Available online at www.ijournalse.org

Emerging Science Journal

(ISSN: 2610-9182)

Vol. 8, Special Issue, 2024

"Current Issues, Trends, and New Ideas in Education"

Gender Differences in Academic Staff Performance: An Advanced Analysis Using PLS-SEM in Higher Education

Ghilan Al-Madhagy Taufiq Hail [1*], Shafiz Affendi Mohd Yusof [2], Mohanaad Shakir [1], Maryam Juma Al Farsi [1], Ibrahim R. Al-Shamsi [1], Adel Sarea [3]

[1] *College of Business, University of Buraimi, Al Buraimi, Al Buraimi Governorate, Sultanate of Oman.*

[2] *Department of Information Technology & Artificial Intelligence Research Center (AIRC), College of Engineering & IT, Ajman University, Ajman, United Arab Emirates.*

[3] *College of Business and Finance, Ahlia University, Manama 10878, Kingdom of Bahrain.*

Abstract

This study aims to comprehensively explore the intricate dynamics among positive and negative emotions, self-efficacy, and task performance within the unique context of the Covid-19 pandemic in Bahrain, specifically placing emphasis on potential gender-related distinctions within the proposed relationships. The ongoing pandemic accentuates the need to investigate the interplay between emotional states, self-efficacy beliefs, and task performance in academic and teaching domains, especially considering potential gender variations within the framework of a society promoting gender equality. Employing a quantitative survey instrument and rigorous statistical techniques, the study validates its proposed model through indicators such as the coefficient of determination (R^2) and predictive relevance (Q^2). The diverse sample comprises academic and teaching staff of both genders from Bahrain. Advanced statistical methodologies, including Measurement Invariance (MICOM) and Multigroup Analysis (MGA) facilitated by SmartPLS PLS-SEM, provide deeper insights into gender disparities. Significantly contributing to existing knowledge, this paper elucidates the complex relationships among emotions, self-efficacy, and task performance amid a crisis, with a distinctive focus on meticulously investigating gender differences. The study underscores the consistent positive impact of positive emotions on task performance across genders in Bahrain. Recommendations advocate for prioritizing support for academic and teaching staff during crises, emphasizing the positive impact on academic outcomes. Future research should explore demographic intricacies and potential mediating or moderating factors, deepening the comprehension of these complex dynamics. Highlighting the cascading impact of prioritizing the well-being and morale of academic and teaching staff, the study envisions a positive transformation resonating across various facets of society, extending beyond the confines of academia.

Keywords:

Bahrain Higher Education;
Gender Dif-ferences;
MICOM;
Multi-Group Analysis;
Performance;
PLS-SEM;
Positive and Negative Feelings;
Self-Efficacy.

Article History:

Received:	12	February	2024
Revised:	17	May	2024
Accepted:	05	June	2024
Published:	09	July	2024

1- Introduction

Amid the unfolding Covid-19 pandemic, Bahrain, a member state of the Gulf Cooperation Council (GCC), swiftly implemented emergency measures, including the closure of educational institutions, businesses, and governmental sectors. This global crisis has reshaped the trajectory of nations, imposing abrupt changes worldwide [1]. During this transformative period, the educational sector faced significant disruptions, resulting in the suspension of operations in schools, universities, and colleges. Lecturers and teaching staff encountered unprecedented challenges and severe

* **CONTACT**: taufiq.h@uob.edu.om

DOI: http://dx.doi.org/10.28991/ESJ-2024-SIED1-09

difficulties due to the cessation of in-person teaching, navigating increased responsibilities and burdens as they balanced home life with their roles as educators [1, 2]. The shift to new and unfamiliar methods, particularly in syllabus delivery, posed substantial challenges for faculty members unaccustomed to or unprepared for such changes [3, 4]. This situation made the academic staff face severe and unpredicted difficulties that reshaped every facet of their academic life [2], affecting their mental health, especially concerning gender disparities [5]. Consequently, negative feelings emerged as time unfolded unpredictably, emphasizing the crucial need for lecturers and teaching staff to adapt, commonly referred to as self-efficacy, to the new mode of academic course delivery.

1-1- Research Gap and Significance

The concept of gender has garnered significant attention in scholarly discourse. Gender extends beyond mere physiological distinctions, delving into the realm of socio-cultural norms that profoundly influence behavior. This differentiation between sex and gender, as articulated by Bloshchynskyi et al. [6], spurred a rapid shift within academia to replace the term "sex" with "gender." While biological sex pertains to the physical differences between males and females, gender emerges as a social construct shaped by societal norms and expectations. Gender stereotypes, as explained by Bloshchynskyi et al. [6], encapsulate traditional beliefs about behaviors deemed appropriate for men and women. Consequently, exploring the differences and diversity between genders can yield valuable insights into various social and academic phenomena.

Furthermore, Rokach [7] highlighted that our identities and capabilities are profoundly influenced by social, cultural, and environmental factors. These influences, including our cultural background, residential environment, and the demographic composition of our surroundings, deeply impact our mental well-being, adaptation to daily challenges, and our ability to manage mental health concerns. This underscores, according to Rokach [7], the critical role that societal contexts play in shaping individual experiences and outcomes. Therefore, exploring gender diversity within the context of Bahraini Arab culture in the current research is expected to provide insights into how males and females behaved during the pandemic in Arabian culture and society.

This research addresses existing gaps by investigating the effects of the Covid-19 epidemic on academic and teaching staff of varying genders in Bahrain. Additionally, recent work has emphasized the negative impact of COVID-19, highlighting emergent issues such as mental health concerns in the academic arena. These issues warrant attention from higher education institutions as they impact the overall pedagogical process [8]. Moreover, the pandemic-induced disruptions underscore the urgency of understanding the interactions among positive and negative emotions, self-efficacy, and task performance within the academic domain during crises. Currently, there is a lack of in-depth exploration into how gender-related distinctions influence teaching staff performance during such unprecedented events. Recent studies have highlighted the importance of considering gender differences in coping strategies and psychological distress during the Covid-19 pandemic [2, 5, 9–13]. However, there remains a dearth of research specifically examining the moderating role of gender in the relationship between positive and negative emotions, along with self-efficacy among academic staff, particularly within the unique context of Bahrain's higher education institutions, specifically, and in Gulf Cooperation Council (GCC) countries in general.

André & Van Der Zwan [14] in their study underscored how lockdown-induced increases in childcare responsibilities have gendered implications influenced by traditional gender role attitudes. They emphasized that mothers often face a decline in their work-life balance, while fathers report increased satisfaction. Traditional gender norms assign caregiving tasks predominantly to mothers, adding to their work pressure. Conversely, fathers prioritize work, resulting in unchanged perceived work pressure. In Bahrain, despite women being working parents, they are often still viewed as the primary caregivers, reflecting deeply ingrained gender roles. This highlights a significant research gap in understanding how these traditional gender roles intersect with the Covid-19 pandemic's impact on academic staff performance, particularly in Bahrain's higher education institutions.

1-2- Gender Inequalities in the Affective Domain

The unique socio-cultural context of Bahrain adds another layer of complexity to our study. The intricacies of gender inequalities in the affective domain and how emotions are communicated within and between genders in the Bahraini context remain underexplored. Culturally embedded norms and communication patterns may influence how positive and negative emotions are perceived and expressed, further impacting task performance. Recent research has shed light on the gendered impact of the Covid-19 outbreak, highlighting disparities in mental health vulnerability and coping strategies between men and women stress [2, 5, 10]. Understanding these dynamics is crucial for a comprehensive understanding of the challenges faced by teaching staff during the pandemic and can inform tailored strategies to support educators effectively during crises, ensuring their well-being and sustained efficacy.

1-3- Literature Supporting Gender Differences

A significant body of literature underscores the existence of gender differences in emotional reactions, A substantial corpus of literature underscores the presence of gender disparities in emotional responses, encompassing both biological

and psychological dimensions [10, 15–17]. Recent investigations have accentuated the gendered ramifications of the Covid-19 pandemic on mental well-being, with females reporting heightened severity in symptoms such as anxiety, depression, and acute stress [2, 5, 10]. Furthermore, gender role theory posits that societal norms and individual experiences contribute to variances in stress perception and coping mechanisms across genders [14]. By integrating these insights, our study endeavors to conduct a nuanced exploration of gender-related emotional disparities and their repercussions on the performance of academic staff within Bahrain's higher education institutions amidst the Covid-19 pandemic.

Moreover, a rich body of research underscores gender differences in emotional reactivity, spanning psychiatric disorders, stress-related ailments, major depression, anxiety, and mood disorders [14, 18–21]. Psychologically, while stress reactivity diverges, it converges physiologically between genders, with women often exhibiting more pronounced negative effects during psychosocial stressors. Furthermore, gender distinctions extend beyond negative emotions, encompassing a spectrum of emotional responses and a negative impact on work-life balance [14, 22–25].

In addition, based on the work of Deole et al. [26] in the UK, where they discussed variations in the relationship between working from home (WFH) and productivity among different employee groups, they found that female employees in occupations where WFH is more feasible and those with greater autonomy over their work schedule tend to exhibit higher WFH productivity. Conversely, male employees with longer commutes or spending more time traveling to the office demonstrate higher WFH productivity. On the other hand, they found that parents working from home suffered from weaker productivity due to homeschooling during lockdown times amid COVID-19 compared to non-working ones [26]. Given the amplification of psychological burdens globally amidst the COVID-19 pandemic, understanding these gender-specific emotional reactions assumes paramount significance.

1-4- Emotional Dynamics and Academic Faculty Performance

In In the context of teaching and potential gender disparities, emotional reactions to academic-related stress have consistently shown gender differences [9, 27]. Female faculty members often report higher levels of psychological distress, depressive symptoms, and work-related challenges compared to their male counterparts [9, 27]. Recent research has documented that the unplanned shift to emergency remote learning during the Covid-19 pandemic has created disproportionately greater teaching challenges for female faculty, negatively affecting their mental health [5]. By examining these dynamics within the context of Bahrain's higher education institutions, we aim to contribute to a better understanding of the interplay between emotions, self-efficacy, and task performance among academic and teaching staff, while also addressing the gendered impact of the pandemic on faculty well-being and productivity.

The existing literature underscores the importance of exploring gender-related distinctions in emotional reactions and their impact on academic faculty performance, especially amidst the unique challenges brought about by the Covid-19 pandemic [2, 5, 10, 12-14, 26, 28]. Some of these studies focused on western culture (Spain [10], UK [26], Netherlands [14], and Sweden [27]) and the impact of Covid-19 on well-being. In response to the call for more studies on the impact of Covid-19 on the well-being of academic staff in Arab world higher education [29] and gender differences in terms of their performance during hardships and adverse events such as Covid-19 [30], this study, however, seeks to contribute to this continuous effort in expanding body of knowledge by investigating these dynamics within the specific context of Bahrain, shedding light on the intricate interplay between emotions, self-efficacy, and task performance among academic and teaching staff. Motivated by the pressing need to comprehend the complex interrelationship between emotions, self-efficacy, and task performance among academic staff in Bahrain, particularly in the unprecedented circumstances of the Covid-19 pandemic, this study delves into unexplored territory. With the abrupt shift to online teaching methods due to the suspension of in-person teaching [12], educators face unforeseen challenges, necessitating a deeper understanding of how psychosocial factors influence their performance. By focusing on Bahrain—a society that champions gender equality yet grapples with entrenched traditional gender norms—the study aims to uncover potential gender-related disparities in how academic staff navigate these challenges. Given the pivotal role of the academic domain in shaping societal attitudes towards gender equality, it is imperative to ensure equitable outcomes for male and female educators. Thus, elucidating how gender dynamics intersect with emotional responses and self-efficacy amidst crises holds profound implications for fostering inclusivity, enhancing support systems, and promoting effective teaching practices.

To address these objectives and respond to the need for a nuanced examination of gender diversity and its interplay with emotions, self-efficacy, and task performance among academic staff, this study poses several research questions:

1) Is there a gender-related variance in how positive emotions or feelings affect the performance of male and female teaching staff when carrying out assigned tasks through online teaching methods during the pandemic?
2) Do male and female teaching staff exhibit contrasting responses to negative emotions or feelings in terms of their performance when executing assigned tasks using online teaching methods during the pandemic?
3) Do gender-related disparities play a role in how self-efficacy influences the performance of teaching staff, both male and female, in the completion of assigned tasks through online teaching methods during the pandemic?

To fulfill the study's objectives, a quantitative research approach utilizing a survey instrument was developed and distributed among teaching staff in Bahrain. The sample comprised lecturers and academic staff members from both public and private higher education institutions. The subsequent sections of the paper are structured as follows: the literature review provides insight into the independent constructs influencing performance, along with the dependent performance construct. The methodology is outlined in the following section, followed by a discussion and interpretation of the results derived from the PLS-SEM (Partial Least Squares-Structural Equation Modeling) analysis. Subsequent sections address the implications, limitations, and future directions of the research. Finally, conclusions are drawn based on the findings, research objectives, and the context of the investigation.

2- Literature Review and Hypotheses Development

This section offers an in-depth exploration of the context surrounding the rapid shift from traditional to online instruction and its implications amid the Covid-19 pandemic. Additionally, it delves into gender differences, presenting previous research findings as a foundation for the examination of gender-related disparities in various contexts. The concept of teaching staff's task performance in the execution of academic responsibilities is elucidated. Subsequently, the link between positive and negative emotions and the successful completion of pedagogical tasks during the pandemic is delineated, culminating in the formulation of hypotheses. Finally, the role of self-efficacy in relation to performance is expounded upon.

Also, other new relationships not in these original theories cover various beliefs and aspects of the individual and give strength to the research framework. They cover technological, social, attitudinal beliefs in addition to personal capabilities. This holistic model that includes this variety is expected to introduce a wider scope of the phenomenon under investigation.

2-1- Covid-19 Impact on Educators' Task Performance during the Transition to Online Education

The unanticipated advent of the Covid-19 virus led to a seismic transformation in the field of education. The pandemic precipitated a novel set of challenges, prompted by the unfamiliarity of the virus and its consequences [31]. Typically, crises and hardships prompt individuals to reassess past practices and adapt to new circumstances [32]. However, true innovation is an evolutionary process, building upon new practices and gradually evolving into innovative breakthroughs [32]. The pandemic's influence effectively altered the landscape of teaching and learning.

Lopes de Sousa Jabbour et al. [33] describe the pandemic as a catalyst for shifting established patterns, urging a return to the safety of homes. The intrusion of remote activities like online meetings and classes, alongside prolonged periods of student interaction, blurred the line between personal and professional spaces [34]. School closures and social distancing measures necessitated the adoption of online teaching as a viable alternative [31]. The conventional classroom, characterized by direct interaction and the exchange of non-verbal cues, underwent a radical transformation to the online format [35]. The new teaching mode introduced challenges such as maintaining student engagement, discipline, and effective communication.

The pandemic-induced transition to online education disrupted the traditional dynamics between educators and students. In the virtual realm, the ability to gauge student interest, focus, and reactions to the material became less straightforward [35]. Online teaching necessitated new skills, including technological proficiency, creative instructional strategies, and the establishment of an online presence [36]. Successful online students displayed attributes like enthusiasm, self-discipline, and readiness to seek assistance [37].

