition and pre-existing job satisfaction, and were negatively correlated with pre-existing depression, anxiety, and stress (shown in Table 7). A multiple regression model including these variables and gender indicated that greater ambition, pre-existing job satisfaction, and pre-existing stress, as well as lower pre-existing anxiety, predicted higher productivity in positive stress situations (shown in Table 8).

Correlational analyses showed that the participants' perceived productivity ratings in negative stress situations were positively correlated with both their ambition scores and their pre-existing job satisfaction scores (shown in Table 9). Multiple regression analyses that included

these variables and gender indicated that only greater ambition predicted higher productivity in the face of negative stress (shown in Table 10).

Motivation. Additionally, the correlation showed that the participants' perceived motivation ratings in positive stress situations were positively correlated with both ambition and pre-existing job satisfaction, and were negatively correlated with pre-existing depression, anxiety, and stress (shown in Table 7). A multiple regression model including these variables and gender indicated that greater ambition and pre-existing job satisfaction, as well as lower pre-existing anxiety and being female, predicted higher motivation in positive stress situations (shown in Table 8).

A correlation also showed that the participants' perceived motivation ratings in negative stress situations were positively correlated with both their ambition scores and their pre-existing job satisfaction scores (shown in Table 9). Multiple regression analyses that included these variables and gender indicated that both greater ambition and greater pre-existing job satisfaction predicted higher motivation in negative stress situations (shown in Table 10).

Satisfaction. Correlational analyses showed that participants' satisfaction ratings in positive stress situations were positively correlated with ambition and pre-existing job satisfaction (shown in Table 7). A multiple regression model including these variables and gender indicated that both greater ambition and greater pre-existing job satisfaction predicted higher satisfaction in positive stress situations (shown in Table 8).

A correlation showed that participants' satisfaction ratings in negative stress situations were positively correlated with pre-existing anxiety and job satisfaction (shown in Table 9). Multiple regression analyses that included these variables and gender indicated that higher pre-

existing anxiety, higher job satisfaction, and being male predicted increased satisfaction when facing negative stress (shown in Table 10).

Anxiety. Correlational analyses also showed that participants' anxiety ratings in positive stress situations were positively correlated with pre-existing depression, anxiety, and stress (shown in Table 7). A multiple regression model including these variables and gender indicated that greater pre-existing stress and being female predicted higher anxiety in positive stress situations (shown in Table 8). Participants' anxiety ratings in negative stress situations were only positively correlated with pre-existing stress, as shown in the correlation in Table 9.

Participants' distress tolerance levels and life stress scores were not significantly correlated with any of the dependent variables (shown in Table 9) and thus, were not included in multiple regression models.

Discussion

The purpose of this study was to identify the differences between positive and negative stress in the workplace with regards to overall stress, productivity, motivation, satisfaction, and anxiety when presented with scenarios depicting each type of stress. The study also examined the difference between positive and negative stress in terms of how much stress participants could handle and revealed differences between male and female responses to positive and negative stress.

Simple Effects of Positive vs. Negative Stress

The study found that negative stressors produced more overall stress and anxiety than did positive stressors, whereas positive stressors produced more productivity, satisfaction, and motivation than did negative stressors. This finding supported my initial hypothesis regarding the effects of positive and negative stress on each of these factors. It also supported a previous

study's finding that high levels of stress decrease an individual's productivity (Halkos & Bousinakis, 2010), as well as the finding by Mark and Smith (2012) that increased job demands were related to decreased job satisfaction and increased anxiety.

It is likely that because positive stressors typically can produce a positive outcome, individuals are more likely to want to achieve that outcome. This may explain why participants were more likely to feel productive, satisfied, and motivated when faced with a positive stressor. However, negative stressors usually do not result in positive outcomes, which may induce negative feelings such as overall stress and anxiety in individuals.

