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Relation Between Academic Advisor and Cohort Support with Well-Being in Graduate
Students

Morgan DeLong

A thesis submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

In

Partial Fulfillment of the Requirements

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Abstract

Well-being issues like the limitations of typical treatment protocols and common mitigating factors for mental health problems for graduate students, specifically the importance of therapeutic lifestyle changes (TLCs) were explored. The current study aims to determine if TLCs, individual engagement in the TLCs as well as support of them by mentors and peers, predict overall well-being, satisfaction with the graduate program, and job stress in masters' students. This study was conducted during COVID-19 which is a limitation.

Keywords: Well-Being, Graduate Students, Job Stress, Therapeutic Lifestyle Changes
(TLCs)

RELATION BETWEEN ACADEMIC ADVISOR AND COHORT SUPPO

Introduction

College, for both undergraduate and graduate studies, is a time rife with uncertainty, stress, work, and social pressures. Thus, it is also a time of fragile mental health for many young adults. Statistics show that mental illness on college campuses is a real problem, one that is increasingly difficult to address (Pedrelli et al., 2015, Hibbs, 2019). Graduate students compose a much smaller percentage of those in college; however, the stress of research, course work, and assistantships can intensify mental health problems (El-Ghoroury et al., 2012., Lovitts & Nelson, 2000). The current study proposed an investigation of two key social dynamics that have the potential to mitigate, or exacerbate, these problems: 1) students' relationships with their mentors and, 2) students' relationships with their cohort members. In this paper, I discussed: a) the evidence of increased mental health issues and challenges on college campuses; b) the limitations of typical treatment protocols like psychotherapy and pharmacology options, including the strain on university resources; c) common mitigating factors for mental health problems for this population, specifically the importance of therapeutic lifestyle changes (TLCs); and d) how students' relationships with their mentors and cohort members may be related to students' engagement in TLCs.

Mental Health Issues in College Students

Between 12-50% of college students would meet the criteria for one or more mental diagnosis (Grasdalsmoen et al., 2020). Common mental health disorders have onsets during the ages of 20-30 years old and could be related to the series of developmental transitions that occur such as the transition to college (Amanyermez et al., 2020). According to World Health Organization World Mental Health Surveys, the most

prevalent mental illness on college campuses were any anxiety disorder (11.7-14.7%), mood disorders (6.0-9.9%), substance disorders (4.5-6.7%), and behavioral disorders (2.8-5.3%) in college students (Auerbach et al., 2016). Two common mental illness diagnoses that will be focused on specifically are major depressive disorder and generalized anxiety disorder. Twelve-month prevalence of major depressive disorder in the United States is around 7% with differences being shown by age. Eighteen to 29-year-olds are three times more likely to have the diagnosis than people 60 years or older (Kessler et al., 2003). Generalized anxiety disorder has a 12-month prevalence rate of .9% among adolescents and 2.9% among adults in the United States with a lifetime morbidity risk of 9.0% (Kessler et al., 2012). Importantly, graduate students are 6 times more likely to have depression and anxiety symptoms or diagnoses compared to the general population (Evans et al., 2018). Well-being has been separated into hedonistic (subjective) and eudemonic (psychological); eudemonic well-being will be focused on. Hedonistic well-being is the presence of positive emotions and absence of negative emotions while in comparison eudemonic well-being is focused on meaning and self-realization for a person (Deci & Ryan., 2008). Negative and positive affect are important components of eudemonic well-being which are related to purpose in life, autonomy, personal growth, self-acceptance, environmental mastery, positive relationships with others, emotional and regulation (Puente-Martínez et al., 2018). Negative affect is negatively correlated with happiness, health and life satisfaction (Meeks & Murrerl., 2001, Singh & Jha., 2008) which is important to consider while exploring well-being.

There is an economic concern for the increase of mental illness diagnoses which is critical with how expensive mental health services are for universities. Mental health

issues are associated with lower academic performance which is related to dropout rates in the short term which leads to loss of human capital as a society in the long term (Grasdalsmoen et al., 2020). The economy loses \$193.2 billion each year due to serious mental illness in the U.S. economy; globally \$1 trillion is lost in productivity each year (Mental, 2019). In addition, since 2001, the rate of suicide in the United States has increased by 31% with 11% of those being young adults aged 18-25 (Mental, 2019) which makes mental illnesses on college campuses a serious concern.

Unique challenges to graduate students.

Graduate students in general have a stereotype of having no free time because “good” graduate students have these qualities: hard working, visible, motivated, and someone that is easy to teach and does not complain (Grover et al., 2006). Graduate students are balancing a lot of responsibilities and commitments to be considered a good student that might lead to high stress. Graduate students have two jobs: being a student and being an employee through their assistantship so a high level of stress would be predicted. Stress is a common occurrence in university, but graduate students are exposed to the demands of advanced academic coursework, clinical trainings, research, and financial burdens (Grover et al., 2006). Literature has shown lower levels of stress is associated with less professional burnout, job/school satisfaction, advanced academic performance, and better physical and mental health overall in graduate students (McKinzie et., 2006, Tompkins et al., 2016).

A confounding factor worth discussing is COVID-19 and how the world is faced with a global pandemic. This will be another layer of stress that was put on the world and current graduate students that will impact their well-being that might not of been true for

previous literature. Anticipatory grief is the feeling of knowing that a loss is coming and attempting to prepare for the loss before it happens (Wallace et al., 2020). COVID-19 was the cause of a lot of anticipatory grief for the world because a lot of things that previously were set in stone became unknowns quickly. Quarantine is associated with associated with stress, depression, irritability, insomnia, confusion, fear, anger, frustration, and boredom which all impact mental health in college students (Pfefferbaum & North, 2020). The pandemic is adding to the mental health crisis because coping techniques are not as available or not as safe especially for college students. The current study will include questions specifically regarding adjustment to COVID-19 to account for the acute impact of the pandemic.

Limitations of typical treatment protocols

Universities are having difficulty accommodating all their student needs with individual therapy because of limited funding, staff, and time. For example, some counseling centers have shifted to a group therapy focus and referring students to outside therapy practice or short-term appointments (5 appointments maximum). For example, James Madison University (JMU) has seen a 42% increase in students requesting mental health support/resources whereas the enrollment has only increased by 7% in 2019 (Miller, 2019). JMU has seen an increase in the amount (35%) and level of concerns about the Counseling Center and involvement of the Dean of Students in 2018-19 (Miller, 2019). Stress is a common occurrence in university, but graduate students are exposed to the demands of advanced academic coursework, clinical trainings, research, and financial burdens (Grover et al., 2006). There are various treatments and mitigating factors to help ease poor mental health issues which include pharmacological options, therapy and

focusing on their mitigating factors. There have been psychotherapy and or pharmacotherapy treatments that have been used to help reduce the rate of mental illness and how to manage symptoms when dealing with mental illnesses (Alan et al., 2011)

Psychotherapy has been used as a mechanism for coping with mental illnesses. Psychotherapy, or talk therapy, is a method to help people with various mental illnesses and emotional problems in their lives. A therapist and their patient talk and discuss whatever is necessary during psychotherapy. A drawback of using psychotherapy is the limited scope of delivery it has because it can only help one singular client (one person, couple, family or small group) in specific locations like at a health care/mental health service facility or private practice (Kazdin & Blasé, 2011). There are several reasons why people might not utilize psychotherapy: stigmatization, negative opinions towards treatment, restriction of personal time, lack of perceived need, financial issues, availability of appropriate services, or even cultural values (Ebert et al., 2019; Eisenberg., 2009; Hunt & Eisenberg, 2010). People, students specifically, might not seek professional help because of the stigma surrounding mental health. Having a fear of the stigma associated with something like mental health does not contribute to behavior change but could result in people to hide those behaviors or actions that fit that stigma (Bharadwaj et al., 2017). Given the limitations of traditional resources, there are various mitigating factors that have been shown to help alleviate stress and mental illness symptoms.

Mitigating Factors of Mental Health Problems

Other mitigating factors that can help alleviate issues in graduate school are the items included in therapeutic lifestyle changes (TLCS). TLCs can be used in conjunction

with psychotherapy and pharmacotherapy treatments but can also be more effective than both in situations (Walsh, 2011). The therapeutic lifestyle changes are exercise, nutrition and diet, time in nature, relationships, recreation, relaxation and stress management, religious or spiritual involvement, sleep, and service to others. Literature has shown that overall using any of the TLCs has improve physical health, self-esteem, and quality of life (Walsh, 2011).

Exercise. Literature has suggested that exercising might have comparable therapeutic effects on a person's mental wellbeing as attending psychotherapy (Grasdalsmoen et al., 2020; Kyam et al., 2016; Gordon et al., 2018; Raglin, 1990; Cooney et al., 2013). Physical exercise has many biological benefits like being linked to the functioning of serotonin, dopamine, and noradrenaline which are neurotransmitters in the brain (Wipfli et al., 2011). These neurotransmitters are what antidepressants, like SSRIs (selective serotonin reuptake inhibitor), target which leads the idea that physical exercise can have similar benefits as these medications. Penedo and colleagues (2005) support that claim by stating that exercise can reduce symptoms of depression and anxiety which improves mood. Literature has shown that there is a dysfunction of the hypothalamic-pituitary-adrenal (HPA) axis in people with mental disorders, but exercising is critical to maintaining a healthy HPA axis (Anderson & Shivakumar., 2013).

Nutrition and Diet. A distinction between healthy dieting and dieting is made in literature studying the effects of both terms. Cairns and colleagues (2014) define healthy dieting as the extent to which the individual engages in healthy habits in relation to food, and to which their usual diet includes a range of nutritious foods while dieting is defined

as the extent to which the individual engages in deliberate attempts to restrict food intake for the purposes of weight reduction. An item that would fit measuring healthy dieting might be “how many days do you eat fruits” whereas an item measuring poor dieting habits might be “how often do you refuse food because you are worried about gaining weight”. The goal of this study is to measure healthy dieting because high healthy dieting with is associated with lower depression scores (Cairns et al., 2014).