2-2- Background on Gender Differences

The underpinning of this section lies in the examination of gender disparities as they pertain to the context of the research. According to Biddle's Social Role Theory [38], individuals' actions are influenced by both personal expectations and societal norms. Moreover, the Gender Role Theory asserts that gender distinctions manifest across multiple dimensions and are the product of societal constructs. This theory also asserts that gender roles encompass a set of societal norms and behaviors tailored to specific genders [39]. Typically, gender differences have been rationalized within the context of the socio-cultural environment, often as a result of gender-stereotyped socialization. Stereotypes serve as templates for acceptable conduct that individuals adopt, with these stereotypes frequently being perceived as mirrors of reality. Consequently, those who deviate from these stereotypes may face social exclusion, while conformists may garner social approval [39].

Amid the Covid-19 pandemic, the introduction of novel regulations transformed the socio-cultural landscape, impacting diverse demographics based on age, gender, and race. Complying with these emergent regulations became an imperative new way of life. Consequently, this sudden upheaval prompted a reevaluation of established norms and behaviors, especially as it pertains to the professional performance of educators. Research endeavors into gender differences have predominantly concentrated on scrutinizing emotional variations between the genders, uncovering

consistent disparities [40, 41]. A case in point is the observation that women are more prone to expressing emotions such as sadness, fear, and affection, whereas men are more inclined to convey emotions like anger, hostility, and toughness [40]. This prompts an investigation into the contrasting positive and negative feelings surrounding performance between men and women, particularly concerning the tasks assigned to educators during the pandemic. Wood and Eagly's work [42] delved into disparities in social conduct exhibited by men and women, emphasizing the significance of societal roles in elucidating these distinctions.

Through exhaustive cross-cultural examinations, they concluded that gender variances were shaped by a combination of physical attributes and societal constructs within the community [42]. This is exemplified by men assuming roles more closely linked to material resources in the workplace [43]. As roles are foundational to societal beliefs and biases about the anticipated behaviors of each gender, these role expectations eventually contribute to gender discrepancies in social interactions [43]. However, the imposition of lockdowns and the necessity for both genders to adapt to at-home work routines prompted shifts in responsibilities. As individuals shared space, traditional gender roles took on different contours, necessitating cooperation in both professional tasks and domestic responsibilities. Furthermore, the research takes into account genetic-evolutionary theories, positing that each facet of human behavior has neurological or hormonal underpinnings linked to adaptive societal roles [44]. In light of this, historical gender differences may arise from the distinct survival-related activities historically carried out by men and women. For instance, women primarily attended to childrearing while men hunted for sustenance, safeguarding their families from perilous situations [45]. However, modern life has ushered in transformative shifts, with women now occupying roles once solely within the purview of men. This transition becomes notably poignant in the realm of academia, where working women, especially during the pandemic, found themselves juggling both professional responsibilities and family obligations.

Scrutiny of the existing literature reveals gender as a moderator in various relationships, particularly in behavior intention [46, 47]. Gender differences appear evident in the approaches men and women adopt toward technology usage [46]. For instance, Yuan et al. [48] discovered that men were more likely to discontinue using m-banking services due to perceptions of online transactions as risky. Hew et al. [49] found that gender insignificantly influenced behavior intention, aligning with the conclusions of Wong et al. [50].

Empirical evidence has shown women encountering greater challenges in managing high levels of duties and external pressures [51], although this can be countered by acknowledging the pressures women have faced during the pandemic. Woodall et al. [52] offer additional evidence of gender disparities in demanding employment scenarios. Similarly, gender-based analysis in the FinTech sector did not yield statistically significant differences, implying comparable opinions between males and females [53]. Although familiarity with technology and susceptibility to external influences are emphasized, empirical evidence did not support the influence of gender differences on suggested relationships. Correspondingly, it is anticipated that gender differences will not significantly impact the performance of both genders in executing academic tasks amid the lockdown, specifically within the context of the Bahraini universities' transition to online education. Based on these considerations, researchers anticipate the absence of gender disparities in confronting the critical impact of Covid-19 on managing work tasks, both within and outside the working environment. More explicitly, the investigation will explore gender differences within relationships involving performance, positive feelings, negative feelings, and self-efficacy.

2-3- Gender Differences in Emotional Reactions

The differences and inequality when expressing emotion through gender lenses and across varied social and physiological paths have been thoroughly investigated in the literature. These studies established differences in gender-specific mechanisms for emitting emotions both biologically and psychologically, despite using a multitude of models, constructs, research designs, and enriched samples in both location and numbers.

From a psychological perspective, several studies found that women are more predisposed to psychiatric disorders such as stress-related disorders, major depression, anxiety, and mood disorders [18–21]. Bangasser. and Wicks [19], further claimed that stress can be similar at baseline but start to diverge following an environmental change that leads to stressor exposure like learning and attention. Such exposures may induce opposing effects between men and women or have a greater effect in one gender compared with the other.

A result that still persists 9 years after the work of Kelly et al. [54] found that stress reactivity differs psychologically but converges physiologically. Negative effects like increased fear, irritability, confusion, and less happiness due to psychosocial stressors are more prevalent among women, however, hormonal reactivity and nerve responses do not reliably discriminate between the genders. Such contrasting emotional engagement during stressful situations may be attributed to the usage of distinct neural networks according to Goldfarb et al. [55], who indicated gender-specific neural stress responses facilitating optimal emotional stress responses.

Nonetheless, their study also did not detect significant differences in emotional stress reactivity or stress regulation between men and women, unlike the results of different scholarly work [18, 20, 56, 57]. Their studies concurred that responses and exposure to psychological distress are gendered, and women have higher vulnerability to

psychopathologies. Bilodeau et al. [56], for instance, found that women are more susceptible to work-to-family conflict, which leads to a higher level of psychological distress, but at the same time have better access to social resources that aid in resolving work-to-family conflict, therefore lowering the level of psychological distress compared to men. These access to better resources could be because women, as indicated by literature [58, 59], are more emotionally supportive and cooperative with others during stressful situations. These tendencies could allow women to effectively manage emotional distress for them and others.

Moreover, Ali et al. [18] showed men and women have different sensitivity to fluctuations in their stress systems. According to Pruessner [20], these varying stress responses coupled with cultural factors contribute to these differences and may make women more likely to develop diseases like autoimmune disorders and dementia, to name a few. Nonetheless, as gender differences in emotional reaction to physiological and psychological distress are established, it is vital to understand that these gender differences are not bound to negative emotions only. It expands to include an array of other emotional responses as indicated by studies including the work of Storek and Furnham [25], where men reported higher confidence in task completion and self-estimated intelligence, [22, 24], where women were better at recognizing emotions, and the work of Deng et al. [23], where men often have more intense emotional experiences, whereas women have higher emotional expressivity.

2-4- Emotional Reactions during the COVID-19 Pandemic

Understanding these gender-specific emotional reactions to different situations is a pivotal step in serving this paper's objectives. This paper will further build on this contextual block by providing a critical analysis of literature that tackled emotional reactions during COVID-19. A comprehensive understanding of emotional reactions within a context-specific instrument, which is the COVID-19 pandemic and its effect on academic faculty performance, will have important scholarly ramifications that will assist in gauging academic action tendencies and potential risk factors during crises more efficiently.

A general outline of the literature reveals that the outbreak caused severe psychological impact in all countries and across genders, age, and professions. In Europe, for example, high rates of negative mental health outcomes like severe anxiety, posttraumatic stress symptoms, and Depressive Disorder were reported in Spain and Italy [60–62]. These psychological burdens were also experienced in China [63], Jordan [64], Sudan and Tanzania [11].

Furthermore, the puzzling differences that are still emerging between male and female were further highlighted during COVID-19. Additional investigation into emotional response to the pandemic from a gender perspective reveals a significant association between the negative mental health outcomes brought upon by the pandemic and the Female gender in most continents [10, 61, 63, 65, 66]. They seem to witness greater psychological impact and higher levels of stress, anxiety, and depression which are consistent with studies mentioned above that women have a higher risk for psychological distress.

These gender-related disparities during the pandemic also extend to what matters most for each gender during such a difficult time. Van Der Vegt & Kleinberg [67] suggested that women were more concerned with health and the well-being of loved ones while men were more worried about the impact the pandemic will have on the economy and society.

These disparities were not merely constrained to emotional reactions but also to coping styles. Hamid et al. [11] examination on the effect of gender on the relationship between distress and coping during the COVID-19 lockdown among university students showed significant gender differences in emotional distress and coping strategies. Women consistently scored higher on distress and avoidance coping compared to men. Their increased emotion-focused coping has helped them decrease distress while such coping mechanisms predicted more distress when used by men. Prowse et al. [68] results also unraveled similar differences in implementing coping mechanisms during the pandemic. Female students have frequently used social media and emotional eating as methods of coping with the pandemic, whereas substance usage was more commonly among male students.

2-5- Emotional Dynamics and Academic Faculty Performance

In the context of teaching and potential gender disparities, the emotional reaction to academic-related stress was consistent across the board before and after the pandemic. A growing body of research has found that teaching staff's occupational stress is widespread across various hierarchies. Excessive pressure and demand around teaching, research productivity, and publication, and other performance metrics contribute to mounting stress and challenges across academia, where women consistently reacted significantly higher in psychological distress than men [9, 27].

Stengård et al. [9, 27] further claimed that higher depressive symptoms reported by female teachers could be attributed to women's higher emotional and quantitative work demands and fewer resources in the home as opposed to their being more vulnerable to workplace stressors. This further suggests that education institutions disproportionately disadvantage women faculty through differential exposure to stressful working conditions, higher work demand, increased unpaid work, and restricted social resources which inherently perpetuates the status quo for women [69]. Using survey data, Elliott & Blithe [69] results indicate that female faculty tend to experience more micro-aggressions and

work-life conflict and less support from management, compared to their male counterparts. Thus, women staff are more exposed to psychological distress and job dissatisfaction.

Another study that focused explicitly on the stress level of online university female educators also showcased the university system itself to be the main source of risk factors [70]. A common theme that is irritated among all three above studies. In the last study, female faculty further reported experiencing mental overload, time pressure, the lack of a schedule, and emotional exhaustion related to the university system and usage of information and communication technology.

Contextualizing these studies has constructed three dimensions. The first dimension revealed differential work exposure and access to resources between men and women which perpetuates the negative emotional tendencies and feelings among women. The second dimension revealed the prevalence of negative emotional reactions that were opposed to proactive reactions during the COVID-19 crises, possibly resulting in psychopathology due to a lack of constructive reaction that could limit the negative consequences of the pandemic. The third dimension revealed a lack of sincere institutional and systemic efforts to tackle the gender disparities that are still common decades after constant reminders by multitudes of studies conducted across different contexts and cultures.

2-6- Hypotheses Development and Research Model

2-6-1- Performance in Achieving Academic Tasks

Performance, a multifaceted construct, is characterized by terms such as outcome, achievement, or the result of specific actions or tasks [71, 72]. The conceptualization of performance varies across contexts, prompting diverse definitions [73]. For instance, Sonnentag & Frese [74] delineated three perspectives on individual performance: individual differences, regulation, and situational perspectives. Similarly, Arslan & Roudaki [73] categorized performance into task performance, contextual performance, and counterproductive work behavior. Cronin's perspective labels performance as “the process of systematically assessing effectiveness against a predetermined norm, standard, or expressed goal” [75]. Moreover, task performance denotes proficiency in executing core job tasks [73, 76, 77]. In alignment, this study emphasizes the teaching staff's task performance, defining it as the expertise and success demonstrated by educators in digitally transforming class content to align optimally and punctually with educational goals set by their institutions. Notably, the link between individual performance, organizational success, and consequences is acknowledged [74]. An individual's contribution within an organization is intertwined with the organization's outcomes, while negative and positive aspects reverberate throughout the individual. Positive management attitudes, equitable regulations, and an encouraging atmosphere impact employees' experiences within the organization. Therefore, it is plausible to empirically connect performance to the proposed antecedents of positive and negative feelings experienced by teaching staff during the pandemic. This investigation is pivotal, given the foundational role of educators in the pedagogical process. Consequently, this research aims to explore teaching staff/lecturers' perceptions of how their emotions—both positive and negative—affect their performance in achieving educational objectives within their institutions.

2-6-2- Positive Feelings Influence on Performance in Achieving Academic Tasks

Within the framework of this study, the influence of positive emotions or feelings (P_Feel) on performance during the Covid-19 pandemic encompasses emotions such as heightened morale, support received from colleagues and management, engagement in social interactions with family, virtual interactions with colleagues, participation in home-based exercise, and exposure to positive news related to the pandemic. These emotions can influence productivity and motivation, driving effective and efficient task completion to meet employer expectations. Literature underscores the role of positive emotions in shaping attitudes toward assigned tasks, fostering enhanced problem-solving and adaptive strategies, particularly in the face of adverse life events [78, 79]. This positivity translates to improved productivity and heightened performance, driven by increased motivation resulting from each life circumstance. Supportive management and heightened morale are linked to heightened motivation and commitment, ultimately contributing to positive and productive performance. This aligns with Arslan & Roudaki [73] assertion that managerial support positively impacts employee performance, enhancing motivation, commitment, and overall demeanor. Furthermore, optimism and positive feelings have been shown to aid in adjusting strategies to mitigate stressors [79]. This, in turn, fosters positive motivation, innovation, and proactive interaction with challenges, consequently elevating productivity. The enduring positive impact of optimism on psychological and physiological well-being is also evident [78]. This positive trait translates to a constructive attitude toward assigned tasks, driving achievements, productivity, and performance. In line with the above arguments, the researchers posit the following hypothesis:

H1. The influence of positive feelings is expected to be positively correlated with task performance during the Covid-19 pandemic.

H1_1. There is an expected absence of significant gender differences among teaching and academic staff regarding the impact of positive feelings on task performance during the Covid-19 pandemic**.**

2-6-3- Negative Feelings Effect on Performance in Achieving Academic Tasks

Within the scope of this study, the impact of negative emotions (N_FEEL) on performance during the Covid-19 pandemic refers to emotions like boredom, stress, fear, anxiety, uncertainty, exhaustion, disappointment, or frustration experienced by teaching staff. These emotions have the potential to hinder productivity and motivation, thereby impacting the ability to efficiently and effectively complete tasks in accordance with employer expectations. The sudden emergence and rapid spread of the coronavirus have brought about devastating consequences for various sectors including business, tourism, industry, education, and government entities. Beyond the evident business impact of this unprecedented pandemic, its repercussions extend to the psychological well-being of individuals within these domains. Extensive research underscores the toll on mental health caused by the Covid-19 outbreak [80–83]. The pandemic has led to varying degrees of mental health challenges among individuals, influenced by factors such as physical health status (e.g., infected or not), caring for the infected, working in the healthcare sector, remote work in diverse industries, and more. Reports from different countries consistently highlight negative emotions like anxiety, depression, stress, and fear as common symptoms during the Covid-19 outbreak [63, 80, 84]. This novel situation necessitates research to explore the side effects and impacts of the Covid-19 pandemic on the psychological well-being of different professionals, including teaching staff at higher education institutions. Gaining insight into these effects is pivotal for devising strategies that mitigate negative consequences, which could otherwise disrupt the learning and teaching processes at higher education institutions. Furthermore, it is contended that employees' behavior is significantly shaped by the atmosphere of their working environments. In other words, certain higher education institutes adopt policies that support, motivate, and recognize diligent staff, fostering a positive behavioral response. Conversely, individuals lacking adequate support, encouragement, promotions, or positive feelings are less likely to be engaged in their work. This argument resonates with Arslan & Roudaki's [73] conceptualization. Consequently, the following hypothesis is formulated:

H2. The effect of negative feelings is expected to negatively correlate with task performance during the Covid-19 pandemic.

