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An Empirical Examination of Consequential Factors of Negative Program Culture as Determinants of Affective Well-Being in Graduate Students

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AN EMPIRIAL EXAMINATION OF CONSEQUENTIAL FACTORS OF NEGATIVE
PROGRAM CULTURE AS DETERMINANTS OF AFFECTIVE WELL-BEING IN
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ABSTRACT

There is evidence of a crisis of low affective well-being troubling graduate students nationwide. Recent studies have shown that graduate students exhibit indicators of low affective well-being, such as levels of anxiety and depression six times greater than the general population (Galleo et al., 2021; Glover, 2019), high levels of being overwhelmed (Kaler & Stebleton, 2019), and overall increased psychological distress (Hacker, 2021). The prevalence and severity of these issues indicate that their causes may exceed personal factors (Bekkouche et al., 2022). Previous research has identified the quality of culture and culture-related factors within graduate schools and programs to be strong indicators of the quality of the mental health and well-being of graduate students (Evans et al., 2018). In response to the crisis, this research leverages empirically supported Industrial-Organizational (I-O) Psychology frameworks and methodologies to improve upon the experience of graduate students. A survey was employed (n = 420) to determine the experience of graduate students in relation to the culture within their programs by measuring psychological climate perceptions and mistreatment incidence, in addition to measuring the quality of their affective well-being as an outcome. It was found that work-related mistreatment significantly negatively predicted affective well-being (b = -0.135, p < .001) and psychological climate perceptions significantly positively predicted affective well-being (b = 0.408, p < .001). Recommendations are provided regarding how institutions can leverage I-O methodologies in the development of interventions to improve the affective well-being of graduate students.

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DEDICATION

This body of work is dedicated to my mom and dad for their unconditional support, and for never letting me forget that, with enough hard work and dedication, anything is possible.

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INTRODUCTION

An Empirical Examination of Consequential Factors of Negative Program Culture as

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The purpose of this thesis is to contribute to solving the crisis of low affective well-being in graduate students, identified in recent decades by researchers in a multitude of academic disciplines (Galleo et al., 2021; Glover, 2019; Hacker, 2021; Kaler & Stebleton, 2019). First, a review of extant literature on affective well-being is provided, along with supporting evidence for the well-being crisis in graduate students, followed by a discussion of the many implications or "symptoms" of the crisis. Subsequently, I will propose a construct with a long-standing empirical history in the field of Industrial-Organizational psychology that may partially explain the crisis: organizational culture (OC). In addition to discussing the construct of OC, I will also discuss relevant theories, frameworks and methodologies. The extant frameworks, theories, and methodologies of OC, when applied to the graduate school context, may contribute to the improvement of graduate student affective well-being. The present research measures the extent to which two components of negative OC, unsafe psychological climate and mistreatment, predict affective well-being in graduate students. In doing so, it becomes possible to quantitatively determine the indirect influence of negative OC in graduate programs on the quality of affective well-being. Based on the results of a survey measuring psychological climate, the experience of mistreatment, and affective well-being, evidence-based practical solutions based on extant OC theories and methodologies are recommended. The recommended solutions can be utilized by academic institutions to not only improve culture within programs and affective well-being in attending graduate students, but to also aid in improving other factors

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influenced by culture: reputation, positive name recognition, degree completion (retention), and subsequent funding that may be decided based on these factors.

Affective Well-Being in Graduate Students

The work of the graduate student is essential for the successful functionality of an institution. Graduate students often serve in many roles contemporaneously within their institution of study where they may serve as instructors, teaching assistants, and/or research assistants; all the while meeting course requirements and furthering their personal research objectives and the research objectives of their department/institution. While the scope of the graduate student's role far exceeds that of the undergraduate student in most cases, elements of their education that may contribute to their well-being are historically underrepresented in the academic well-being research. This is primarily due to a hyperfocus in academic well-being research that favored undergraduate students, while neglecting to address the ever-present mental health and well-being needs of graduate students (Kaler & Stebleton, 2019), although recent research has begun to address mental health in graduate students as well (Evans et al., 2017).

In the interest of solving the crisis of well-being, there have been recent attempts to bring the academic community's understanding of the construct and its causal mechanisms up to par. A quick search of the phrases "graduate student well-being" and "graduate student mental health" on the APA PsycINFO database returns the following titles: "Graduate student workload: Pandemic challenges and recommendations for accommodations" (Swanson, 2021); "A blueprint for measuring and improving graduate student mental health" (Barreira & Bolotnyy, 2022); and "Positive factors related to graduate student mental health" (Charles et al., 2021). Moreover, filtering the search results by publication date shows that sixty-one percent of the articles were published within the last two years, further indicating the recent increase in desire for

understanding the phenomenon of graduate student well-being. Additionally, the ratio of research pertinent to graduate students versus undergraduate students in this area has narrowed in recent years, serving as additional evidence of the desire for better understanding of these constructs in graduate students.

To increase the well-being of graduate students and provide practical solutions to the affective well-being crisis, the present study seeks to measure the affective well-being of graduate students as an indirect outcome of factors they may experience as a result of negative culture within their graduate program. Affective well-being is a multidimensional component and indicator of an individual's greater psychological well-being. The construct is defined as reflecting the frequent experience of positive affect and the infrequent experience of negative affect (Diener & Larsen, 1993). Positive affect is characterized by a person's experience of pleasurable alertness, such that their affective state encourages enthusiasm, concentration, and high energy (Watson & Tellegen, 1988); whereas negative affect is characterized by general distress and unpleasurable engagement that encourages aversive mood states like anger, contempt, disgust, fear, and nervousness (Watson & Tellegen, 1988). In the context of the present study, affective well-being is indicated by the frequent experience of positive affect at school or in relation to one's schoolwork, and the infrequent experience of negative affect at school or in relation to one's schoolwork. Low affective well-being (i.e., the infrequent experience of positive affect and the frequent experience of negative affect) holds many physical, psychological, social and work-related implications. There is a clear empirical link between the experience of negative affect and physical health, with NA being cited as a general nuisance in terms of its effect on physical health (Watson & Pennebaker, 1989). The frequent experience of negative affect has been implicated in the occurrence of more "minor" health issues such as

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headaches, nausea, and acne, in addition to more "major" health issues such as ulcers, arthritis, and coronary diseases (Watson & Pennebaker, 1989). Additionally, negative affect has been implicated in less-than-satisfactory performance in multiple contexts, such that the frequent experience of negative affect or a more "pervasive" negative affective state is linked to decreases in performance both at the individual and group levels (Koy & Yeo, 2008).

Affective well-being is supported by a five-factor model comprised of five axes that range between opposite ends of affective spectrums: anxiety–comfort, depression–pleasure, bored–enthusiastic, tiredness–vigor, and angry–placid (Daniels, 2000). An individual's overall affective well-being is indicated by a cumulative experience of affect; thus, a cumulative score of five axes scores (Daniels, 2000). Each of the axes can be likened to a spectrum of positive or negative affective feelings or mood states. For instance, one's figurative "location" (score) on the anxiety–comfort axis is indicated by feelings of anxiousness, worry, tension, ease, relaxation, and comfort; the depression–pleasure axis is indicated by feelings of depression, misery, gloominess, happiness, pleasure, and cheerfulness; the bored–enthusiastic axis is indicated by feelings of boredom, sluggishness, dullness, enthusiasm, optimism, and motivation; the tiredness–vigor axis is indicated by feelings of tiredness, sleepiness, fatigue, activeness, alertness, and energy; and finally, the angry–placid axis is indicated by feelings of anger, annoyance, aggressiveness, placidness, patience, and ease (Daniels, 2000). Additionally, the subscales within Daniel's (2000) measure of affective well-being hold significant correlations with other work-related affective well-being scales; thus, each axis holds unique explanatory power over work-related variables measured within these scales. For instance, the boredom–enthusiastic subscale is significantly positively correlated with job autonomy; the anxiety–comfort subscale and tiredness–vigor subscale are significantly negatively correlated with

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workload; the depression-pleasure scale is significantly positively correlated with positive affectivity in the work environment; and the tiredness-vigor scale is significantly negatively correlated with workload (Daniels, 2000).

In conclusion, indicators of low affective well-being in graduate students should raise the alarm of institutional leaders, given the important role of the graduate student within the academic institution, along with the work-related physical, social, and interpersonal implications associated with low affective well-being.

Organizational Culture

Organizational culture (OC) has been a long-standing topic of interest among Industrial-Organizational (I-O) psychology researchers. Definitions of the construct have adapted over time to encompass new elements of the changing workplace but have remained stable in their fundamental elements. In 1952, Kroeber and Kluckhon first defined OC as "transmitted patterns of values, ideas, and other symbolic systems that shape [the] behavior of an organization" (Abu-jarad et al., 2010, p. 35). In 1986, Adler elaborated on previous definitions to define the construct as "referring to something that is shared by all or almost all members of a social group, something that older members of the group try to pass onto the new members and something that shapes behavior or structures of the organization" (Abu-jarad et al., 2010, p. 35). Presently, it is accepted that OC is "a pattern of shared basic assumptions that the group [i.e., the graduate program] learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid, and, therefore, is taught to new members as the correct way to perceive, think and feel in relation to those problems" (Tharp, 2009, p. 5).

Schein (2010) proposes three distinct levels of OC, with each level holding a different level of visibility to the observer (i.e., tangible-intangible): artifacts, espoused beliefs and values,

and underlying assumptions. Artifacts are defined as "the most evident, concrete, and tangible manifestations of the culture of an organization" (Gagliardi, 2011, p. 8). These are tangible elements encompassed by visible structures and processes and observed behaviors. Examples of organizational artifacts include processes and policies like dress codes, publications, organizational policies, furniture, signage, interior architecture (Tharp, 2009); physical structures like architectural design (size, location, age of buildings; Sproat, 2001); and visible symbols like mantras and logo's (Tharp, 2009). Espoused beliefs and values, according to Schein (2010), often generate as solutions to problems offered by organizational leaders or founders, which are then accepted by the group as the norm and are continually reinforced by group members (Bourne et al., 2019). Over time, as reinforcement occurs, espoused values and beliefs become embedded in organizational structures and processes, and eventually dictate how the organization operates (Bourne et al., 2019). Schein (2010) provides an applied example: if sales are down in a "young" business, a leader or founder may offer increased advertising as a solution based on their own belief that advertising increases sales. If this solution is successful, it is then espoused onto the group that advertising increase sales, and this becomes a front-line solution going forward. Additionally, shared assumptions are the product of espoused values and beliefs that become reinforced by group members over time (Bourne et al., 2019; Schein, 2010). If the proposed solution to an initial problem continues to prove successful, based on empirical evidence, the group will then adopt the assumption that this is a front-line solution to the initial problem. Espoused values and beliefs, as well as shared assumptions, often apply to how organizations deal with issues in cohesion and performance, ethical business issues, as well as other critical business structures and processes (Bourne et al., 2019). Espoused values and beliefs, as well as shared assumptions can be tangible (i.e., the aforementioned example) or

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intangible. Examples include employee performance, teamwork, rewards (or punishments, organizational commitment, participation, and levels of organizational affiliation (Kabanoff et al., 2017). Among the numerous operationalizations and frameworks of OC lies an enduring theme which indicates that the construct and its elements (i.e., artifacts, values, and beliefs) overall reflect "the way we do things around here" (Sun, 2008).