Time in Nature. Feeling connected to nature has shown to increase psychological and social well-being (Howell et al., 2013). Spending time in nature has been linked to decreased activity in a brain area that is associated with rumination which is a prominent symptom in mood disorders (Bratman et al., 2015). The decrease in brain activity leads to a positive mood which in turn leads to lower rates of depression. There are plenty of reasons why experiencing nature might cause these relationships; it could be the fresh air, change of scenery, or an increase in creativity. Whatever the reason is, time in nature still increases a person’s well-being in various ways which means it would be easy to implement it into peoples’ lives. Certain TLCs can be interrelated like time in nature, exercise, and recreation but each one has positive benefits to well-being. Pretty and colleagues (2005) that ‘green exercise’ which is physical activity that is done in nature or a place with a view of nature has shown that the benefits of increased well-being is behind the benefits solely by exercising. Spending time in direct contact of natural places improves self-esteem mood, fosters mental well-being, and encourages exercise which are of those are linked to a reduction in stress (Baur et al., 2020, Wood et al., 2020). The advantages of spending time in nature versus other medical interventions are low relative costs, practicality, not needing a trained professional and other benefits like reducing

anxiety and depression rates as well as lowering risks for cardiovascular disease (Frumpkin et al., 2017)

Recreation. Literature refers to an activity called ‘adventure recreation’ which for the purpose of this paper will be defined as physical activity that is self-initiated, nature-based that need skills to manage any risks unique to that activity (Houge Machenzie & Hodge., 2020). Examples of a couple adventure recreation activities are rock climbing, horseback riding, surfing and sky diving. Participating in any recreational activity, even if it is not outside, leads to increase of positive feelings like, happiness joy, excitement and contentment, and a sense of purpose or meaningfulness (Houge Machenzie & Hodge., 2020). Indoor recreation activities examples are reading, playing board or video games, or puzzles. Any pleasurable recreation activity that increases positive emotions, also includes other psychological and physical benefits as well. Walsh (2011) states that recreation can lead to a reduction in defensiveness, improved well-being, and nurture social skills in children and adults.

Relaxation and stress management. People who work full time are less likely to spend time engaging in relaxation and stress management activities compared to those who do not work full time (Forbes et al., 2017). Graduate students must be a student full time with classes, research, and graduate assistant jobs to pay for tuition; meaning they work more than 40 hours a week. Stress management interventions are intended to help participants improve personal efficacy in handling stressors. College students that participate in meditation programs have lower stress levels of cortisol after participating (Murff, 2005). These relaxation interventions show a decrease in distress while

increasing positive mood which helps with depression and anxiety symptoms (Hayes et al., 2019).

Religious or Spiritual Involvement. Religion and spiritual involvement might mean different things to different individuals or could be considered one thing. Religion and spirituality will be defined as different to discuss well-being benefits. Religiosity can be defined as formal, institutional, outward expression of a higher belief; while spirituality is more internal, private, and emotional expression of a higher belief (Cotton et al., 2006). Spirituality is the concept of believing in something beyond the self. It can be based around religion like a higher power; however, it can be an individual connection to the world and others overall (Elizabeth, 2020). Spirituality is associated with positive personality characteristics like foresight and conscientious (Dein, 2006) and acts as an inhibitor to depression because depression is related with the loss of purpose in life and hope. (Fradelos et al., 2019). Religious involvement is linked with a lower likelihood of anxiety disorders and drug abuse disorders (George et al., 2000).

Services to Others. Volunteering has various positive benefits as it is a protective factor against depression, improves personal development, self-reflection, social support, and emotional well-being (Kahana et al., 2013; Kim & Pai, 2010). However, there is a cyclical relationship because people with increased well-being spend more time volunteering, but volunteering promotes increased well-being (Thoits & Hewitt., 2001). Service to others could be a formal way of volunteering through an institution or group, or simply helping a neighbor out. Being involved in community service is associated with increase life satisfaction, self-esteem, sense of meaning in life, physical and mental health (Thoits & Hewitt., 2001).

Sleep. Chronic sleep interruptions have shown significant declines in vitality, social function, physical and mental health, and general quality of life (Lund et al., 2010). The body cannot function without sleep so it would make sense how critical it is to a person's well-being. Lund and colleagues (2010) found that perceived stress instead of sleep schedule regularity, alcohol or drug use, exercise frequency or electronics usage explains the most in predicting poor quality of sleep for college students. Sleep quality is a predictor of depression; however, depression symptoms include poor quality of sleep or insomnia in college students (Dinis & Bragance., 2018).

Relationships. Social support has been linked to reducing psychological distress (depression or anxiety) during stressful times and positive adjustments to various health issues like diabetes, lung disease and cancer (Kim, 2008). Strong social relationships have been shown to have drastic reduction in mortality rates with the explanation being that the relationships fight against stress in a person's life (Holt-Lunstad et al., 2010). Walsh (2011) claims that strong relationships are correlated with increased happiness, quality of life, cognitive ability, resilience to stressful events and even wisdom. College is stressful mentally, physically, and emotionally so having a strong academic relationships help cope with the cognitive load that comes from being a student may be critical to success. How a person perceives their own belonging impacts their well-being and resilience capacity with a negative relationship (Scarf et al., 2018). With the global pandemic, maintaining relationships by spending time with family, friends, and advisors has been strained which might lead to decreased close friends and a sense of belonging. The Internet and social media are how relationships are being maintained which might exacerbate or compensate for the lack of direct interpersonal contact that is occurring

during the pandemic. The current study will focus on students' relationships with their academic advisors and cohort in their graduate program.

Relationships in Business and Academic Settings

Social support is the most used coping strategy used in an attempt to manage stress in graduate psychology programs (Kuyken, Peters, Power, & Lavendar, 2003). Graduate program demands result in students reporting a lack of time as a barrier to their well-being; based on this, most social support is garnered from other students (cohort) in their program (El-Ghorourt et al, 2012). Graduate students have reported social support of being an important source of strength, but social support has not been specifically defined regarding the source of that social support originates (Tompkins et al., 2016). Research on mental health shows that social support is a mitigating factor, but does it matter where that social support comes from? Is it possible that the person (academic mentor versus cohort) that gives the social support impacts mental health? Most of the literature on these relationships have been examined in businesses/organizational contexts instead of academic (Patterson et al., 2005).

Business Relationships. Mentoring relationships where there are different values/attitudes/perspectives between the mentor and mentee are more likely to have negative experiences and have unrealistic expectations for both parties. (Tenebaum et al., 2001). To determine emotional support in organizational settings/companies support behaviors are measured. Matheiu and colleagues (2019) define support behaviors are one of the many job resources that companies have (e.g., social, physical, organizational, and psychological). Social support is broken up into emotional (listening to coworkers' problems) and instrumental behaviors (assisting with a task).

Graduate students have stressors similar to those seen in traditional jobs and these stressors are related to emotional and instrumental support that they may garner from supervisors. These stressors include role conflict, role overload, role ambiguity, and work-family conflict (Matheiu et al., 2019). Role conflict is when a person has responsibilities that conflicted with each other that make getting all of their tasks done difficult. Role overload is when a worker lacks resources to fulfill all of their job duties. Role ambiguity is when a person is confused on how to complete/perform their responsibilities. Work-family conflict is when a person's job hinders family obligations which can lead to other stressors as well.

Literature suggests that higher members (bosses, supervisors, etc.) of a company might have a greater influence on the social support given because it can be interpreted differently depending on the power that person holds over someone based on their position in the company (Mathieu et al., 2019). A supervisor's social support might be interpreted differently than someone with a similar position in the company. A supervisor has power to enforce punishments which might limit social support comparison to coworkers. This logic might be seen in an academic setting as well with a graduate students' academic advisor versus their cohort.

Academic Relationships. Research shows that students have higher satisfaction when advisors use socioemotional mentoring practices (role modeling, empathizing, counseling, etc.) whereas when advisors focus on instrumental help (writing, presenting, networking, etc.) students have higher productivity instead of satisfaction (Tenebaum et al., 2001). Mentoring practices impact how strong a working relationship will be. Tenebaum and colleagues (2001) found that socioemotional mentoring practices have a

positive relationship with advisor satisfaction ($r=.68$) and with the measure of working relationships between advisor-advisee ($r=.71$). Items focusing on working relationships and satisfaction with graduate programs were included to examine if there was a strong relationship between advisor and advisee.

If a poor working relationship was reported, it might make sense why a student does not have a good experience in their graduate program no matter how much TLCs are mentioned. Veilleux and colleagues (2012) showed overall positive program climate has positively correlated relationships with academic satisfaction ($r=.41$), research satisfaction ($r=.44$), clinical training ($r=.45$), professional development satisfaction ($r=.57$), advising satisfaction ($r=.57$), and departmental relationships satisfaction ($r=.81$).

Most research about stress and graduate school has used medical students; however, it was found that similar perceived stress levels were comparable between medical students and psychology graduate students so graduate students overall might be experiencing similar levels of stress (Myers et al., 2012). Graduate students who reported diagnoses of anxiety and depression said that 50% of them claimed their advisor did not provide “real” mentorship (Evans et al., 2018). However, advisors are not the only people that can be mentors to other graduate students; sometimes other classmates fill that role.

Previous literature with business graduate students claim that having students with an older student as a mentor experience less stress compared to students without that mentor figure classmate (Tenabaum et al., 2001). Peers that act as a mentor can be confidants and help through any personal issues that arise while assisting with academic and professional issues. Having a strong sense of belonging improves graduate student retention and success so exploring what helps build those strong relationships is needed

(O'Meara et al., 2017). Students who are experiencing social support from their cohort around them experience higher levels of school-work facilitation than those students who do not receive that social support (Wyland et al., 2015). The current study will contribute to the literature by investigating how the type and amount of social support received from cohort and supervisors may be related to graduate students' well-being.

Research Hypotheses

The current study aims to determine if TLCs, individual beliefs in as well as support of by mentors and peers, predict overall well-being, satisfaction with the graduate program, and job stress. To test these hypotheses, hierarchical regressions while controlling for student negative affect (Meeks & Murrerl., 2001, Singh & Jha., 2008) mentoring practices, and relationship with cohort members (Kafetsio et al., 2012, Gabriel et al., 2014) were used. I hypothesized that graduate students' personal beliefs (prioritizing, neglect, endorsement, openness) about TLCs will explain unique variance in overall well-being, satisfaction with the graduation program, and job stress, while controlling for these variables. I further hypothesized that mentors' and cohort members' beliefs about TLCs will predict additional variance in the dependent measures.

Methodology

Participants

Participants were recruited using a mass email sent to students at James Madison University through the Graduate School program and the mass bulk email program. Additional participants were recruited using social media posts. Recruitment information included a description of the study and a link to a QuestionPro survey which includes all necessary measures and demographic questions. Based on a power analysis, the

minimum number of participants to get the desired power (.80) would be 43 students. 43 were recruited with demographics of females (81.4%), males (16.3%, and other (2.3%) and with ages ranging from 22 – 32 years old ($M: 24.56, SD:2.17$). 74.4% of the participants were James Madison University students. Of those students 79% were White or Caucasian, 9.3% were Black or African American, 7.1% were Asian or Pacific Islander, 2.3% Hispanic or Latino/Latina, and 2.3% picked other.