The study also found that individuals felt that they could handle more positive stressors than negative stressors in a 3-month period. High levels of ambition and low levels of pre-existing anxiety predicted the ability to handle more positive stressors. On the other hand, none of the variables predicted the ability to handle more negative stressors. My findings somewhat supported a previous finding that anxiety causes emotional exhaustion (McCarthy et al., 2016), which may be why participants with high anxiety were not able to handle as many positive stressors as those with low anxiety. It is possible that high anxiety increases emotional exhaustion, which may deplete an individual's ability to handle positive stressors; however, the relationship between emotional exhaustion and being able to handle positive stressors was not directly examined in our study. To my knowledge, no research has previously been conducted on the effects of ambition on stress levels. However, one study showed that ambition is positively related to conscientiousness (Judge & Kammeyer-Mueller, 2012), and another found that conscientiousness was negatively correlated with stress (Luo & Roberts, 2015). Although ambition and stress levels have not been directly studied together, the trait of conscientiousness may be a link that connects them. If individuals with increased ambition also tend to be more

conscientious, and more conscientious individuals tend to experience less stress, it stands to reason that individuals with high ambition may also experience less stress. This would corroborate my findings because high ambition predicted a greater ability to handle more positive stressors, which means that less stress was experienced as a result of each individual stressor.

Although participants indicated that they could handle more positive stressors than negative stressors, they did not indicate that they could handle all five positive stressors within the given timeframe. This finding supported my hypothesis that there is a point at which positive stress stops producing positive outcomes and suggests that positive stress only produces positive effects when experienced in moderation.

Participants may have felt that they could handle more positive than negative stressors because, as previously mentioned, negative stressors produce more negative outcomes, such as overall stress and anxiety. The emotional exhaustion that individuals experience as a result of anxiety may deplete their resources for handling stress in general. The same reasoning may be true for why those with low levels of pre-existing anxiety are able to handle more positive stressors than those with high anxiety. It is uncertain why the participants' levels of anxiety and ambition did not serve as predictors for the number of negative stressors they could handle. Perhaps negative stress produces anxiety by nature and thus, pre-existing anxiety has less of an impact on the amount of negative stressors an individual could handle. Van Dam, Keijsers, Verbraak, Eling, and Becker (2015) found that individuals with anxiety disorders did not significantly differ from healthy individuals in their ratings of fatigue, and Kocalevent, Hinz, Brähler, and Klapp (2011) found that fatigue is related to stress. Together, these findings show that individuals with heightened pre-existing anxiety experience stress-related symptoms

similarly to those without anxiety, which may explain why my study found that pre-existing anxiety did not predict the number of stressors an individual could handle.

Gender Differences and Response to Stress

The study found that women felt more motivated and productive than men in the face of positive stress; however women felt more overall stress and anxiety than men in the face of negative stress. This finding partially supported a previous finding that women tend to rate their levels of stress as being higher than men (Berg, Hem, Lau, Haseth, & Ekeberg, 2005), although that finding did not account for the difference between positive and negative stress. This study also supported the finding that women tend to rate themselves as more anxious than men (Magee, 2013), but again, did not account for the difference between positive and negative stress.

Because women already tend to evaluate stress and anxiety as being higher than do men (Berg et al., 2005; Magee, 2013), it is possible that these effects are simply amplified when presented with a negative stress situation that may produce a negative outcome. It is unclear why women were more motivated and productive than men when faced with positive stressors. Perhaps it is related to the gender discrimination challenges that women are accustomed to overcoming in the workplace; women are familiar with the concept of needing to become more productive and motivated in order to compete with men in the workplace and achieve their goals. Additionally, men are more susceptible to reacting to illegitimate tasks (tasks that the individual perceives as being unnecessary) in the workplace (Omansky, Eatough, & Fila, 2016). It is possible that men perceive positive stressors as being illegitimate tasks, and discount them or consider them unimportant; if this were the case, men may not feel the need to be motivated or productive in the face of positive stressors.

Predictors of the Effects of Positive and Negative Stress

Perceived Stress. The study found that high pre-existing stress and being female predicted higher overall stress in the face of positive stressors, but none of the variables tested predicted overall stress in the face of negative stress. This supported Berg et al. (2005), who found that women tend to rate their stress as being higher than that of men.

