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THE IMPACT OF STRESS ON GRADUATE STUDENTS' ORGANIZATIONAL
CITIZENSHIP BEHAVIOR: THE MODERATING ROLE OF MENTORSHIP

VICTORIA GARCIA

35 Pages

Stress is one of the most researched topics in organizational psychology because of the important implications for overall health. Graduate school has many different stressors that put that specific population at a higher risk for the adverse effects of stress. Stress not only has implications for health but specific behaviors like organizational citizenship behaviors. The present study surveyed a sample of graduate students and examined ways in which mentorship can moderate the relation between stress, workload, physical symptoms, and OCBs. Eighty-five graduate students completed an anonymous survey. Results indicated that stress significantly predicted OCBs in graduate students. Also, mentorship was found to significantly moderate the relation between workload and OCBs. These findings provide added information on the impact of stress on graduate students as well as practical implications for mentorship.

KEYWORDS: stress; organizational citizenship behavior; workload; graduate students; mentorship

THE IMPACT OF STRESS ON GRADUATE STUDENTS' ORGANIZATIONAL
CITIZENSHIP BEHAVIOR: THE MODERATING ROLE OF MENTORSHIP

VICTORIA GARCIA

A Thesis Submitted in Partial
Fulfillment of the Requirements
for the Degree of

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CITIZENSHIP BEHAVIOR: THE MODERATING ROLE OF MENTORSHIP

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CONTENTS

	Page
ACKNOWLEDGMENTS	i
CHAPTER I: LITERATURE REVIEW	1
Mentorship in Graduate School	5
Mentorship and Stress	7
Organizational Citizenship Behavior	8
OCB and Stress	11
CHAPTER II: METHOD	14
Measures	14
Participants	16
Procedure	16
CHAPTER III: RESULTS	18
CHAPTER IV: DISCUSSION	20
Strengths and Limitations	22
Future Directions and Conclusions	23
REFERENCES	25
APPENDIX A: TABLES	31
APPENDIX B: FIGURES	32

CHAPTER I: LITERATURE REVIEW

Stress is an important research topic in organizational psychology because of its prevalence and its important links to health and well-being (Mazzola et al., 2011). Some of the short-term physical effects of stress are headaches as well as problems with heart rate and respiration (Schuler, 1980). Those short-term effects can lead to longer term effects including ulcers, high blood pressure, and even heart attacks (Schuler, 1980). Stress' effects on behavior include loss of appetite, rapid loss or gain of weight, and changes in alcohol and smoking use (Schuler, 1980).

Schuler (1980) combined aspects found from medical sciences as well as industrial/organizational psychology to define stress as “a dynamic condition in which an individual is: a. confronted with an opportunity for being/having/doing what (s)he desires and~or b. confronted with a constraint on being/having/doing what (s)he desires and~or c. confronted with a demand on being/having/doing what (s)he desires and for which the resolution of is perceived to have uncertainty but which will lead (upon resolution) to important outcomes” (p.189). Stressors can be found in the environment, and these stressors are what produce stress. Strains can be defined as the constraints that the individual is first confronted with (Schuler, 1980). Strains can be categorized into behavioral strains, emotional strains, and physiological strains (Mazzola et al., 2011). Environmental strains are caused by the surroundings in which the individual lives; a common example is coping through the use of alcohol (Mazzola et al., 2011). Emotional strains are emotions that trigger an individual to cope; emotional strains examples are feelings of frustration, dissatisfaction, anxiety, depression, withdrawal, and overload. Physiological strains are the physical symptoms an

individual's body shows as a result of a strain; physiological strains examples are physical symptoms like headaches (Mazzola et al., 2011).

Stressors in an organizational setting include interpersonal conflict, work overload, evaluations, lack of control, role conflict, role ambiguity, time and effort wasted, and constraints (Mazzola et al., 2011). These types of stressors are important to note as those are typical stressors that graduate students face in academia, and Mazzola et al. (2011) specifically studied these stressors in a graduate student population. Interpersonal conflict can be defined as an uncomfortable situation(s) an individual faces involving another person (Mazzola et al., 2011.) Work overload is defined as an individual being assigned too much work that causes feelings of stress (Mazzola et al., 2011). Evaluations are defined as stress or worry arising from being appraised by a superior (Mazzola et al., 2011). Lack of control is defined as an individual feeling they have no autonomy over the tasks they are being assigned to complete (Mazzola et al., 2011). Time and effort wasted is defined as an individual having feelings that their time and energy was not allocated in the correct manner leading to projects being redone or their efforts being unnecessary (Mazzola et al., 2011). Constraints can be defined as an individual not having essential items (e.g., policies, equipment) to optimally complete assigned tasks or that lead to tasks being impossible to complete (Mazzola et al., 2011). Role conflict is defined as having multiple roles and those roles lead to conflict (e.g., role as a mentor and friend) (Mazzola et al., 2011). Role ambiguity is defined as an individual having feelings of uncertainty or doubt about what correct actions and responses are in their defined role (Mazzola et al., 2011). Consequences of those stressors are low performance, low involvement, low creativity, absenteeism, turnover, and accident proneness (Schuler, 1980). These stressors can also be applied to an academic setting, specifically graduate school.