Measures

Various self-report measures were included as proxies to examine well-being, job stress, advisor/cohort support, working relationships, mentoring practices, and overall graduate program satisfaction. All measures were included on a QuestionPro survey.

Ryff's Psychological Well-Being Scale (PWB). The PWB scale is a 42-item measure with six subscales, nine items per subscale, where participants respond on a scale of 1 (strongly agree) to 6 (strongly disagree) (Appendix A). Total scores range from 9-54, and subscale scores range from 1-9, with higher scores representing greater well-being ($\alpha=.95$). The subscales are autonomy (e.g., "My decisions are not usually influenced by what everyone else is doing"), environmental mastery (e.g., "I do not fit very well with the people and community around me" (R)), personal growth (e.g., "I think it is important to have new experiences that challenge how you think about the world"), positive relations with others (e.g., "I know that I can trust my friends and they know that they can trust me"), purpose in life (e.g., "I am an active person in carrying out the plans I set for myself"), and self-acceptance (e.g., "My attitude about myself is probably not as positive as most people feel about themselves" (R)) (Ryff et al., 1995). The six subscales are significantly and positively intercorrelated (Kállay & Rus, 2013).

Cronbach's alpha was .94 for the complete 42 item scale with subscale Cronbach's alphas ranging between .70 to .84 for each of the six subscales. (Ryff., 2019).

Well-Being Activity Endorsement Index (TLC endorsement). Well-Being Activity Endorsement is an 8-item measure (9-item when sleep is included) where participants respond on a scale of 1 (not at all) to 7 (very much) for all items how much they thought each specific TLC would make a difference to their overall well-being (Appendix B). An overall TLC endorsement index is created by total scores (9-63). Howell and colleagues (2016) only included eight of the nine TLCs (exercise, nutrition and diet, time in nature, relationships, recreation, relaxation and stress management, religious or spiritual involvement, and service to others were the eight) and found a Cronbach's alpha of .83. Sleep, the ninth TLC which was added later, was included in the current proposed study ($\alpha=.80$).

Additional TLC items. Other personally created items were included to attempt to capture more of a well-rounded use of therapeutic changes besides those 13 items mentioned above. Four items on a 7-point scale where responses were from 1 (Almost Never True) to 7 (Almost Always True) were for each therapeutic lifestyle change (TLC) making 36 items in total (Appendix C). For each of the nine specific TLCs, there were items asking about personal prioritizing and neglect, advisors prioritizing, and cohorts prioritizing that TLC. Individual items included the total of prioritizing and the reverse scoring of neglecting items with scores ranging from 18-126. While advisor and cohort beliefs were only 9 items for each TLC with total scores ranging from 9-63.

Brief Job Stress Questionnaire (BJSQ). The BJSQ includes items that discuss work environment control, both mental and physical health, communication with

supervisors, co-workers, family/friends/spouses, and satisfaction with life and job (Demerouti, 2013). Brief Job Stress Questionnaire is a 57 items measure, with two subscales, where participants respond on a scale of 1 (disagree) to 4 (agree), with higher scores representing higher stress. Psychological and physical stress reactions, the first subscale, has total scores ranging from 29 -116 ($\alpha=.83$). Job stressors, the second subscale, includes items about psychological job demands/controls and social support factors with total scores ranging from 26 -104. Only the second subscale was used for this study which included seventeen items focused on psychological job demands and job control (e.g., "I cannot complete all my work in the allotted time"), and 11 items on social support factors (e.g., "I can rely on my advisor when I am troubled").

Mentoring Practice Scale. The Mentoring Practice Scale is 19 items where participants respond on a scale of 1 (not at all) to 5 (to a very large extent) (Appendix E). Total scores range from 19-95, with higher scores measuring better perceived mentoring practices. The items measured psychosocial (e.g., "Encouraged you to talk openly about anxiety and fears that detract from your work?"), instrumental (e.g., "Helped you with a presentation? (Either within your department, or at a conference?)") and networking (e.g., "Helped you meet other people in your field at the University?") functions of an advisor. The internal consistency coefficients for each scale are psychosocial subscale (.93), the networking items (.80), and instrumental help (.83) respectively (Tenebaum et al., 2001). This scale was asked twice with one time focusing on academic advisors and the other time focusing on academic cohorts while participants answer the items ($\alpha=.95$ advisors, $\alpha=.94$ cohorts).

Satisfaction with graduate program. Three items were used to measure satisfaction with specific areas of graduate life that included: academic training, professional development, and overall satisfaction. Each area was asked with a scale with options ranging from 1 (completely dissatisfied) to 7 (completely satisfied). Total satisfaction scores were calculated using summation (3-21) with higher scores measuring greater satisfaction with the program ($\alpha=.77$).

International Positive and Negative Affect Schedule Short Form (I-PANAS-SF). A 10-item scale used to measure negative affect where participants respond on a scale of 1 (never) to 5 (always) on how participants felt during the past month (Appendix G). Total scores (10-50) were calculated where higher scores representing higher negative affect ($\alpha=.72$). Cronbach's alpha was .85 for young adults that took the negative affect schedule (Jovanović., 2015).

Data Analysis

All statistical analyses were completed using SPSS version 27. Multiple hierarchal regression analysis were used to predict the outcome variables of overall well-being, satisfaction with the graduation program, and job stress. All assumptions of multiple regression will be tested and checked for. Linear relationships were calculated using Pearson's correlations before including them in the regression. Three predictors (negative affect, mentoring practices for advisors, and mentoring practice for cohorts) are being controlled for in the first step, because research suggests that these variables are typically related to work outcomes, well-being, and stress. In the second step, the individual personal TLCs items (Endorsement scale, total personal TLCs questions (prioritize, and neglect items) will be added to the number of predictors (5) in the

regression model. The question is after controlling for the negative affect, mentoring practices of both cohorts and advisors- does a students' own personal beliefs about the TLCs explain unique variance when predicting the desired outcome variables? In the third step, advisor prioritizing and cohort prioritizing the TLCs will be added to the number of predictors in the regression model (7). After adding those predictors, does a student's advisor and cohort beliefs about TLCs explain additional variance above all other previously included variables in the hierarchal regression.

Results

Assumptions

Prior to calculating any hierarchical regressions, I evaluated the data for violations of the following statistical assumptions: outliers, collinearity, independent errors, random normal distribution of errors, homoscedasticity, linearity of data, and non-zero variances. An analysis of standard residuals for were calculated that showed the well-being dependent measure contained no outliers (Std. Residual Min=-1.83, Std. Residual Max=-2.559), the job stress dependent measure contained no outliers (Std. Residual Min = -2.00, Std. Residual Max = 1.68), and the satisfaction dependent measure contained no outliers (Std. Residual Min = -2.37, Std. Residual Max = 1.49). The rule of thumb for determining outliers -is if the standard residual minimum is below or equal to -3.29, or the standard residual maximum is equal or above 3.29, there are outliers present in the data (Tabachnick & Fidell., 2013).

Tests to see if the data met the assumption of collinearity for all dependent measures indicated that multicollinearity was not a concern (Negative Affect, *Tolerance* = .46, *VIF* = 2.19; Mentoring Advisor Practices, *Tolerance*= .45 *VIF*=2.18, Mentoring

Cohort Practices, *Tolerance*=.52, *VIF*=1.89; Personal TLC, *Tolerance* = .46, *VIF* = 2.16; Advisor TLCs, *Tolerance* =.47, *VIF*=2.10; Cohort TLCs, *Tolerance*=.53, *VIF*=1.85).

Generally, if the VIF value is greater than 10, or the Tolerance is less than 0.1, there are issues with multicollinearity in the data (Tabachnick & Fidell., 2013).

The assumption of independent errors was met for all dependent measures: well-being (Durbin-Watson value =2.28), job stress (Durbin-Watson value =1.86), and satisfaction (Durbin-Watson value =2.08). Typically, if the Durbin-Watson value is less than 1 or greater than 3 the assumption of independent errors has not been met since a value close to 2 is meeting the assumption. The histograms of standardized residuals of all three dependent measures and the normal P-P plots of standardized residuals indicated that the data had approximately normally distributed errors. In addition, all three scatterplots of standardized residuals showed the data met the assumptions of homogeneity of variance and linearity.

The data also met the assumption of non-zero variances (Well-Being, Variance = 739.67; Satisfaction, Variance =9.65; Job Stress, Variance=86.59, Negative Affect, Variance=24.70; Advisor Mentoring Practice, Variance=357.72; Cohort Mentoring Practice, Variance=275.67; Personal TLCs, Variance=184.62; Advisor Prioritize TLCs, Variance=184.62; Cohort Prioritize TLCs, Variance=59.57).

Correlations

Zero order correlations were calculated prior to any regressions (Table 1). All variables were significantly related with another variable except for the TLC Endorsement Index measure. Overall well-being was correlated with every predictor variable (personal TLCs, cohort prioritize TLCs, advisor prioritize TLCs, mentoring

practices for both advisor and cohorts, and negative affect) at least $p < .05$ with $r \geq .569$ except negative affect $r(41) = -.728, p < .01$. Brief job stress was correlated with personal TLCs ($r(41) = -.599, p < .01$), and negative affect $r(41) = .660, p < .01, df = 41$. Satisfaction with the program was correlated with cohort prioritizing TLCs $r(41) = .323, p < .05$, advisor mentoring practices $r(41) = .501, p < .01$ and cohort mentoring practices $r(41) = .551, p < .01$, and negative affect $r(41) = -.396, p < .01, df = 41$.

Regressions

Table 2 includes means and standard deviations on all variables. Three hierarchical regressions were calculated on predicting 1) overall well-being (Table 3), 2) job stress (Table 4) and 3) satisfaction with graduation program (Table 5).

Well-Being. Using the enter method, the first step was found that negative affect, and quality of mentoring of advisor and cohorts explain a significant amount of the variance in a students' overall well-being and the model itself was significant $F(3, 39) = 24.32, p = .001, R^2 = .652, R^2_{\text{Adjusted}} = .652$). The second step found that after controlling for the first step, personal prioritizing and neglecting of TLCs did not explain additional variance in students' overall well-being but the model was significant $F(1, 38) = 3.148, p < .001, R^2 = .678, R^2_{\text{Adjusted}} = .644$. The third step found that after controlling for step 1 and 2, advisor prioritizing the TLCS and cohorts prioritizing the TLCS did not explain additional variance amount of variance in students' overall well-being, but the model was significant $F(2, 36) = .132, p < .001, R^2 = .681, R^2_{\text{Adjusted}} = .627$.