H2-1. It is anticipated that there will be no substantial gender-based distinctions observed among teaching and academic staff in terms of the influence of positive emotions or feelings on task performance during the Covid-19 pandemic.

2-6-4- Self-Efficacy Impact on Performance in Achieving Academic Tasks

Grounded in Social Cognitive Theory (SCT) as proposed by Bandura [85], self-efficacy refers to an individual's belief in their capacity to plan and carry out actions necessary for specific tasks while also dealing with potential challenges [72, 86, 87]. In the context of this study, self-efficacy is defined as the teaching staff members' confidence in their abilities, skills, resilience, determination, and competencies to proficiently execute assigned tasks and responsibilities, deliver course content digitally, and excel amid the challenges posed by the Covid-19 pandemic. Beyond its role in predicting motivation and performance, self-efficacy is widely acknowledged as the paramount determinant of one's performance in particular activities [30, 87, 88].

Individuals with low self-efficacy often tend to avoid certain activities, primarily due to a lack of motivation and a limited commitment to achieving their perceived goals. Conversely, individuals with high self-efficacy are inclined to engage in activities with persistence, effort, and unwavering dedication to tackling obstacles. This latter group exhibits an ability to approach situations based on their assessment of their competence in effectively addressing them. Based on these premises, the current study advances the following hypotheses:

H3. It is anticipated that self-efficacy will demonstrate a strong and positive correlation with task performance.

H3-1. It is likely that there will be no notable gender-based disparities in how self-efficacy influences task performance among teaching and academic staff during the Covid-19 pandemic.

3- Research Methodology

3-1- Sampling Method and Data Collection Procedures

Ethical considerations were rigorously addressed in our data collection process. Prioritizing participant privacy, we took proactive measures to safeguard their anonymity and uphold ethical standards. At the outset of the Google Forms survey, the research team implemented an informed consent cover page. This cover page provided a thorough description of the study, emphasizing the voluntary nature of participation, and notifying respondents of their right to withdraw at any time. Crucially, it explicitly stated that no personally identifiable information, including names, telephone numbers, social media accounts, addresses, or emails, was being collected. To further safeguard participant privacy, email collection in Google Forms was deactivated to ensure that no personal information of the respondents was revealed.

In this study, we employed a quantitative survey instrument utilizing a non-probability sampling approach. Our data collection strategy involved a combination of purposive sampling and the snowball technique, specifically targeting

teaching staff members from both public and private universities in Bahrain. Given the constraints posed by the Covid-19 pandemic and the imperative for social distancing, we conducted an online survey using Google Forms to gather responses. To establish the minimum required sample size for our study, considering three exogenous constructs (independent variables) and one endogenous construct, there are several ways to accomplish this task. Hair et al. outlined multiple methods in their book [89], such as:

The Rule of Thumb: This indicates 10 times the maximum number of structural paths pointing to any endogenous construct (i.e., 3 coefficient paths in the current research), yielding 30 observations.

G Power Analysis:* Employing the G*power software analytical tool [90] resulted in a minimum sample size of 82, factoring in a power level of 0.90, an alpha error probability of 0.10, and a medium effect size of 0.15 [89]. Refer to Figure 1 for G*power analytical tool output.

Statistical Power Method by Cohen [91]: This method involved determining the minimum sample size to detect R-square values of 0.10, 0.25, 0.50, or 0.70. Applying this method with the three structural paths in the research model, a power level of 80%, and a 10% level of significance yielded a minimum sample size of 13 observations.

In total, 96 teaching staff members from various public and private universities actively participated in the survey. After stringent data cleaning procedures, we retained a valid dataset comprising 90 responses, resulting in a commendable response rate of 94.3%. This response rate is particularly noteworthy given the challenges associated with online data collection during a pandemic.

It is crucial to note that the sample size of 96 participants represents a significant portion of the available teaching staff within the higher education institutions in Bahrain. To provide context, Bahrain's higher education landscape is characterized by a relatively smaller number of universities compared to larger nations. The institutions in Bahrain tend to have more specialized programs and faculties, resulting in a more concentrated pool of teaching staff.

To ensure the reliability of our collected data, we conducted an initial examination to address the potential concern of Common Method Variance (CMV). This examination employed Harman's single-factor (unrotated) test, based on the premise that the first unrotated factor should explain less than 50% of the total variance. This criterion indicates that CMV is not a significant issue [92]. The results conclusively confirmed that CMV was not a concern, as the variance explained by the first unrotated factor accounted for less than 50% of the total explained variance.

Figure 2 illustrates the overall research methodology flowchart of the current study.

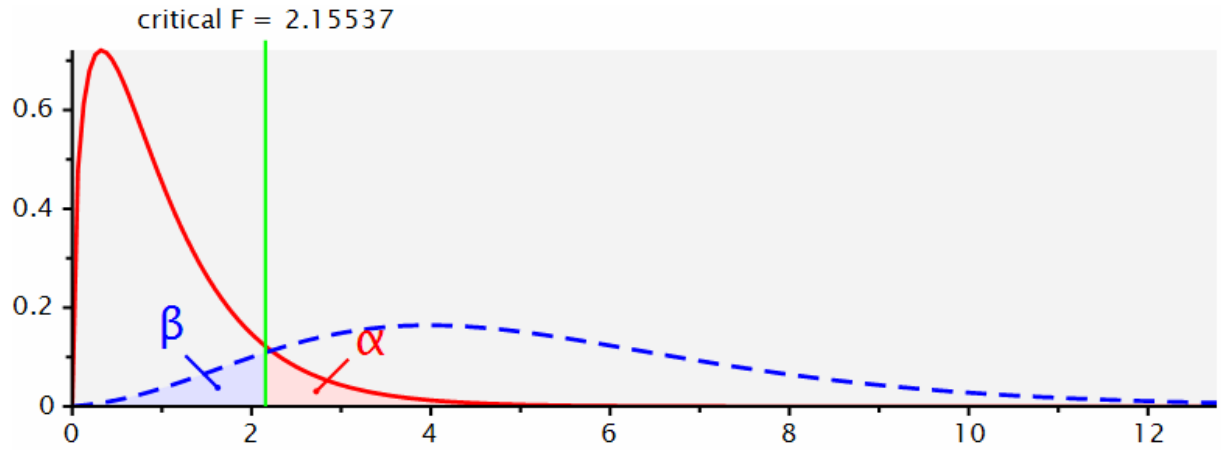

Figure 1. G*Power Sample size output

3-2- SmartPLS (PLS-SEM) as an Analytical Research Tool

The utilization of Partial Least Squares Structural Equation Modeling (PLS-SEM) in our study holds significant importance in facilitating the exploration of gender differences in emotional states and task performance within our research framework. PLS-SEM was deliberately selected to align with the specific characteristics of our research context and objectives, given its suitability for studies with complex models, small sample sizes, and an exploratory focus on predicting latent constructs [89, 93, 94].

PLS-SEM offers several advantages in our context, notably its flexibility in handling non-normal data distributions and its ability to model latent variables with fewer distributional assumptions [94]. Unlike classic Confirmatory Factor Analysis (CFA), where the emphasis lies in assessing the fit of a pre-specified model, PLS-SEM is particularly useful for exploring and validating theoretical constructs in a predictive manner, which aligns with our research objectives [95]. Moreover, PLS-SEM's dual focus on explanation and prediction-oriented model assessments is well-suited to our

exploratory and prediction-oriented study. This allows us to comprehend emerging and complex relationships and predict latent constructs within our conceptual framework, including understanding gender differences in emotional states and task performance [96, 97]. Furthermore, the PLS-SEM framework permits us to assess the complex interrelationships among variables without assuming strict causal structures, which is particularly valuable for our exploratory research nature [89]. This flexibility enables us to extract valuable insights into latent variable relationships and refine our model accordingly.

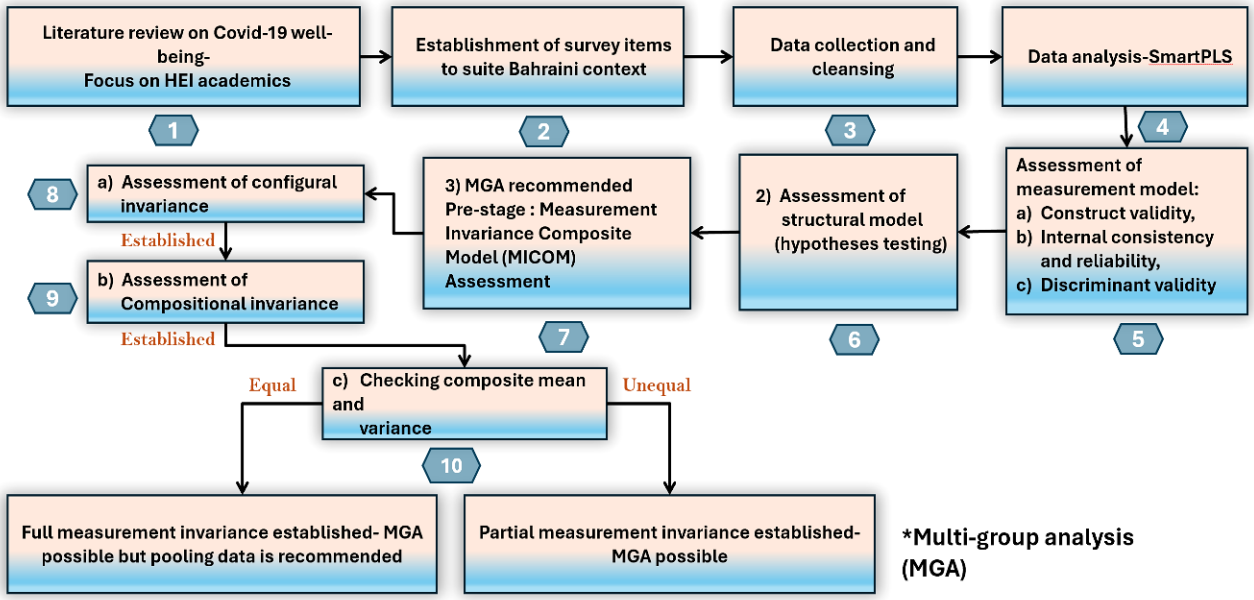

Figure 2. Overall research methodology flowchart

When employing structural equation modeling (SEM), making comparisons between groups may lead to misinterpretations unless researchers confirm the consistency of their measures. Scholars across various fields must evaluate the uniformity of measurements prior to conducting analyses involving multiple groups to guarantee the validity of outcomes and conclusions [95]. Hence, to further enhance the rigor of our analysis, we adhere to the measurement invariance of composite models (MICOM) procedure recommended by Henseler et al. [95]. This procedure involves configural invariance, compositional invariance, and equality of composite mean values and variances, ensuring validity outcomes and conclusions when examining gender differences. By following this coherent procedure, we aim to provide robust findings and conclusions that can be relied upon in academic work, as recommended by Hair et al. [89] and Henseler et al. [95].

In summary, our decision to employ PLS-SEM aligns closely with the specific goals and characteristics of our study, emphasizing prediction and exploration over strict model fit comparisons typically associated with CFA. This approach enables us to explore and validate gender differences in emotional states and task performance effectively within our research framework.

3-3- Measurements Survey Instrument

Prior to conducting the definitive survey, an initial version of the questionnaire was shared with scholars and specialists in questionnaire development to solicit feedback regarding question phrasing, suitability, comprehensiveness, ease of understanding, and overall survey format. Following this valuable input, the revised survey was then disseminated to academics employed in both public and private higher education institutions. The survey employed a five-point Likert scale, spanning from (1) strongly disagree to (5) strongly agree, for all items included in the model.

The construct Performance in achieving academic tasks (PERP) was adapted from existing literature [76], encompassing 5 items denoted as PERP1 to PERP5, for example “During the COVID-19 pandemic, I managed to plan transformation of my classes into digital media/live streaming using remote tools so that it is done on time”. Self-efficacy (SEF) consisted of 7 items, with two items (SEF1 and SEF2) adapted from previous research [99, 100], as an example “During the COVID-19 pandemic, I am capable of using online teaching methods to deliver course content”. The additional 4 items (SEF3-SEF7) were developed to capture dimensions such as technical skills, intellectual capabilities, background knowledge, patience, strong motivation for digital methods, and effective course delivery during the Covid-19 pandemic, for instance, “ During the COVID-19 pandemic, I have the intellectual capability to understand, learn, or use online teaching methods“.

For the constructs of positive and negative feelings during the Covid-19 pandemic, two scales were developed: P_Feel (P_Feel1-P_Feel6) and N_Feel (N_Feel1-N_Feel10). These items were created by the authors to address the specific needs of investigating the Covid-19 outbreak's impact on teaching staff in Bahrain. For example, "During the COVID-19 pandemic, I feel cheerful when hearing good news of decreasing numbers of infected people". The P_Feel scale encompassed domains such as support from colleagues or the institute, interaction with family members, feelings towards the reduction of infection cases, and social interactions using various applications.

Conversely, the N_Feel scale covered domains like stress, exhaustion, depression, frustration, anxiety, fear, uncertainty, anger, disappointment, and boredom experienced during the Covid-19 lockdown and social distancing measures, for instance, "During the COVID-19 pandemic, I envisioned losing my job and financial burden". The Smart PLS M3 software, based on Partial Least Squares-Structural Equation Modeling (PLS-SEM), developed by Ringle et al. [101], was employed to assess the measurement model. The results led to the exclusion of certain items due to discriminant validity issues (PERP5, SEF7, P_Feel3, and N_Feel1). The retained items totaled 24 out of the original 28 items, see Appendix I for item details.. Additional details regarding the measurement model are discussed in the forthcoming results and discussion section.

3-4- Data Analysis, Findings, and Discussion

3-4-1- Respondents' Profile

The distribution of respondents across various demographic categories provides valuable insights into the composition of the sample, offering a foundation for interpreting the results presented in Table 1.