Graduate school provides an opportunity for both personal and professional development to occur (Allen et al., 2020), while also creating a context for academic-related stress. Academic stress has been linked with “psychological well-being, mental and physical health problems, impaired academic achievement, increased risk of dropout, substance abuse, as well as deteriorated sleep” (Koudela-Hamila et al., 2022, p.188). Koudela-Hamila et al. (2022) used a sample of 77 undergraduate university students from Germany majoring in industrial engineering and management to study workload, academic stress, and cortisol awakening response as a moderator of workload and academic stress. Academic stress was measured by how stressful students thought their academic work was and academic workload was measured by asking students how much time they spent on courses, studying, thesis work, presentation preparation, and helping other students (Koudela-Hamila et al., 2022). They assessed students at two different times, finding at time one the average workload was 3.9 hours per day and at time two the average workload was 4.3 hours. Koudela-Hamila et al. (2022) found a significant positive effect of academic workload on academic stress. Graduate students face typical academic pressures but also professional stressors in regard to publishing, teaching, and meeting expectations set by their program (Allen et al., 2020). Many graduate students work as graduate assistants, positions which are fundamental for training and development in a future field but that also provide financial stability in the form of tuition waivers and stipends (Mazzola et al., 2011). In a study of 207 graduate assistants at a southeastern university, Mazzola et al. (2011) reported that the most common stressors graduate assistants faced were work overload (reported by 29.9% of the sample), interpersonal conflict related to advisors, professors, bosses, fellow graduate students, and undergraduate students (22.6%), and constraints (16.4%), and the top three psychological strains were frustration(42.4%), anger (33.9%), and anxiety (27.1%). This study found that the

link between stress and physical symptoms was significant, and this is especially troubling as students may avoid going to the doctor because of time and financial constraints (Mazzola et al., 2011). Another important finding was that work overload and interpersonal conflict were the highest reported stressors so in order for students to successfully move through graduate school those stressors are the first two to try and reduce in a graduate student population.

Previous research done in Flemish universities with 3659 PhD students indicated that many were affected by mental health problems, specifically feelings of depression (30.30% of the sample), lost sleep over worrying (28.33%), and feelings of constant strain (40.81%) (Levecque et al., 1970). Compared to the general population and undergraduates, graduate students reported the highest levels of stress with 40.81% having feelings of constant strain compared to 26.69% of highly educated employees in the general population reporting having feelings of constant strain (Levecque et al., 1970). Previous research done in a Mid-Atlantic US university with 2683 graduate students showed that higher levels of stress were associated with higher levels of exhaustion, cynicism, and inefficacy which are three facets of burnout (Allen et al., 2020). Keenan and Newton (1985) conducted a longitudinal study with 161 engineering graduate students from six different universities in the U.K. with the most common type of stress reported being incidents where student felt their time was wasted or used ineffectively, and the second most frequent source of stress was interpersonal stress. Graduate students reported that anger and annoyance together accounted for 39 percent of reactions to stress, and 26 percent of students reported they responded to stress with frustration.

In a study on graduate student health in a university in New York in the United States with a sample of 2,508 graduate students enrolled in medicine, dentistry and oral surgery, and health related programs, 75.4 % of the sample reported feeling stressed or very stressed (Kernan

et al., 2011). In addition to the other stressors listed, work-family conflict has also been found to have a positive association with depression, anxiety, emotional strain, and general dissatisfaction with life (Rummell, 2015). With students frequently reporting feeling stressed, finding ways to reduce stress should be a top priority. Mentorship is an important aspect of graduate school and having good mentor support may be a way to moderate the relation between stress and negative outcomes.

Mentorship in Graduate School

Mentorship can be defined as “a deliberate pairing of a more skilled or experienced person with a lesser skilled or experienced one, with the agreed-upon goal of having the lesser skilled person grow and develop specific competencies” (Sosik & Godshalk, 2000, p.366). Kram (1983) separated mentorship into two different components of help: instrumental and psychological. The instrumental component includes things like coaching, sponsorship, exposure, and opportunities for challenging assignments, whereas the psychological help focuses on role modeling, empathizing, and counseling (Kram, 1983). Other researchers have expanded on Kram’s typology, and the consensus is that practical and emotional support remain two separate components of mentorship (Tenenbaum et al., 2001).

One of the main components of graduate school is having a mentor to advise a thesis, dissertation, or research project. In a graduate student population having a good mentor was related to competency and commitment in graduate students (Tenenbaum et al., 2001). One of the crucial roles a mentor plays is socializing graduate students into professional life (Tenenbaum et al., 2001). Good mentors have been described as being accessible, helping students’ complete programs in an efficient manner, treating protégés as junior colleagues, and providing protégés with a sense of confidence to succeed (Curtin et al., 2013). In a study with

189 graduate students from the University of California-Santa Cruz, it was found that as advisors provided more socioemotional help, students were more satisfied with their advisors and the relationship they had with their advisors (Tenenbaum et al., 2001). The person receiving the mentorship is often referred to in the literature as the “protege”; research also indicates that as the protégé moves through their education the mentoring relationship improves (Koberg, Boss, & Goodman, 1998). Mentoring has also been found to be a significant predictor of esteem, involvement, decisions to leave/stay, academic self-concept, and a sense of belonging in the department (Koberg, Boss, & Goodman, 1998; Curtin et al., 2013). The academic self-concept is important to note as it is facilitated primarily through mentors supporting positive beliefs about protégés as future academics (Curtin et al., 2013). Mentoring also has organizational and mentor benefits with increased commitment to the organization and increased job satisfaction found for the mentor (Tenenbaum et al., 2001).