Job Stress. Using the enter method, the first step was found that negative affect, and quality of mentoring of advisor and cohorts explain a significant amount of the variance in a students' job stress and the model was significant $F(3, 39) = 15.122, p <$

.001, $R^2 = .538$, $R^2_{\text{Adjusted}} = .502$. The second step found that after controlling for the first step, personal prioritizing and neglecting of TLCs did not explain additional variance in students' job stress, but the model was significant $F(1,38)=11.328$ $p<.001$, $R^2 = .544$, $R^2_{\text{Adjusted}} = .496$. The third step found that after controlling for step 1 and 2, advisor prioritizing the TLCS and cohorts prioritizing the TLCS did not explain additional variance in students' job stress . but the model was significant $F(2,36)=7.763$, $p<.001$, $R^2 = .553$, $R^2_{\text{Adjusted}} = .479$.

Satisfaction with program. Using the enter method, the first step was found that negative affect, and quality of mentoring of advisor and cohorts explain a significant amount of the variance in a students' satisfaction with the program and the model was significant $F(3, 39) = 8,291$, $p < .001$, $R^2 = .389$, $R^2_{\text{Adjusted}} = .342$. The second step found that after controlling for the first step, personal prioritizing and neglecting of TLCs did not explain additional variance in students' satisfaction with the program, but the model was significant $F(1,38)=1.001$, $p<.001$, $R^2 = .405$, $R^2_{\text{Adjusted}} = .342$. The third step found that after controlling for step 1 and 2, advisor prioritizing the TLCS and cohorts prioritizing the TLCS did not explain additional variance in students' satisfaction with the program, but the model was significant $F(2,36)=.528$, $p<.001$, $R^2 = .422$, $R^2_{\text{Adjusted}} = .326$.

Discussion

Hypotheses

For well-being, job stress, and satisfaction outcome measures, the only significant predictors contributing to explain variance were the variables that were controlled for in the regression analyses (Table 3-5). Specifically, negative affect and mentoring practices

for cohorts explained unique variance in overall well-being; negative affect and mentoring practices for advisors explained unique variance in job stress; and mentoring practices for cohorts explained unique variance when predicting satisfaction with the graduate program. A potential reason of why this happened is how mentoring practices were measured for advisors and cohorts. One of the therapeutic lifestyle changes is maintaining relationships and that is related to the questions asked on the mentoring practices measurement. There might not have been enough variance left to explain when controlling for the two of the main relationships maintained in graduate school. There might be a more accurate measurement to use in future studies to attempt to capture the relationships between advisors and cohorts.

An additional explanation of why no significant variance was explained past the control variables for all three regressions is how negative affect was measured. The International Positive and Negative Affect Schedule Short Form (I-PANAS-SF) scale is a common measurement that is treated as a stable personality trait that is used when predicting things like satisfaction (Di Fabio & Bucci., 2015, Jovanović., 2015, Thompson., 2007). However, it's possible that it should not be included while predicting well-being because of how much those two constructs (negative affect and well-being) overlap with each other. Supporting this, when negative affect was included in calculations of Cronbach's alphas for Ryff's Well-Being Scale it was .917 versus .948 without it included. Meaning that there is a strong internal consistency even when negative affect was included. By controlling for negative affect, it is possible that that explained all the variance that would have been predicted by other variables because of how closely the constructs are according to these two measurements. A correlation of

negative affect and well-being was expected, however, how strong of relation between the two where negative affect would explain most of the variance was not. To support that claim, a hierarchical regression for predicting well-being was run without controlling for negative affect which showed personal beliefs about TLCs explaining additional variance (Table 6). There might be a more fitting measurement for negative affect in graduate students since the I-PANAS-SF assumes that negative affect is a stable personality trait. It is possible that negative affect might be more impacted by the environment and events of daily life and graduate students might tend to have a worse negative affect based on this. It is also possible that negative affect because worse for everyone since this study was conducted during a global pandemic.

Limitations and Future Research.

COVID-19. The biggest limitation is that this study is that it occurred during a global pandemic. Literature supports that large scale disasters (e.g. fires, war, terrorist attacks, natural disasters) are an immediate threat to mental and physical health, and social relationships (Patrick et al., 2020). It is very likely that graduate school responsibilities were put on hold during this pandemic. People were forced to be faced with unexpected issues (job loss, isolation, worries about close friends/family) and needed to focus on that instead of grades for example (Bonanno et al., 2010).

Other Social Support Factors. The social support from advisors is important to well-being based on the correlation between advisees who rated their advisors high on mentoring practices were the same advisors who were likely to prioritize the TLCs found in this study. An explanation for that might be advisors that prioritize the TLCs, and their well-being are able to provide a strong quality of mentoring to students. Lastly, advisor

support alone is predictive of overall well-being alone which shows the importance of a strong advisor.

However, academic relationships are not the only source of receiving support; support might come from parents, spouses, friends outside of the program, etc. (Gottlieb & Bergen., 2010). In addition to the various people that can provide social support; there is also several types of support that can be provided like emotional, instrumental, informational, companionate, and esteem support (Gottlieb & Bergen., 2010). These other sources and types of social support were not all captured in the current study because of the focus on academic relationships. This study can be extended to early faculty employment in academic as well. Instead of focusing on graduate students, focus on non-tenure faculty and examine their mentoring relationship with their mentoring faculty (informal or non-formal) and other faculty members (cohorts). There are various relationships and even academic relationships that this study fails to capture.

Perceived support and support available are different things as well that might influence well-being or satisfaction with a program. Support might be available but if a student does not take advantage of it or think it is helpful it will not impact well-being. 50% of graduate students that reported diagnoses of anxiety and depression make the claim their advisors do not provide “real” mentorship (Evans et al., 2018). This is an example of a mismatch between social support types being provided by the advisor and what the advisee needs. Different advisees will need different types of support from their advisor for various reasons.

In additional, graduate students might need different types of social support from their cohort than their advisor. For example, having a strong sense of belonging improves

graduate student retention and success (O'Meara et al., 2017). That sense of belonging might come from your cohort more than your advisor. In future research, it would be worth looking into different social support scales for the two sources of social support potentially.

Measurements. The measurements included on the survey will need to be worked on to make sure they are the most accurate and reliable scales to be using on the desired population. The survey created was long so by doing more research on solely the measures to see how those produce reliability and validity data on the graduate student population would be helpful for future studies overall. The questionnaire was estimated to take at least 35 minutes to complete which raises the issue of order effects and the boredom from participants. The length of the survey can impact reliability by creating halo effects (previous information in the survey priming answers near the end) and part-whole effects (differentiated between general construct questions and specific construct questions) for example (Linek., 2017) The three big measures that would need improvement for future studies would be looking for a shorter well-being scale, a more accurate social support scale for cohorts, and potentially using a more acute scale of measuring negative affect.

Opened Ended Questions. In addition to all closed ended questionnaires included in the survey, opened ended questions were included that asked how the pandemic influenced TLC use if frequency was changed. The benefit of including opened ended questions is giving participants the freedom to answer however they need to and avoiding any bias by attempting to suggest responses like with close ended questions (Reja et al., 2003). These questions will be used to examine themes about TLC use in

relation to the pandemic to facilitate additional questions/measurements to include on additional surveys for future research topics. These will also be helpful by examining how participants answered about certain open-ended questions about specific TLCs like spirituality will help define those terms for future research on the TLCs.

Conclusion

Even though not all the models of regressions were significant for each outcome variable there is some take away information about graduate school and early employment life that would be helpful to know. In addition, with the limitations this study faced, it also had strengths. The desired amount of power for participants were met and all regression assumptions were passed. The results of this study showed interesting information that is useful for future research. For example, again, participants who rated their advisor to have high mentoring practices were the advisors that were most likely to participate in the TLCs. This means that potentially advisors are giving strong quality of mentoring to students if they are participants and maintaining a strong overall well-being. Additionally, advisor support is predictive of overall well-being alone which shows the importance of a strong advisor. Negative affect might be a more changing construct that measured previously before in graduate students specifically. It might be more reasonable to have a strong negative affect firstly as a graduate student and especially during a global pandemic.

Tables

Table 1

Correlations

Measures	1	2	3	4	5	6	7	8	9
1. Well-Being									
2. Job Stress	-	--							
	.665**								
3. Personal TLCs	.569**	-.299	--						
4. Cohort Prioritize TLCs	.393**	-	.380*	--					
5. Advisor Prioritize TLCs	.351*	.522**	.142	.498*	—				
6. TLCs Endorsement	-.219	.380	.070	-.249	-.027	--			
7. Mentoring Practice - Advisor	.513**	-	.181	.338*	.647*	.101	--		
		.557**			*				
8. Mentoring Practice- Cohort	.560**	-	.157	.443*	.368*	.274	.541*	—	
		.629**		*			*		
9. Negative Affect	-	-.384*	-	-.219	-.196	.096	-	-	--
	.728**		.65**				.306*	.39**	
10. Satisfaction	.598**	-.351*	.124	.323*	.407*	-	.501*	.551*	-
					*	.064	*	*	.39**

** p<.01 *p<.05

Table 2

Means and Standard Deviations

	Mean	Standard Deviation
Well-Being	182.84	26.41
Job Stress	58.98	19.49
Personal TLCs	67.37	13.58
Cohort Prioritize TLCs	28.63	7.72
Advisor Prioritize TLCs	36.33	9.10
*TLCs Endorsement	46.98	8.51
Mentoring Practice - Advisor	57.65	19.49
Mentoring Practice-Cohort	56.93	16.66
Negative Affect	27.00	5.22
Satisfaction	17.00	2.98

Table 3

Regression Models Predicting Well-Being

Variable	Model 1	Model 2	Model 3
<u>Control variables</u>			
Negative Affect	-.576**	-.425**	-.445**
Mentoring Practice for Advisors	.223	.213#	.214
Mentoring Practice for Cohort	.211	.241*	.215
<u>Independent Variables</u>			
Personal TLCs		.217#	.186
Advisor Prioritize TLCs			-0.12
Cohort Prioritizing TLCs			.064
Full-model R ²	.652	.678	.681
ΔR^2 vs. control model	.625	.644	.627
Model <i>F</i> ratio	24.325	20.035	12.791
Degrees of freedom	39	38	36
<i>P</i> value	<.001	<.001	<.001