Table 1. Respondents' demographics

Attribute	Frequency	Percent%
Gender		
Male	46	51%
Female	44	49%
Total	90	100%
Age Group		
1. 26-33	33	37%
2. 34-41	19	21%
3. 42-49	26	29%
4. 50-57	9	10%
5. Above 57	3	3%
Total	90	100
Experience		
1. Less than 3 years	21	23%
2. 3-7 years	17	19%
3. 8-12 years	16	18%
4. 13-17 years	16	18%
5. More than 17 years	20	22%
Total	90	100%
Academic Degree		
1. Diploma	12	13%
2. Bachelors' Degree	0	0%
3. Master's Degree	12	13%
4. Ph.D. Degree	19	20%
5. Post Doctorate	48	53%
Total	90	100%

Analyzing the gender distribution reveals a near-equal representation, with 51% male and 49% female respondents, Figure 3. This balance ensures robust representation from both genders, facilitating a comprehensive examination of gender differences in performance among academic staff in Bahraini higher education institutions (HEIs).

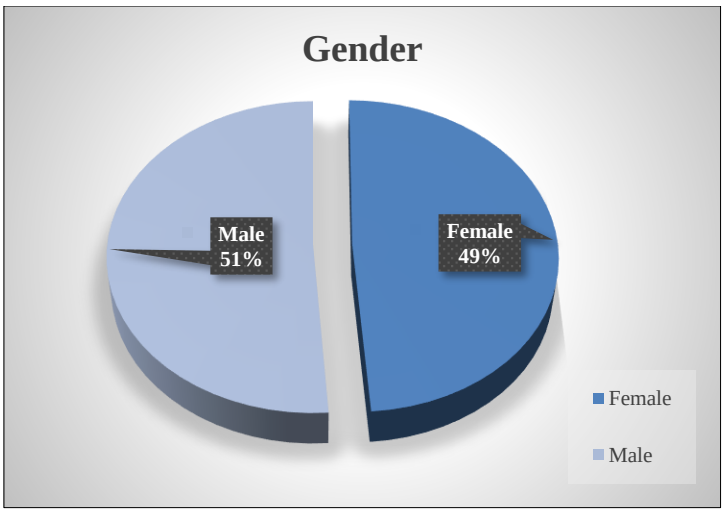

Figure 3. Gender distribution

Examining the age groups within the sample, it's evident from Figure 4 that the majority of respondents fall within Group 1 (26-33 years), comprising 37% of the sample. This youthful demographic indicates a predominant presence of early to mid-career academic professionals, with Group 3 (42-49 years) representing the next significant cohort at 29%. Conversely, Groups 4 (50-57 years) and 5 (above 57 years) exhibit lower representation at 10% and 3%, respectively. Understanding the distribution across age groups allows for insights into how performance outcomes may vary across different career stages and life phases among academic staff.

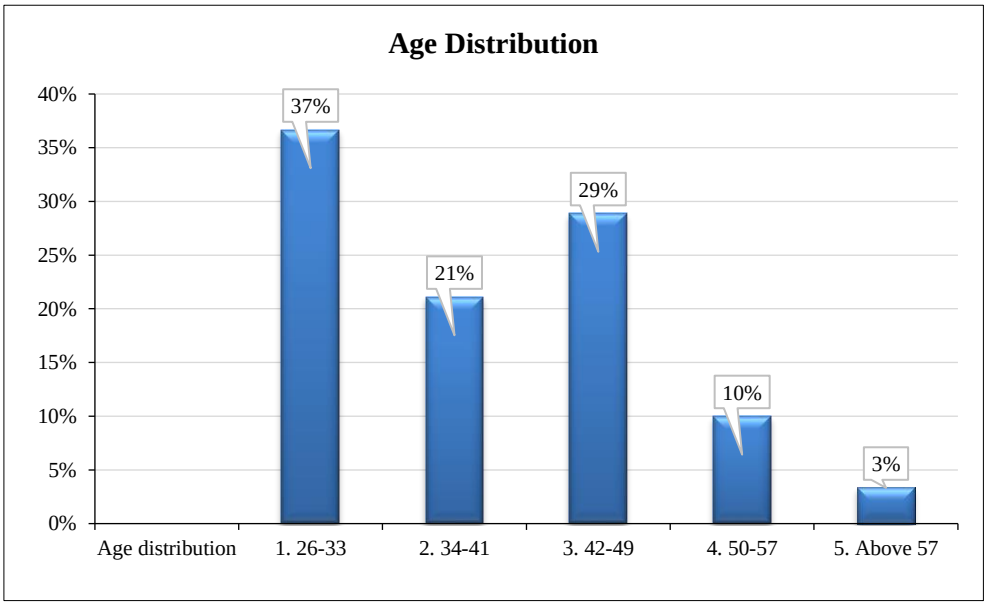

Figure 4. Age distribution

In terms of experience levels, as can be seen in Figure 5, the largest proportion is found in Group 1 (less than 3 years), constituting 23% of the sample, followed closely by Group 5 (More than 17 years) at 22%. Interestingly, Group 2 (3-7 years) follows with 19% representation, highlighting a diverse range of experience levels within the sample. Conversely, Groups 3 (8-12 years) and 4 (13-17 years) demonstrate the lowest representation percentage, indicating a relatively balanced distribution across different tenure categories. Analyzing experience levels provides insights into the potential influence of tenure on performance outcomes among academic staff.

Turning to academic degrees, it's notable that no respondents hold bachelor's degrees, suggesting a focus on recruiting highly qualified individuals with advanced academic credentials in Bahraini HEIs. The highest proportion of academic distribution is among post-doctorate holders at 53%, underscoring the academic expertise and qualifications of the sample. This substantial representation of post-doctoral degrees, along with 20% possessing Ph.D. degrees, emphasizes the prevalence of advanced qualifications among academic staff in Bahraini HEIs. Understanding the distribution of academic degrees among respondents is crucial for interpreting performance outcomes and identifying the role of qualifications in shaping academic staff performance. Figure 6 illustrates the academic degree distribution.

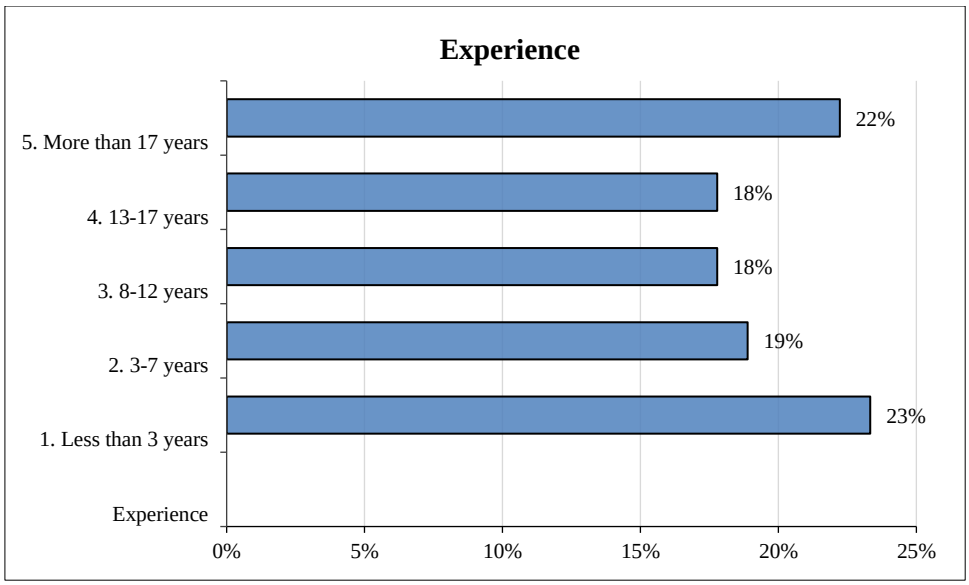

Figure 5. **Experience of respondents**

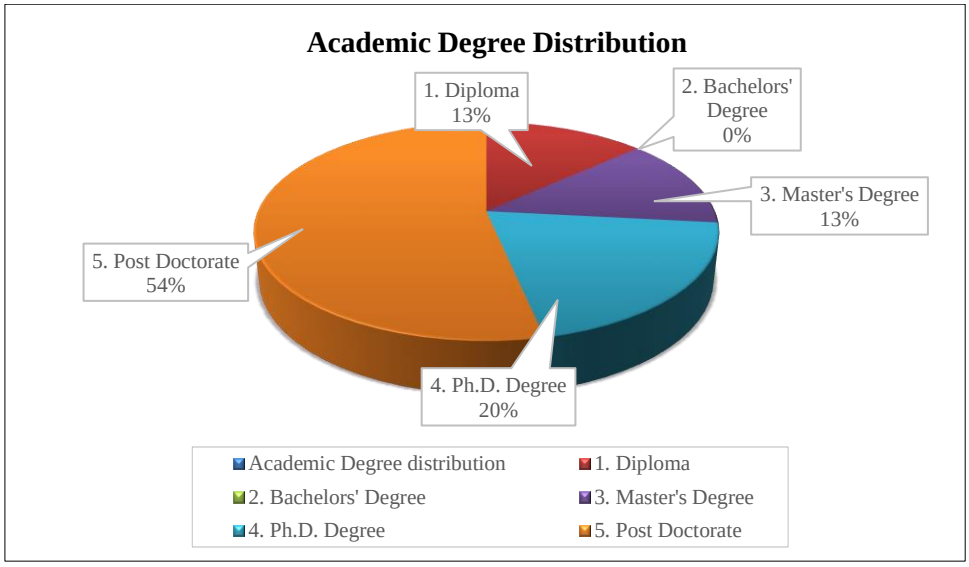

Figure 6. **Respondents' academic degree distribution**

3-4-2- Measurement Model Evaluation

As an initial phase, the measurement model undergoes a thorough evaluation. Several essential criteria require scrutiny as a preliminary procedure in PLS-SEM prior to conducting hypothesis testing or engaging in the assessment of the structural module. To elaborate, the assessment begins with evaluating convergent validity using the Average Variance Extracted (AVE) metric, where a minimum AVE value of 0.5 is deemed acceptable. Additionally, the items' loadings are evaluated against a threshold of 0.6 [102]. It is important to note that during the developmental stage of a scale, values around 0.5 or 0.6 are considered acceptable if alternative indicators exist for the same construct.

As demonstrated in Table 2, all items exhibit loadings surpassing the 0.6 threshold, with the exception of four items: N_Feel1, P_Feel3, PERP5, and SEF7, which fall below the recommended loading thresholds. Furthermore, issues arise in the Fornell-Larcker criterion of discriminant validity for items SEF7 and PERP5, necessitating their removal. The AVE values for Latent Variables (LV) span the range of 0.56 to 0.69, decisively establishing the presence of convergent validity for the items detailed in Table 2.

Proceeding, the evaluation extends to internal consistency and reliability. Composite Reliability (CR) is recommended to reach or exceed 0.7, and Cronbach's alpha (α) should not fall below the range of 0.60 to 0.70 for all constructs within the model [89, 103]. Upon inspecting the CR values, it is evident that all latent constructs meet or exceed the prescribed CR thresholds. Moreover, the range of Cronbach's alpha (α) values falls between 0.81 and 0.91, with specific values provided in Table 2. These preliminary findings collectively affirm the constructs' validity and reliability.

Table 2. Internal consistency and reliability and convergent validity

Latent construct	Items	Loadings	AVE	CR	Cronbach's alpha
N_Feel	N_Feel2	0.61	0.55	0.91	0.90
	N_Feel3	0.78			
	N_Feel4	0.82			
	N_Feel5	0.75			
	N_Feel6	0.76			
	N_Feel7	0.72			
	N_Feel8	0.77			
	N_Feel9	0.73			
	N_Feel10	0.69			
P_Feel	P_Feel1	0.82	0.57	0.87	0.81
	P_Feel2	0.77			
	P_Feel4	0.77			
	P_Feel5	0.62			
	P_Feel6	0.80			
PERP	PERP1	0.86	0.69	0.90	0.85
	PERP2	0.82			
	PERP3	0.76			
	PERP4	0.89			
SEF	SEF1	0.84	0.69	0.93	0.91
	SEF2	0.80			
	SEF3	0.84			
	SEF4	0.85			
	SEF5	0.80			
	SEF6	0.85			

Note: AVE: Average Values Extracted; CR: Composite Reliability.

In the last step of the measurement model evaluation, the discriminant validity is checked and there are three key procedures undertaken in order to proceed with the hypothesis's analysis. Firstly, Fornell-Larker criterion [104] is scrutinized where the square root of AVE in the diagonal should be greater than all off-diagonal values [89]. As can be seen in Table 3, this measure is met.

Table 3. Discriminant validity with Fornell-Larker criterion analysis

Latent construct	1	2	3	4
1. N_Feel	**0.74**			
2. PERP	-0.54	**0.83**		
3. P_Feel	-0.41	0.70	**0.76**	
4. SEF	-0.41	0.77	0.64	**0.83**

In the second step of evaluation, the cross-loadings' values of all items within their respective constructs must correlates higher than with other constructs to achieve the discriminant validity. Referring to Table 4, the results is in congruent with the above requirements. In the third step, discriminant validity HTMT evaluated and results aligned with the recommendations and guidelines of [89, 98] (see Table 5).

Table 4. Cross-loading analysis and discriminant validity evaluation

	N_Feel	PERP	P_Feel	SEF
N_Feel2	**0.61**	-0.49	-0.21	-0.23
N_Feel3	**0.78**	-0.37	-0.33	-0.27
N_Feel4	**0.82**	-0.33	-0.3	-0.34
N_Feel5	**0.75**	-0.43	-0.3	-0.47
N_Feel6	**0.76**	-0.47	-0.15	-0.14
N_Feel7	**0.72**	-0.32	-0.4	-0.2
N_Feel8	**0.77**	-0.42	-0.22	-0.24
N_Feel9	**0.73**	-0.27	-0.39	-0.38
N_Feel10	**0.69**	-0.49	-0.35	-0.34
PERP1	-0.47	**0.86**	0.62	0.72
PERP2	-0.35	**0.82**	0.60	0.64
PERP3	-0.47	**0.76**	0.62	0.5
PERP4	-0.52	**0.88**	0.49	0.69
P_Feel1	-0.33	0.58	**0.82**	0.43
P_Feel2	-0.38	0.5	**0.77**	0.42
P_Feel4	-0.19	0.46	**0.77**	0.58
P_Feel5	-0.29	0.48	**0.62**	0.48
P_Feel6	-0.35	0.59	**0.80**	0.54
SEF1	-0.34	0.6	0.61	**0.84**
SEF2	-0.25	0.58	0.47	**0.80**
SEF3	-0.26	0.57	0.54	**0.84**
SEF4	-0.37	0.71	0.5	**0.85**
SEF5	-0.38	0.64	0.59	**0.80**
SEF6	-0.42	0.71	0.5	**0.85**

Table 5. Discriminant validity with Heterotrait-Monotrait Ratio analysis

Latent construct	Path coefficient	Mean (M)	CI LL 2.5%	UL 97.5%
PERP → N_Feel	0.60	0.6	0.36	0.8
P_Feel → N_Feel	0.47	0.49	0.25	0.68
P_Feel → PERP	0.84	0.83	0.61	0.97
SEF → N_Feel	0.43	0.45	0.24	0.65
SEF → PERP	0.86	0.86	0.71	0.95
SEF → P_Feel	0.76	0.75	0.52	0.91

Note: LL: lower limit; UL: upper limit; CI: confidence interval with Bias Corrected in bootstrapping routine.