The extent to which OC is positive or negative exists on a continuum ranging from negative to positive, where positive OC is indicated by the presence of satisfied, happy, and committed individuals who experience positive affective well-being in regard to their work. More positive OC's are characterized by normalized, shared views on positive aspects like trust in peers and leaders; healthy communication; rewards, praise, a lack of punitive practices; understanding, acceptance and promotion of differing lifestyles; and a lack of need for potentially compromising "shortcuts". Positive OC's may be referred to as "nurturing" or "family-friendly", such that they prioritize mentoring of junior faculty where needed, offer personal health and wellness programs to members, or offer generous leave to parents in the event of childbirth or adoption (Grigsby, 2009). On the contrary, indicators of more negative OC's include high rates of attrition, increased-turnover intentions and behaviors (Habib et al., 2014), frequent punishment and infrequent reward, and even extremes such as discrimination or harassment litigation (Green, 2005). More negative OC can be characterized by a lack of trust between members, gossip, mistreatment, competitive practices that foster "eat what you kill" mentalities (Grigsby, 2009), and punitive "fear-mongering" practices that may lead employees to take potentially detrimental shortcuts to avoid punishment. The quality of OC can exhibit significant influence over employee well-being, and subsequently the health of the organization; for instance, through increasing or decreasing organizational commitment, job satisfaction, and

turnover behaviors and intentions (Habib et al., 2014). Additionally, aspects of OC, such as the normalization and acceptance of strict time demands, may spill over into one's home life, adding insult to injury in regards to an individual's well-being (Sok et al., 2014). For these reasons, it is important for organizations to remain abreast of the quality of their OC to maintain positive culture and adjust where needed.

Understanding and Improving OC

As previously mentioned, OC is interconnected with many variables that indicate the health of an organization and its members (job satisfaction, turnover, organizational commitment; Habib et al., 2014). Because of the influence of OC over these integral variables and their subsequent outcomes, the use of empirically supported theories and methodologies by organizational leadership is critical to maintain and increase the quality of culture within organizations. Theories serve the purpose of acting as explanatory beacons, guiding organizations to better understand what comprises culture, and, subsequently, what theory-based methodologies can be leveraged to improve upon culture. In pertinence to the purpose of this study, several theories exist that shed light on the relationship between OC and elements of affective well-being. For instance, Nierenberg et al. (2017) approach the issue of OC and work environment from the perspective of Maslow's Needs Theory. The authors found significant correlations between work environment and core needs that represent well-being, such that, as the environment became worse and discord increased, well-being decreased, and, as the work environment became more positive, well-being increased (Nierenberg et al., 2017). In summary, it was demonstrated that, if the collective work environment meets the core needs of the member (purpose in life, self-acceptance, environmental mastery, positive relationships with others), the organization can expect increased loyalty, satisfaction, positive energy, and decreased stress

(Nierenberg et al., 2017). Based on this theory of OC, organizational leadership has the power to enhance employee physical and psychological well-being through adapting the culture to support the employees' core needs.

Similarly, Cameron and Quinn (2011) offer a three-pronged, theory-based framework, which can be utilized by practitioners for diagnosing the quality of OC, understanding OC, and systematically changing OC. Cameron and Quinn developed their methodology for diagnosing OC based on the original competing values framework. The competing values framework was born out of a desire to better understand indicators of organizational effectiveness (Yu & Wu, 2009). It is one of the most frequently used and well-researched frameworks in the research of OC within I-O psychology. In relation to OC, the competing values consists of four quadrants that comprise two dimensions (Cameron & Quinn, 2011). Each quadrant emerged from common themes within the body of literature, explaining how a wide variety of organizational values can be clustered and associated with different types of organizations. Based on the competing values framework, there are four distinct types of OC, represented by quadrants on a continuum. The four OC quadrants range from flexible/discrete to stable/controlling, and internally focused/externally focused, as seen in Figure 1.

Figure 1. *The Competing Values Framework*
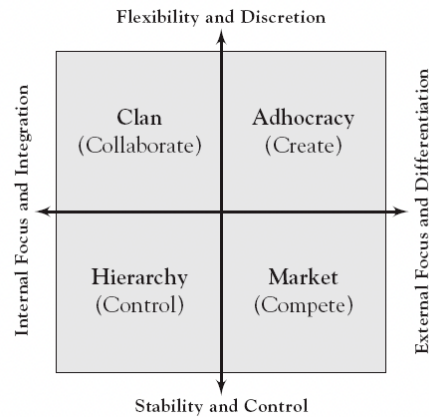
Note. From *Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework* by K. S. Cameron and R.E. Quinn, 2011, Jossey-Bass. Copyright 2011 by John Wiley & Sons, Inc.

The clan (collaborate) culture can best be likened to a family-type culture (Cameron & Quinn, 2011). This culture type is characterized by shared values and goals among members, cohesion, participativeness, and individuality. Clan cultures place high value on teamwork and employee development, as well as a humane work environment that empowers employees (Cameron & Quinn, 2011). Overall, the clan culture fosters a friendly workplace with lots of loyalty, tradition, and commitment. The adhocracy culture is typically present in fast-moving industries that require an ever-changing, temporary organizational design to adapt to a "revolving door" of opportunities (e.g., aerospace, software engineering, consulting, filmmaking; Cameron & Quinn, 2011). Overall, the adhocracy culture is characterized by risk-taking, creativity, entrepreneurialism, innovation, and dynamism. The hierarchy (control) culture is the result of the development of the quintessential bureaucratic system. It is characterized by the seven classical attributes of bureaucracy: rules, specialization, meritocracy, hierarchy, separate

ownership, impersonality, and accountability (Cameron & Quinn, 2011). Hierarchical cultures can be likened to "running a tight ship," in that the workplace is formally structured and processes are standardized. The main goal of a hierarchical culture is to maintain smooth functioning; therefore, coordination and organization is critical to maintain the long-term goals: stability, predictability, and efficiency (Cameron & Quinn, 2011). Finally, the market culture is an externally oriented culture, in which the main focus is on transactions with external entities in order to maintain competitiveness. A market culture is driven by one goal: winning and defeating the opposition (Cameron & Quinn, 2011). In doing so, the market culture is extremely demanding of organization members, pushing them to constantly outpace any competitors in the market.

Cameron and Quinn's (2011) CVF framework lays a strong foundation that organizational leaders can leverage for identifying cultural weak points within organizations and subsequently initiating culture changes. Discovering the type of organization based on CVF is the first step in understanding and diagnosing OC. This is characterized by Cameron and Quinn (2011) as plotting a profile; in which the Organizational Culture Assessment Instrument (OCAI) is utilized to identify the cultural profile of the organization, and, subsequently, any areas of opportunity that can be a catalyst for an OC change. Once the OCAI results are yielded, the type of culture within an organization can be identified or "diagnosed." Once the culture has been diagnosed using the OCAI, culture change can be initiated. Cameron and Quinn (2011) provide specific steps that can be followed to initiate a culture change within an organization: (1) reach consensus regarding the current OC, (2) reach consensus on preferred OC, (3) determine what changes will and will not mean, (4) identify stories illustrating desired culture, (5) identify a strategic action agenda, (6) identify immediate small wins, (7), identify leadership implications,

(8) identify metrics, measures, and milestones to maintain accountability, and (9) identify a communication strategy. As previously discussed, organizational leaders can leverage this process to identify and initiate culture changes within their organization. In doing so, organizations may find that they need to make their cultures "more" of a certain type or add elements of a certain culture type into their organizational design. For instance, an organization may need to increase clan and adhocracy culture, while decreasing hierarchy and market culture, which would mean providing chances for self-management, creating bolder innovation programs, eliminating unneeded reports and paperwork, and decreasing the driving of numbers at all costs (Cameron & Quinn, 2011). In the same example, the diagnosis of the OC led to the steps initiating cultural change and improvement.

Finally, Cameron and Quinn (2011) note that there is no one perfect framework for explaining or diagnosing OC that is entirely comprehensive, and no one framework can be entirely "right" and others wrong, given endless nuances and unique differences among organizations. The most appropriate framework for tailoring an intervention to an organization or institution's specific situation (unique wants and needs in relation to OC) should be chosen based on empirical evidence, should be valid, and should be able to comprise any and all proposed dimensions (Cameron & Quinn, 2011).

Program Culture

Program culture, in this case culture within graduate programs, is a construct adjacent to OC. Program culture is essentially the application of OC to graduate programs. At the present, there is only *one* available article that operationalizes the construct of program culture in a way that can be psychometrically measured. Mitchell-Little (2009) adapts extant definitions of organizational culture to define the construct of program culture as "an enduring pattern of

norms, values, and beliefs that are passed down to new faculty and students through formal and informal practices, traditions, rituals, and physical arrangements" (p. 21). In that same vein, the framework of school culture developed by Saphier and King (1985) helps to operationalize the norms, values, and beliefs mentioned in Mitchell-Little's (2009) definition. Although Saphier and King's (1985) framework is not specific to graduate programs, it captures the construct in such a way that allows external validity in regards to other school culture dynamics outside of K-12. Saphier and King (1985) indicate that a school (or in the case of the present study, a graduate program) with a positive culture will exhibit the following: a strong sense of collegiality among members, tangible support from peers and supervisors, trust among members, confidence, appreciation and recognition, honest and open communication, caring, humor, awareness of new knowledge, participatory decision-making, tradition, and support for experimentation.