** $p < .01$ * $p < .05$ # $p < .10$

Table 4

Regression Models Predicting Job Stress

Variable	Model 1	Model 2	Model 3
<u>Control variables</u>			
Mentoring Practice for Advisors	-.288**	-.293**	-.350**
Mentoring Practice for Cohort	-.369**	-.354**	-.278#
Negative Affect	.274**	.346**	.397**
<u>Independent Variables</u>			
Personal TLCs		.104	.190
Advisor Prioritize TLCs			.123
Cohort Prioritizing TLCs			-.189
Full-model R ²	.538	.544	.564
ΔR^2 vs. control model	.502	.496	.491
Model <i>F</i> ratio	15.122	11.328	7.763
Degrees of freedom	39	38	36
<i>P</i> value	<.001	<.001	<.001

** $p < .01$ * $p < .05$ # $p < .10$

Table 5

Regression Models Predicting Program Satisfaction

Variable	Model 1	Model 2	Model 3
<u>Control variables</u>			
Mentoring Practice for Advisors	.263 [#]	.271 [#]	.198
Mentoring Practice for Cohort	.337 ^{**}	.314 [#]	.268
Negative Affect	-.182	-.296	-.330 [#]
<u>Independent Variables</u>			
Personal TLCs		-.166	-.220
Advisor Prioritize TLCs			.097
Cohort Prioritizing TLCs			.100
Full-model R ²	.389	.405	.422
ΔR ² vs. control model	.342	.342	.326
Model <i>F</i> ratio	8.291	6.469	4.381
Degrees of freedom	39	38	36
<i>P</i> value	<.001	<.001	<.001

**** p<.01 *p<.05 #p<.10**

Table 6

Regression Models Predicting Well-Being without Negative Affect

Variable	Model 1	Model 2	Model 3
<u>Control variables</u>			
Mentoring Practice for	.298 [#]	.234 [#]	.266
Advisors	.399 ^{**}	.359 ^{**}	.373 ^{**}
Mentoring Practice for Cohort			
<u>Independent Variables</u>		.470 ^{**}	.483 ^{**}
Personal TLCs		.	.019
Advisor Prioritize TLCs			-.041
Cohort Prioritizing TLCs			
Full-model R ²	.345	.558	.535
ΔR^2 vs. control model	.376	.213	.001
Model <i>F</i> ratio	12.070	18.659	10.665
Degrees of freedom	40	39	37
<i>P</i> value	<.001	<.001	<.001

**** p<.01 *p<.05 #p<.10**

Appendix A

Ryff's Psychological Well-Being Scale

1. "I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people."
2. "For me, life has been a continuous process of learning, changing, and growth."
3. "In general, I feel I am in charge of the situation in which I live."
4. "People would describe me as a giving person, willing to share my time with others."
5. "I am not interested in activities that will expand my horizons."
6. "I enjoy making plans for the future and working to make them a reality."
7. "Most people see me as loving and affectionate."
8. "In many ways I feel disappointed about my achievements in life."
9. "I live life one day at a time and don't really think about the future."
10. "I tend to worry about what other people think of me."
11. "When I look at the story of my life, I am pleased with how things have turned out."
12. "I have difficulty arranging my life in a way that is satisfying to me."
13. "My decisions are not usually influenced by what everyone else is doing."
14. "I gave up trying to make big improvements or changes in my life a long time ago."
15. "The demands of everyday life often get me down."
16. "I have not experienced many warm and trusting relationships with others."
17. "I think it is important to have new experiences that challenge how you think about yourself and the world."
18. "Maintaining close relationships has been difficult and frustrating for me."
19. "My attitude about myself is probably not as positive as most people feel about themselves."
20. "I have a sense of direction and purpose in life."
21. "I judge myself by what I think is important, not by the values of what others think is important."
22. "In general, I feel confident and positive about myself."
23. "I have been able to build a living environment and a lifestyle for myself that is much to my liking."
24. "I tend to be influenced by people with strong opinions."
25. "I do not enjoy being in new situations that require me to change my old familiar ways of doing things."
26. "I do not fit very well with the people and the community around me."
27. "I know that I can trust my friends, and they know they can trust me."
28. "When I think about it, I haven't really improved much as a person over the years."
29. "Some people wander aimlessly through life, but I am not one of them."
30. "I often feel lonely because I have few close friends with whom to share my concerns."
31. "When I compare myself to friends and acquaintances, it makes me feel good about who I am."
32. "I don't have a good sense of what it is I'm trying to accomplish in life."
33. "I sometimes feel as if I've done all there is to do in life."
34. "I feel like many of the people I know have gotten more out of life than I have."
35. "I have confidence in my opinions, even if they are contrary to the general consensus."

36. "I am quite good at managing the many responsibilities of my daily life."
37. "I have the sense that I have developed a lot as a person over time."
38. "I enjoy personal and mutual conversations with family members and friends."
39. "My daily activities often seem trivial and unimportant to me."
40. "I like most parts of my personality."
41. "It's difficult for me to voice my own opinions on controversial matters."
42. "I often feel overwhelmed by my responsibilities."

Autonomy

1. I am not afraid to voice my opinions even when they are in opposition to the opinions of most people
2. My decisions are not usually influenced by what everyone else is doing
3. I tend to worry about what other people think of me **
4. I have confidence in my opinions even if they are contrary to the general consensus
5. I often change my mind about decisions if my friends and family disagree *
6. Being happy with myself is more important than having others approve of me
7. It is difficult for me to voice my own opinions on controversial matters **
8. I tend to be influenced by people with strong opinions. **
9. I judge myself by what I think is important, not by the values of what others think is important.

Environmental Mastery

1. I do not fit very well with the people and community around me **
2. I am quite good at managing the many responsibilities of my daily life
3. I often feel overwhelmed by my responsibilities **
4. I generally do a good job of taking care of my personal finances and affairs
5. I am good at juggling my time so that I can fit everything in that needs to be done
6. I have difficulty arranging my life in a way that is satisfying to me **

7. I have been able to build a home and a lifestyle for myself that is much to my liking
8. In general, I feel I am in charge of the situation in which I live
9. The demands of everyday life often get me down **

Personal Growth

1. I am not interested in activities that will expand my horizons **
2. I don't want to try new ways of doing things – my life is fine the way it is **
3. I think it is important to have new experiences that challenge how you think about the world
4. When I think about it, I haven't really improved much as a person over the years **
5. I have the sense that I have developed a lot as a person over time
6. I do not enjoy being in new situations that require me to change my old familiar ways of doing things **
7. For me, life has been a continuous process of learning, changing, and growth
8. I gave up trying to make big improvements or changes in my life a long time ago **
9. There is a truth in the saying that you can't teach an old dog new tricks **

Personal relations with others

1. Most people see me as loving and affectionate
2. Maintaining close relationships has been difficult and frustrating to me **
3. I often feel lonely because I have few close friends with whom to share my concerns **
4. I enjoy personal and mutual conversations with family members or friends
5. I don't have many people who want to listen when I need to talk **
6. It seems to me that most other people have more friends than I do **
7. People would describe me as a giving person, willing to share my time with others

8. I have not experienced many warm and trusting relationships with others **
9. I know that I can trust my friends and they know that they can trust me

Purpose in Life

1. I live one day at a time and don't really think about the future **
2. I tend to focus on the present because the future nearly always brings me problems **
3. My daily activities often seem trivial and unimportant to me **
4. I don't have a good sense of what it is I am trying to accomplish in life **
5. I used to set goals for myself, but that now seems a waste of time **
6. Some people wander aimlessly through life, but I am not one of them.
7. I am an active person in carrying out the plans I set for myself
8. I sometimes feel I have done all there is to do in life **
9. I enjoy making plans for the future and working to make them a reality

Self-Acceptance

1. When I look at the story of my life, I am pleased with how things have turned out
2. I like most aspects of my personality
3. I feel that many people I know have got more out of life than I have **
4. I have made some mistakes in the past, but feel that all in all everything has worked out
for the best
5. In many ways, I feel disappointed about my achievements in life **
6. My attitude about myself is probably not as positive as most people feel about themselves
**
7. The past had its ups and downs; but in general, I wouldn't want to change it

8. When I compare myself with friends and acquaintances, it makes me feel good about who I am
9. In general, I feel confident and positive about myself

Appendix B

TLC Endorsement Index

Please answer the following questions about how much you think each activity would make a difference to your overall well-being (1. Not at all 3. Somewhat 5. Quite a Bit 7. Very much).

1. How much do you think exercise would make a difference to your overall well-being?
2. How much do you think nutrition and diet would make a difference to your overall well-being?
3. How much do you think time in nature would make a difference to your overall well-being?
4. How much do you think your relationships would make a difference to your overall well-being?
5. How much do you think recreation would make a difference to your overall well-being?
6. How much do you think relaxation and stress management would make a difference to your overall well-being?
7. How much do you think religious or spiritual involvement would make a difference to your overall well-being?
8. How much do you think service to others would make a difference to your overall well-being?
9. How much do you think sleep would make a difference to your overall well-being?

Appendix C

Additional TLC Questions

Please answer the following questions about **sleep** by selecting the number that best describes if the statement is true or not that fits your situation. (1. Almost Never True- 7. Almost Always True)

1. I prioritize my sleep
2. My academic advisor prioritizes their sleep
3. My cohort prioritizes their sleep
4. I neglect my sleep when stressed

Has your amount of sleep been effect during COVID-19? (Multiple Choice answer with improved/ declined/ no change)

If it has been impacted overall, please explain (open text box)

Please answer the following questions about **exercising** by selecting the number that best describes if the statement is true or not that fits your situation.

1. I prioritize my exercise
2. My academic advisor prioritizes their exercise
3. My cohort prioritizes their exercise
4. I neglect my exercise when stressed

Has your amount of exercising been effect during COVID-19? (Multiple Choice answer with improved/ declined/ no change)

If it has been impacted please explain (open text box)

Please answer the following questions about **nutrition and diet** by selecting the number that best describes if the statement is true or not that fits your situation.

1. I prioritize my nutrition/diet
2. My academic advisor prioritizes their nutrition/diet
3. My cohort prioritizes their nutrition/diet
4. I neglect my nutrition/diet when stressed

Has your healthy nutrition/diet habits been effect during COVID-19? (Multiple Choice answer with improved/ declined/ no change)

If it has been impacted please explain (open text box)

Please answer the following questions about your **time in nature** by selecting the number that best describes if the statement is true or not that fits your situation.

1. I prioritize spending time in nature
2. My academic advisor prioritizes spending time in nature
3. My cohort prioritizes spending time in nature
4. I neglect spending time in nature when stressed

Has your time in nature been effect during COVID-19? (Multiple Choice answer with improved/ declined/ no change)

If it has been impacted please explain (open text box)

Please answer the following questions about your **academic relationships** by selecting the number that best describes if the statement is true or not that fits your situation.