Therefore, the outcomes of the three distinct measurement analyses collectively affirm the validity of the estimated constructs. Consequently, the model's convergent validity, internal consistency reliability, and discriminant validity are all deemed sufficient, allowing us to advance to the subsequent section for the analysis of the structural model, as determined by the preceding evaluation methods. Additionally, for illustrative purposes, Figure 7 visually presents the measurement model output generated using the SmartPLS M3.3 analytical package.

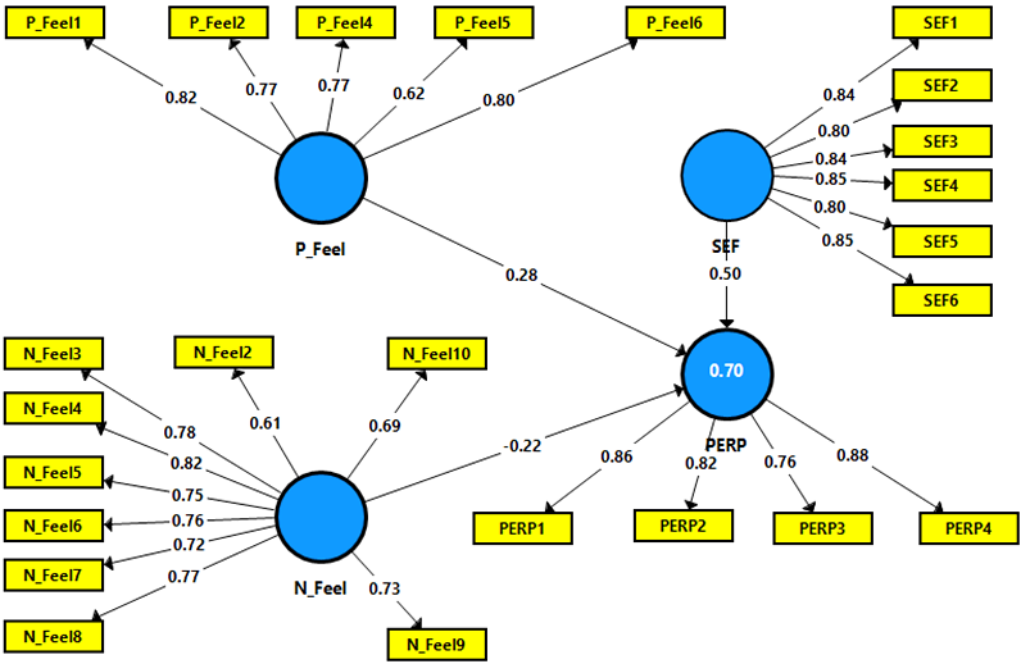

Figure 7. Measurement Model Results

3-4-3- Structural Model Assessment and Hypothesis Testing

First of all, and before proceeding with the hypotheses, the collinearity for the inner model is analyzed to confirm that they are not violating the issues of collinearity [89, 105]. Table 6 displays the results and indicates that no construct has a VIF (i.e., Variance Inflation Factor) value more than five, indicating that collinearity is not an issue in the proposed model.

Table 6. Collinearity issues with VIF analysis

Latent Variable	PERP
N_Feel	1.26
P_Feel	1.79
SEF	1.78

Following this, we assessed the coefficient of determination, often referred to as in-sample predictive power (R^2), for each endogenous construct within our examined model. Each predictor construct, whether exogenous or independent, influences its corresponding endogenous or dependent construct. In line with established literature [102], we adopted recommended R^2 cutoff values of 0.67, 0.33, and 0.19 to denote substantial, moderate, and weak explanatory power, respectively. It's important to note that R^2 quantifies the extent to which the endogenous construct's variance is accounted for by the exogenous constructs, thus serving as a measure of the model's in-sample predictive accuracy [105].

Furthermore, we evaluated the corresponding effect size, denoted as f^2. In the context of PLS-SEM, the effect size (f^2) for R^2 is computed as follows:

$$f^2 = R^2 / 1 - R^2 \quad (1)$$

This formula helps quantify the proportion of variance in an endogenous latent variable (dependent construct) explained by its predictors (independent constructs) Hair et al. [89]. The interpretation of the effect size (f^2) aligns with the coefficient of determination (R^2). The values of f^2 are categorized as follows:

- Small effect size: 0.02
- Medium effect size: 0.15
- Large effect size: 0.35

These thresholds, as mentioned by Hair et al. [89], provide a guide for assessing the practical significance of the R^2 values. The effect size helps researchers understand the substantive impact of the predictors on the endogenous construct. A larger f^2 indicates a more substantial contribution of the predictors to the variance in the dependent variable. These results are presented comprehensively in Table 7. Notably, the model explains a substantial proportion of the variance

in PERP (R^2 = 70%) through the collective influence of the three antecedents—SEF, N_Feel, and P_Feel—within the proposed framework. This outcome is particularly promising given the exploratory nature of this study. Moreover, the f^2 effect sizes, ranging from moderate to large, for P_Feel, N_Feel, and SEF further underscore their respective roles. This notably highlights the pivotal impact of SEF on the performance of teaching staff, particularly in the context of delivering academic content amidst challenging circumstances like the Covid-19 pandemic, which significantly affects human behavior. The findings also reveal that N_Feel's influence on PERP surpasses that of P_Feel during the coronavirus outbreak, shedding light on the dominant role of negative feelings in shaping task performance and goal attainment during times of adversity and heightened infection risks. It's noteworthy that prior to the pandemic, traditional teaching methods were the norm, requiring comparatively less effort and planning than the rigorous transformation necessitated by the transition to digital media and live streaming during the Covid-19 crisis. This transformation demanded substantial additional effort, with planning and execution becoming more intricate and time-consuming. In the traditional teaching paradigm, delivering course content was routine for educators, given their mastery of established teaching methods. However, the sudden shift demanded upskilling to accommodate new educational requirements and modalities. This shift, while challenging, brought about accumulated experiences for academic and teaching staff. Significantly, the initial phase of digital transformation was strenuous, but over time, the learning curve improved, and efficiency increased as staff adapted to new techniques and identified key strategies for success. In summation, Covid-19 profoundly altered lifestyle and work patterns, presenting not only challenges but also opportunities for enhanced thinking and behavior adaptation.

Table 7. Coefficients of determination R^2 and effect size f^2

Latent Constructs	PERP
Coefficient of Determination R^2	0.70
Effect size f^2	
N_Feel	0.13
P_Feel	0.15
SEF	0.46

The subsequent step involved evaluating the statistical significance and strength of the proposed relationships within the model. In this explorative study, a significance level of $p < 0.10$ was considered, along with a corresponding t-value of 1.65 with two tails [89]. To begin, the assessment of P_Feel against hypothesis H1 was conducted. As evident from Table 7, the results unveiled a notably positive correlation between P_Feel and PERP ($\beta = 0.28$, $p < 0.05$, $t = 2.74$). Upon examining the 97.5% Confidence Interval (CI) using Bias Corrected and Accelerated bootstrapping settings, the findings reinforced the robust and statistically significant influence of SEF on PERP. Notably, the lower limit (LL) and upper limit (UL) did not encompass the zero value, aligning with the t statistics and earlier mentioned p values. Thus, this provides further substantiation for the significance of the hypothesized relationships in this study, confirming the support for **H1.** Interpreting these results, the positive feelings harbored by teaching staff appeared to have a constructive impact on their performance in achieving pedagogical goals, especially during the challenging circumstances brought about by the coronavirus pandemic. Such positivity facilitated adaptive strategies, helping to mitigate stress, boredom, frustration, and other adverse emotions that can arise during such difficult times [79]. Moreover, these positive feelings likely drove enhanced judgment and resilience in the face of adversity, ultimately enhancing productivity. Prior research has highlighted the influence of optimism on psychological and physiological well-being [78], which is crucial for sustained productivity and performance across various tasks. Additionally, the presence of supportive management, as emphasized in studies like Arslan & Roudaki [73], can contribute to enhanced employee morale, motivation, and ultimately, performance. Thus, engagement in positive activities such as virtual interactions with family and colleagues, as well as pursuing personal interests even amid the pandemic, can have positive effects on motivation and productivity.

Moving on, as indicated in Table 8, the relationship N_Feel → PERP was found to be statistically significant, displaying a negative correlation with values of $\beta = -0.22$ and corresponding p values of ($p < 0.05$, $t = 3.33$). When assessing the confidence interval with Bias Corrected and Accelerated bootstrapping, the absence of zero values in both lower (LL) and upper limits (UL) reinforced the conclusion of a significant correlation within this relationship. This lends support to hypothesis **H2**. These findings align with a substantial body of research that underscores the adverse impact of the Covid-19 outbreak on individuals' mental health [80–83], resulting in negative feelings and pessimism that can hinder adaptive strategies and problem-solving in the face of challenges [78, 79].

The negative feelings experienced during the pandemic, encompassing boredom, stress, fear, anxiety, uncertainty, exhaustion, disappointment, and frustration, are unsurprisingly linked to a decrease in task performance. It's worth noting that the extensive efforts required in the educational sector, such as transitioning to online teaching and adapting to new pedagogical methods, could have contributed to these negative feelings, potentially affecting work engagement, as also suggested by Arslan & Roudaki [73]. Nonetheless, this result underscores the teaching staff's perception of how negative

feelings influence their job task performance and their ability to achieve the organizations' pedagogical objectives in the context of this study. Lastly, the results depicted in Table 9 emphasize that SEF had the most substantial impact on PERP, displaying a notably positive value of ($\beta = 0.50$) that was statistically significant ($p < 0.05$, $t = 5.82$). Upon inspecting the 97.5% Confidence Interval (CI) using Bias Corrected and Accelerated bootstrapping, the findings once again underscored the robust and statistically significant influence of SEF on the core target construct (PERP), evident by the LL and UL values not crossing the zero threshold, thus aligning with the earlier t statistics and p values. This further bolsters the significant role of SEF in the SEF → PERP relationships, confirming **H3**.

Furthermore, these results accentuate the dominant influence of SEF compared to other factors within the suggested model, especially regarding performance in achieving lecturers' tasks and pedagogical goals amid challenging circumstances. This is reinforced by the highest correlation of SEF on PERP, as well as its effect size. Moreover, this outcome underscores the pivotal role of self-efficacy in enhancing performance and motivation, as emphasized in previous literature [87, 88]. SEF reflects the teaching staff's belief in their capabilities, competencies, patience, unwavering determination, and intellectual prowess to accomplish assigned tasks and deliver digital course content, despite the unprecedented challenge posed by the sudden emergence of the coronavirus. This finding aligns with Bandura's [85] and Zimmerman et al.'s [106] research, highlighting the connection between self-efficacy and predictive outcomes and performance [107].

Table 8. Path coefficient and hypotheses testing

Path	Path Coefficients	Sample Mean (M)	Standard Deviation (STDEV)	t Statistics	p Values	LL CI	UL CI
						2.5.0%	97.5.0%
N_Feel → PERP	-0.22	-0.23	0.07	3.33	0.00***	-0.35	-0.09
P_Feel → PERP	0.28	0.28	0.01	2.74	0.01**	0.07	0.48
SEF → PERP	0.50	0.49	0.09	5.82	0.00***	0.35	0.69

Note: CI: confidence interval; LL: lower limit; UL: upper limit. *** $p < 0.00$; ** $p < 0.01$; * $p < 0.05$

3-4-4- Predictive Relevance Q^2

Difference between Q^2 and R^2

Q^2 and R^2 serve distinct purposes in PLS-SEM. R^2 measures the variance explained within the sample, while Q^2 evaluates the model's ability to predict new, unseen data. These indices provide complementary insights into model performance. The terms "Sample Squared Observation (SSO)" and "Sample Squared Prediction Error (SSE)" in Table 9 represent specific metrics generated by SmartPLS. While they may not align with traditional categories like residual variance (RSS) and observed sum of squares (OSS), they serve a similar purpose in the context of predictive relevance assessment. SSO reflects the sum of squared values for observed data, and SSE represents the sum of squared prediction errors.

3-4-5- Results of Predictive Relevance Q^2

In advancing the research analyses, an evaluation of predictive relevance (Q^2) was conducted for each endogenous construct in the research model. Q^2 assesses the model's effectiveness in predicting original observed values, with the recommended range of the statistic falling between zero and one [94]. To augment the Q^2 results, effect sizes q^2 were also computed, offering deeper insights into the predictive relevance of our model. The outcomes are presented in Table 9, which includes a cross-validated redundancy value of 0.46, indicating the predictive relevance of our study's model.

Specifically, the effect size q^2 was determined with predefined cut-off values designating small (0.02), medium (0.15), and large (0.35) effect sizes [89]. Examining Table 9 reveals that SEF exhibits the most substantial effect size ($q^2 = 0.19$), placing it within the moderate effect size category. Following this, N_Feel demonstrates a weak effect size ($q^2 = 0.07$), and P_Feel also signifies a weak effect size ($q^2 = 0.06$). These outcomes contribute further support to the model's adequacy and align with the findings derived from path coefficient analysis.

Table 9. Predictive relevance Q^2

Latent Variable	SSO	SSE	Predictive Relevance	Effect size Q^2
			Q^2 (=1-SSE/SSO)	
N_Feel	810	810		0.07
PERP	360	196.02	0.46	
P_Feel	450	450		0.06
SEF	540	540		0.19

Note: SSO: Sample Squared Observation; SSE: Sample Squared Prediction Error.

To conclude this section, Figure 8 depicts all the hypothesized relationships together with their related path coefficients (Beta values) and significance levels (p values). In addition, a summary of the testing of hypotheses is shown in Table 10.