Program culture can be operationalized, measured, and determined to be positive or negative based on the above definition and framework. It is logical to assume that programs that do not meet the criteria of Saphier and King's (1985) framework may be passing down negative norms, values, and beliefs, the combination of which leads to a negative program culture (and the antithesis is true for the passing down of positive elements). This is then followed by logically related consequences that may influence affective well-being, negative psychological climate (NPC) and mistreatment.

Bridging the Gap

The extant literature on culture within graduate programs is not nearly as comprehensive as the body of literature surrounding organizational culture. Despite this, Industrial-Organizational methodologies have the potential to be utilized to draw inferences and assess culture and its outcomes outside of the general worker population, namely in graduate students.

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Based on what is known to be true of *organizational* culture, it can be inferred that, when culture is negative in a graduate program, it is likely the case that students will experience a negative psychological climate, in that they perceive a psychologically unsafe environment where they fear consequences for being themselves, and where their work and presence lack meaningfulness (Koys, 1991). Additionally, it can be inferred that work-related mistreatment is likely to occur at higher rates in a graduate program with a negative culture, as is true within organizations (e.g., an organization that houses a culture accepting of mistreatment, known as mistreatment climate; Yang et al., 2014). In analyzing culture in graduate programs based on frameworks designed for assessing, explaining, and improving organizational culture, the present study opens the door to application of extant IO theories, frameworks and methodologies to the academic context. Doing such allows for the examination of the effects of cultural outcomes on affective well-being, with the goal of increasing affective well-being in graduate students.

Consequences of Negative Program Culture

At the present, little research exists concerning the influence of the extent to which graduate students perceive their program culture to be negative on the quality of their affective well-being Specifically, safe psychological climate (PC) and work-related mistreatment (WM), pertinent to their being key factors of negative program culture, have not been investigated as determinants of affective well-being in graduate student populations. Because of this, the present study intends to determine how these two outcomes of program culture (i.e., PC and WM incidence) influence the affective well-being of graduate students, and, thus, how the quality of program culture indirectly influences the quality of affective well-being.

PC has been identified by previous research to be significantly related to OC. James et al. (2008) indicate that the overall climate within an organization is comprised of the aggregate of

individual psychological climates of members within the group or organization. Organizational climate, distinct from organizational culture, is defined as shared perceptions among members of an organization regarding its fundamental properties (James et al., 2008). Thus, a cycle exists such that organizational culture influences climate, which is comprised of individual environmental perceptions, or psychological climate. Further, James et al. (2008) indicate that the latent factors that underlie PC (desire for clarity, harmony and justice, desire for challenge, independence and responsibility, desire for work facilitation, support and recognition, and desire for warm and friendly social relations) are some of the most useful identifiers within I-O psychology for appraising work environments based on individual schemas. Therefore, PC can serve as a predictor for perceptions of work environment, specifically the organizational climate that is born out of the organizational culture.

Additionally, WM and related constructs like workplace-bullying and workplace incivility have been linked by previous research to OC. It is often the case that organizations unintentionally create and perpetuate cultures where WM and related incidents can occur and pervade, ultimately harming employees and the organization. For instance, workplace mistreatment climate, a measurable construct that bridges PC, OC and WM, encapsulates the extent to which members of an organization perceive policies, procedures, and practices as deterrents of interpersonal mistreatment (Yang et al., 2014). If the OC of an organization does not value or focus on minimizing interpersonal mistreatment, policies and procedures will reflect this, thus leading members to perceive the endorsement of mistreatment (negative mistreatment climate). Thus, mistreatment climate can be linked directly to OC, specifically negative OC. Additionally, negative mistreatment climate has been linked to negative individual and

organizational outcomes like psychological distress, reduced motivation, poor performance,

educed job satisfaction and poor job attitudes (Yang et al., 2014).

The present study investigates these constructs (PC and WM) in relation to graduate

student populations due to their consequences for affective well-being that have been determined

by previous I-O research to be present in the organizational context. In sum, the present study is

a novel investigation of the unwarranted consequences graduate students may face because of

negative program culture, which remains a virtually untapped area of research.

Safe Psychological Climate

Safe psychological climate (PC) has remained a construct of interest in the field of I-O

Psychology since its initial conceptualization born out of the "cognitive revolution," in which the

traditional idea that consciousness is useless in its ability to explain brain function was

contradicted for the first time (Sperry, 1993). As a result of the cognitive revolution, subjective

mental states became the fundamental explanatory factor for conscious behavior, demarking the

origin of the recognition of PC as a determinant of individual health and well-being. James and

Sells (1981) define the construct as an individual's cognitive representations of relatively

proximal situational events, expressed in terms that reflect the psychological meaning and

significance of the situation to the individual. James and Sells (1981) operationalize the

measurement of PC as the assessment of the extent to which an individual perceives their

environment to be supportive, challenging, equitable, or ambiguous; and the extent to which

individuals experience trust, interpersonal warmth, and conflict. When applied to the

organizational context, based on James and Sells' (1981) framework, predictors of PC in the

workplace include: job challenge, job autonomy, leader trust and support, role ambiguity, role

conflict, and work-group cooperation (James & James, 1989). Kahn (1990) later defines PC

more narrowly, and more pertinent to the organizational context, as the extent to which employees perceive their work environment to be psychologically safe and meaningful. Similarly, Koys (1991) adds to the working definitions of the construct defining it as an experiential-based, multi-dimensional, and enduring perceptual phenomenon which is widely shared by members of a given organizational unit. Koys (1991) includes eight dimensions that comprise the PC construct: autonomy, cohesion, trust, pressure, support, recognition, fairness, and innovation. It is evident that there is a pervasive pattern among the framework developed by Saphier and King (1985) and the dimensions of PC conceptualized by Koys (1991), in that there is considerable overlap. There are several facets and dimensions that overlap almost perfectly, such as trust, support, recognition, collegiality/cohesion, recognition, and experimentation/innovation. Given the conceptualizations and overlap of dimensions of PC with the framework used to determine the climate of school culture, it can be further inferred that PC is a logical outcome of program culture, in that, when facets of program culture are negative (e.g., support, cohesion, collegiality, trust; Lawrence & Sells, 1981; Saphier & King; 1985), it is likely that individuals are perceiving an unsafe psychological climate.

Work-Related Mistreatment

A 2021 study estimated that approximately 34% of surveyed employees have experienced work-related mistreatment (WM) (Dhanani et al., 2021). In addition, the same article reported that productivity losses incurred due to outcomes of WM can lead to expenditures that climb into the trillions. Until the late 1990s and early 2000s, mistreatment and bullying in the workplace were largely considered to be non-existent and even taboo in terms of organizational research (Zapf & Einarsen, 2001). Presently, WM is a well-researched predictor of negative interpersonal outcomes such as emotional exhaustion (Anjum et al., 2022) and

increased emotional labor (Nguyen, 2020). A framework of WM conceptualized by Lutgen-Sandvik (2003) indicates that WM is any abusive action imparted by the organization onto the employee, taking place at both interpersonal and institutional levels, that may fall into any of following categories: interactional, distributive, procedural or systematic. WM at the interpersonal level consists of interactional mistreatment (interpersonal treatment by an authority figure) and distributive mistreatment (an intentional lack of resources). Institutional mistreatment consists of procedural mistreatment, which refers to unfair policies and procedures, and systemic mistreatment, which refers to unfair systems within the larger institution (Lutgen-Sandvik, 2003). Additionally, Einarsen et al (2009) developed a measure of WM that operationalizes the construct as having three dimensions: work-related bullying, which comprises mistreatment by authority figures; person-related bullying, or peer-on-peer mistreatment; and physical intimidation.

In addition to PC, WM has its own logical place as a consequential outcome of program climate. Specifically, what's known as "mistreatment climate" (MC) refers to individual or shared perceptions of organizational policies, procedures and practices that actively deter interpersonal mistreatment (Yang et al., 2014). Several dimensions of MC have some degree of overlap with the facets used to determine if program culture is positive or negative (i.e., support, trust, cohesion, autonomy). For instance, MC is comprised of civility climate, or the extent to which respect and civility are present in the environment; aggression-inhibition climate, which includes individual or group-level perceptions of the adequacy of an organization or institutions anti-violence policies; and bullying climate, which reflects the extent to which individuals perceive an organization or institution to be tolerant of bullying (Yang et al., 2014). It seems to be the case that, if aspects of Saphier and King's (1985) framework are negative (e.g., support is

low, trust is low, low collaboration, low awareness of new knowledge), MC would likely also be perceived as negative. Based on this, the present study works off the assumption that negative program culture is a logical predecessor and possibly a comorbidity to negative MC, which, in turn, leads to increased WM incidence.

The present study looks at WM (i.e., person-related bullying, work-related bullying, physical intimidation, any forms of interpersonal and institutional mistreatment; Einarsen et al., 2009) as it pertains to the academic context; interactional, distributive, procedural and systemic abuse scale items will be modified to assess the construct in accordance with the experience of graduate students within their program at their institution. Furthermore, the assessment of WM in this research will adhere closely to the framework conceptualized by Lutgen-Sandvik (2003), in conjunction with Einarsen et al. (2009)'s definition of workplace mistreatment by primarily investigating interpersonal and institutional forms of mistreatment.

Research Question, Hypotheses and Conceptual Model

As is evident based on the extant literature discussed, there is a clear need for a better, more comprehensive and holistic understanding of graduate student well-being, and how negative culture at the program level can impart influence on affective well-being. One research question and two hypotheses will be addressed in the current study.

RQ.: Does the quality of graduate program culture have an indirect impact on the affective well-being of graduate students? If so, by what mechanism and to what extent?

H₁: Safe Psychological Climate will predict affective well-being; such that more unsafe psychological climate will result in lower affective well-being in graduate students.

H₂: Mistreatment will predict affective well-being; such that as mistreatment incidence increases, affective well-being will become lower.

Conceptual Model

The present study will test the following model (Figure 1) to empirically investigate the hypotheses. It is important to note, as is indicated, that the left side of the model encompasses the inferred relationship between negative program culture, negative psychological climate, and mistreatment, whereas the right side of the model is denoted as the testable portion.