It stands to reason that pre-existing stress would predict overall stress, because combining multiple sources of stress is likely to produce an additive effect. However, it is unclear as to why this additive effect was only found in positive stress situations and not in negative stress situations. It is possible that negative stress produces high overall stress levels in everyone, regardless of their pre-existing stress. Another possibility is that stressors create an additive effect to a certain point; however, when the stressors become more severe in consequence (e.g. negative stressors), the stress from those individual events consumes the individual's attention, thus overpowering the pre-existing stress. This possible explanation may negate the differences in overall stress levels between those with high and low pre-existing stress.

Productivity. The study showed that higher self-perceived ambition, pre-existing job satisfaction, and pre-existing stress, as well as lower pre-existing anxiety predicted higher productivity in positive stress situations; however, only higher ambition predicted higher productivity in negative stress situations. This supported a previous study that found that job satisfaction and productivity are positively correlated with each other (Harter, Schmidt, & Hayes, 2002), but contradicted a study that found that high levels of stress decrease an individual's productivity (Halkos & Bousinakis, 2010). Furthermore, Boswell and Olson-Buchanan (2007) found that ambitious employees used technology for work outside of business hours more than non-ambitious employees, which is supported by my finding that increased ambition predicted greater productivity.

It is logical that high ambition and job satisfaction predicted productivity; typically if an individual is ambitious, they are likely to work harder and produce better results than individuals that are not ambitious. Similarly, individuals that are satisfied with their jobs may enjoy the work more and be more likely to produce better results than unsatisfied individuals. On the other hand, McCarthy et al. (2016) found that anxiety causes emotional exhaustion, which may explain why greater pre-existing anxiety predicted decreased productivity in our study; if an individual is emotionally exhausted, their performance may be more likely to suffer than individuals who are not emotionally exhausted. The most confounding finding was that greater pre-existing stress predicted increased productivity in positive stress situations. Perhaps greater pre-existing stress increases productivity in the face of positive stress because these individuals are familiar with high levels of stress and know that if they complete their responsibilities, the stress that accompanies those responsibilities will disappear and they will experience a positive outcome.

Motivation. The study found that greater ambition and pre-existing job satisfaction, as well as lower pre-existing anxiety and being female, predicted higher motivation in positive stress situations, whereas only greater ambition and pre-existing job satisfaction predicted higher motivation in negative stress situations. This somewhat supported a study by Maurya and Agarwal (2017), who found that motivation to lead was positively correlated with job satisfaction, but only in males. It also highlights the complex effects of gender in the workplace, which elicits the need for further research on gender and positive versus negative stress. To my knowledge, no other research has been conducted on the direct connection between motivation, ambition, anxiety, and gender.

It stands to reason that individuals with greater ambition and job satisfaction tended to have high motivation, because those who are ambitious strive to excel at things, which may give

them more motivation to accomplish their goals. Those with high job satisfaction typically have positive attitudes toward their jobs, which may give them more motivation to succeed in their workplace.

Satisfaction. The study found that greater ambition and pre-existing job satisfaction predicted higher satisfaction in positive stress situations. On the other hand, higher pre-existing anxiety, job satisfaction, and being male predicted higher satisfaction in negative stress situations. My findings are supported by Judge and Kammeyer-Mueller (2012), who found that ambition and general life satisfaction were positively correlated. However, this finding contradicted previous results that women were more likely than men to have higher life satisfaction (Hodson, 1989). My findings also contradicted those of Magee (2013), who found that job anxiety was negatively correlated with job satisfaction.

It is logical for individuals who have high pre-existing job satisfaction to continue to have high job satisfaction after being exposed to a stressor, whether it is positive or negative. Ambition is also a reasonable predictor of satisfaction, because those with high ambition likely feel that they have a specific purpose, which can make them feel good about the work that they are doing. It is likely that the discrepancy between my findings and previous findings related to gender are driven by stress; women seem to be satisfied with their jobs overall, but their satisfaction is severely hampered by negative stressors, suggesting that males are less impacted by negative stressors than are females. It is unclear why individuals with higher pre-existing anxiety tended to have higher job satisfaction in the face of negative stress; perhaps encountering negative stressors helps these individuals account for their anxiety, whereas they may not know the source of their anxiety when stressors are not present. This could potentially increase their satisfaction by helping them understand their own emotions. It is also possible that individuals

with pre-existing anxiety are simply familiar with being in an anxious state, and negative stressors allow them to remain in their comfort zone.