1. I prioritize my academic relationships with people

2. My academic advisor prioritizes their academic relationships with people
3. My cohort prioritizes their academic relationships with people
4. I neglect my academic relationships with people when stressed

Has your academic relationships with people been effect during COVID-19? (Multiple Choice answer with improved/ declined/ no change)

If it has been impacted please explain (open text box)

Please answer the following questions about your **recreation** habits by selecting the number that best describes if the statement is true or not that fits your situation.

1. I prioritize having time for recreational activities
2. My academic advisor prioritizes having time for recreational activities
3. My cohort prioritizes having time for recreational activities
4. I neglect recreational activities with people when stressed

Has your having time for recreational activities with people been effect during COVID-19?

(Multiple Choice answer with improved/ declined/no change)

If it has been impacted please explain (open text box)

Please answer the following questions about your **relaxation and stress management** habits by selecting the number that best describes if the statement is true or not that fits your situation.

1. I prioritize having time for relaxation and stress management
2. My academic advisor prioritizes having time for relaxation and stress management
3. My cohort prioritizes having time for relaxation and stress management
4. I neglect relaxation and stress management habits with people when stressed

Has having time for relaxation and stress management habits been effect during COVID-19?

(Multiple Choice answer with improved/ declined/no change)

If it has been impacted please explain (open text box)

Please answer the following questions about your **religious or spiritual involvement** by selecting the number that best describes if the statement is true or not that fits your situation.

1. I prioritize my religious or spiritual involvement
2. My academic advisor prioritizes their religious or spiritual involvement
3. My cohort prioritizes their religious or spiritual involvement
4. I neglect religious or spiritual involvement when stressed

Has your religious or spiritual involvement been effect during COVID-19? (Multiple Choice answer with improved/ declined/ no change)

If it has been impacted please explain (open text box)

Please answer the following questions about your **service to others/volunteering** habits by selecting the number that best describes if the statement is true or not that fits your situation.

1. I prioritize having time for volunteering
2. My academic advisor prioritizes having time volunteering
3. My cohort prioritizes having time for volunteering
4. I neglect volunteering with people when stressed

Has having your ability to volunteer been effect during COVID-19? (Multiple Choice answer with improved/ declined/no change)

If it has been impacted please explain (open text box)

Appendix D

Brief Job Stress Questionnaire (BJSQ)

Please answer the following questions concerning your school life by selecting the number that best fits your situation. (1. Disagree 2. Somewhat Disagree 3. Somewhat Agree 4. Agree).

1. I have an extremely large amount of work to do for school
2. I cannot complete work in the required time
3. I have to work as hard as I can
4. I have to pay very careful attention
5. My academic work requires a high level of knowledge and technical skill
6. I need to be constantly thinking about my schoolwork throughout the working day
7. My academic pursuits require a lot of physical work
8. I can work at my own pace **
9. I can choose how and in what order to do my schoolwork **
10. I can reflect my opinion on my university policy **
11. My knowledge and skills are rarely used in my academic work
12. There are differences of opinion within my major
13. Those in my department do not get along well with those in other departments
14. The atmosphere in my university is friendly **
15. My working environment is poor (e.g. noise, lighting, temperature, ventilation).
16. This major suits me well **
17. My academic work is worth doing **

Please answer the following questions concerning satisfaction by selecting the number that best fits your situation. (1. Disagree 2. Somewhat Disagree 3. Somewhat Agree 4. Agree).

18. I can communicate with my advisor
19. I can communicate with my classmates/cohort
20. I can communicate with my spouse, family, friends, etc
21. I can rely on my advisor when I am troubled
22. I can rely on my classmates/cohort when I am troubled.
23. I can rely on my spouse, family, friends, etc. when I am troubled
24. My advisor will listen to me when I ask for advice on personal matters
25. My classmates/cohort will listen to me when I ask for advice on personal matters
26. My spouse, family, friends, etc. will listen to me when I ask for advice on personal matters

Please answer the following questions concerning satisfaction by selecting the number that best fits your situation. 1. Disagree 2. Somewhat Disagree 3. Somewhat Agree 4. Agree

27. I am satisfied with my major/department
28. I am satisfied with my family life

Appendix E

Mentoring Practices -Advisor Questions

Please answer the following questions concerning your academic advisor by selecting the number that best fits your situation. (1. Not at all 2. To a small extent 3. To some extent 4. To a large extent 5. To a very large extent).

To which extent has your academic advisor...

1. Gone out of his/her way to promote your academic interests?
2. Conveyed feelings of respect for you as an individual?
3. Conveyed empathy for the concerns and feelings you have discussed with him/her?
4. Encouraged you to talk openly about anxiety and fears that detract from your work?
5. Shared personal experiences as an alternative perspective to your problems?
6. Discussed your questions or concerns regarding feelings of competence, commitment to advancement, relationships with peers and supervisors or work/family conflicts?
7. Shared history of his/her career with you?
8. Encouraged you to prepare for the next steps?
9. Served as a role model?
10. Displayed attitudes and values similar to your own?
11. Helped you finish assignments/tasks or meet deadlines that otherwise would have been difficult to complete?
12. Protected you from working with other faculty, lectures, or staff before you knew about their likes/dislikes, opinions on controversial topics, and the nature of the political environment?
13. Given you authorship on publications?
14. Helped you improve your writing skills?

15. Helped you with a presentation? (either within your department, or at a conference?)
16. Explored career options with you?
17. Given you challenging assignments that present opportunities to learn new skills?
18. Helped you meet other people in your field at the University?
19. Helped you meet other people in your field elsewhere?

Appendix F

Mentoring Practices -Cohort Questions Questions

Please answer the following questions concerning your academic cohort by selecting the number that best fits your situation. (1. Not at all 2. To a small extent 3. To some extent 4. To a large extent 5. To a very large extent).

To which extent has your academic cohort...

1. Gone out of his/her way to promote your academic interests?
2. Conveyed feelings of respect for you as an individual?
3. Conveyed empathy for the concerns and feelings you have discussed with him/her?
4. Encouraged you to talk openly about anxiety and fears that detract from your work?
5. Shared personal experiences as an alternative perspective to your problems?
6. Discussed your questions or concerns regarding feelings of competence, commitment to advancement, relationships with peers and supervisors or work/family conflicts?
20. Shared history of his/her career with you?
21. Encouraged you to prepare for the next steps?
22. Served as a role model?
23. Displayed attitudes and values similar to your own?
24. Helped you finish assignments/tasks or meet deadlines that otherwise would have been difficult to complete?
25. Protected you from working with other faculty, lectures, or staff before you knew about their likes/dislikes, opinions on controversial topics, and the nature of the political environment?
26. Given you authorship on publications?
27. Helped you improve your writing skills?

28. Helped you with a presentation? (either within your department, or at a conference?)
29. Explored career options with you?
30. Given you challenging assignments that present opportunities to learn new skills?
31. Helped you meet other people in your field at the University?
32. Helped you meet other people in your field elsewhere?

Appendix G

International Positive and Negative Affect Schedule Short Form (I-PANAS-SF)

Thinking about yourself and how you normally feel, to what extent do you generally feel:

(1. Never 2. Once in a while 3. About half the time 4. Most of the time 5. Always)

1. Upset
2. Hostile
3. Alert
4. Ashamed
5. Inspired **
6. Nervous
7. Determined **
8. Attentive **
9. Afraid
10. Active **

References

- Amanvermez, Y., Rahmadiana, M., Karyotaki, E., de Wit, L., Ebert, D. D., Kessler, R. C., & Cuijpers, P. (2020). Stress management interventions for college students: A systematic review and meta-analysis. *Clinical Psychology: Science and Practice*.
<https://doi.org/10.1111/csps.12342>
- Anderson E, Shivakumar G. (2013). Effects of exercise and physical activity on anxiety. *Front Psychiatry*, 4(27). [10.3389/fpsy.2013.00027](https://doi.org/10.3389/fpsy.2013.00027)
- Audette, A. P., Lam, S., O'Connor, H., & Radcliff, B. (2019). (E) Quality of Life: A Cross-National Analysis of the Effect of Gender Equality on Life Satisfaction. *Journal of Happiness Studies*, 20(7), 2173-2188. <https://doi.org/10.1007/s10902-018-0042-8>
- Auerbach, R., Alonso, J., Axinn, W., Cuijpers, P., Ebert, D., Green, J., . . . Bruffaerts, R. (2016). Mental disorders among college students in the World Health Organization World Mental Health Surveys. *Psychological Medicine*, 46(14), 2955-2970.
[10.1017/S0033291716001665](https://doi.org/10.1017/S0033291716001665)
- Baur, J. (2020). Campus community gardens and student health: A case study of a campus garden and student well-being. *Journal of American College Health*, 1-8.
<https://doi.org/10.1080/07448481.2020.1751174>
- Gottlieb, B. H., & Bergen, A. E. (2010). Social support concepts and measures. *Journal of psychosomatic research*, 69(5), 511-520. <https://doi.org/10.1016/j.jpsychores.2009.10.001>
- Bharadwaj, P., Pai M. M., Suziedelyte, A. (2017) Mental health stigma. *Economics Letters*, 57-60. <https://doi.org/10.3386/w21240>
- Bonanno, G. A., Brewin, C. R., Kaniasty, K., & Greca, A. M. L. (2010). Weighing the costs of disaster: Consequences, risks, and resilience in individuals, families, and

communities. *Psychological science in the public interest*, 11(1), 1-49.

<https://doi.org/10.1177/1529100610387086>

Bratman, G. N., Hamilton, J. P., Hahn, K. S., Daily, G. C., & Gross, J. J. (2015). Nature experience reduces rumination and subgenual prefrontal cortex activation. *Proceedings of the national academy of sciences*, 112(28), 8567-8572.

<https://doi.org/10.1073/pnas.1510459112>

Cairns, K. E., Yap, M. B. H., Pilkington, P. D., & Jorm, A. F. (2014). Risk and protective factors for depression that adolescents can modify: a systematic review and meta-analysis of longitudinal studies. *Journal of affective disorders*, 169, 61-75.

<https://doi.org/10.1016/j.jad.2014.08.006>

Cole, B., Matheson, K., & Anisman, H. (2007). The Moderating Role of Ethnic Identity and Social Support on Relations Between Well-Being and Academic Performance 1. *Journal of Applied Social Psychology*, 37(3), 592-615. [https://doi.org/10.1111/j.559-](https://doi.org/10.1111/j.559-1816.2007.00176.x)

[1816.2007.00176.x](https://doi.org/10.1111/j.559-1816.2007.00176.x)

Cooney, G. M., Dwan, K., Greig, C. A., Lawlor, D. A., Rimer, J., Waugh, F. R., McMurdo, M., & Mead, G. E. (2013). Exercise for depression. *The Cochrane database of systematic reviews*, (9), <https://doi.org/10.1002/14651858.CD004366.pub6>

Cotton, S., Zebracki, K., Rosenthal, S. L., Tsevat, J., & Drotar, D. (2006). Religion/spirituality and adolescent health outcomes: A review. *Journal of Adolescent Health*, 38(4), 472-480.