Figure 2. *Conceptual Model.*
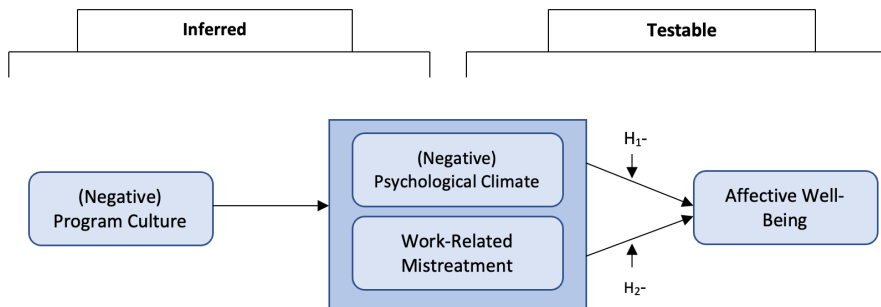
METHOD

Participants

The sample of interest in the present study includes all enrolled graduate students at a large southeastern, public university, ideally including students from all colleges and all individual programs offered by the university. A power analysis performed using G*Power software indicated that, for a power of .8, when accounting for two predictors, the minimum adequate sample size is $n = 43$. The initial sample size was $n = 1,329$. The final sample size utilized in all analyses was $n = 420$.

Measures

Predictor Measures

  Psychological climate. Individual perceptions of PC were assessed using Koys (1991) Safe Psychological Climate Scale, modified to reflect the academic context. The scale consists of eight subscales based on the dimensions of the construct that inform PC perceptions: autonomy, cohesion, trust, pressure, support, recognition, fairness, and innovation (Koys, 1991). The scale consists of 40 items, originally phrased such as "*[company name]* people tend to get along." To adapt the scale to the academic context, item wording was slightly modified to reflect such an environment, and ten items were removed, bringing the item count to 30 items. For example, the previously mentioned item was rephrased to read "*people in my program* tend to get along." In other instances, words like "boss" were replaced with "supervisor." Participants were asked to respond to a six-point Likert-type scale indicating how much they agree with the following statements, with selections ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The sixth option (N/A) can be selected when the item does not apply to the respondent. This option keeps respondents from answering dishonestly or randomly if an item does not apply to them. Higher scores indicate more safe psychological climate perceptions, whereas lower scores indicate perceptions of unsafe PC. The modified version of Koys (1991) scale produced an internal consistency reliability (Cronbach's α) of 0.89. Item 3 of the Pressure subscale was reverse coded. Additionally, total scores reflect the mean (average) of all scores. See Appendix A for the original scale and Appendix B for the modified version. Appendix B was the scale administered to participants, whereas Appendix A is included for reference.

  Work-Related Mistreatment. WM was assessed using the 20-item Revised Negative Acts Questionnaire conceptualized by Einarsen et al. (2009). The scale consists of three

subdimensions that measure work-related bullying, person-related bullying, and physically intimidating bullying. All 20 items were utilized in their original form, without modification or adaptation. Respondents were asked to respond to a 6-point Likert scale indicating how often they experienced the following actions and behaviors in the last six months at school, ranging from 1 (*Never*) to 5 (*Daily*), with a sixth option (N/A) for cases in which the item does not apply to the respondent. Sample items include "being exposed to an unmanageable workload" (work-related bullying), "spreading of gossip and rumors about you" (person-related bullying) and "threats of violence or physical abuse and actual abuse." The NAQ-R produced an internal consistency reliability (Cronbach's α) of 0.96. Total scores utilized in the multiple regression analysis reflect the mean (average) of all scores. See Appendix C for the full questionnaire.

Outcome Measures

  Affective Well-being. Daniel's (2000) 30-item measure of affective well-being was modified to reflect how much students feel the listed affects in connection with their school. The scale consists of five subscales that measure an individual's score on the range between: anxiety–comfort (A-C), depression–pleasure (D-P), bored–enthusiastic (B-E), tiredness–vigor (T-V), and angry–placid (A-P). The original statement, "Thinking of the past week, how much of the time has your job made you feel the following?" was adapted to read "Thinking of the past week, how much of the time have aspects of your graduate program (e.g., interactions with your advisor, interactions with professors, classes, interactions with other students within your program) made you feel the following?" Respondents will be asked to respond to a six-point Likert-type scale, ranging from 1 (*Never*) to 6 (*All of the Time*), indicating how often they experience the affect in connection with their graduate program. Example items include "happiness," "depressed," "tired," "angry," "annoyed," and "comfortable." Daniels' (2000) measure of affective well-being

produced an internal consistency reliability (Cronbach's α) of 0.91. All items that reflected negative emotionality (1, 2, 3, 7, 8, 9, 13, 14, 15, 19, 20, 21, 25, 26, and 27) were reverse coded. Total scores utilized in the multiple regression analysis reflect the mean (average) of all scores. See appendix D for the full scale.

Demographics

    Gender. Respondents were asked to indicate their gender identity as Nonbinary/Gender non-conforming, Woman, Man, or Transgender, with the option to self-identify via text-response. Of the final sample ($n = 420$), 41.67% of respondents indicated that they identify as a Woman, 34.29%, 1.67% identified as Non-Bindary/Gender Non-Conforming, and 0.48% identified as Transgender. See Appendix E for a list of demographic items.

    Race. Respondents were asked to indicate their racial identity by selecting Asian, Black or African American, Hispanic/Latin(o/a/x), Middle Eastern, Multiracial, Native American, Pacific Islander, or White, with the option to self-identify via text response. Of the final sample ($n = 420$), 47.38% identified as White, 12.86% identified as Asian, 4.52% identified as Black or African American, and 2.62% identified as Hispanic/Latin(o/a/x).

    College Enrolled. Respondents were asked to indicate which College they are currently enrolled in within the University. Of those who responded, the majority are enrolled in the College of Behavioral, Social and Health Sciences (21%), 17% are enrolled in the College of Education, 16% are enrolled in the College of Science, 14% are enrolled in the College of Architecture, Arts, and Humanities, 13% are enrolled in the College of Agriculture, Forestry, and Life Sciences, 10% are enrolled in the College of Business, and 6% are enrolled in the College of Engineering.

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Degree Type. Respondents were asked to indicate the type of degree they are seeking. 41.19% of respondents indicated that they are pursuing a Master's degree, 37.62% are seeking a Doctoral degree, and 1.19% of respondents are Non-degree seeking.

Procedure

Data Collection. The data for this research were collected as part of a combined project regarding the culture and climate of graduate students at a large southeastern public university. A Qualtrics survey was administered by the Graduate School at the beginning of the fall 2022 semester via email to a list-serv of all currently enrolled graduate students. Survey completion was incentivized to increase response rates. First, respondents were asked to indicate that they had read the informed consent statement and were then asked to indicate that they were willingly responding to the survey. Following informed consent, logic questions were administered that asked respondents to indicate whether they (1) have an advisor, (2) are the only student in their program/have other students in their program. Following the survey logic, respondents responded to all scales, only being shown questions that are relevant to their experience to avoid clouding the data. For instance, a student who does not work with an academic advisor may respond to a question pertaining to a student-advisor relationship in such a way that misleads the results simply because the question does not pertain to them, and they have no option to skip it. The survey contained 89 total items, with a completion time of approximately 10-15 minutes, given that respondents can answer about 8 items in 1 minute (Versta Research, 2011).

Data Cleaning. After the conclusion of data collection, we were left with a sample size of 1,329. Several steps were taken in order to ensure a robust a clean dataset was used for all analyses that followed. The following steps were taken upon manual examination of the data (Hurley 2023):

1. All empty responses were deleted.

2. A list of questionable cases was made. This included spam responses and cases with missing data. About 600 cases were removed through this process.

    a. Cases that were determined to be spam responses were deleted entirely.

    b. For cases with missing data, write-in responses were examined. If they were determined to be legitimate, the cases were retained.

3. A subset of data was created for cases that passed at least one of the two attention checks within the survey.

After all of the aforementioned steps were taken, the final dataset utilized in the development of composite scores comprised 420 cases.

    Missing Data. Despite a robust data cleaning process, the issue of missing data still required attention. Missing data were handled primarily through the 'na.rm' argument in R, which instructs R to remove missing values and run calculations based on the available non-missing values. Specifically, the 'na.rm' argument was used in creating the composite scores that were utilized in the subsequent analyses (i.e., obtaining descriptives, multiple regression analysis). After this argument was utilized in creating composite scores, the composite score for safe psychological climate included 152 complete cases[1], the composite score for work-related mistreatment included 276 complete cases, and the composite score for affective well-being included 295 complete cases. Additionally, recall the sixth option that was utilized as a means of allowing participants an option so as to avoid dishonest responses. All 6's were coded as NA's, and thus excluded from any analyses; therefore all means and standard deviations were calculated based on a 1-5 scale.

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[1] Analyses were re-run with mean imputation and the pattern of results remained consistent.

RESULTS

Descriptive Statistics. Table 1 presents descriptive statistics for all study scales, including sample size, means, standard deviations, correlations, and scale alphas on the diagonal.

Table 1. *Means, Standard Deviations, Reliabilities and Correlations of all Study Variables*

Variable	*n*	*M*	*SD*	1	2	3
1. Safe psych Climate	152	4.70	0.74	(0.89)		
2. Work-related Mistreatment	276	1.69	0.90	-0.34*	(0.96)	
3. Affective Well-being	295	3.86	0.60	0.44*	-0.36*	(0.91)

*p < .001. Alphas can be found on the diagonal in parentheses. All descriptives were calculated based on a 1 (strongly disagree) – 5(strongly agree) scale.

Exploratory Factor Analysis. Prior to testing the two hypotheses, an Exploratory Factor Analysis (EFA) was conducted using R statistics software. The purpose of the EFA was to determine if psychological climate and mistreatment share an underlying latent factor. The results of the EFA indicated that each item loaded onto the factor it was expected to load onto. Because of this, it was assumed that there is no shared variance, and the Safe Psychological Climate and Work-Related Mistreatment scales are measuring two separate constructs. Additionally, the EFA indicated that items Cohesion 3, Pressure 1, Pressure 4, and Pressure 5 of the Safe Psychological Climate Scale did not load onto either factor. In accordance with best practice, these items were removed from the data, and the multiple regression analysis was conducted using the revised dataset. EFA results are presented in Table 2.