Anxiety. The study found that greater pre-existing stress and being female predicted higher anxiety in positive stress situations, whereas only high pre-existing stress predicted higher anxiety in negative stress situations. It also supported previous findings that found a positive correlation between stress and anxiety (Brown, Chorpita, Korotitsch, & Barlow, 1997). Furthermore, this finding supported Egloff and Schmukle (2004), who found that women's explicit anxiety scores were higher than men's.

Because stress and anxiety have been shown to be correlated (Brown et al., 1997), it is no surprise that pre-existing stress is a predictor of anxiety in the face of additional stress, both positive and negative. The gender differences with regards to anxiety in positive stress situations may be explained by women's natural tendency to have more anxiety than men; however, this does not explain why there was no significant gender difference in the negative stress situations. It is possible that negative stress is anxiety-inducing for most individuals, which may result in less of a difference between genders (as opposed to positive stress situations, which may not result in much anxiety for men and thus, increases the difference between genders).

Limitations

There were several limitations and confounds that could have affected these results. While I attempted to include stress scenarios that applied to all participants, it is possible that certain scenarios may not be experienced by all respondents in their respective workplaces; for instance, any stress scenario that involved group work would not be relatable to those participants that work exclusively individually. This may have impacted their responses, as it may have been difficult to imagine themselves in certain scenarios. Additionally, this study did

not include a true control measure; it only compared positive stress to negative stress. It does not offer insight into whether positive stress makes an individual more satisfied, motivated, and productive in general, or if it simply produces those effects more so than negative stress. There was also an imbalance between the numbers of participants of each gender; more men participated in the study than did women, which may have created an unfair representation, especially with regards to the findings on gender differences. Other confounds include employing a within-subject design, from which participants may have been able to determine our hypotheses, as well as the length of the survey, which may have produced fatigue effects.

Another possible confound was the lack of an operational definition for how many stressors the participants "could handle" in a 3-month period. This question on the survey was intended to determine how many stressors the participants felt that they could successfully overcome without becoming overwhelmed by stress, but this definition was not explicitly stated on the survey. As a result, it is possible that participants interpreted the question in a variety of different ways, such as how many stressors they could attempt, but not necessarily overcome.

Lastly, the use of Amazon Mechanical Turk may have confounded our results. Smith, Roster, Golden, and Albaum (2016) found that participants from Amazon Mechanical Turk completed surveys more quickly than participants from other online sources who took the same surveys. This raises a question of whether participants that are recruited through Amazon Mechanical Turk read survey questions carefully and consider their answers thoroughly.

Conclusion

The results of this study can be applied to a variety of real-world situations. For instance, employers can utilize this information to benefit their companies; these findings suggest that they should find ways to minimize negative stressors in the workplace, and replace them with positive

stressors (e.g. rather than imposing harsh punishments on employees for unsatisfactory performance, employers should provide constructive feedback to address the employees' performance issues and reward them once they are performing at a satisfactory level). In doing so, the companies could increase productivity, motivation, and employee satisfaction, while also reducing employees' anxiety and overall stress levels. Not only could this reduce costs for the companies, but it could also create a better work environment and company culture. However, it is important for employers to be mindful of the number of stressors that they present to their employees; even if employers replace negative stress with positive stress, there is still a point at which positive stress can begin to produce negative effects for their employees.

Employees can benefit from the knowledge gained from this research as well; although employees are frequently put into work situations that they have limited control over, they can be aware of which situations are likely to cause more harm as a result of negative stress and attempt to convert these situations, or their attitudes about the situations, into positive stress. In addition, they can utilize this information to select a job that entails more positive than negative stressors.