On the other hand, not all mentor relationships are positive or result in positive outcomes for the protégé. Mentors and protégés may have different points of view that may result in feelings of isolation for a protégé; these negative outcomes can also be exacerbated when the two individuals come from different demographic backgrounds (Tenenbaum et al., 2001). The role of gender has been found to be an issue especially with harassment and stereotypical role assignment and research has focused on it because there is still a gender gap in leadership roles (Dreher and Ash, 1990). Traditional binary gender roles also play a part in what mentorship is given with female mentors found to give psychological help to both sexes more often than instrumental help and male mentors found to provide instrumental help more often than psychosocial help to both sexes (Dreher and Ash, 1990). However, Koberg et al., (1998) found in

an employee healthcare sample that similar levels of psychosocial mentoring was found to be given by the mentors.

In a study with 841 doctoral students at a midwestern university results indicated that a poor relationship with a mentor was tied with graduate students' financial difficulties as what lead them to leave the program (Curtin et al., 2013) Previous research has also found that mentoring was associated with a decrease in protégés' leaving as well as an increase in their self-esteem and job involvement (Koberg et al., 1998).

Mentorship and Stress

Limited research exists regarding a possible moderating effect of mentorship on stress and undesirable outcomes like work overload and negative physical symptoms, especially in the graduate student population. Mentorship can lead to stressors or strains for the protégé depending on the nature of challenging assignments and interpersonal conflicts (O'Brien et al., 2018). One of the most common stressors for graduate students is role ambiguity and previous research has shown that mentoring is associated with a reduction in role ambiguity (Kim et al., 2015). A specific aspect of mentoring, career development, was found to help protégés' because it increased confidence in their ability to solve problems and motivated protégés' through coaching and learning (Kim et al., 2015). Positive results have been found for the role of mentoring on role conflict and role ambiguity, and psychosocial support was found to reduce role overload (Specht, 2013). However, dysfunctional mentorship, instead of reducing stress, increases it (O'Brien et al., 2018). In situations when protégés are being harassed or even possibly sabotaged, the harassment will be another stressor for the protégé to cope with (O'Brien et al., 2018). Individuals without a mentor, compared to protégés, were found to have more emotional exhaustion/depersonalization showing that mentorship may possibly act as a buffer (O'Brien et al., 2018). The most important

detail in research on the moderating effect of mentorship and burnout is the quality of the mentorship (O'Brien et al., 2018). Burnout can be defined as when an individual is in such a distressed psychological state they start to suffer from emotional exhaustion, inefficacy, and cynicism which can lead to low motivation (Maslach et al., 2001). The stress literature also has examined how stress and organizational citizenship behavior, another industrial/organizational psychology concept, are related.

Organizational Citizenship Behavior

Smith, Organ, and Near (1983) first pioneered the concept of organizational citizenship behavior, or OCBs (Organ, 1997). This can be defined as extra constructive behaviors that bring about positive effects that are not compensated in any way by the organization and are not mandatory to complete (Organ, 1997; Wagner & Rush, 2000). There are five components of Organ's (1988) taxonomy of organizational citizen behavior: altruism (e.g., helping others who have been absent), conscientiousness (e.g., being punctual), sportsmanship (e.g., not complaining about trivial matters), courtesy (e.g., consulting with others before taking action), and civic virtue (e.g., keeping up with matters that affect the organization) (Organ, 1997; LePine et al., 2002). Other taxonomies have been proposed, but they overlap with Organ's (1988) and Organ's has the most empirical research to support it as well as a measure developed by Podsakoff et al. (1990) based on that model. OCBs can be distinguished as either behaviors supporting the individual: organizational citizenship behaviors - individuals (OCBI) or supporting the organization: organizational citizenship behaviors - organization (OCBO) with OCBI related to altruism and courtesy and OCBOs related to civic virtue, conscientiousness, and sportsmanship (Ozer et al., 2014). Organizational citizen behavior (OCB) has both individual outcomes, which have been,

studied most frequently, and organizational outcomes with enhanced performance, community and culture (LeBlanc, 2014).

Although OCB's are not explicitly rewarded they are rewarded implicitly through better performance evaluations which lead to better salaries, promotions, opportunities, and retention in an organization (Wagner & Rush, 2000). OCB were found to be related to job satisfaction and affective commitment in a sample of 82 employees from diverse job backgrounds like data analyst, bank teller, and tax attorney (Koopman et al., 2016). Engaging in OCB's was found to promote positive moods, which in turn is good for the organization and employee's well-being (Glomb et al., 2011). Also, altruism and courtesy are related to positive mood as engaging in those behaviors is found to significantly increase positive mood (Glomb et al., 2011). Specifically for altruism it was found that it may actually change negative moods giving even greater support to promote it in an organization (Glomb et al., 2011).