Table 2. *Varimax factor loadings of safe psychological climate and work-related mistreatment scale items*

Item	Factor (% of Variance)	
	Work-Related Mistreatment (26%)	**Safe Psychological Climate (17%)**
Having allegations made against you.	0.90	0
Having insulting or offensive remarks made about your person, atitudes, or your private life.	0.88	-0.08
Being the subject of excessive teasing and sarcasm.	0.87	0.1
Persistent criticism of your errors or mistakes.	0.86	0.11
Being shouted at or being the target of spontaneous anger.	0.85	-0.17
Hints or signals from others that you should quit your program.	0.84	-0.08
Spreading of gossip and rumors about you.	0.82	-0.12
Being humiliated or ridiculed in connection with your work (e.g., research, papers, presentations).	0.82	-0.16
Intimidating behaviors such as finger-pointing, invasion of personal space, shoving, blocking your way.	0.81	-0.07
Being intentionally left out of social gatherings.	0.80	-0.14
Being intentionally left out of emails and/or meetings that are relevant to your work (e.g., papers, projects, research)	0.79	-0.16

Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks.	0.78	-0.13
Threats of violence or physical abuse or actual abuse.	0.77	0
Being ignored or excluded.	0.76	-0.18
Pressure not to claim something to which you are entitled (e.g., travel expense, sick leave).	0.71	-0.25
Excessive monitoring of your work (e.g., research, papers, presentations).	0.71	-0.11
Someone withholding information which affects your performance.	0.61	-0.24
Being ordered to do work (e.g., research, papers, presentations) below your level of competence.	0.60	-0.23
Being given tasks with unreasonable deadlines.	0.58	-0.38
Being exposed to an unmanageable workload.	0.50	-0.38
At home, I dread checking my email because it might have a message about a work-related problem (e.g., research, papers, presentations).	0.36	-0.2
Too many students in my program get "burned out" by the demands of their work (e.g.,research, papers, presentations).	0.31	-0.13
I feel like I never have a day off.	0.25	-0.19
I have too much work (e.g., research, papers, presentations) to do and too little time to do it.	0.18	-0.11

I can count on fair treatment from my primary advisor.	-0.20	0.76
The objectives my primary advisor sets for my job are reasonable.	-0.20	0.72
My primary advisor is the kind of person I feel like I can level with.	-0.14	0.72
I can count on my primary advisor to keep the things I tell them confidential.	-0.21	0.71
My primary advisor likes me to try new ways of doing my work (e.g., research, papers, presentations).	-0.10	0.67
My primary advisor does not play favorites.	-0.14	0.67
My primary advisor has a lot of personal integrity.	-0.25	0.67
I determine my own school work procedure (e.g., research, papers, presentations).	-0.01	0.65
My primary advisor follows through on their commitments to me.	-0.18	0.64
If my primary advisor reprimands someone, the person probably deserved it.	-0.02	0.64
I schedule my own school work activities (e.g., research, papers, presentations).	0.04	0.6
My primary advisor likes me to try new ways of doing my work (e.g., research, papers, presentations).	-0.03	0.59
My primary advisor is not likely to deceive me by giving a project that seems easy, when in reality the project is hard.	-0.21	0.56

My primary advisor is not likely to give me bad advice.	-0.13	0.5
I organize my school work as I see best (e.g., research, papers, presentations).	-0.03	0.48
I make most of the decisions that affect the way my school work is performed (e.g., research, papers, presentations).	-0.15	0.47
I set the performance standards for my school work (e.g., research, papers, presentations).	-0.02	0.45
My primary advisor "talks up" new ways of doing things.	0	0.45
My program is a relaxed place to work.	-0.05	0.41
There is a lot of "team spirit" among students in my program.	-0.21	0.4
I feel like I have a lot in common with the students in my program.	-0.11	0.32
Students in my program tend to get along with each other.	-0.27	0.31
Students in my program take a personal interest in one another.	-0.13	0.3
Students in my program pitch in to help each other out.	-0.25	0.28

Multiple Regression Analysis. Multiple linear regression was utilized to test hypotheses 1-2 simultaneously. The multiple linear regressions involved: (1) testing the predictive power of the independent variables (safe psychological climate and work-related mistreatment) on the outcome (affective well-being); and (2) determining the direction of those relationships. For all tests, Type I error rate was set at .05. The test on the overall model was significant: $F(2, 341) = 79.81$, $p < .001$, and $R^2 = 0.3148$, indicating that the combination of safe psychological climate and work-related mistreatment explain about 31.5% of the variance in affective well-being. The results of the multiple linear regression indicated support for both hypotheses. As anticipated in Hypothesis 1, safe psychological climate significantly and positively predicted affective well-being, such that, as perceptions of psychological climate become more safe, affective well-being tends to increase ($b = 0.41$, $p < .001$). In accordance with Hypothesis 2, work-related mistreatment significantly and negatively predicted affective well-being, such that as work-related mistreatment incidence increases, affective well-being tends to decrease ($b = -0.14$, $p < .001$). Table 3 includes the results of the multiple regression analysis.

Table 3. *Multiple Regression Analysis with Affective Well-being as the Criterion.*

Predictor	*B*	*SE B*	*t*
Safe Psychological Climate	0.41*	0.04	9.69*
Work-related Mistreatment	-0.14*	0.03	-4.25*
Adjusted R^2		0.32	
F		79.81	

*$p < .001$.

Supplemental Post-hoc Analyses.

In terms of post-hoc analyses, a t-test was performed to determine if there is a statistically significant difference in affective well-being between gender identities (Male and Female). The results of the t-test indicate that there is a statistically significant difference in affective well-

being between males and females ($t(290.91) = -2.89$, $p = 0.004$). The mean affective well-being scores for males ($M = 2.81$, $SD = 0.45$) was significantly higher than the mean affective well-being scores for females ($M = 2.67$, $SD = 0.43$).

DISCUSSION

This study found that safe psychological climate perceptions and work-related mistreatment, both known outcomes of culture within graduate programs, are strong predictors of affective well-being in graduate students. Specifically, when psychological climate is perceived as unsafe, affective well-being decreases; and, when incidence of work-related mistreatment increases, affective well-being decreases. Notably, as is evident by the larger beta weight and smaller p-value, safe psychological climate is the strongest predictor of affective well-being in terms of the variables of focus in this study. Overall, the results of the present study are consistent with the bigger picture, particularly in terms of offering support for extant research suggesting that factors influencing the mental health of graduate students extend beyond the individual and into their environment (Bekkouche et al., 2022), along with providing supporting evidence for extant research pertaining to the influence of cultural factors on the well-being of graduate students (Evans et al., 2018). In sum, aspects of negative culture within graduate programs (e.g., increased work-related mistreatment, unsafe psychological climate) have been shown in the present study to negatively influence the affective well-being of graduate students, which is consistent with extant findings pertaining to culture within graduate school and graduate student mental health.

In relation to the primary objective of the present study, previous research has shown that a safe psychological climate is associated with higher levels of job satisfaction, well-being, and performance among employees (Clarke, 2010) and students alike (Kutsyuruba and Hussain,

2015). For graduate students, a safe psychological climate can foster a sense of belonging, support their personal and professional development, and contribute to overall well-being (Petridis, 2015). On the contrary, an unsafe psychological climate can have detrimental effects on graduate students' affective well-being (James. bb et al., 1979).

Additionally, work-related mistreatment can create a hostile and toxic environment that negatively affects individuals' well-being, self-esteem, and mental health (Sloan, 2011). Several studies have highlighted the negative impact of work-related mistreatment on graduate students. Finney et al. (2013) found that graduate students who experienced bullying or negative interactions with faculty members reported higher levels of depression, anxiety, and emotional exhaustion. Similarly, Butterfield et al. (2014) demonstrated that graduate students who faced discrimination or harassment experienced lower levels of psychological well-being and higher levels of stress. Further, the quality of graduate program culture can either mitigate or exacerbate the effects of work-related mistreatment on graduate students' well-being (Yang et al., 2014). A positive and inclusive culture can provide a buffer against mistreatment by promoting support, fairness, and respect, thereby enhancing the psychological safety climate and protecting students' affective well-being (Hall, 2011).

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In summary, the quality of program culture indirectly affects the affective well-being of graduate students through psychological climate and work-related mistreatment. A safe psychological climate fosters well-being, while work-related mistreatment can have detrimental effects. The quality of the program culture can either mitigate or exacerbate the impact of mistreatment on graduate students' well-being. Developing and maintaining a positive and inclusive program culture is crucial for promoting the affective well-being of graduate students.

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In terms of practical implications, the overarching goal of this research is to provide clarity in terms of how to improve upon the well-being of graduate students, starting with improving culture within graduate programs. In accordance with Industrial-Organizational Psychology's scientist-practitioner approach, if graduate student well-being is suffering, institutions should implement strategies for improving culture within their graduate programs. For instance, institutions might leverage Nierenberg et al.'s (2017) Needs Theory-based approach to understand how OC influences student well-being. Nierenberg's approach states that, if the collective work environment meets the core needs of the member (purpose in life, self-acceptance, environmental mastery, positive relationships with others), the institution can expect, most notably in accordance with the present study, satisfaction, positive energy, and decreased stress (Nierenberg et al., 2017). Based on this theory, it is recommended that institution and program leadership make efforts to adapt the culture to fulfill the core needs of the graduate student. In terms of formulating interventions to improve culture, it is recommended that institution and program leadership follow Cameron and Quinn's (2011) Competing Values-based framework for diagnosing cultural weak points and making cultural improvements. First, institutions need to "plot a profile" using the Organizational Culture Assessment Instrument (OCAI). The culture type is then subsequently diagnosed, and interventions for culture change can then be initiated. As previously stated, institutions may find that they need to make their cultures "more" of a certain type or add elements of a certain culture type into their organizational design to make improvements (i.e., increasing clan and adhocracy culture, decreasing hierarchy and market culture, which would mean providing chances for self-management, creating bolder innovation programs Cameron & Quinn, 2011). Given the findings of the present study, it is recommended that institutions employ a companion measure (e.g.,

Koys (1991) measure of Safe Psychological Climate) along with the use of the OCAI to more robustly capture perceptions of psychological climate (i.e., safe or unsafe psychological climate).

It should be noted that, upon initial examination, the safe psychological climate variable was found to be negatively skewed. See Figure 3 for a visualization of the negative skewness.