<https://doi.org/10.1016/j.jadohealth.2005.10.005>

Deci, E. L., & Ryan, R. M. (2008). Hedonia, eudaimonia, and well-being: an introduction.

Journal of Happiness Studies, 9(1), 1-11. <https://doi.org/10.1007/s10902-006-9018-1>

- Dein, S. (2006). Religion, spirituality and depression: Implications for research and treatment. *Primary Care & Community Psychiatry*.
<https://doi.org/10.1185/135525706X121110>
- Demerouti, E., Shimazu, A., Bakker, A. B., Shimada, K., & Kawakami, N. (2013). Work-self balance: A longitudinal study on the effects of job demands and resources on personal functioning in Japanese working parents. *Work & Stress*, 27(3), 223-243.
<https://doi.org/10.1080/02678373.2013.812353>
- Di Fabio, A., & Bucci, O. (2015). Affective profiles in Italian high school students: life satisfaction, psychological well-being, self-esteem, and optimism. *Frontiers in Psychology*, 6, <https://doi.org/10.3389/fpsyg.2015.01310>
- Dinis J., Braganca M. (2018) Quality of sleep and depression in college students: a systematic review. *Sleep Science*, 11(4) [10.5935/1984-0063.20180045](https://doi.org/10.5935/1984-0063.20180045)
- Elizabeth, S. M. (2020). Spirituality can improve many aspects of your life and health. Very Well Mind. <https://www.verywellmind.com/how-spirituality-can-benefit-mental-and-physical-health-3144807>
- Ebert, D. D., Buntrock, C., Mortier, P., Auerbach, R., Weisel, K. K., Kessler, R. C., ... & Bruffaerts, R. (2019). Prediction of major depressive disorder onset in college students. *Depression and anxiety*, 36(4), 294-304. <https://doi.org/10.1002/da.228967>
- Eisenberg, D., Downs, M. F., Golberstein, E., & Zivin, K. (2009). Stigma and help seeking for mental health among college students. *Medical Care Research and Review*, 66(5), 522-541. <https://doi.org/10.1177/1077558709335173>

- El-Ghoroury, N. H., Galper, D. I., Sawaqdeh, A., & Bufka, L. F. (2012). Stress, coping, and barriers to wellness among psychology graduate students. *Training and Education in Professional Psychology, 6*(2), 122-134. <https://doi:10.1037/a0028768>
- Evans, T. M., Bira, L., Gastelum, J. B., Weiss, L. T., & Vanderford, N. L. (2018). Evidence for a mental health crisis in graduate education. *Nature biotechnology, 36*(3), 282-284. <https://doi.org/10.1038/nbt.4089>
- Fisher, C., Fried, A., Goodman, S., & Germano, K. K. (2009). Measures of mentoring, department climate, and graduate student preparedness in the responsible conduct of psychological research. *Ethics & Behavior, 19*, 227–252. <https://doi:10.1080/10508420902886726>
- Forbes, H., Fichera, E., Rogers, A., & Sutton, M. (2017). The effects of exercise and relaxation on health and wellbeing. *Health economics, 26*(12), <https://doi.org/10.1002/hec.3477>
- Fradelos, E. C., Kapsiocha, E., Tzavella, F., Kastanidou, S., Tsaras, K., Papagiannis, D., & Papathanasiou, I. V. (2019). Factors associated with psychological distress in university students and the relation to emotional intelligent and spirituality: A cross-sectional study. *Materia socio-medica, 31*(4), 262. [10.5455/msm.2019.31.262-267](https://doi.org/10.5455/msm.2019.31.262-267)
- Gabriel, A. S., Diefendorff, J. M., Chandler, M., Moran, C. M., & Greguras, G. J. (2014). The dynamic relationships of work affect and job satisfaction with perceptions of fit. *Personnel Psychology, 67*(2), 389-420. <https://doi.org/10.1111/peps.12042>
- George, Linda K., David B. Larson, Harold G. Koenig, and Michael E. McCullough(2000). "Spirituality and health: What we know, what we need to know." *Journal of social and clinical psychology, 19*(1), 2-116. <https://doi.org/10.1521/jscp.2000.19.1.102>

- Gordon, B. R., McDowell, C.P., Hallgren M., Meyer J.D., Lyons M., & Herring M (2018) Association of Efficacy of resistance exercise training with depressive symptoms meta-analysis and meta-regression analysis of randomized clinical trials. *Jama Psychiatry*. 75(6), 566–76 <https://doi:10.1001/jamapsychiatry.2018.2084>
- Grasdalsmoen, M., Eriksen, H. R., Lønning, K. J., & Sivertsen, B. (2020). Physical exercise, mental health problems, and suicide attempts in university students. *BMC psychiatry*, 20, 1-11. <https://doi.org/10.1186/s12888-020-02583-3>
- Grover, C. A., Leftwich, M. J., Backhaus, A. L., Fairchild, J. A & Weaver, K. A. (2006) Qualities of superstar graduate students. *Teaching of Psychology*, 33(4), 271-273
- Hajdu, G., & Hajdu, T. (2018). Intra-couple income distribution and subjective well-being: the moderating effect of gender norms. *European Sociological Review*, 34(2), 138-156. <https://doi.org/10.1093/esr/jcy006>
- Hayes, D., Moore, A., Stapley, E., Humphrey, N., Mansfield, R., Santos, J., ... & Deighton, J. (2019). Promoting mental health and wellbeing in schools: Examining mindfulness, relaxation and strategies for safety and wellbeing in English primary and secondary schools: Study protocol for a multi-school, cluster randomised controlled trial (INSPIRE). *Trials*, 20(1), 1-13. <https://doi.org/10.1186/s13063-019-3762-0>
- Hibbs, B. J., (2019) The Stressed Years of their Lives: Helping your Kid Survive and Thrive During their College Years. *Kirkus Reviews*.
- Hogan, C. L., Catalino, L. I., Mata, J., & Fredrickson, B. L. (2015). Beyond emotional benefits: Physical activity and sedentary behaviour affect psychosocial resources through emotions. *Psychology & health*, 30(3), 354-369. <https://doi.org/10.1080/08870446.2014.973410>

- Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: a meta-analytic review. *PLoS medicine*, 7(7), <https://doi.org/10.1371/journal.pmed.1000316>
- Houge Mackenzie, S., & Hodge, K. (2020). Adventure recreation and subjective well-being: A conceptual framework. *Leisure Studies*, 39(1), 26-40.
<https://doi.org/10.1080/02614367.2019.1577478>
- Howell, A. J., Passmore, H. A., & Buro, K. (2013). Meaning in nature: Meaning in life as a mediator of the relationship between nature connectedness and well-being. *Journal of Happiness Studies*, 14(6), 1681-1696. <https://doi.org/10.1007/s10902-012-9403-x>
- Howell, A. J., Passmore, H. A., & Holder, M. D. (2016). Implicit theories of well-being predict well-being and the endorsement of therapeutic lifestyle changes. *Journal of Happiness Studies*, 17(6), 2347-2363. <https://doi.org/10.1007/s10902-015-9697-6>
- Jovanović, V. (2015). Beyond the PANAS: Incremental validity of the Scale of Positive and Negative Experience (SPANE) in relation to well-being. *Personality and Individual Differences*, 86, 487-491. <https://doi.org/10.1016/j.paid.2015.07.015>
- Kafetsios, K., Nezlek, J. B., & Vassilakou, T. (2012). Relationships between leaders' and subordinates' emotion regulation and satisfaction and affect at work. *The Journal of social psychology*, 152(4), 436-457. <https://doi.org/10.1080/00224545.2011.632788>
- Kahn, J. H., & Schlosser, L. Z. (2010). The graduate research training environment in professional psychology: A multilevel investigation. *Training and Education in Professional Psychology*, 4, 183–193. <https://doi:10.1037/a0018968>
- Kállay, É., & Rus, C. (2014). Psychometric properties of the 44-item version of Ryff's Psychological Well-Being Scale. *European Journal of Psychological Assessment*.
<https://doi.org/10.1027/1015-5759/a000163>

- Kawada, T., & Otsuka, T. (2011). Relationship between Job Stress, Occupational Position, and Job Satisfaction using a Brief Job Stress Questionnaire (BJSQ). *Work, 40*(4), 393-399. <https://doi.org/10.3233/work-2011-1251>
- Kazdin, A. E., & Blase, S. L. (2011). Rebooting Psychotherapy Research and Practice to Reduce the Burden of Mental Illness. *Perspectives on Psychological Science, 6*(1), 21–37. <https://doi.org/10.1177/1745691610393527>
- Kessler, R. C., Berglund, P., Demler, O. (2003). The Epidemiology of Major Depressive Disorder. *Journal of the American Medical Association,* <https://doi:10.1001/jama.289.23.3095>
- Kessler, R. C., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Wittchen, H. (2012) Twelve-month and lifetime prevalence and lifetime morbid risk of anxiety and mood disorders in the United States. *Internal journal of methods in psychiatric research, 21*(3), 169-184. <https://doi.org/10.1002/mpr.1359>
- Kim, J., & Pai, M. (2010). Volunteering and trajectories of depression. *Journal of aging and health, 22*(1), 84-105. <https://doi.org/10.1177/0898264309351310>
- Kim, H., Shrman, D. K., & Taylor, S. E. (2008). Culture and social support. *American Psychologist, 63*(6), 518-526. <https://doi.org/10.1037/003-066X>
- Kobau, R., Snizek, J., Zack, M. M., Lucas, R. E., & Burns, A. (2010). Well-being assessment: An evaluation of well-being scales for public health and population estimates of well-being among US adults. *Applied Psychology: Health and Well-Being, 2*, 272–297. <https://doi.org/10.1111/j.1758-0854.2010.01035.x>