Universities have many different departments and employ a wide range of faculty, staff, administration, in addition to enrolled students. Previous research on OCB within university settings has focused on encouraging OCB in faculty but has neglected students, who have an essential function within the university (Kagaari & Munene, 2007). Based on Organ's model, the altruism OCB dimension for a student may include behaviors such as a student helping a fellow student with homework, studying for an exam, peer reviewing papers, and helping with running computer programs (Allison et al., 2001). The civic virtue component based on Organ's model would include volunteering to help the university organize activities or participate in activities like athletic events, guest speaker events, food drives, blood drives, and clubs (Allison et al., 2001). The conscientiousness component of Organ's model in a student population would include attending class on time, volunteering to do more than what is assigned, and encouraging

fellow students to do the same, turning in assignments early, and participating in class discussions (Allison et al., 2001). The courtesy component of Organ's model in a student population would include informing professors and classmates when one is unable to attend class or meetings, asking for feedback before changing group assignments, and not disrupting class (Allison et al., 2001). The sportsmanship component of Organ's model in a student population would include students refraining from complaining about delays in grading, malfunctions in classroom equipment, and group members contributions in projects (Allison et al., 2001). The more OCB a student performs, the more involved and engaged in the university a student may become. In college, students are affected through cognitive, social, and psychological characteristics, which is why introducing and encouraging OCBs would be beneficial as this is the last step before entering the working world.

Helping others has been associated with increased well-being, life satisfaction, happiness, and health benefits which may be one of the main reasons for performing OCBI (Baranik & Eby, 2016). In a study with 2403 soldiers organized into 31 units helping behavior had a positive effect on group cohesion, relationship conflict resolution, and leader effectiveness (Ehrhart et al., 2006). Military units have strict thresholds for performance, and it was found that when helping fellow soldiers go above and beyond the performance outcomes, targets also go above and beyond the threshold (Ehrhart et al., 2006). In a sample of 585 engineers and their immediate supervisors in Taiwan, a positive relation between OCB and job performance was found (Wei, 2014). When employees engage in OCBs the interaction with others in an organization allows more knowledge to be gained (Wei, 2014). OCB's benefits are important for the individual and organization but engaging in them requires resources, which can be related to stress.

OCB and Stress

For individuals to perform OCBs they will have to dedicate time as well as physical and mental effort (Ozer et al., 2014). When helping a coworker, the helper will have to use mental resources by understanding the person's needs and communicating how to help as well as devoting time to help. Although these behaviors are not mandatory, employees still can feel overwhelmed by completing them and may struggle to complete their own assigned tasks. Engagement in fewer OCBI's has been associated with reports of depleted resources (Park et al., 2014). As stated earlier, stress can result in people detaching to cope (Park et al., 2014). This detachment causes depersonalization which has been found to negatively predict OCB (Park et al., 2014). When a person is under ongoing stress, they can start to feel emotionally exhausted and start to reassess what they are contributing to an organization and their levels of commitment. In a sample of 152 employees from Mexico, De Clercq and Belausteguigoitia (2020) examined job stress with items such as "my job gets to me more than it should" and "sometimes when I think about my job I get a tight feeling in my chest" and measured OCB's with items such as "if necessary, I am prepared to work overtime" and "I undertake voluntary action to protect the company from potential problems." De Clercq and Belausteguigoitia (2020) found that job stress and OCB were negatively related. OCBs have also been studied to see relations to emotional exhaustion. Tourigny et al., (2013) found that emotional exhaustion was negatively related to OCBO in a sample of 197 nurses from three hospitals in China. Limited empirical research exists on the OCB and the stress relation in a student population as the two previous studies used employees and not students.

Stress and OCBs both require the use of resources. Mentorship can be thought of as an added resource for a graduate student. The Conservation of Resources Theory provides a

framework for the study of these relations. Hobfoll (1989) defined the base of the Conservation of Resources Theory model on the fact “that people strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of these valued resources” (p. 516). Stress is a major component of this theory and Hobfoll (1989) defined it “as a reaction to the environment in which there is (a) the threat of a net loss of resources, (b) the net loss of resources, or (c) a lack of resource gain following the investment of resources” (p.516). An important component is that the loss can be either actual or perceived. The next component of the theory is resources which are defined as “those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies” (Hobfoll, 1989, p. 516). Resources are important because they have value to people, and they help define people in a symbolic way through status, position, economic stability, and loved ones (Hobfoll, 1989). Losing, or even the threat of losing, these valued resources result in strain” (Park et al., 2014). COR theory can explain why stressed individuals with fewer resources will try to conserve what resources they have and not engage in OCBs that require the use of resources, at least until they feel a sense of balance again (Tourigny et al., 2013). Mentorship is also a critical resource for a graduate student, and a good mentor may reduce the frequency of stress, providing the individual with more resources.