Figure 3. *Histogram of Score Distribution for Safe Psychological Climate*

Histogram
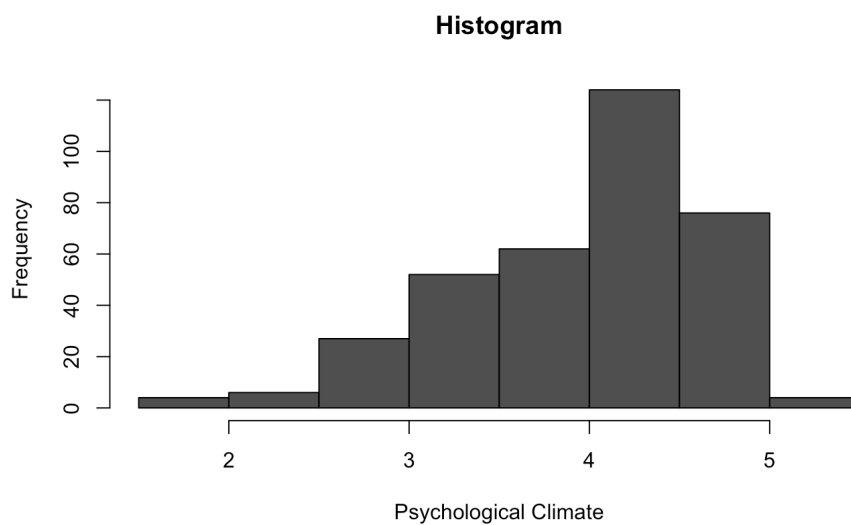
Negative skewness in this variable indicates an asymmetrical distribution where the tail of the distribution extends more towards lower values; thus, implying that the variable has a concentration of values at the higher end with a fewer number of values at the lower end. The most notable implication of this negative skew is its potential impact on Type I and Type II errors. Negative skew can lead to inflated Type I error rates, leading to the increase in likelihood of false-positive findings (i.e., rejecting the null hypothesis when the null is actually true; Razali & Wah, 2011). Negative skew can also lead to inflated Type II error rates, or the increase in likelihood of a false negative, due to a decrease in power (Harwell, 1992).

Further regarding the negative skewness in the safe psychological climate variable, the the likelihood that this skewness is the result of a ceiling effect should be noted. With a mean mean score of 4.7 on a 1-5 scale, and a median score of 4.1, a ceiling effect is likely present. Ceiling effects occur when the majority of respondents score at the high end of a measurement scale, leading to a clustering of scores at the upper limit of the scale (Maxwell & Delaney, 2004). Ceiling effects can occur for various reasons, including the nature of the measurement instrument, the characteristics of the sample or population being measured, or the specific context of the measurement (Maxwell & Delaney, 2004). Ceiling effects can make it difficult to detect differences among participants, especially at the high end of the scale (Maxwell & Delaney, 2004). Additionally, a ceiling effect can affect the reliability and validity of a measurement instrument, particularly if the instrument is not able to capture the full range of individual differences in the construct being measured (i.e., safe psychological climate).

All items of Koys (1991) Measure of Safe Psychological Climate (Appendix A) were originally tested on managerial employees of a U.S. restaurant chain. It is likely the case that the tested sample in this study, graduate student, likely experience a more safe psychological climate than the population that the scale was tested on originally; thus, leading to a ceiling effect. In terms of addressing this ceiling effect within this variable, future research should consider the use of a more sensitive or challenging measurement instrument when measuring perceptions of safe psychological climate in graduate students. If such a measure is adopted, it should be noted that the mean score may appear as though it has dropped relative to the present study, however, this is only indicative that a ceiling effect is becoming less prevalent.

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LIMITATIONS AND FUTURE DIRECTIONS

The present research faced several limitations. First, and most obviously, the tested sample came from one university. Because of this, it is impossible to examine if there is any variability between institutions regarding the effects of negative aspects of program culture, which would offer valuable insight in terms of developing interventions for the purpose of widespread use. Also, in regard to the tested sample, there is a limitation in regard to the sample size tested the present study. Our final sample came to $n = 420$, whereas the total Graduate Student population at the University is approximately 6,000. Additionally, we were limited in terms of group comparisons within the university. Sample size prevented us from making any meaningful comparisons between colleges. Data on specific programs was not collected due to concerns with respondent anonymity, thus, program-level comparisons were not made. More research is needed to gain a better understanding of just how culture within graduate programs is affecting the well-being of graduate students. Our recommendations for future research begin with other institutions employing similar studies and comparing results in order to determine if culture is affecting students in similar ways.

Regarding future replication of the present study, it would be ideal to adapt elements of the present study (i.e., lack of distinction between programs) in order to understand how culture factors differ between programs. There is extant research on culture within certain fields; it would be interesting to see if these patterns bleed into the graduate students' experience and create a cycle that permeates into the professional world. An interesting approach to between-program and between-discipline variance would be to follow extant literature on culture within teams and multiteam systems (MTSs). Team climate, or the perceived set of norms, attitudes, and expectations on a team (Settles et al., 2019) may be a potential variable of interest in terms

of looking at variation in affective well-being at the program level. Notably, Albrecht (2012) found a model including team climate to explain a significant proportion of variance in employee well-being. Finally, all the variables employed in this study (i.e., affective well-being, safe psychological climate, work-related mistreatment) should be looked at in terms of how they relate to turnover intentions (i.e., degree non-completion). Institutions could leverage such a study in order to make changes and improvements to culture in order to decrease degree non-completion, which is known to be a pervasive issue in graduate programs.

CONCLUSION

In conclusion, the hypotheses in the present study were supported: safe psychological climate significantly and positively predicts affective well-being, and work-related mistreatment significantly negatively predicts affective well-being. The research implications of the present study include contributions to extant literature on culture within graduate school, and graduate student mental health. The practical implications of the present study include the potential for institutions to leverage a similar study design, along with empirically proven theories and methodologies to improve graduate student affective well-being, in response to the crisis of well-being in post-graduate education. Institutions of higher education should follow a similar design, or even augment the design of the present study to gauge how culture within graduate programs is affecting the affective well-being of graduate students. In terms of augmentation, it is recommended that institutions follow extant research on team culture to understand how outcomes of program culture vary between programs.

Appendix A

Koys (1991) Inductive Psychological Climate Scale [ORIGINAL]

Autonomy

1. I make most of the decisions that affect the way my job is performed.

2. I determine my own work procedure.

3. I schedule my own work activities.

4. I set the performance standards for my job.

5. I organize my work as I see best.

Cohesion

1. (Company name) people pitch in to help each other out.

2. (Company name) people tend to get along with each other.

3. (Company name) people take a personal interest in one another.

4. There is a lot of "team spirit" among (company name) people.

5. I feel like I have a lot in common with the (company name) people I know.

Trust

1. I can count on my boss to keep the things I tell him confidential.

2. My boss has a lot of personal integrity.

3. My boss is the king of person I can level with.

4. My boss follows through on his commitments to me.

5. My boss is not likely to give me bad advice.

Pressure

1. I have too much work to do and too little time to do it in.

2. (Company name) is a relaxed place to work.

3. At home, I sometimes dread hearing the telephone ring because it might be someone calling about a job-related problem.

4. I feel like I never have a day off.

5. Too many (company ame) employees at my level get "burned out" by the demands of their jobs.

Support

1. I can count on my boss to help me when I need it.

2. My boss is interested in me getting ahead in the company.

3. My boss is behind me 100%.

4. My boss is easy to talk to about job-related problems.

5. My boss backs me up and lets me learn from my mistakes.

Recognition

1. I can count on a pat on the back when I perform well.

2. The only time I hear about my performance is when I screw up.

3. My boss knows what my strengths are and lets me know it.

4. My boss is quick to recognize good performance.

5. My boss uses me as an example of what to do.

Fairness

1. I can count on a fair shake from my boss.

2. The objectives my boss sets for my job are reasonable.

3. My boss is not likely to give me a "greasy meal."

4. My boss does not play favorites.

5. If my boss terminates someone, the person probably deserved it.

Innovation

1. My boss encourages me to develop my ideas.

2. My boss likes me to try new ways of doing my job.

3. My boss encourages me to improve on his methods.

4. My boss encourages me to find new ways around old problems.

5. My boss "talks up" new ways of doing things.

Appendix B

Koys (1991) Inductive Psychological Climate Scale [MODIFIED]

Please indicate your level of agreement with the following statements.

(1= Strongly Disagree, 5= Strongly Agree, 6 = N/A or Does not Apply to me)

Autonomy

1. I make most of the decisions that affect the way my school work is performed (e.g., research, papers, presentations).

2. I determine my own school work procedure (e.g., research, papers, presentations).

3. I schedule my own school work activities (e.g., research, papers, presentations).

4. I set the performance standards for my school work (e.g., research, papers, presentations).

5. I organize my school work as I see best (e.g., research, papers, presentations).

Cohesion

1. Students in my program pitch in to help each other out.

2. Students in my program tend to get along with each other.

3. Please select 'Neither Disagree nor Agree' for this item. (Attention Check Three)

4. Students in my program take a personal interest in one another.

5. There is a lot of "team spirit" among students in my program.

6. I feel like I have a lot in common with the students in my program.

Trust

1. I can count on my primary advisor to keep the things I tell them confidential.

2. My primary advisor has a lot of personal integrity.

3. My primary advisor is the kind of person I feel like I can level with.

4. My primary advisor follows through on their commitments to me.

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5. My primary advisor is not likely to give me bad advice.

Pressure

1. I have too much work (e.g., research, papers, presentations) to do and too little time to do it.

2. My program is a relaxed place to work. (Reverse Coded)

3. At home, I dread checking my email because it might have a message about a work-related problem (e.g., research, papers, presentations).

4. I feel like I never have a day off.

5. Too many students in my program get "burned out" by the demands of their work (e.g.,research, papers, presentations).

Fairness

1. I can count on fair treatment from my primary advisor.

2. The objectives my primary advisor sets for my job are reasonable.

3. My primary advisor is not likely to deceive me by giving a project that seems easy, when in reality the project is hard.

4. My primary advisor does not play favorites.

5. If my primary advisor reprimands someone, the person probably deserved it.

Innovation

1. My primary advisor likes me to try new ways of doing my work (e.g., research, papers, presentations).

2. My primary advisor motivates me to improve on their methods.

3. My primary advisor "talks up" new ways of doing things.

Appendix C

Einarsen et al., (2009) Negative Acts Questionnaire-Revised

Please select a number from 1 to 5 that indicates how often you have experienced the following actions and behaviors in the last six months at school.