- Kuyken, W., Peters, E., Power, M. J., & Lavender, T. (2003). Trainee clinical psychologists' adaptation and professional functioning: A longitudinal study. *Clinical Psychology & Psychotherapy*, 10(1), 41-54. <https://doi:10.1002/cpp.350>
- Lightsey Jr, O. R. (2006). Resilience, meaning, and well-being. *The counseling psychologist*, 34(1), 96-107. <https://doi.org/10.1177/0011000005282369>
- Linek, S. B. (2017). Order Effects in Usability Questionnaires. *Journal of Usability Studies*, 12(4).
- Lovitts, B. E., & Nelson, C. (2000). The hidden crisis in graduate education: Attrition from Ph.D. programs. *Academe*, 86, 44–50. <https://doi:10.2307/40251951>
- Lund, H. G., Reider, B. D., Whiting, A. B., & Prichard, J. R. (2010). Sleep patterns and predictors of disturbed sleep in a large population of college students. *Journal of Adolescent Health*, 46, 124 –132. <http://dx.doi.org/10.1016/j.jadohealth.2009.06.016>
- Lundström, S., Ahlström, B. H., Jormfeldt, H., Eriksson, H., & Skärsäter, I. (2017). The meaning of the lived experience of lifestyle changes for people with severe mental illness. *Issues in Mental Health Nursing*, 38(9), 717-725.
<https://doi.org/10.1080/01612840.2017.1330909>
- Mathieu, M., Eschleman, K. J., & Cheng, D. (2019). Meta-analytic and multiwave comparison of emotional support and instrumental support in the workplace. *Journal of occupational health psychology*, 24(3), 387. <https://doi.org/10.1037/ocp0000135>
- McKinzie, C., Burgoon, E., Altamura, V., & Bishop, C. (2006). Exploring the effect of stress on mood, self-esteem, and daily habits with psychology graduate students. *Psychological Reports*, 99(2), 439-448. <https://doi:10.2466/pr0.99.2.439-448>

Meeks, S., & Murrell, S. A. (2001). Contribution of education to health and life satisfaction in older adults mediated by negative affect. *Journal of aging and health, 13*(1), 92-119.

<https://doi.org/10.1177/089826430101300105>

Mental Health By the Numbers. (2019). *NAMI*, National Alliance on Mental Illness,

www.nami.org/mhstats.

Miller, T., Student Health and Well-Being (personal communication, December 3, 2019).

Mock, S. E., & Eibach, R. P. (2011). Aging attitudes moderate the effect of subjective age on psychological well-being: Evidence from a 10-year longitudinal study. *Psychology and aging, 26*(4), 979.

https://search.lib.jmu.edu/permalink/01JMU_INST/lvvpvt/cdi_proquest_miscellaneous_905873064

Murff S. H. (2005). The impact of stress on academic success in college students. *The ABNF journal : official journal of the Association of Black Nursing Faculty in Higher Education, Inc, 16*(5), 102–104. <https://pubmed.ncbi.nlm.nih.gov/16268204/>

Myers, S. B., Sweeney, A. C., Popick, V., Wesley, K., Bordfeld, A., & Fingerhut, R. (2012). Self-care practices and perceived stress levels among psychology graduate students. *Training and Education in Professional Psychology, 6*, 55– 66.

<http://dx.doi.org/10.1037/a0026534>

O'Meara, K., Griffin, K. A., Kuvaeva, A., Nyunt, G., & Robinson, T. N. (2017). Sense of belonging and its contributing factors in graduate education. *International Journal of Doctoral Studies, 12*, 251-279. <https://doi.org/10.28945/3903>

- Patrick, S. W., Henkhaus, L. E., Zickafoose, J. S., Lovell, K., Halvorson, A., Loch, S., ... & Davis, M.M (2020). Well-being of parents and children during the COVID-19 pandemic: a national survey. *Pediatrics*, *146*(4). <https://doi.org/10.1542/peds.2020-016824>
- Patterson, M. G., West, M. A., Shackleton, V. J., Dawson, J. F., Lawthom, R., & Maitlis, S., . . . Wallace, A. M. (2005). Validating the organizational climate measure: Links to managerial practices, productivity and innovation. *Journal of Organizational Behavior*, *26*, 379–408. <https://doi:10.1002/job.312>
- Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., Wilkens, T. (2015) College Students: Mental Health Problems and Treatment Considerations. *Academic Psychiatry* 503-511. <https://doi:10.1007/s40596-014-0205-9>
- Pervez, A., Brady, L. L., Mullane, K., Lo, K. D., Bennett, A. A., & Nelson, T. A. (2021). An Empirical Investigation of Mental Illness, Impostor Syndrome, and Social Support in Management Doctoral Programs. *Journal of Management Education*, *45*(1), 126–158. <https://doi.org/10.1177/1052562920953195>
- Penedo, F. J., & Dahn, J. R. (2005). Exercise and well-being: a review of mental and physical health benefits associated with physical activity. *Current opinion in psychiatry*, *18*(2), 189–193. <https://doi.org/10.1097/00001504-200503000-00013>
- Pfefferbaum, B., & North, C. S. (2020). Mental Health and the Covid-19 Pandemic. *New England Journal of Medicine*. <https://doi.org/10.1056/nejmp2008017>
- Pretty, J., Peacock, J., Sellens, M., & Griffin, M. (2005). The mental and physical health outcomes of green exercise. *International journal of environmental health research*, *15*(5), 319–337. <https://doi.org/10.1080/09603120500155963>

- Puente-Martínez, A., Páez, D., Ubillos-Landa, S., & Costa-Dutra, D. (2018). Examining the structure of negative affect regulation and its association with hedonic and psychological wellbeing. *Frontiers in psychology, 9*, 1592. <https://doi.org/10.3389/fpsyg.2018.01592>
- Raglin J. S. (1990). Exercise and mental health. Beneficial and detrimental effects. *Sports medicine, 9*(6), 323–329. <https://doi.org/10.2165/00007256-199009060-00001>
- Reja, U., Manfreda, K. L., Hlebec, V., & Vehovar, V. (2003). Open-ended vs. close-ended questions in web questionnaires. *Developments in applied statistics, 19*(1), 159-177. https://begrijpelijkeformulieren.org/sites/begrijpelijkeformulieren/files/Reja_e.a._Open-ended_vs._Close-ended_Questions_in_Web.pdf
- Ryff, C. D., & Keyes, C. L. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*(4), 719-727. <https://doi:10.1037//0022-3514.69.4.719>
- Ryff, C. D. (2019). Scales of Psychological Well-Being. *Clinical Gerontologist, 42*(4), 387-397. <https://search.ebscohost.com/login.aspx?direct=true&AuthType=cookie,ip,athens,shib&db=hpi&AN=HaPI-444027&site=ehost-live&scope=site>
- Scarf, D., Kafka, S., Hayhurst, J., Jang, K., Boyes, M., Thomson, R., & Hunter, J. A. (2018). Satisfying psychological needs on the high seas: Explaining increases self-esteem following an Adventure Education Programme. *Journal of Adventure Education and Outdoor Learning, 18*(2), 165-175. <https://doi.org/10.1080/14729679.2017.1385496>
- Singh, K., & Jha, S. D. (2008). Positive and negative affect, and grit as predictors of happiness and life satisfaction. *Journal of the Indian Academy of Applied Psychology, 34*(2), 40-45. https://www.researchgate.net/publication/285749956_Positive_and_negative_affect_and_grit_as_predictors_of_happiness_and_life_satisfaction

- Steger, M. F., & Kashdan, T. B. (2009). Depression and everyday social activity, belonging, and well-being. *Journal of counseling psychology, 56*(2), 289.
https://search.lib.jmu.edu/permalink/01JMU_INST/lvvpvt/cdi_pubmedcentral_primary_oai_pubmedcentral_nih_gov_2860146
- Tabachnick, B. G. & Fidell, L. S. (2013). *Using Multivariate Statistics* (6th edition). Boston, MA: Person
- Taylor, J. M., & Neimeyer, G. J. (2009). Graduate school mentoring in clinical, counselling, and experimental academic training programs: An exploratory study. *Counselling Psychology Quarterly, 22*, 257–266. <http://doi:10.1080/09515070903157289>
- Tenenbaum, H. R., Crosby, F. J., & Gliner, M. D. (2001). Mentoring relationships in graduate school. *Journal of Vocational Behavior, 59*, 326–341.
<https://doi.org/10.1006/jvbe.2001.1804>
- Thoits, P. A., & Hewitt, L. N. (2001). Volunteer work and well-being. *Journal of health and social behavior, 115*-131. <https://www.jstor.org/stable/3090173>
- Tompkins, K. A., Brecht, K., Tucker, B., Neander, L. L., & Swift, J. K. (2016). Who matters most? The contribution of faculty, student-peers, and outside support in predicting graduate student satisfaction. *Training and Education in Professional Psychology, 10*(2), 102–108. <https://doi.org/10.1037/tep0000115>
- Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the positive and negative affect schedule (PANAS). *Journal of cross-cultural psychology, 38*(2), 227-242. <https://doi.org/10.1177/0022022106297301>

- Tsutsumi, A., Inoue, A., & Eguchi, H. (2017). How accurately does the Brief Job Stress Questionnaire identify workers with or without potential psychological distress?. *Journal of occupational health*, 59(4), 356–360. <https://doi.org/10.1539/joh.17-0011-BR>
- Veilleux, J. C., January, A. M., VanderVeen, J. W., Reddy, L. F., & Klonoff, E. A. (2012). Perceptions of climate in clinical psychology doctoral programs: Development and initial validation of the Graduate Program Climate Scale. *Training and Education in Professional Psychology*, 6(4), 211-219. <https://doi.org/10.1037/a0030303>
- Walsh, R. (2011). Lifestyle and mental health. *The American Psychologist*, 66(7), 579-592. [10.1037/a0021769](https://doi.org/10.1037/a0021769)
- Wallace, C. L., Wladkowski, S. P., Gibson, A., & White, P. (2020). Grief during the COVID-19 pandemic: considerations for palliative care providers. *Journal of pain and symptom management*, 60(1), 70-76. <https://doi.org/10.1016/j.jpainsymman.2020.04.012>
- Wipfli, B., Landers, D., Nagoshi, C., Ringenbach, S., (2011) An examination of serotonin and psychological variables in the relationship between exercise and mental health. *Scand J Med Sci Sports*. 21(3),474–81. <https://doi.org/10.1111/j.1600-0838.2009.01049.x>
- Wood, C., Flynn, M., Law, R., Naufahu, J., & Smyth, N. (2020). The effect of the visual exercise environment on the response to psychological stress: a pilot study. *Anxiety, Stress, & Coping*, 33(6), 716-729. <https://doi.org/10.1080/10615806.2020.1770231>
- Wyland, R., Winkel, D., Lester, S., & Hanson-Rasmussen, N. (2015). Who Can Help Working Students?: The Impact of Graduate School Involvement and Social Support on School-Work Facilitation. *Industry & Higher Education*, 29(3), 175-184. <https://doi.org/10.5367/ihe.2015.0254>