The goal of the current study will be to add to COR theory and existing literature on stress in graduate students by adding new information on the potential moderating relation of mentorship on stress outcomes and by examining OCB and stress in a graduate student sample. The link between stress and its negative outcomes in a graduate student population has been

established and finding ways to weaken the negative effects will be important for the university as well as graduate students.

Hypothesis 1: Stress will be significantly predictive of graduate students engaging in OCBs, as noted in previous literature (Park et al., 2014)

Hypothesis 2: Mentorship will moderate the relation between stress and OCBs such that higher levels of mentorship will weaken the association.

Hypothesis 3: Workload will be significantly predictive of graduate students engaging in OCBs.

Hypothesis 4: Mentorship will moderate the relation between workload and OCBs such that higher levels of mentorship will weaken the association between workload and OCBs.

Hypothesis 5: Stress will be significantly predictive of physical symptoms as noted in previous literature (Mazzola et al., 2011).

Hypothesis 6: Mentorship will moderate the relation between stress and physical symptoms such that higher levels of mentorship will weaken the relation between stress and physical symptoms.

CHAPTER II: METHOD

Measures

Graduate Stress Inventory-Revised (GSI-R)

Rocha-Singh developed the GSI-R (1990) that consists of three subscales: environmental stress (e.g., how students perceive their university environment), academic stress (e.g., how students perceive their academic responsibilities), and family/monetary stress (e.g. how students perceive their family and financial responsibilities) (Rocha-Singh, 1994). The scale uses a 7-point Likert scale, where scores range from (1) not at all stressful to (7) extremely stressful (Rocha-Singh, 1994). The coefficient alpha for the three subscales in the original scale development study were: Environmental Stress .85, Academic Stress .78, and Family/ Monetary Stress .77 (Rocha-Singh, 1994). This study had a coefficient alpha of .92 for the entire measure.

Quantitative Workload Inventory (QWI)

Spector and Jex (1998) developed this measure to assess how much work is involved in a job. It contains five items with response options ranging from (1) 'never/less than once per month' to (5) 'several times a day' (Spector & Jex, 1998). This is a scale that has been used frequently in past research and has an average coefficient alpha of .82 (Mazzola et al., 2011). This study had a coefficient alpha of .91.

Physical Symptoms Inventory (PSI)

This frequency scale was developed by Spector and Jex (1998) to measure physical symptoms. The 18 items are all symptoms and include items such as upset stomach, headache, and fatigue (Spector & Jex, 1998). Participants indicated if in the past 30 days they did not experience symptoms, had the symptoms but did not see a doctor, or had the symptom and saw a

doctor. The symptoms do not have to be related to each other or form a common construct so calculating internal consistency is not appropriate (Spector & Jex, 1998; Mazzola et al., 2011).

Organizational Citizenship Behavior Checklist

The Organizational Citizenship Behavior Checklist was developed by Fox et al. (2007). The 10-item version was specifically designed to avoid the use of antithetical items which are just directly opposite items. This scale uses a five-point frequency scale with 1 indicating “never” and 5 indicating “everyday”. This scale had a coefficient alpha of .80 (Spector et al., 2010). Sample items include “took time to advise, coach, or mentor a classmate/undergraduate student”, “helped a classmate/undergraduate student learn new skills or share job knowledge”, “offered suggestions to improve how work is done” (Fox et al., 2007). This study had a coefficient alpha of .91.

Mentorship Measure

Global Measure of Mentorship Practices [GMMP, 18] was developed by Dreher and Ash (1990). Tenenbaum et al., (2001); modified this measure to eliminate questions specific to business majors, and the modified scale will be used for a total of 19 items measuring psychological and instrumental characteristics of a graduate student’s mentor (Tenenbaum et al., 2001). The measure can be separated into three main components: networking which has a coefficient alpha of .80, psychological help which has a coefficient alpha of .93, and instrumental help which has a coefficient alpha of .83. All three components were summed for one mentorship score. The items were rated on a 5-point Likert scale with 1 indicating “not at all”, 2 indicating “to a small extent”, 3 indicating “to some extent”, 4 indicating “to a large extent”, and 5 indicating “to a very large extent” (Dreher & Ash, 1990). Sample items included “gone out of his/her way to promote your academic interests”, “explored career options with you”, and

“helped you improve your writing skills” (Dreher & Ash, 1990; Tenenbaum et al., 2001). This study had a coefficient alpha of .97 for the entire measure.

Participants

A power analysis using G*power was conducted to find the appropriate number of participants needed for at least 80% power. From that analysis a minimum of 77 participants were found to be required for a power of 0.80 and based on an effect size of .15 and a .05 significance level. An online survey was sent out to graduate students at a Midwestern university. The total sample consisted of 88 participants, but outlier data was removed, leaving a total sample size of 85 graduate students. The sample of graduate students was 31.8% male, 63.5% female, and 4.7% non-binary. Ethnic background for the sample was 8.2% Asian or Pacific Islander, 8.2% Black/African American, 61.2 % White, 18.8% Hispanic/Latino/Latina, 2.4 % Biracial, and 1.2% Other ($N = 85$). International students made up 11.8% of the sample, 35.3% were returning adult students and 71.8% were full-time students. Among all students, 48.2% had graduate assistantships, 78.8% were in a master’s program, 20% in a doctoral program, and 1.2% in a certificate program. Regarding student’s program, 3.5% were from the Mennonite College of Nursing, 29.4% from the College of Arts and Sciences: Social Sciences, 17.6% were from the College of Education, 5.9% from the College of Fine Arts, 15.3% from the College of Applied Science and Technology, 12.9% from the College of Business, and 15.3% from the College of Arts and Sciences: Natural Sciences/Mathematics and Humanities.