Table 10. Summary of hypotheses testing

Hypothesis No.	Hypothesis	Support
H1	P_Feel→ PERP	Supported
H1_1	No gender differences in P_Feel→ PERP	Supported
H2	N_Feel→ PERP	Supported
H2_2	No gender differences in N_Feel→ PERP	Supported
H3	SEF→ PERP	Supported
H3_3	No gender differences in SEF→ PERP	Supported

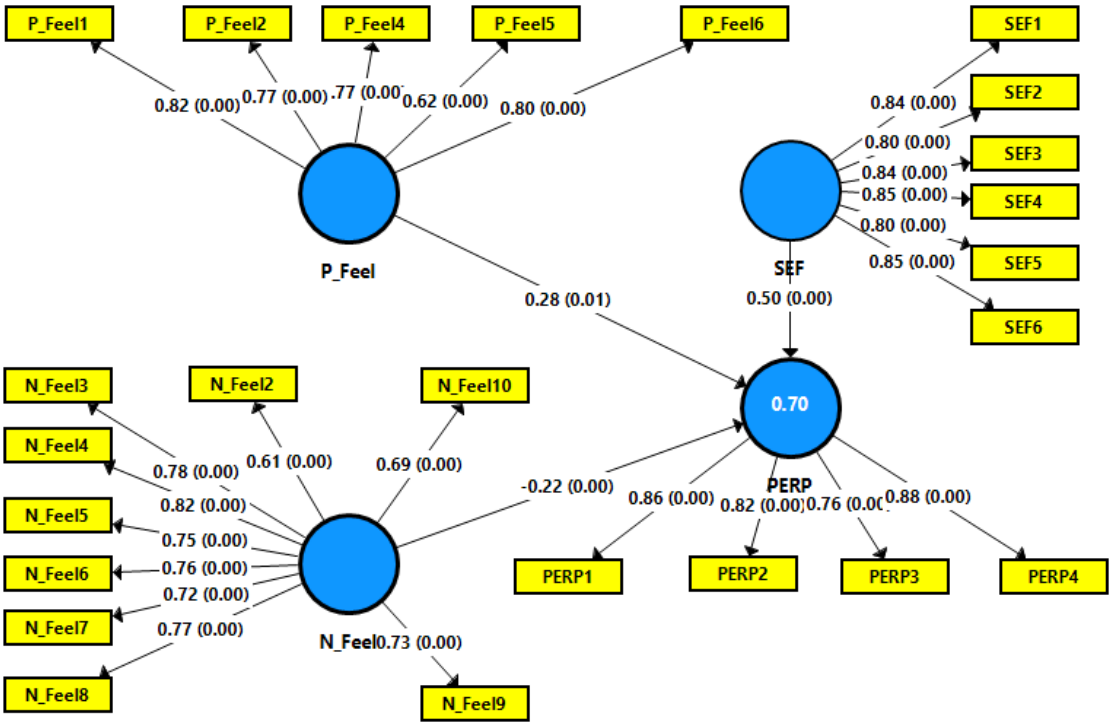

Figure 8. Structural model assessment

Gender Differences Analyses

When examining the literature, it becomes evident that the outcomes of gender discrepancies can be contradictory, varying across different contexts and fields of study. For instance, Todd and Melancon (2018) found noteworthy gender differences in the relationships of diverse variables concerning live broadcasters. Similarly, research conducted by De Pater et al. [108] revealed that women tend to encounter fewer challenging job experiences and engage in fewer demanding tasks in achievement-oriented situations. Yuan et al. [48] explored m-banking in the Chinese context, uncovering gender as a moderating factor in the perceived risk affecting continuance intention. In our study, determining potential gender differences necessitates an assessment of measurement invariance. Following established guidelines in the literature [95, 109], we conducted an analysis of measurement invariance. This process involves three critical steps within the Composite Model (MICOM) framework as a prerequisite for subsequent multigroup analysis: configural invariance, compositional invariance, and equality of composite mean values and variances. Configural invariance, the first step, is established when the following conditions are met, as per Henseler et al.'s [95] guidelines: a) the same indicators are employed for each measurement model across different groups within the dataset, with consideration for face or expert validity; b) consistent data treatment procedures are employed across groups encompassing coding, re-coding, outlier management, handling missing values, and standardization; and c) uniform algorithm settings or optimization criteria are applied across groups in SmartPLS. Our adherence to these criteria supports the assertion that configural invariance is achieved within the proposed model for both male and female groups.

Moving to step 2, compositional invariance ensures that condensed indicators retain uniformity across groups. This is accomplished by utilizing fixed indicator weights for all groups, with the correlation between composite scores not

significantly deviating from 1. The assessment of this correlation value (c) employs a non-parametric permutation test, a feature of the SmartPLS 3.3 package. When the original data's correlation (c) values fall within the confidence interval or surpass the 5% quantile, it indicates that no significant deviation from a correlation value of 1 exists. Consequently, compositional invariance within the model is affirmed. Both step 1 and step 2 are crucial prerequisites for proceeding to the equality of mean values and variances test. If the confidence interval of the difference between the mean values and variances contains zero, full measurement invariance is assumed, allowing for data pooling. Conversely, if these conditions aren't met, partial measurement invariance is assumed, rendering multigroup analyses a possibility. It's worth noting that in cases where neither mean values nor variances exhibit agreement, separate analysis for each group is required without intergroup comparisons. As demonstrated in Table 2, our results indicate the assumption of full measurement invariance. Consequently, data pooling is considered appropriate, rendering the need for multigroup analysis (MGA) unnecessary based on the obtained results (Henseler et al., 2016). However, it's pertinent to mention that despite full measurement invariance, MGA can still be conducted for additional insights, in accordance with the guidelines proposed by Hair et al. [89]. This approach aims to provide a more comprehensive understanding of gender differences and foster increased confidence in the outcomes obtained.

Table 11. MICOM results

Composite (Step 1)	**Configural Invariance, established?**			
N_Feel	Yes			
PERP	Yes			
P_Feel	Yes			
SEF	Yes			
Composite (Step 2)	**Original correlation c value (= 1)**	**5% quantile of cu**	**Permutation p value**	**Compositional invariance?**
N_Feel	0.99	0.84	0.55	Yes
PERP	1.00	0.99	0.66	Yes
P_Feel	1.00	0.98	0.58	Yes
SEF	1.00	1.00	0.29	Yes
Composite (Step 3a)	**Difference of the composite's mean value (= 0)**	**95% confidence interval**	**Permutation p value**	**Equal mean values?**
N_Feel	0.10	[-0.43– 0.39]	0.64	Yes
PERP	0.23	[-0.42–0.44]	0.30	Yes
P_Feel	-0.14	[-0.46 – 0.41]	0.53	Yes
SEF	0.00	[-0.44 – 0.41]	0.98	Yes
Composite (Step 3b)	**Logarithm of the composite's variances ratio (= 0)**	**95% confidence interval**	**Permutation p value**	**Equal variances?**
N_Feel	-0.25	[-0.77- 0.73]	0.54	Yes
PERP	-0.24	[-1.31 – 1.34]	0.77	Yes
P_Feel	0.47	[-0.91 – 0.86]	0.34	Yes
SEF	-0.38	[-1.04 – 1.03]	0.46	Yes
(Partial/Full) measurement invariance?				
N_Feel	N_Feel	N_Feel		N_Feel
Yes (Full measurement invariance)	Yes (Full measurement invariance)	Yes (Full measurement invariance)	Yes (Full measurement invariance)	Yes (Full measurement invariance)

The outcomes of the Permutation test within the MICOM framework suggest that there are no discernible significant variations between males and females across the various relationships. It's important to note that the results of permutation tests were cross-referenced and compared with the findings from the Multigroup Analysis (MGA). With measurement invariance established, a multigroup analysis (MGA) was conducted to explore potential gender differences. In the assessment of group-specific path model estimations within the PLS-MGA framework, specific criteria were taken into consideration. Specifically, if values fell below a significant threshold of < 0.05 or exceeded > 0.95 [89], gender-based differences were deemed to be present. Conversely, if these criteria weren't met, a lack of significant difference was assumed, thereby warranting the pooling of data to capitalize on statistical robustness in the results. As evidenced in Table 12, the findings demonstrate no statistically significant discrepancies within the relationships postulated when comparing genders. Furthermore, the comprehensive analysis encompassing various tests in Table 3 lends additional confidence to the observed results, reinforcing the absence of gender-based distinctions across the relationships studied. For instance, considering the relationship between Negative Feelings (N_Feel) and

Performance (PERP), the results validate the absence of gender disparities in the impact of negative emotions on academic and teaching staff's task performance, thereby corroborating H2_2. This underscores that negative feelings indeed exert an adverse influence on the performance of academic/teaching staff, regardless of gender considerations. Similarly, the association between Positive Feelings (P_Feel) and Performance (PERP) reveals an insignificant gender discrepancy, in alignment with H1_1. This signifies that, irrespective of gender, the task performance of academic/teaching staff is primarily influenced by positive emotions. In the context of the relationship between Self-Efficacy (SEF) and Performance (PERP), the results indicate that self-efficacy has a positive impact on academic and teaching staff's task performance, a finding that holds true for both genders, in accordance with H3_3. In summation, the holistic analysis consistently reveals that group-specific path coefficient estimations do not significantly differ based on gender. Consequently, the model is well-suited for both genders within any expanded model context.

Table 12. Multigroup analysis (MGA) results

Path coefficient difference between male group and female group	Permutation test Sig. < 0.5 (Y/N)	PLS-MAG Sig. < 0.5 (Y/N)	Parametric test Sig. < 0.5 (Y/N)	Welch-Satterthwaite t test Sig. <0.5 (Y/N)
N_Feel → PERP	0.72 (N)	0.77 (N)	0.79 (N)	0.79 (N)
P_Feel → PERP	0.81(N)	0.77 (N)	0.80(N)	0.80 (N)
SEF → PERP	0.90 (N)	0.90 (N)	0.91 (N)	0.91 (N)

The observed outcomes can be attributed to the balanced roles that both males and females occupy in Bahrain, particularly within the realm of the workplace. Notably, gender disparities have been greatly mitigated, and women have been working alongside their male counterparts for an extended period. Bahrain has indeed been a pioneering nation in this regard. Historically, it holds the distinction of being the first GCC country to establish official schools for women and to accord women political rights and social status. Moreover, it has provided consistent support through governmental bodies like the Supreme Council of Women and various civil entities. This collective support, along with the ingrained culture of gender equality across all spheres, has fortified Bahraini women, enabling them to effectively navigate the challenges precipitated by the pandemic. Underpinning this resilience is a recent study by Aali & Aljahromi [110], which underscored that female academics in Bahrain adeptly wield a combination of transactional and relational leadership styles. This is particularly noteworthy within the context of the gender stereotypes entrenched in the somewhat masculinized Middle Eastern culture. The study illuminated that Bahraini female academics exhibit visionary qualities and possess the leadership acumen necessary to parallel the achievements of their male counterparts, even amidst potential challenges such as those posed by the pandemic.

4- Implications

The implications of this study are profound and extend beyond the academic realm. Higher education institutions, governmental bodies, and businesses should prioritize fostering staff morale during challenging times like the Covid-19 outbreak. Encouraging continuous staff upskilling to address emerging and demanding situations is crucial for institutional resilience. Addressing the negative effects experienced by staff during unexpected circumstances not only enhances their performance but also contributes to institutional adaptability, enabling entities to better absorb shocks during times of adversity.

It is significant for institutions to recognize the needs of their academic staff. Creating a supportive environment where negative emotions related to task performance can be openly acknowledged and normalized. Institutions also need to encourage staff to express their concerns and emotions without the fear of judgement. Furthermore, providing emotional support is essential where academic staff can seek guidance and assistance in coping with negative emotions and stress through counselling services, support groups or mental health resources.

In addition, educational institutions, governmental bodies and businesses should highly promote work-life balance among its academic staff and workers by setting boundaries, taking breaks, and prioritizing self-care activities outside of work. Academic institutions should also promote initiatives that support flexible scheduling and employee well-being. This in the long run will help set realistic expectations and encourage prioritization of tasks and flexibility in goal setting to reduce the feelings of overwhelm and pressure.

Last, it is recommended that policy makers and educational authorities should heed the findings of this research, recognizing the invaluable contributions of healthcare workers and academic staff during critical pandemic and disaster periods. As frontline guardians against infectious diseases and illiteracy, their well-being demands particular attention. Providing timely and appropriate assistance to these segments of society is paramount for maintaining a successful and effective educational process upheld by high-quality standards.

5- Conclusion

In conclusion, our research has successfully presented a predictive model with a substantial coefficient of determination (R^2) of 70% and a predictive relevance (Q^2) of 46%, affirming its robustness for future studies exploring emotions, self-efficacy, and task performance dynamics, especially in the context of gender differences. Positive emotions (P_Feel) were found to significantly influence task performance, crucially guiding teaching staff during the challenges posed by the Covid-19 pandemic. The study effectively addressed the primary objective of investigating gender differences in this relationship (H1), confirming no significant gender disparities. Moreover, negative feelings (N_Feel) emerged as a noteworthy negative influencer on teaching staff performance during challenging times, emphasizing their importance for inclusion in future studies. The second objective, exploring the impact of N_Feel on task performance, was successfully met, revealing a substantially negative effect with no observed gender differences.

Furthermore, the study firmly established that self-efficacy (SEF) serves as a statistically significant positive predictor of teaching staff performance in successfully carrying out academic tasks amidst the challenges of the Covid-19 pandemic. This finding aligns with the logical expectation that self-efficacy plays a pivotal role in academic achievement, task fulfillment, and skills enhancement. In the context of exploring gender differences, the study revealed that both genders expressed similar perspectives, consolidating the achievement of the third research objective. While this study maintains its exploratory nature, it admirably accomplished its objectives and added value to the existing body of knowledge by substantiating the hypothesized relationships through empirical evidence. Additionally, the results shed light on the direction and magnitude of each construct's influence on task performance, contributing to a more comprehensive understanding of these dynamics.

This study's findings indicate that different genders share similar patterns of emotional responses in adapting to emergent challenges posed by Covid-19, including regulations, isolation procedures, and the swift transition to online education. Overall, the outcomes of this research, supported by rigorous analyses, affirm the absence of gender differences. Therefore, investigating the moderating effect of gender on task performance seems unnecessary, aligning with recommendations found in the literature [89, 111, 112]. The study’s results underscore that, in terms of academic and teaching staff task performance, both genders were equally affected by the Covid-19 pandemic in terms of their emotions and responded similarly to fulfill their tasks. Importantly, our study advocates a powerful assertion that men and women can effectively collaborate in academic and teaching roles, performing tasks with equal efficacy. This finding contributes to the broader discourse on gender equality in professional settings, emphasizing the shared capabilities of both genders. Furthermore, the research has implications for future preparedness in facing critical events. By understanding the impact of emotions and self-efficacy on task performance during the Covid-19 pandemic, we gain valuable insights that equip us to address unforeseen challenges more effectively in the future. This study encourages further exploration, particularly in GCC countries, to advance our understanding of various adverse scenarios, enabling us to better navigate and respond to such critical events.

5-1- Limitations, and Future Directions

This This research significantly contributes to the evolving body of knowledge concerning the substantial impact of Covid-19 and analogous epidemic/pandemic events on task performance, particularly within the unique context of the Gulf Co-operative Council. While our study stands as a pioneering exploration, acknowledging its limitations is crucial for a nuanced understanding. The constrained length of this study limited the number of relationships postulated and evaluated, underscoring the need for more extensive investigations in future research. Future studies should delve into the potential effects of self-efficacy on positive and negative feelings, providing deeper insights into the intricate interplay among these constructs and their implications for teaching and academic task performance. Furthermore, our study recognizes the absence of detailed demographic considerations, such as the potential moderating or mediating effects of factors like age, level of education, or experience on the examined relationships. Investigating these aspects would offer valuable insights for future research, urging comprehensive exploration across diverse contexts, cultures, and organizations.

Moreover, the study highlights the cascading impact of prioritizing the well-being and morale of academic and teaching staff, transcending the immediate educational context. A positive and supportive environment for educators not only fosters an atmosphere conducive to effective teaching but also contributes to the overall fabric of society. Recognizing the interconnectedness of education and societal progress, our findings advocate for systemic changes that go beyond educational institutions. Investing in the emotional and professional welfare of educators can lead to a more resilient and empowered community. As educators thrive, they, in turn, empower the future generations, fostering a society that values learning, innovation, and collaboration. Therefore, the societal impact of this research extends beyond the confines of academia, envisioning a positive transformation that resonates across various facets of our community.