In the future, it may be beneficial to compare positive and negative stress to a control group that experienced no stress. From this, one could deduce whether positive stress truly has a positive impact on an individual's performance, or if it only has a positive impact relative to negative stress. Furthermore, it would be beneficial to conduct additional analyses on the point at which too many positive stressors can begin to act as negative stress; although my study showed that positive stress only produces positive effects when experienced in moderation, further studies should utilize different examples of stress to determine whether the limit remains the same across a variety of stressors. Additionally, this study brought a few important predictors to light: job satisfaction and ambition. These two predictors seemed to impact many of the variables

in the present study, and it would be sensible to do a more thorough analysis on the impacts of these specific predictors in the workplace. Lastly, demographic information about participants could be used in the future to determine whether attributes such as job category, salary level, education level, or company size influence participants' reactions to different types of stressors.

Overall, this study showed that negative stress produces more stress and anxiety than does positive stress, whereas positive stress induces more productivity, satisfaction, and motivation than does negative stress. Individuals felt that they could handle more positive stressors than negative stressors, but there was a point at which too many positive stressors became negative stress. Women perceived themselves as being more motivated and productive than men when faced with positive stress, but women felt more stress and anxiety than men when faced with negative stress. Finally, the study found a variety of predictors for participants' levels of stress, productivity, motivation, satisfaction, and anxiety in the face of positive and negative stress. Because positive and negative stress have been scarcely studied thus far, future studies should be conducted to further understand and elaborate upon these findings.

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Table 1

Descriptive Statistics for Hollingshead Job Category, Highest Degree Obtained, Company Size, and Salary Range.

Category	Frequency	Percent
Hollingshead Job Category		
Executives/Business Owners	2	1.0
Managers	34	17.5
Administrative Personnel/Small Business Owners	71	36.6
Clerical/Sales Employees	40	20.6
Skilled Manual Laborers	19	9.8
Semi-Skilled Laborers	20	10.3
Unskilled Laborers	6	3.1
Homemakers	1	0.5
Students/No Occupation	1	0.5
Highest Degree Obtained		
Doctorate	2	1.0
Master's	18	9.3
Bachelor's	106	54.6
Associate's	13	6.7
Some college	36	18.6
High school/GED	19	9.8
Company Size		
Small (1-250 employees)	76	39.2
Medium (251-1,000 employees)	55	28.4
Large (1,001+ employees)	52	26.8
Self-employees	11	5.7
Salary Range		
Under $30,000	77	39.7
$30,000-$50,000	53	27.3
$51,000-$80,000	39	20.1
$81,000-$100,000	12	6.2
$101,000-$120,000	8	4.1
$141,000-$160,000	3	1.5
$161,000-$180,000	1	0.5
$181,000-$200,000	1	0.5

Table 2

Means and Standard Deviations for Scales on Participant Characteristics.

Scale	*n*	*M*	*SD*	Range
Ambition Scale	192	21.49	4.74	6-30
Job Satisfaction Scale	191	4.56	1.20	1-7
DASS-21 Depression	194	12.02	5.73	7-27
DASS-21 Anxiety	194	10.73	4.47	7-24
DASS-21 Stress	194	12.53	5.24	7-27
Distress Tolerance Scale	194	3.18	1.05	1-5
Holmes-Rahe Life Stress Inventory	181	110.11	85.11	12-430
Occupational Stress Scale	192	23.10	6.46	14-40

Note. The Ambition Scale is from Rothwell et al. (2008). The Job Satisfaction Scale is from Ellwardt et al. (2012). The DASS-21 is from Antony et al. (1998). The Distress Tolerance Scale is from Simons and Gaher (2005). The Holmes-Rahe Life Stress Inventory is from Holmes and Rahe (1967). The Occupational Stress Scale is from Kimbrel et al. (2011).

Table 3

T-Tests on Variables in Positive vs. Negative Stress Situations.