Procedure

Institutional Review Board approval was obtained (IRB-2022-448). The university was contacted to send the survey invitation to graduate students’ emails. The survey was sent out to

every department in the graduate school as previous research has included a variety of programs. Participants were given the option to enter a raffle for one of two \$20 Amazon gift cards.

Survey links were sent through university emails to graduate students. An introductory letter was included giving a summary of the goals of the study and information about the raffle of two \$20 Amazon gift cards. Informed consent was required before the survey began. Participants were assured their data would be anonymous and that their participation was voluntary, and they could stop participating at any time. Two additional reminder emails were sent out two weeks after the initial survey. After participants completed the survey, they were directed to a separate link to provide contact information if they wanted to be entered in the gift card raffle. Participants were thanked for participating and the survey ended.

CHAPTER III: RESULTS

Descriptive statistics and zero-order correlations among study variables are reported in Table 1. For hypothesis 1, a simple linear bivariate regression was conducted to predict OCBs in graduate students based on stress. The regression equation used for this hypothesis was: $OCB^{\wedge} = b_0 + b_1(stress)$. Stress was significantly predictive of OCBs in graduate students, $R^2 = .07$, $F(1, 83) = 5.86$, $p = .018$. Those findings support Hypothesis 1. Stress significantly predicted OCBs, $b = -.15$, $\beta = -.26$, such that higher levels of stress predicted fewer OCBs.

For hypothesis 2, mentorship was examined as a moderator of the relation between stress and OCB (see Figure 1). The regression equation for the moderation analysis hypothesis was: $OCB = b_0 + b_1(stress) + b_2(mentorship) + b_3(stress \times mentorship)$. Mentorship and stress were entered in the first step of the regression analysis. In the second step of the regression analysis, the interaction term between mentorship and stress was entered, but it did not explain significance in variance in OCBs. Mentorship was not found to significantly moderate the relation between stress and OCB, $\Delta R^2 = .00$, $F(1, 81) = .36$, $p = .552$. Hypothesis 2 was not supported.

For Hypothesis 3, a simple linear bivariate regression was conducted to predict OCBs in graduate students based on workload. The regression equation used for this hypothesis was: $OCB^{\wedge} = b_0 + b_1(workload)$. Workload was not significantly predictive of OCBs in graduate students, $R^2 = .01$, $F(1, 83) = .88$, $p = .352$. Those findings do not support Hypothesis 3.

Mentorship was examined as a moderator of the relation between workload and OCB in Hypothesis 4 (see Figure 2). The regression equation for the moderation analysis hypothesis was: $OCB = b_0 + b_1(workload) + b_2(mentorship) + b_3(workload \times mentorship)$. Mentorship and workload were entered in the first step of the regression analysis. In the second step of the

regression analysis, the interaction term between mentorship and workload was entered, and it did explain a significant increase in variance in OCBs. Mentorship was found to significantly moderate the relation between workload and OCB, $\Delta R^2 = .05$, $F(1, 81) = 5.81$, $p = .018$.

Hypothesis 4 was partially supported. Although the moderation was significant it was in a direction not predicted. Mentorship was able to increase OCBs even when workload was high.

The unstandardized simple slope for graduates students 1 SD below the mean of mentorship was $b = -.27$, $t(84) = -1.65$, $p = .10$, the unstandardized simple slope for graduate students with a mean level of mentorship was $b = .07$, $t(84) = 0.41$, $p = .69$, the unstandardized simple slope for college students 1 SD above the mean of social ties was $b = .40$, $t(84) = 1.57$, $p = .12$ (see Figure 3).

For Hypothesis 5, a simple linear bivariate regression was conducted to predict physical symptoms in graduate students based on stress. The regression equation used for this hypothesis was: $physical\ symptoms^{\wedge} = b_0 + b_1(stress)$. Stress was not significantly predictive of physical symptoms in graduate students, $R^2 = .03$, $F(1, 83) = 2.17$, $p = .144$. Those findings do not support Hypothesis 5.

Mentorship was examined as a moderator of the relation between stress and physical symptoms (see Figure 4) in Hypothesis 6. The regression equation for the moderation analysis hypothesis was: $physical\ symptoms = b_0 + b_1(stress) + b_2(mentorship) + b_3(stress \times mentorship)$. Mentorship and stress were entered in the first step of the regression analysis. In the second step of the regression analysis, the interaction term between mentorship and stress were entered, and it did not explain a significant increase in variance in physical symptoms, $\Delta R^2 = .01$, $F(1, 81) = .01$, $p = .944$. Hypothesis 6 was not supported.