6- Declarations

6-1- Author Contributions

Conceptualization, T.H., S.A.M.Y., and A.S.; methodology, T.H., S.A.M.Y., and A.S.; software, S.A.M.Y., M.J.A., and M.S.; validation, S.A.M.Y. and T.H.; formal analysis, M.J.A., M.T.S., and T.H.; investigation, S.A.M.Y., T.H., and A.S.; resources, I.R.A. and A.S.; data curation, M.T.S., S.A.M.Y., and T.H.; writing—original draft preparation, T.H. and S.A.M.Y.; writing—review and editing, S.A.M.Y. and T.H.; visualization, M.J.A. and M.S.; supervision, I.R.A.; project administration, T.H., I.R.A., and M.S. All authors have read and agreed to the published version of the manuscript.

6-2- Data Availability Statement

The data presented in this study are available on request from the corresponding author.

6-3- Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

6-4- Acknowledgements

We would like to express our sincere appreciation to Prof. Diana Aljahromi for her invaluable contributions to this research. Her assistance in detailed explanations about the cultural and higher educational environment in Bahrain, insights into the perceptions and motivations of academic staff to align with the con-text and culture of Bahraini HEIs greatly enriched the quality and depth of this study. Her collabora-tive efforts played a pivotal role in shaping the research and ensuring its relevance to the local context.

6-5- Institutional Review Board Statement

Not applicable.

6-6- Informed Consent Statement

Prior to participating in this study, all participants provided informed consent. They were briefed on the study's objectives, procedures, and their rights as participants. Participation was voluntary, and individuals could withdraw from the study at any time without facing any consequences. All data collected were treat-ed with strict confidentiality, and participant anonymity was maintained throughout the research process. Participants consented to the utilization of their data solely for research purposes. Additionally, to uphold confidentiality and ethical standards, no personally identifiable information, such as email addresses or telephone numbers, was collected as part of the survey.

6-7- Conflicts of Interest

The authors declare that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

7- References

[1] Taufiq Hail, G. A.-M. (2020). Educational Learning and Teaching Methods' Challenges during COVID-19 Outbreak and a Sudden Transformation Towards Totally Digitizing Education. International Journal of Education and Science, 3(2), 56-57. doi:10.26697/ijes.2020.2.39.

[2] Mukhopadhyay, U. (2023). Impact of COVID-19 pandemic on academic performance and work–life balance of women academicians. Asian Journal of Social Science, 51(1), 62–70. doi:10.1016/j.ajss.2022.07.003.

[3] Aljahromi, D. (2020). Towards the provision of effective interaction in post Covid-19 e-learning contexts: Enhancing e-interactions on the LMS's discussion boards. Proceedings of the International Conference on e-Learning, ICEL, Vols. 2020-December, 98–103. IEEE, Sakheer. doi:10.1109/econf51404.2020.9385502.

[4] Taufiq-Hail, G. A. M., Aljahromi, Di., Sarea, A., & Kostikova, I. (2021). Academic Staff Perceptions on Students' Traditional Assessment Transformations towards Online Evaluation during COVID-19 Pandemic in Higher Education: A Preliminary Study from Two Diverse Cultures. In 2021 Sustainable Leadership and Academic Excellence International Conference, SLAE 2021, 16–25. doi:10.1109/SLAE54202.2021.9686904.

[5] Saw, G. K., Chang, C. N., & Lin, S. (2023). Gender disparities in remote teaching readiness and mental health problems among university faculty during the COVID-19 pandemic. Educational and Developmental Psychologist, 40(1), 131–140. doi:10.1080/20590776.2022.2108697.

[6] Bloshchynskyi, I., Bahrii, H., Nanivska, L., Tsviak, L., Isaieva, I., Skyba, K., Pilishek, S., Moroz, N., Herasimova, O., Yamkova, V., & Mishchynska, I. (2022). Gender Characteristics of Individual's Linguistic Behavior in the Context of Future Translators' Professional Training. Emerging Science Journal, 6(Special Issue), 199–208. doi:10.28991/ESJ-2022-SIED-014.

[7] Rokach, A. (2018). The effect of gender and culture on loneliness: A mini review. Emerging Science Journal, 2(2), 59–64. doi:10.28991/esj-2018-01128.

[8] Lobos, K., Cobo-Rendón, R., Sáez, F., Mella, J., & Cisternas, N. (2023). Return to Face-to-Face Classrooms in Higher Education: Students Experiences in Chile, Venezuela, and Ecuador. Emerging Science Journal, 7(Special Issue 2), 217–237. doi:10.28991/ESJ-2023-SIED2-017.

[9] Corbett, L., Bauman, A., Peralta, L. R., Okely, A. D., & Phongsavan, P. (2024). Lifestyle and work-related correlates of psychosocial health among Australian teachers: a cross-sectional study. Journal of Public Health (Germany), 32(6), 999–1009. doi:10.1007/s10389-023-01874-9.

[10] García-Fernández, L., Romero-Ferreiro, V., Padilla, S., David López-Roldán, P., Monzó-García, M., & Rodriguez-Jimenez, R. (2021). Gender differences in emotional response to the COVID-19 outbreak in Spain. Brain and Behavior, 11(1), 1934. doi:10.1002/brb3.1934.

[11] Hamid, A. A. M., & Abdullah, A. S. (2020). Job distress and burnout among Tanzanian and Sudanese health professionals: a comparative study. South African Journal of Psychology, 50(3), 411–424. doi:10.1177/0081246319898054.

[12] Karaboga, T., Erdal, N., Karaboga, H. A., & Tatoglu, E. (2023). Creativity as a mediator between personal accomplishment and task performance: A multigroup analysis based on gender during the COVID-19 pandemic. Current Psychology, 42(15), 12517–12529. doi:10.1007/s12144-021-02510-z.

[13] Qian, Y., & Fan, W. (2024). Stressful life events and depressive symptoms during COVID-19: A gender comparison. British Journal of Sociology, 75(1), 38–47. doi:10.1111/1468-4446.13067.

[14] André, S., & van der Zwan, R. (2023). The influence of the COVID-19 pandemic on changes in perceived work pressure for Dutch mothers and fathers. Gender, Work and Organization, 30(3), 1015–1034. doi:10.1111/gwao.12951.

[15] Hess, U., Senecal, S., Kirouac, G., Herrera, P., Philippot, P., & Kleck, R. E. (2000). Emotional expressivity in men and women: Stereotypes and self-perceptions. Cognition and Emotion, 14(5), 609–642. doi:10.1080/02699930050117648.

[16] Ross, C. E., & Willigen, M. Van. (1996). Gender, Parenthood, and Anger. Journal of Marriage and the Family, 58(3), 572. doi:10.2307/353718.

[17] Simon, R. W., & Nath, L. E. (2004). Gender and emotion in the United States: Do men and women differ in self-reports of feelings and expressive behavior? American Journal of Sociology, 109(5), 1137–1176. doi:10.1086/382111.

[18] Ali, N., Nitschke, J. P., Cooperman, C., Baldwin, M. W., & Pruessner, J. C. (2020). Systematic manipulations of the biological stress systems result in sex-specific compensatory stress responses and negative mood outcomes. Neuropsychopharmacology, 45(10), 1672–1680. doi:10.1038/s41386-020-0726-8.

[19] Bangasser, D. A., & Wicks, B. (2017). Sex-specific mechanisms for responding to stress. Journal of Neuroscience Research, 95(1–2), 75–82. doi:10.1002/jnr.23812.

[20] Pruessner, J. C. (2018). The interplay of sex and gender on the reactivity of the endocrine stress axis in humans. Current Opinion in Behavioral Sciences, 23, 191–195. doi:10.1016/j.cobeha.2018.08.003.

[21] Taylor, C. L., Ivcevic, Z., Moeller, J., Menges, J. I., Reiter-Palmon, R., & Brackett, M. A. (2022). Gender and Emotions at Work: Organizational Rank Has Greater Emotional Benefits for Men than Women. Sex Roles, 86(1–2), 127–142. doi:10.1007/s11199-021-01256-z.

[22] Abbruzzese, L., Magnani, N., Robertson, I. H., & Mancuso, M. (2019). Age and gender differences in emotion recognition. Frontiers in Psychology, 10(Octber), 1-15. doi:10.3389/fpsyg.2019.02371.

[23] Deng, Y., Chang, L., Yang, M., Huo, M., & Zhou, R. (2016). Gender differences in emotional response: Inconsistency between experience and expressivity. PLoS ONE, 11(6), 158666. doi:10.1371/journal.pone.0158666.

[24] Lausen, A., & Schacht, A. (2018). Gender differences in the recognition of vocal emotions. Frontiers in Psychology, 9(June), 1-22. doi:10.3389/fpsyg.2018.00882.

[25] Storek, J., & Furnham, A. (2014). Gender and task confidence as predictors of the Domain-Masculine Intelligence Type (DMIQ). Personality and Individual Differences, 69, 43–49. doi:10.1016/j.paid.2014.05.006.

[26] Deole, S. S., Deter, M., & Huang, Y. (2023). Home sweet home: Working from home and employee performance during the COVID-19 pandemic in the UK. Labour Economics, 80, 102295. doi:10.1016/j.labeco.2022.102295.

[27] Stengård, J., Mellner, C., Toivanen, S., & Nyberg, A. (2022). Gender Differences in the Work and Home Spheres for Teachers, and Longitudinal Associations with Depressive Symptoms in a Swedish Cohort. Sex Roles, 86(3–4), 159–178. doi:10.1007/s11199-021-01261-2.

[28] Wang, Y., Xia, M., Guo, W., Xu, F., & Zhao, Y. (2023). Academic performance under COVID-19: The role of online learning readiness and emotional competence. Current Psychology, 42(34), 30562–30575. doi:10.1007/s12144-022-02699-7.

[29] Hamadeh, R. R., AlSabbagh, M., Bugawa, A. M., Kamal, A., Ali, F., Al Bufalasa, G. A., & AlShaibani, T. (2022). The impact of the COVID-19 pandemic in higher education: a gender perspective. Arab Gulf Journal of Scientific Research, 40(4), 424–439. doi:10.1108/AGJSR-07-2022-0104.

[30] Taufiq-Hail, G. A. M., Sarea, A., & Hawaldar, I. T. (2021). The impact of self-efficacy on feelings and task performance of academic and teaching staff in bahrain during covid-19: Analysis by sem and ann. Journal of Open Innovation: Technology, Market, and Complexity, 7(4), 224. doi:10.3390/joitmc7040224.

[31] Zia, A. (2020). Exploring factors influencing online classes due to social distancing in COVID-19 pandemic: a business students perspective. International Journal of Information and Learning Technology, 37(4), 197–211. doi:10.1108/IJILT-05-2020-0089.

[32] Tsui, A. B. M., Chan, C. K. K., Harfitt, G., & Leung, P. (2020). Crisis and opportunity in teacher preparation in the pandemic: exploring the "adjacent possible." Journal of Professional Capital and Community, 5(3–4), 237–245. doi:10.1108/JPCC-07-2020-0061.

[33] Lopes de Sousa Jabbour, A. B., Chiappetta Jabbour, C. J., Hingley, M., Vilalta-Perdomo, E. L., Ramsden, G., & Twigg, D. (2020). Sustainability of supply chains in the wake of the coronavirus (COVID-19/SARS-CoV-2) pandemic: lessons and trends. Modern Supply Chain Research and Applications, 2(3), 117–122. doi:10.1108/mscra-05-2020-0011.

[34] López López, L. (Licho), McCaw, C. T., Di Biase, R., McKernan, A., Rudolph, S., Galatis, A., Dulfer, N., Gerrard, J., McKinley, E., McLeod, J., & Rizvi, F. (2020). The quarantine archives: educators in "social isolation." History of Education Review, 49(2), 195–213. doi:10.1108/HER-05-2020-0028.

[35] Alawamleh, M., Al-Twait, L. M., & Al-Saht, G. R. (2022). The effect of online learning on communication between instructors and students during Covid-19 pandemic. Asian Education and Development Studies, 11(2), 380–400. doi:10.1108/AEDS-06-2020-0131.

[36] Hampel, R., & Stickler, U. (2005). New skills for new classrooms: Training tutors to teach languages online. Computer Assisted Language Learning, 18(4), 311–326. doi:10.1080/09588220500335455.

[37] Easton, S. S. (2003). Clarifying the instructor's role in online distance learning. Communication Education, 52(2), 87–105. doi:10.1080/03634520302470.

[38] Biddle, B. (1986). Recent Developments in Role Theory. Annual Review of Sociology, 12(1), 67–92. doi:10.1146/annurev.soc.12.1.67.

[39] Zhang, Y. G., Dang, M. Y., & Chen, H. (2020). An Explorative Study on the Virtual World: Investigating the Avatar Gender and Avatar Age Differences in their Social Interactions for Help-Seeking. Information Systems Frontiers, 22(4), 911–925. doi:10.1007/s10796-019-09904-2.

[40] Plant, E. A., Hyde, J. S., Keltner, D., & Devine, P. G. (2000). The gender stereotyping of emotions. Psychology of Women Quarterly, 24(1), 81–92. doi:10.1111/j.1471-6402.2000.tb01024.x.

[41] Shields, S. A. (2013). Gender and Emotion: What We Think We Know, What We Need to Know, and Why It Matters. Psychology of Women Quarterly, 37(4), 423–435. doi:10.1177/0361684313502312.

[42] Wood, W., & Eagly, A. H. (2002). A cross-cultural analysis of the behavior of women and men: Implications for the origins of sex differences. Psychological Bulletin, 128(5), 699–727. doi:10.1037/0033-2909.128.5.699.

[43] Grossman, M., & Wood, W. (1993). Sex Differences in Intensity of Emotional Experience: A Social Role Interpretation. Journal of Personality and Social Psychology, 65(5), 1010–1022. doi:10.1037/0022-3514.65.5.1010.

[44] PLUTCHIK, R. (1980). a General Psychoevolutionary Theory of Emotion. In Theories of Emotion. Theor. Emot., Elsevier. doi:10.1016/b978-0-12-558701-3.50007-7.

[45] Brody, L. R. (1985). Gender differences in emotional development: A review of theories and research. Journal of Personality, 53(2), 102–149. doi:10.1111/j.1467-6494.1985.tb00361.x.

[46] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly: Management Information Systems, 27(3), 425–478. doi:10.2307/30036540.

[47] Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. MIS Quarterly: Management Information Systems, 36(1), 157–178. doi:10.2307/41410412.

[48] Yuan, S., Liu, Y., Yao, R., & Liu, J. (2016). An investigation of users' continuance intention towards mobile banking in China. Information Development, 32(1), 20–34. doi:10.1177/0266666914522140.

[49] Hew, J. J., Lee, V. H., Ooi, K. B., & Wei, J. (2015). What catalyses mobile apps usage intention: An empirical analysis. Industrial Management and Data Systems, 115(7), 1269–1291. doi:10.1108/IMDS-01-2015-0028.