Variables	*M*	*SD*	*t*	*df*	Sig. (2-tailed)
Overall Stress			-15.80**	193	.000
Positive	3.68	1.24			
Negative	5.07	1.31			
Productivity			13.46**	193	.000
Positive	5.38	1.05			
Negative	4.35	1.12			
Motivation			15.54**	193	.000
Positive	5.60	1.02			
Negative	4.32	1.20			
Satisfaction			18.51**	193	.000
Positive	5.08	0.96			
Negative	3.32	1.38			
Anxiety			-11.99**	193	.000
Positive	3.91	1.41			
Negative	4.92	1.33			

** $p < .001$.

Table 4

Correlation Matrix of Positive and Negative Stress Scores with DASS, DTS, Ambition, Job Satisfaction, and Life Stress.

		Positive Stress Score	Negative Stress Score
Positive Stress Score	Pearson Corr.	1	.379**
	Sig. (2-tailed)		.000
	N	194	194
Negative Stress Score	Pearson Corr.	.379**	1
	Sig. (2-tailed)	.000	
	N	194	194
PE Depression	Pearson Corr.	-.324**	-.096
	Sig. (2-tailed)	.000	.183
	N	194	194
PE Anxiety	Pearson Corr.	-.433**	-.097
	Sig. (2-tailed)	.000	.179
	N	194	194
PE Stress	Pearson Corr.	-.286**	-.097
	Sig. (2-tailed)	.000	.178
	N	194	194
DTS Score	Pearson Corr.	.049	.073
	Sig. (2-tailed)	.495	.315
	N	194	194
Ambition Score	Pearson Corr.	.275**	.177
	Sig. (2-tailed)	.000	.014
	N	192	192
PE Job Satisfaction	Pearson Corr.	.062	.066
	Sig. (2-tailed)	.394	.366
	N	191	191
Life Stress Score	Pearson Corr.	.025	-.034
	Sig. (2-tailed)	.742	.647
	N	181	181

Note. Positive and negative stress scores represent the number of positive and negative stressors (respectively) that the participant felt they could handle within a 3-month period. PE = pre-existing.

** $p < .001$.

Table 5

Multiple Regression Analyses for Depression, Anxiety, Stress, Ambition, and Gender as Predictors of the Number of Positive Stressors that Participants Can Handle in a 3-Month Period.

Variable	*B*	*SE* (*B*)	*β*	*t*
DV: Positive Stress Score				
PE Depression	0.01	0.03	0.03	0.28
PE Anxiety	-0.21	0.04	-0.60	-5.54**
PE Stress	0.07	0.04	0.24	1.96
Ambition	0.08	0.02	0.25	3.70**
Gender	-0.01	0.10	-0.01	-0.14

Note. Positive stress scores represent the number of positive stressors that the participant felt they could handle within a 3-month period. DV = dependent variable, PE = pre-existing.

** $p < .001$.

Table 6

T-Tests on Gender Differences When Exposed to Positive and Negative Stress.

Variables	*M*	*SD*	*t*	*df*	Sig. (2-tailed)
Positive Stress Situation					
Stress			-1.16	192	.228
Males	3.60	1.18			
Females	3.81	1.33			
Motivation			-3.49**	192	.001
Males	5.40	1.04			
Females	5.91	0.91			
Productivity			-3.10**	192	.002
Males	5.20	1.06			
Females	5.67	0.97			
Satisfaction			-1.22	192	.224
Males	5.02	0.92			
Females	5.19	1.03			
Anxiety			-1.63	192	.104
Males	3.78	1.38			
Females	4.11	1.43			
Negative Stress Situation					
Stress			-4.19**	192	.000
Males	4.77	1.20			
Females	5.54	1.34			
Motivation			-0.05	192	.961
Males	4.32	1.16			
Females	4.33	1.26			
Productivity			-0.65	192	.518
Males	4.30	1.02			
Females	4.41	1.27			
Satisfaction			2.95	192	.004
Males	3.55	1.34			
Females	2.96	1.36			
Anxiety			-4.42**	192	.000
Males	4.59	1.18			
Females	5.42	1.38			

** $p < .004$.

Table 7

Correlation Matrix of Total Stress, Productivity, Motivation, Satisfaction, and Anxiety Ratings with DASS, DTS, Ambition, Job Satisfaction, and Life Stress Scores Across Positive Stress Situations.