CHAPTER IV: DISCUSSION

The goal of this study was to determine if mentorship in a graduate student sample could moderate the relation between stress and workload and between stress and physical symptoms. My first hypothesis examined if stress predicted OCBs, which was found to be supported. This provides more support for previous studies such as Parker et al., (2014). This is important because it provides an insight into how stress affects OCBs among a graduate student sample, whereas most previous research on this linkage was done in more traditional workplaces with full-time career-based employees.

My second hypothesis examined if mentorship could moderate the relation between stress and OCBs among graduate students. This was not supported. The moderation appeared to trend in the predicted direction but possibly needed more power to show an effect (Shieh, 2008). The sample size for this study had enough participants for a small effect and it has been recognized in moderation analysis that effect size has an impact on statistical power, and it is difficult to detect moderation especially with continuous variables (Shieh, 2008). With a bigger sample size and more statistical power, significant results may have been found.

Hypothesis 3 examined whether workload could predict OCBs. This was found to be non-significant. Similar to Hypothesis 2, the relation appeared to be trending in the predicted direction but may have been affected by the sample size of graduate students.

My fourth hypothesis examined the potential moderating effect of mentorship on workload and OCBs and was supported. This is promising as it shows that mentorship influences how students manage their workloads as well as engage in OCBs.

My fifth hypothesis examined physical symptoms and stress and was not supported. This may be because the sample of students was relatively young so some of these health symptoms may not appear until older.

My final hypothesis examined the potential moderating effect of mentorship on the relation between stress and physical symptoms. This was found to be non-significant. Again, because this sample is on the younger side a more relevant outcome variable for this age demographic such as anxiety may be more appropriate to examine.

Another important contextual note is that where this sample was enrolled, Illinois State University, promotes and encourages mentorship from faculty. This is in the form of providing recognition and rewards for faculty who are strong mentors. This may explain some of the results and why the mean of mentorship was relatively high. If a sample was gathered from universities that do not promote or encourage mentorship the mean level of mentorship may have been lower and different results may have been found. Also, another thing to note is Illinois State University also encourages and promotes diversity in faculty and staff which is why the sample was as diverse as it was.

There are important implications of this research for students but also for the University and faculty on how mentorship can impact stress. Students and faculty should be more mindful of how this mentorship relationship is impacting them. Also, examining organizational citizenship behaviors in a graduate student sample provides important implications as limited research is available on that population. Studying how students engage in OCBs in graduate school may provide a lens into how new graduates may engage in OCBs once they enter the workforce. This is important because OCBs are an important function of an organization but also

are implicitly rewarded through better performance reviews which in turn lead to increased salaries and promotions (Wagner & Rush, 2000).

Strengths and Limitations

One strength of the study was the use of the Graduate Stress Inventory-Revised (GSI-R). This measure was created for the graduate student population and was validated for use within a diverse sample. The sample included graduate students which have not been the focus of much of the research on stress (relative to their undergraduate counterparts) despite the significant amount of stress they experience. Another strength was that the sample consisted of programs from all colleges in the University. This allowed examination of different graduate students' stress among diverse demographics as well as their perceptions of their mentors from all across the university.

One limitation is that the sample came from a university that had no graduate programs for engineering which previous studies have assessed specifically because of increased workload and stress in those programs (Koudela-Hamila et al., 2022). Another limitation is that this sample was relatively small and may have been slightly skewed for students who had higher OCB levels to start with. When sent the survey link, students were informed in the introduction that the study was for a student thesis project so by simply voluntarily completing the survey, they were actually engaging in an OCB because it was helping another graduate student. We have no information from students who chose not to participate, thereby not engaging in an OCB.

Another potential limitation is that the initial survey had to go through the university email approval protocols, which meant that the survey was sent to all students in the university, both undergraduate and graduate students. To ensure that the correct (graduate) student sample was completing the survey, the first question of the survey asked respondents to indicate if they

were a graduate student or not. However, there is no guarantee that some undergraduate students did not lie and complete the survey.

Future Directions and Conclusions

Future research should examine additional variables related to stress, like anxiety and depression in a graduate student sample. Mental disorders such as depression and anxiety are higher in young adults aged 18-25 than in other aged populations in the U.S. and the first onset of most mental disorders also occur during this time frame (Zhang, 2017). This may be especially useful considering the age of most students. Another interesting avenue for future research is to examine how mentorship affects the mentors themselves, their stress, workload, and OCBs. Faculty not only have work responsibilities but some also have familial responsibilities so mentorship may have a larger effect on stress and related variables linked to work-life balance. Also, future research should recruit a bigger sample size to see if there are changes to the results found in this study. Different recruitment tactics that specifically target graduate students may provide more responses as well as guarantee that no undergraduate students participate in the study.