1 = Never, 2 = Now and Then, 3 = Monthly, 4 = Weekly, 5 = Daily

Work-related Bullying

1. Someone withholding information which affects your performance.

2. Being ordered to do work (e.g., research, papers, presentations) below your level of competence.

3. Being given tasks with unreasonable deadlines.

4. Excessive monitoring of your work (e.g., research, papers, presentations).

5. Pressure not to claim something to which you are entitled (e.g., travel expense, sick leave).

6. Being exposed to an unmanageable workload.

7. Being intentionally left out of emails and/or meetings that are relevant to your work (e.g., papers, projects, research)

Person-related Bullying

1. Being humiliated or ridiculed in connection with your work (e.g., research, papers, presentations).

2. Having key areas of responsibility removed or replaced with more trivial or unpleasant tasks.

3. Spreading of gossip and rumors about you.

4. Being ignored or excluded.

5. Being intentionally left out of social gatherings.

6. Having insulting or offensive remarks made about your person, atitudes, or your private life.

7. Hints or signals from others that you should quit your program.

8. Persistent criticism of your errors or mistakes.

9. Having allegations made against you.

10. Being the subject of excessive teasing and sarcasm.

11. Being shouted at or being the target of spontaneous anger.

Physically Intimidating Bullying

1. Intimidating behaviors such as finger-pointing, invasion of personal space, shoving, blocking your way.

2. Threats of violence or physical abuse or actual abuse.

Appendix D

Adaptation of Daniel's (2000) Measure of Affective Well-Being

Thinking of the past week, how much of the time have aspects of your graduate program (e.g., interactions with your advisor, interactions with professors, classes, interactions with other students within your program) made you feel the following?

1. Anxious

2. Worried

3. Tense

4. At ease

5. Relaxed

6. Comfortable

7. Depressed

8. Miserable

9. Gloomy

10. Happy

11. Pleased

12. Cheerful

13. Bored

14. Sluggish

15. Dull

16. Enthusiastic

17. Optimistic

18. Motivated

19. Tired

20. Fatigued

21. Sleepy

22. Active

23. Alert

24. Full of Energy

25. Angry

26. Annoyed

27. Aggressive

28. Placid

29. Patient

30. Calm
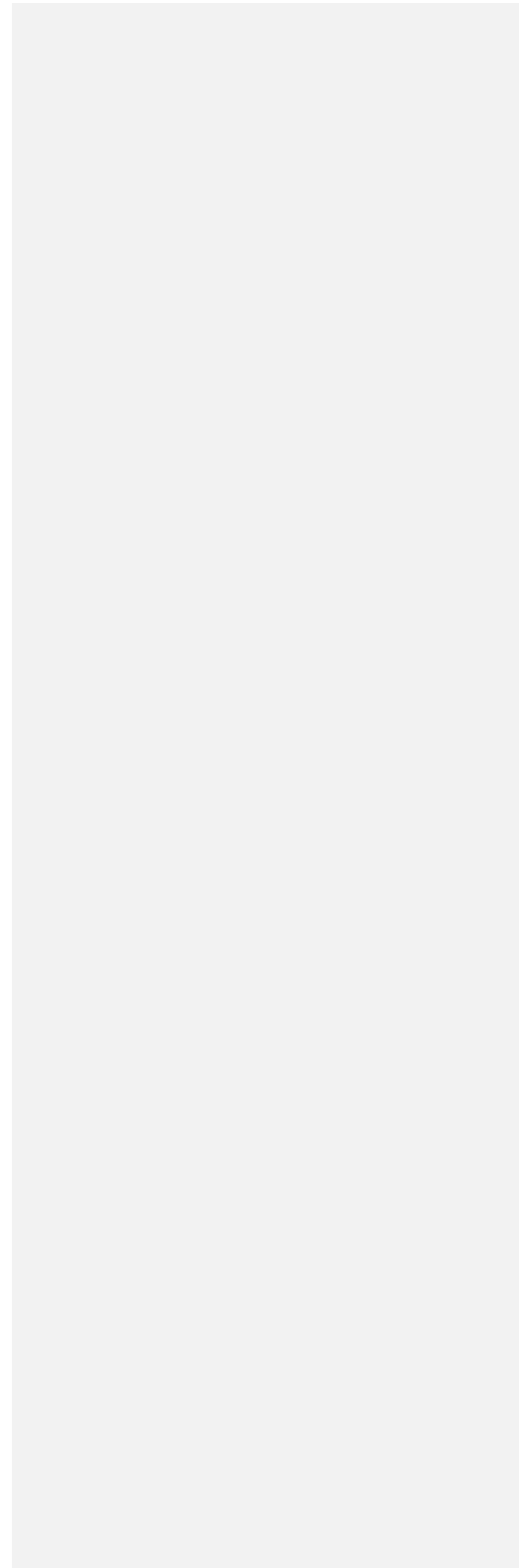
Appendix E

Demographic Items

What is your gender identity?
1. Nonbinary/Gender Non-Conforming
2. Woman
3. Man
4. Transgender

What is your race? Select all that may apply.
1. Asian
2. Black/African-American
3. Hispanic/Latin(o/a/x)
4. Middle Eastern
5. Multiracial
6. Native American
7. Pacific Islander
8. White
9. If you do not identify with the above categories, please specify:
10. Prefer not to answer

In which college are you currently enrolled?
1. College of Agriculture, Forestry, and Life Sciences
2. College of Architecture, Arts, and Humanities
3. College of Behavioral, Social, and Health Sciences
4. College of Business
5. College of Education
6. College of Engineering, Computing, and Applied Sciences
7. College of Science
8. Prefer not to Answer

What degree type are you currently seeking?
1. Master's
2. Doctoral
3. Non-degree Seeking Student (ND)
4. If you do not identify with the above categories, please specify:
5. Prefer not to answer

REFERENCES

Abu-Jarad, I. Y., Yusof, N. A., & Nikbin, D. (2010{Abu-Jarad, 2010 #25} *International Journal of Business and Social Science*, 1(3). 26-46.

Albrecht, S. L. (2012). The influence of job, team and organizational level resources on employee well-being, engagement, commitment and extra-role performance: Test of a model. *International Journal of Manpower*, 33(7), 840-853.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).

Anjum, M. A., Liang, D., Durrani, D. K., & Parvez, A. (2020). Workplace mistreatment and emotional exhaustion: The interaction effects of self-compassion. *Current Psychology*, 41. 1-12.

Arroll, B., & Kendrick, T. (2018). Definition of anxiety. *Primary Care Mental Health*, 20, 125-37.

Barreira, P., & Bolotnyy, V. (2022). A blueprint for measuring and improving graduate student mental health. *Journal of American College Health*, 1-7.

Bayraktar, M. (2022). The great resignation of US labor force. *Available at SSRN 4047174*.

Bekkouche, N. S., Schmid, R. F., & Carliner, S. (2022). "Simmering pressure": How systemic stress impacts graduate student mental health. *Performance Improvement Quarterly*, *34*(4), 547-572.

Bloom, L. Z. (1981). Why graduate students can't write: Implications of research on writing anxiety for graduate education. *Journal of Advanced Composition*, *2*(1/2), 103-117.

Bourne, H., Jenkins, M., & Parry, E. (2019). Mapping espoused organizational values. *Journal of Business Ethics*, *159*(1), 133-148.

Boyle, G. J. (1984). Reliability and validity of Izard's differential emotions scale. *Personality and Individual Differences*, *5*(6), 747-750.

Cameron, K. S., & Quinn, R. E. (2011). *Diagnosing and changing organizational culture: Based on the competing values framework*. John Wiley & Sons.

Chapell, M. S., Blanding, Z. B., Silverstein, M. E., Takahashi, M., Newman, B., Gubi, A., & McCann, N. (2005). Test anxiety and academic performance in undergraduate and graduate students. *Journal of Educational Psychology*, *97*(2), 268.

Charles, S. T., Karnaze, M. M., & Leslie, F. M. (2022). Positive factors related to graduate student mental health. *Journal of American College Health*, *70*(6), 1858-1866.

Clarke, S. (2010). "An integrative model of safety climate: Linking psychological climate and work attitudes to individual safety outcomes using meta-analysis." Journal of Occupational and Organizational psychology 83(3): 553-578.

Cooke, D. K., Sims, R. L., & Peyrefitte, J. (1995). The relationship between graduate student attitudes and attrition. *The Journal of Psychology*, *129*(6), 677-688.

Daniels, K. (2000). Measures of five aspects of affective well-being at work. *Human Relations*, *53*(2), 275-294.

Das, P. P. P., & Sahoo, R. (2012). Stress and depression among post-graduate students. *International Journal of Scientific and Research Publication*, *2*(7), 1-5.

Dhanani, L. Y., LaPalme, M. L., & Joseph, D. L. (2021). How prevalent is workplace mistreatment? A meta-analytic investigation. *Journal of Organizational Behavior*, *42*(8), 1082-1098.

Diener, E. (2009). Subjective well-being. *The Science of Well-Being*, 37, 11-58.

Diener, E., & Larsen, R. J. (1993). The experience of emotional well-being. Need rest of citation

Eid, M., & Larsen, R. J. (Eds.). (2008). *The science of subjective well-being*. Guilford Press.

Einarsen, S., Hoel, H., & Notelaers, G. (2009). Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. *Work & Stress*, *23*(1), 24-44.

Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *American Journal of Orthopsychiatry*, *77*(4), 534-542.

Evans, T. M., Bira, L., Beltran-Gastelum, J., Weiss, L. T., & Vanderford, N. (2017). Mental health crisis in graduate education: The data and intervention strategies. *The FASEB Journal*, *31*, 750-757.

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.

Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crisis? A Prospective Study of Resilience and Emotions Following the Terrorist Attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology, 84,* 365-376.

Gable, P. A., & Dreisbach, G. (2021). Approach motivation and positive affect. *Current Opinion in Behavioral Sciences*, *39*, 203-208.

Gagliardi, P. (Ed.). (2011). *Symbols and artifacts: Views of the corporate landscape* (Vol. 24). Walter de Gruyter.

Galanakis, M., Stalikas, A., Pezirkianidis, C., & Karakasidou, I. (2016). Reliability and validity of the modified differential emotions scale (mDES) in a Greek sample. *Psychology*, *7*(01), 101.

Glover, K. M. (2019). Graduate student life brief. *National Association of Graduate-Professional Students.*

Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. *Education and Information Technologies*, *26*(6), 6923-6947.

Green, T. K. (2005). Work culture and discrimination. *Calif. L. Rev.*, *93*, 623.

Grigsby, R. K. (2009). Organizational culture and its consequences. In *Faculty Health in Academic Medicine* (pp. 115-126). Humana Press.