		Stress[a]	Productivity[a]	Motivation[a]	Satisfaction[a]	Anxiety[a]
Stress[a]	Pearson Corr.	1				
	Sig. (2-tailed)					
	N	194				
Productivity[a]	Pearson Corr.	-.174	1			
	Sig. (2-tailed)	.015				
	N	194	194			
Motivation[a]	Pearson Corr.	-.169	.889**	1		
	Sig. (2-tailed)	.019	.000			
	N	194	194	194		
Satisfaction[a]	Pearson Corr.	-.168	.745**	.729**	1	
	Sig. (2-tailed)	.019	.000	.000		
	N	194	194	194	194	
Anxiety[a]	Pearson Corr.	.843**	-.135	-.106	-.069	1
	Sig. (2-tailed)	.000	.061	.140	.341	
	N	194	194	194	194	194
Depression Score (DASS)	Pearson Corr.	.412**	-.277**	-.268**	-.226	.450**
	Sig. (2-tailed)	.000	.000	.000	.002	.000
	N	194	194	194	194	194
Anxiety Score (DASS)	Pearson Corr.	.358**	-.307**	-.270**	-.115	.460**
	Sig. (2-tailed)	.000	.000	.000	.110	.000
	N	194	194	194	194	194
Stress Score (DASS)	Pearson Corr.	.452**	-.227**	-.235**	-.213	.500**
	Sig. (2-tailed)	.000	.001	.001	.003	.000
	N	194	194	194	194	194
DTS Score	Pearson Corr.	.007	.070	.116	.109	-.028
	Sig. (2-tailed)	.928	.332	.107	.131	.699
	N	194	194	194	194	194
Ambition Score	Pearson Corr.	-.243**	.388**	.416**	.366**	-.176
	Sig. (2-tailed)	.001	.000	.000	.000	.014
	N	192	192	192	192	192
Job Satisfaction Score	Pearson Corr.	-.255**	.310**	.335**	.373**	-.154
	Sig. (2-tailed)	.000	.000	.000	.000	.033
	N	191	191	191	191	191
Life Stress Score	Pearson Corr.	.204	.033	-.002	.071	.210
	Sig. (2-tailed)	.006	.663	.978	.345	.005
	N	181	181	181	181	181

Note. [a] = Total ratings that participants made on the positive stress situations.

** $p < .001$.

Table 8

Multiple Regression Analyses for Variables Predicting Stress, Productivity, Motivation, Satisfaction, and Anxiety in Positive Stress Situations.

Variable	*B*	*SE* (*B*)	*β*	*t*
DV: Perceived Stress				
PE Depression	0.15	0.13	0.14	1.19
PE Anxiety	0.08	0.16	0.06	0.50
PE Stress	0.31	0.15	0.26	2.16*
Ambition	-0.11	0.10	-0.09	-1.12
PE Job Satisfaction	-0.51	0.40	-0.10	-1.25
Gender	-1.11	0.42	-0.17	-2.66*
DV: Perceived Productivity				
PE Depression	-0.03	0.11	-0.03	-0.25
PE Anxiety	-0.47	0.13	-0.40	-3.61**
PE Stress	0.25	0.12	0.25	2.09*
Ambition	0.32	0.08	0.29	3.87**
PE Job Satisfaction	0.70	0.34	0.16	2.07*
Gender	-0.68	0.35	-0.13	-1.96
DV: Perceived Motivation				
PE Depression	-0.02	0.11	-0.02	-0.13
PE Anxiety	-0.33	0.13	-0.29	-2.59*
PE Stress	0.15	0.12	0.16	1.31
Ambition	0.33	0.08	0.31	4.06**
PE Job Satisfaction	0.70	0.33	0.16	2.14*
Gender	-0.82	0.34	-0.16	-2.43*
DV: Perceived Satisfaction				
Ambition	0.24	0.08	0.23	2.99*
PE Job Satisfaction	1.00	0.32	0.25	3.17*
Gender	-0.20	0.33	-0.04	-0.59
DV: Perceived Anxiety				
PE Depression	0.14	0.14	0.11	1.03
PE Anxiety	0.31	0.16	0.20	1.89
PE Stress	0.38	0.15	0.29	2.51*
Gender	-1.53	0.45	-0.21	-3.42*

Note. DV = dependent variable, PE = pre-existing.