The goal of this study was to determine if mentorship could moderate the relation between stress and workload and between stress and physical symptoms. In the Industrial/Organizational psychology field, stress has been a prevalent research topic because of links to health and well-being (Mazzola et al., 2011). Particularly for a graduate student population, which has been found to have higher levels of stress compared to the general population and undergraduates, finding ways to help reduce the effects of stress will be crucial for future graduate students (Levecque et al., 1970). This research provides new support for the workload and OCB relation in terms of how mentorship can moderate it. There may also be

important implications for the students and faculty related to how mentorship can impact stress. Students and faculty may be more mindful of how this relationship is impacting them. The current study provides additional support for the relation between workload and OCB indicating mentorship can moderate it; this is important given that limited research is available on OCBs in a graduate student population. This provides useful information on how graduate students will engage in OCBs in their perspective new careers after graduate school. This is important because although OCBs are not required by organizations, they are linked with important outcomes such as better salaries and promotions (Wagner & Rush, 2000). More research on mentorship in graduate school and its effects on negative outcomes are necessary going forward to improve students' quality of life.

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APPENDIX A: TABLES

Table 1

Zero-Order Correlations and Descriptive Statistics Among Study Variables

	1	2	3	4	5
Mentorship	-	.52***	-.13	-.08	-.47***
OCB	.52***	-	-.23*	-.10	-.26*
Physical Symptoms	-.13	-.23*	-	.20	.16
Workload	-.08	-.10	.20	-	.21
Stress	-.47***	-.26*	.06	.21	-
N	85	85	85	85	85
Mean	63.32	26.04	5.98	14.92	46.04
SD	19.24	9.00	3.87	5.60	15.63
Min	19	10	0	0	19
Max	95	47	15	26	87

*p < .05; **p < .01; ***p < .001

APPENDIX B: FIGURES

Figure 1

Moderation Hypothesis for Stress, Mentorship, and OCBs

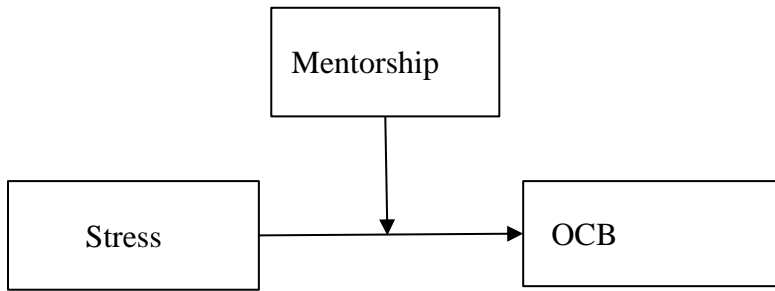


Figure 2

Moderation Hypothesis for Workload, Mentorship, and OCBs

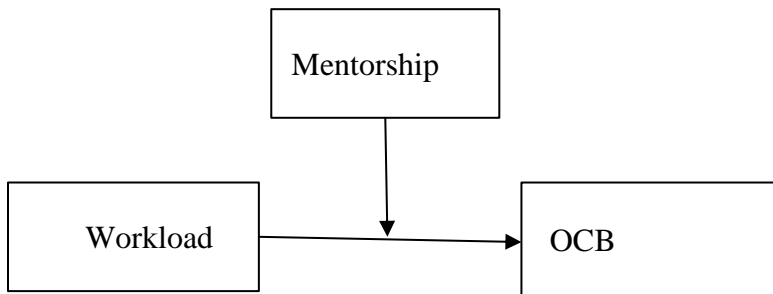


Figure 3

Moderation Hypothesis Workload, OCB, and Mentorship

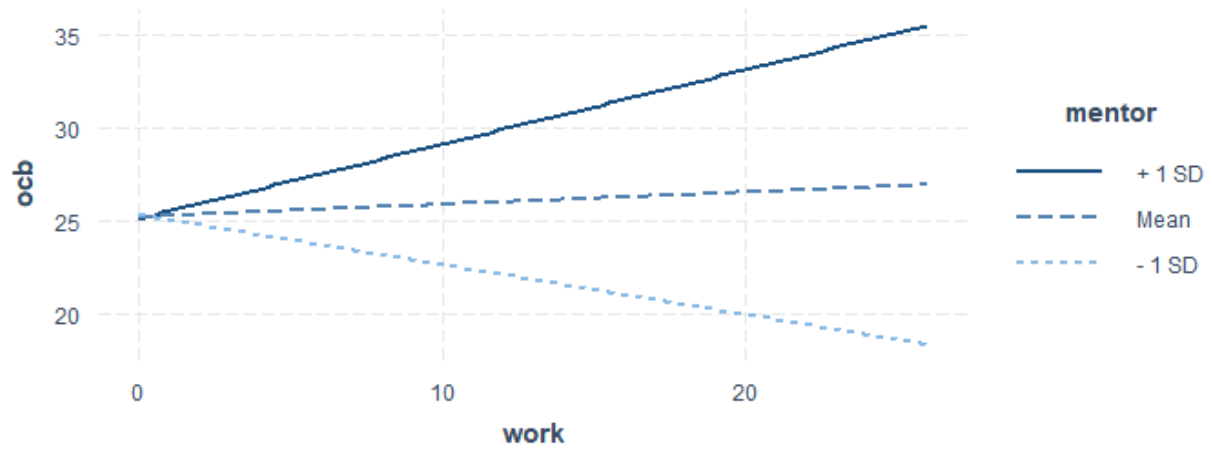


Figure 4

Moderation Hypothesis for Stress, Mentorship, and Physical Symptom