Habib, S., Aslam, S., Hussain, A., Yasmeen, S., & Ibrahim, M. (2014). The impact of organizational culture on job satisfaction, employees' commitment and turn over intention. *Advances in Economics and Business*, *2*(6), 215-222.

Hacker, N. L. (2021). *Graduate Student Psychological Well-being: The Current State and how it Relates to Emotional Intelligence* (Doctoral dissertation, Central Michigan University).

Hall, G. B., et al. (2013). "Psychosocial safety climate buffers effects of job demands on depression and positive organizational behaviors." *Anxiety, Stress & Coping 26(4),* 355-377.

Harmon-Jones, E., & Harmon-Jones, C. (2021). On defining positive affect (PA): considering attitudes toward emotions, measures of PA, and approach motivation. *Current Opinion in Behavioral Sciences*, *39*, 46-51.

Harwell, M. R. (1992). "Summarizing Monte Carlo results in methodological research." *Journal of Educational Statistics 17*(4), 297-313.

Isen, A. M. (1993). Positive affect and decision making. *Handbook of Emotions.* (pp. 261-277).

Isen, A. M., Daubman, K. A., & Nowicki, G. P. (1987). Positive affect facilitates creative

problem solving. *Journal of Personality and Social Psychology*, *52*(6), 1122.

James, L. R., Choi, C. C., Ko, C. H. E., McNeil, P. K., Minton, M. K., Wright, M. A., & Kim, K.
(2008). Organizational and psychological climate: A review of theory and research.
European Journal of Work and Organizational Psychology, 17(1), 5-32.

James, L. R., et al. (1979). "Correlates of psychological influence: An illustration of the
psychological climate approach to work environment perceptions." *Personnel Psychology
32(3)*, 563-588.

James, L. A., & James, L. R. (1989). Integrating work environment perceptions: Explorations
into the measurement of meaning. *Journal of Applied Psychology*, *74*(5), 739.

James, L. R., & Sells, S. B. (1981). Psychological climate: Theoretical perspectives and
empirical research. *Toward a psychology of situations: An interactional perspective*, *35*,
275-295.

James, L. R., & Sells, S. B. (2013). Psychological climate: Theoretical perspectives and
empirical research. In *Toward a psychology of situations* (pp. 285-306). Psychology
Press.

Jiao, Q. G., & Onwuegbuzie, A. J. (1998). Perfectionism and library anxiety among graduate
students. *The Journal of Academic Librarianship*, *24*(5), 365-371.

Kabanoff, B., Waldersee, R., & Cohen, M. (1995). Espoused values and organizational change
themes. *Academy of Management Journal*, *38*(4), 1075-1104.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at
work. *Academy of Management Journal, 33,* 692-724.

Kaler, L. S., & Stebleton, M. J. (2019). Graduate student mental health: Examining an
overlooked concern. *J. Stud. Aff*, *2020*, 101-110.

Karademas, E. C. (2007). Positive and negative aspects of well-being: Common and specific

     predictors. *Personality and individual differences*, *43*(2), 277-287.

Koy, A., & Yeo, G. (2008). BIS sensitivity, negative affect and performance: Dynamic and

     multilevel relationships. Human Performance, 21(2), 198-225.

Koys, D. J., & DeCotiis, T. A. (1991). Inductive measures of psychological climate. *Human*

     relations, *44*(3), 265-285.

Kroeber, A. L., & Kluckhohn, C. (1952). Culture: A critical review of concepts and definitions.

     Papers. Peabody Museum of Archaeology & Ethnology, Harvard University.

Kutsyuruba, B., et al. (2015). "Relationships among school climate, school safety, and student

     achievement and well-being: a review of the literature." *Review of Education 3*(2), 103-

     135.

Lee, J. M., & Choi, H. G. (2019). Influence of organizational culture supporting work-life

     balance on well-being and depression mediated by work-life balance: An application of

     multi-group analysis across gender and age. *Korean Journal of Industrial and*

     Organizational Psychology, *32*(1), 1-27.

Lewis, A. (1970). The ambiguous word" anxiety". *International journal of psychiatry*, *9*, 62-79.

Little, D. M. (2009). *Graduate program culture and intention to persist: Working adults in*

     cohort and non-cohort programs. Florida International University.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states:

     Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression

     and Anxiety Inventories. *Behaviour research and therapy*, *33*(3), 335-343.

Lutgen-Sandvik, P. (2003). The communicative cycle of employee emotional abuse: Generation

     and regeneration of workplace mistreatment. *Management Communication Quarterly*,

16(4), 471-501.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological bulletin*, *131*(6), 803.

Maertz Jr, C. P., Keith, M. G., Raghuram, S., Porter, C. M., & Dalton, G. L. (2022). Advancing Theory and Practice on Managing Dysfunctional Turnover: Developing an Improved Measure of Turnover Reasons. *Group & Organization Management*.

Matthewman, L. J., Jodhan-Gall, D., Nowlan, J., O'Sullivan, N., & Patel, Z. (2018). Primed, prepped and primped: Reflections on enhancing student wellbeing in tertiary education. *Psychology Teaching Review*, *24*(1), 67-77.

Maxwell, S. E., et al. (2017). *Designing experiments and analyzing data: A model comparison perspective*, Routledge.

Nguyen, N., & Stinglhamber, F. (2020). Workplace mistreatment and emotional labor: A latent profile analysis. *Motivation and emotion*, *44*(3), 474-490.

Nierenberg, B., Alexakis, G., Preziosi, R. C., & O'Neill, C. (2017). Workplace happiness: An empirical study on well-being and its relationship with organizational culture, leadership, and job satisfaction. *International Leadership Journal*, *9*(3), 2-23.

Oades, L. G., Robinson, P., Green, S., & Spence, G. B. (2014). Towards a positive university. In *Positive Psychology in Higher Education* (pp. 15-22). Routledge.

Park, K. O., Wilson, M. G., & Leae, M. S. (2004). Effects of social support at work on depression and organizational productivity. *American journal of health behavior*, *28*(5), 444-455.

Pan, W., & Tang, M. (2004). Examining the effectiveness of innovative instructional methods on reducing statistics anxiety for graduate students in the social sciences. *Journal of*

Instructional Psychology, *31*(2).

Petridis, H. L. (2015). *Thriving in graduate school: The role of department climate, student-faculty interaction, family-friend support, and a psychological sense of community,* Azusa Pacific University.

Posselt, J. R. (2020). Supporting Graduate Student Mental Health and Wellbeing Consultant Paper. *Council of Graduate Schools*.

Razali, N. M. and Y. B. Wah (2011). "Power comparisons of shapiro-wilk, kolmogorov-smirnov, lilliefors and anderson-darling tests." *Journal of statistical modeling and analytics 2*(1), 21-33.

Rotem, N., Yair, G., & Shustak, E. (2021). Dropping out of master's degrees: Objective predictors and subjective reasons. *Higher Education Research & Development*, *40*(5), 1070-1084.

Safarzaie, H., Nastiezaie, N., & Jenaabadi, H. (2017). The relationship of academic burnout and academic stress with academic self-efficacy among graduate students. *The New Educational Review*, *49*, 65-76.

Saphier, J., & King, M. (1985). Good seeds grow in strong cultures. *Educational leadership*, *42*(6), 67-74.

Schein, E. H. (2010). *Organizational culture and leadership* (Vol. 2). John Wiley & Sons.

Settles, I. H., Brassel, S. T., Soranno, P. A., Cheruvelil, K. S., Montgomery, G. M., & Elliott, K. C. (2019). Team climate mediates the effect of diversity on environmental science team satisfaction and data sharing. *PloS one*, *14*(7), e0219196.

Sloan, M. M. (2012). "Unfair treatment in the workplace and worker well-being: The role of coworker support in a service work environment." *Work and Occupations 39*(1), 3-34.

Sok, J., Blomme, R., & Tromp, D. (2014). Positive and negative spillover from work to home:
The role of organizational culture and supportive arrangements. *British Journal of
Management*, *25*(3), 456-472.

Sperry, R. W. (1993). The impact and promise of the cognitive revolution. *American
psychologist*, *48*(8), 878.

Spielberger, C. D., & Rickman, R. L. (1988). Assessment of state and trait anxiety.

Sproat, S. B. (2001). Using organizational artifacts to influence change. *JONA: The Journal of
Nursing Administration*, *31*(11), 524-526.

Sun, S. (2008). Organizational culture and its themes. *International Journal of Business and
Management*, *3*(12), 137-141.tion. *Frontiers in psychology*, *12*, 1167.

Swanson, H. L., Pierre-Louis, C., Monjaras-Gaytan, L. Y., Zinter, K. E., McGarity-Palmer, R., &
Clark Withington, M. H. (2022). Graduate student workload: Pandemic challenges and
recommendations for accommodations. *Journal of Community Psychology*, *50*(5), 2225-
2242.

Tharp, B. M. (2009). Defining "culture" and "organizational culture": From anthropology to the
office. *Interpretation a Journal of Bible and Theology, Harworth*, *7*.

Versta Research. (2011). *How to estimate the length of a survey.*
https://verstaresearch.com/newsletters/how-to-estimate-the-length-of-a-survey/

Wasil, A. R., Taylor, M. E., Franzen, R. E., Steinberg, J. S., & DeRubeis, R. J. (2021).
Promoting graduate student mental health during COVID-19: Acceptability, feasibility,
and perceived utility of an online single-session intervention.

Watson, D., Clark, L. A., & Carey, G. (1988). Positive and negative affectivity and their relation
to anxiety and depressive disorders. *Journal of abnormal psychology*, *97*(3), 346.

Watson, D., & Pennebaker, J. W. (1989). Health complaints, stress, and distress: exploring the central role of negative affectivity. *Psychological review*, *96*(2), 234.

Yang, L. Q., Caughlin, D. E., Gazica, M. W., Truxillo, D. M., & Spector, P. E. (2014). Workplace mistreatment climate and potential employee and organizational outcomes: A meta-analytic review from the target's perspective. *Journal of occupational health psychology*, *19*(3), 315.

Yu, T., & Wu, N. (2009). A review of study on the competing values framework. *International journal of business and management*, *4*(7), 37-42.

Zapf, D., & Einarsen, S. (2001). Bullying in the workplace: Recent trends in research and practice− an introduction. *European Journal of work and organizational psychology*, *10*(4), 369-373.