* $p < .05$. ** $p < .001$.

Table 9

Correlation Matrix of Total Stress, Productivity, Motivation, Satisfaction, and Anxiety Ratings with DASS, DTS, Ambition, Job Satisfaction, and Life Stress Scores in Negative Stress Situations.

		Stress[a]	Productivity[a]	Motivation[a]	Satisfaction[a]	Anxiety[a]
Stress[a]	Pearson Corr.	1				
	Sig. (2-tailed)					
	N	194				
Productivity[a]	Pearson Corr.	-.159	1			
	Sig. (2-tailed)	.027				
	N	194	194			
Motivation[a]	Pearson Corr.	-.152	.804**	1		
	Sig. (2-tailed)	.034	.000			
	N	194	194	194		
Satisfaction[a]	Pearson Corr.	-.386**	.585**	.621**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	194	194	194	194	
Anxiety[a]	Pearson Corr.	.809**	-.113	-.044	-.199	1
	Sig. (2-tailed)	.000	.116	.543	.005	
	N	194	194	194	194	194
Depression Score (DASS)	Pearson Corr.	.052	-.022	-.048	.199	.213
	Sig. (2-tailed)	.471	.758	.504	.005	.003
	N	194	194	194	194	194
Anxiety Score (DASS)	Pearson Corr.	-.089	.071	.118	.431**	.153
	Sig. (2-tailed)	.220	.325	.100	.000	.033
	N	194	194	194	194	194
Stress Score (DASS)	Pearson Corr.	.112	-.008	.007	.180	.279**
	Sig. (2-tailed)	.119	.908	.925	.012	.000
	N	194	194	194	194	194
DTS Score	Pearson Corr.	.085	-.004	.069	-.025	.068
	Sig. (2-tailed)	.241	.953	.337	.727	.345
	N	194	194	194	194	194
Ambition Score	Pearson Corr.	-.058	.374**	.406**	.137	-.081
	Sig. (2-tailed)	.423	.000	.000	.059	.263
	N	192	192	192	192	192
Job Satisfaction Score	Pearson Corr.	-.188	.254**	.339**	.241**	-.103
	Sig. (2-tailed)	.009	.000	.000	.001	.158
	N	191	191	191	191	191
Life Stress Score	Pearson Corr.	.144	.068	.011	.145	.201
	Sig. (2-tailed)	.053	.360	.885	.051	.007
	N	181	181	181	181	181

Note. [a] = Total ratings that participants made on the negative stress situations.

** $p < .001$.

Table 10

Multiple Regression Analyses for Variables Predicting Productivity, Motivation, and Satisfaction in Negative Stress Situations.

Variable	*B*	*SE* (*B*)	*β*	*t*
DV: Perceived Productivity				
Ambition	0.40	0.10	0.33	4.18**
PE Job Satisfaction	0.37	0.38	0.08	0.97
Gender	-0.02	0.39	-0.004	-0.05
DV: Perceived Motivation				
Ambition	0.40	0.10	0.32	4.10**
PE Job Satisfaction	0.87	0.39	0.18	2.26*
Gender	0.36	0.40	0.06	0.89
DV: Perceived Satisfaction				
PE Anxiety	0.71	0.10	0.46	7.40**
PE Job Satisfaction	1.81	0.35	0.32	5.15**
Gender	1.10	0.43	0.16	2.54*

Note. DV = dependent variable, PE = pre-existing. Regression models for the stress and anxiety dependent variables were not conducted because the correlation matrix did not reveal any or more than one predictor.

* $p < .05$. ** $p < .001$.