[50] Wong, C. H., Tan, G. W. H., Loke, S. P., & Ooi, K. B. (2014). Mobile TV: A new form of entertainment? Industrial Management and Data Systems, 114(7), 1050–1067. doi:10.1108/IMDS-05-2014-0146.

[51] Ohlott, P. J., Ruderman, M. N., & McCauley, C. D. (1994). Gender Differences in Managers' Developmental Job Experiences. Academy of Management Journal, 37(1), 46–67. doi:10.2307/256769.

[52] Woodall, J., Edwards, C., & Welchman, R. (1997). Organizational restructuring and the achievement of an equal opportunity culture. Gender, Work and Organization, 4(1), 2–12. doi:10.1111/1468-0432.t01-1-00019.

[53] Singh, S., Bhutani, S., & Fatima, H. (2020). Surviving the stigma: lessons learnt for the prevention of COVID-19 stigma and its mental health impact. Mental Health and Social Inclusion, 24(3), 145–149. doi:10.1108/MHSI-05-2020-0030.

[54] Kelly, M. M., Tyrka, A. R., Anderson, G. M., Price, L. H., & Carpenter, L. L. (2008). Sex differences in emotional and physiological responses to the Trier Social Stress Test. Journal of Behavior Therapy and Experimental Psychiatry, 39(1), 87–98. doi:10.1016/j.jbtep.2007.02.003.

[55] Goldfarb, E. V., Seo, D., & Sinha, R. (2019). Sex differences in neural stress responses and correlation with subjective stress and stress regulation. Neurobiology of Stress, 11, 100177. doi:10.1016/j.ynstr.2019.100177.

[56] Bilodeau, J., Marchand, A., & Demers, A. (2020). Psychological distress inequality between employed men and women: A gendered exposure model. SSM - Population Health, 11, 100626. doi:10.1016/j.ssmph.2020.100626.

[57] Calvarese, M. (2015). The effect of gender on stress factors: An exploratory study among university students. Social Sciences, 4(4), 1177–1184. doi:10.3390/socsci4041177.

[58] Bodenmann, G., Meuwly, N., Germann, J., Nussbeck, F. W., Heinrichs, M., & Bradbury, T. N. (2015). Effects of Stress on the Social Support Provided by Men and Women in Intimate Relationships. Psychological Science, 26(10), 1584–1594. doi:10.1177/0956797615594616.

[59] Youssef, F. F., Bachew, R., Bissessar, S., Crockett, M. J., & Faber, N. S. (2018). Sex differences in the effects of acute stress on behavior in the ultimatum game. Psychoneuroendocrinology, 96, 126–131. doi:10.1016/j.psyneuen.2018.06.012.

[60] Rossi, R., Socci, V., Talevi, D., Mensi, S., Niolu, C., Pacitti, F., Di Marco, A., Rossi, A., Siracusano, A., & Di Lorenzo, G. (2020). COVID-19 Pandemic and Lockdown Measures Impact on Mental Health Among the General Population in Italy. Frontiers in Psychiatry, 11. doi:10.3389/fpsyt.2020.00790.

[61] Sobregrau Sangrà, P., Aguiló Mir, S., Castro Ribeiro, T., Esteban-Sepúlveda, S., García Pagès, E., López Barbeito, B., Pomar Moya-Prats, J. L., Pintor Pérez, L., & Aguiló Llobet, J. (2022). Mental health assessment of Spanish healthcare workers during the SARS-CoV-2 pandemic. A cross-sectional study. Comprehensive Psychiatry, 112, 152278. doi:10.1016/j.comppsych.2021.152278.

[62] Stella, M., Restocchi, V., & Deyne, S. De. (2020). #Lockdown: Network-enhanced emotional profiling in the time of covid-19. Big Data and Cognitive Computing, 4(2), 1–23. doi:10.3390/bdcc4020014.

[63] Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. International Journal of Environmental Research and Public Health, 17(5)m 1729. doi:10.3390/ijerph17051729.

[64] Shahrour, G., & Dardas, L. A. (2020). Acute stress disorder, coping self-efficacy and subsequent psychological distress among nurses amid COVID-19. Journal of Nursing Management, 28(7), 1686–1695. doi:10.1111/jonm.13124.

[65] Liu, N., Zhang, F., Wei, C., Jia, Y., Shang, Z., Sun, L., Wu, L., Sun, Z., Zhou, Y., Wang, Y., & Liu, W. (2020). Prevalence and predictors of PTSS during COVID-19 outbreak in China hardest-hit areas: Gender differences matter. Psychiatry Research, 287, 112921. doi:10.1016/j.psychres.2020.112921.

[66] Olaseni, A. O., Akinsola, O. S., Agberotimi, S. F., & Oguntayo, R. (2020). Psychological distress experiences of Nigerians during Covid-19 pandemic; the gender difference. Social Sciences and Humanities Open, 2(1), 100052. doi:10.1016/j.ssaho.2020.100052.

[67] van der Vegt, I., & Kleinberg, B. (2020). Women Worry About Family, Men About the Economy: Gender Differences in Emotional Responses to COVID-19. In S. Aref, K. Bontcheva, M. Braghieri, F. Dignum, F. Giannotti, F. Grisolia, & D. Pedreschi (Eds.), Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics): Vol. 12467 LNCS, 397–409. doi:10.1007/978-3-030-60975-7_29.

[68] Prowse, R., Sherratt, F., Abizaid, A., Gabrys, R. L., Hellemans, K. G. C., Patterson, Z. R., & McQuaid, R. J. (2021). Coping With the COVID-19 Pandemic: Examining Gender Differences in Stress and Mental Health Among University Students. Frontiers in Psychiatry, 12. doi:10.3389/fpsyt.2021.650759.

[69] Elliott, M., & Blithe, S. J. (2020). Gender Inequality, Stress Exposure, and Well-Being among Academic Faculty. International Journal of Higher Education, 10(2), 240. doi:10.5430/ijhe.v10n2p240.

[70] García-González, M. A., Torrano, F., & García-González, G. (2020). Analysis of stress factors for female professors at online universities. International Journal of Environmental Research and Public Health, 17(8), 2958. doi:10.3390/ijerph17082958.

[71] Bandura, A. (1986). The Explanatory and Predictive Scope of Self-Efficacy Theory. Journal of Social and Clinical Psychology, 4(3), 359–373. doi:10.1521/jscp.1986.4.3.359.

[72] Taufiq-Hail, G. A. M., & Sarea, A. (2021). An Empirical Evaluation of the Credibility, Trust Perceptions, and Compatibility with Cloud-Based Services: The Case of Higher Education in Malaysia. In A.-E. Hassanien, K.-C. Chang, T. Mincong, & A. M. Learn (Eds.), Advances in Intelligent Systems and Computing, 1339, 753–773. doi:10.1007/978-3-030-69717-4_70.

[73] Arslan, M., & Roudaki, J. (2019). Examining the role of employee engagement in the relationship between organisational cynicism and employee performance. International Journal of Sociology and Social Policy, 39(1–2), 118–137. doi:10.1108/IJSSP-06-2018-0087.

[74] Sonnentag, S., & Frese, M. (2002). Performance Concepts and Performance Theory. In S. Sonnentag (Ed.), Psychological Management of Individual Performance, 1–25. doi:10.1002/0470013419.ch1.

[75] Cronin, B. (1982). Performance Measurement and Information Management. Aslib Proceedings, 34(5), 227–236. doi:10.1108/eb050844.

[76] Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., De Vet, H. C. W., & Van Der Beek, A. J. (2014). Construct validity of the individual work performance questionnaire. Journal of Occupational and Environmental Medicine, 56(3), 331–337. doi:10.1097/JOM.0000000000000113.

[77] Saleem, M. A., Bhutta, Z. M., Nauman, M., & Zahra, S. (2019). Enhancing performance and commitment through leadership and empowerment: An emerging economy perspective. International Journal of Bank Marketing, 37(1), 303–322. doi:10.1108/IJBM-02-2018-0037.

[78] Nes, L. S., & Optimism. (2016). Stress: Concepts, Cognition, Emotion, and Behavior. Stress: Concepts, Cognition, Emotion, and Behavior, 405–411. doi:10.1016/c2013-0-12842-5.

[79] Solberg Nes, L., & Segerstrom, S. C. (2006). Dispositional optimism and coping: A meta-analytic review. Personality and Social Psychology Review, 10(3), 235–251. doi:10.1207/s15327957pspr1003_3.

[80] Arslan, G., Yıldırım, M., Tanhan, A., Buluş, M., & Allen, K. A. (2021). Coronavirus Stress, Optimism-Pessimism, Psychological Inflexibility, and Psychological Health: Psychometric Properties of the Coronavirus Stress Measure. International Journal of Mental Health and Addiction, 19(6), 2423–2439. doi:10.1007/s11469-020-00337-6.

[81] Tanhan, A. (2019). Acceptance and commitment therapy with ecological systems theory: Addressing muslim mental health issues and wellbeing. Journal of Positive Psychology and Wellbeing, 3(2), 197–219. doi:10.47602/jpsp.v3i2.172.

[82] Yao, Z., Zhang, X., Luo, J., & Huang, H. (2020). Offense is the best defense: the impact of workplace bullying on knowledge hiding. Journal of Knowledge Management, 24(3), 675–695. doi:10.1108/JKM-12-2019-0755.

[83] Zhang, J., Wu, W., Zhao, X., & Zhang, W. (2020). Recommended psychological crisis intervention response to the 2019 novel coronavirus pneumonia outbreak in China: A model of West China Hospital. Precision Clinical Medicine, 3(1), 3–8. doi:10.1093/pcmedi/pbaa006.

[84] Bao, Y., Sun, Y., Meng, S., Shi, J., & Lu, L. (2020). 2019-nCoV epidemic: address mental health care to empower society. The Lancet, 395(10224), e37–e38. doi:10.1016/S0140-6736(20)30309-3.

[85] Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191–215. doi:10.1037/0033-295X.84.2.191.

[86] Bandura, A., & Watts, R. E. (1996). Self-Efficacy in Changing Societies. Journal of Cognitive Psychotherapy, 10(4), 313. doi:10.1891/0889-8391.10.4.313.

[87] Schunk, D. H. (1995). Self-efficacy, motivation, and performance. Journal of Applied Sport Psychology, 7(2), 112–137. doi:10.1080/10413209508406961.

[88] Schmidt, A. M., & DeShon, R. P. (2010). The Moderating Effects of Performance Ambiguity on the Relationship Between Self-Efficacy and Performance. Journal of Applied Psychology, 95(3), 572–581. doi:10.1037/a0018289.

[89] Hair Jr, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2018). Advanced issues in partial least squares structural equation modeling. SAGE Publications, California, United States.

[90] Erdfelder, E., FAul, F., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. Behavior Research Methods, 41(4), 1149–1160. doi:10.3758/BRM.41.4.1149.

[91] Cohen, J. (1992). Quantitative methods in psychology. Psychological Bulletin, 112(1), 155–159.

[92] Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. Journal of Applied Psychology, 88(5), 879–903. doi:10.1037/0021-9010.88.5.879.

[93] Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. Journal of Marketing Theory and Practice, 19(2), 139–152. doi:10.2753/MTP1069-6679190202.

[94] Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. European Business Review, 26(2), 106–121. doi:10.1108/EBR-10-2013-0128.

[95] Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. Industrial Management and Data Systems, 116(1), 2–20. doi:10.1108/IMDS-09-2015-0382.

[96] Chin, W., Cheah, J. H., Liu, Y., Ting, H., Lim, X. J., & Cham, T. H. (2020). Demystifying the role of causal-predictive modeling using partial least squares structural equation modeling in information systems research. Industrial Management and Data Systems, 120(12), 2161–2209. doi:10.1108/IMDS-10-2019-0529.

[97] Sharma, P. N., Liengaard, B. D., Hair, J. F., Sarstedt, M., & Ringle, C. M. (2023). Predictive model assessment and selection in composite-based modeling using PLS-SEM: extensions and guidelines for using CVPAT. European Journal of Marketing, 57(6), 1662–1677. doi:10.1108/EJM-08-2020-0636.

[98] Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. Research Methods in Applied Linguistics, 1(3), 100027. doi:10.1016/j.rmal.2022.100027.

[99] Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. Information Systems Research, 6(2), 144–176. doi:10.1287/isre.6.2.144.

[100] Zolait, A. H. S. (2014). The nature and components of perceived behavioural control as an element of theory of planned behaviour. Behaviour and Information Technology, 33(1), 65–85. doi:10.1080/0144929X.2011.630419.

[101] Ringle, C. M., Wende, S., & Becker, J. M. S. (2015). SmartPLS GmbH: Boenningstedt. Hournal od Service Science and Management, Germany.

[102] Chin, W. W. (1998). The partial least squares approach to structural equation modeling. Modern methods for business research, 295(2), 295-336.

[103] Ramayah, T., Soto-Acosta, P., Colomo-Palacios, R., Gopi, M., & Popa, S. (2014). Explaining the adoption of Internet stock trading in Malaysia: Comparing models. Asian Journal of Technology Innovation, 22(1), 131–151. doi:10.1080/19761597.2013.873110.

[104] Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Journal of Marketing Research, 18(1), 39. doi:10.2307/3151312.

[105] Sarstedt, M., Ringle, C. M., Smith, D., Reams, R., & Hair, J. F. (2014). Partial least squares structural equation modeling (PLS-SEM): A useful tool for family business researchers. Journal of Family Business Strategy, 5(1), 105–115. doi:10.1016/j.jfbs.2014.01.002.

[106] Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-Motivation for Academic Attainment: The Role of Self-Efficacy Beliefs and Personal Goal Setting. American Educational Research Journal, 29(3), 663–676. doi:10.3102/00028312029003663.

[107] Lee, P. C., & Mao, Z. (2016). The relation among self-efficacy, learning approaches, and academic performance: An exploratory study. Journal of Teaching in Travel and Tourism, 16(3), 178–194. doi:10.1080/15313220.2015.1136581.

[108] De Pater, I. E., Van Vianen, A. E. M., Fischer, A. H., & Van Ginkel, W. P. (2009). Challenging experiences: Gender differences in task choice. Journal of Managerial Psychology, 24(1), 4–28. doi:10.1108/02683940910922519.

[109] Henseler, J. (2017). Partial least squares path modeling. Advanced methods for modeling markets, 361-381. doi:10.1007/978-3-319-53469-5_12

[110] Aali, H. Al, & Aljahromi, D. (2021). An Examination of Leadership Styles of Women in Academia in the Kingdom of Bahrain. Sustainable Leadership and Academic Excellence International Conference, 1–7. doi:10.1109/SLAE54202.2021.9788071.

[111] Henseler, J. (2007). A New and Simple Approach to Multi-group Analysis in Partial Least Squares Path Modeling. Proceedings of PLS'07: 5th International Symposium on PLS and Related Methods, 104–107.

[112] Henseler, J., & Fassott, G. (2010). Testing Moderating Effects in PLS Path Models: An Illustration of Available Procedures. In V. E. Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), Handbook of Partial Least Squares, 713–735. doi:10.1007/978-3-540-32827-8_31.

Appendix I: Research Survey Questions

Table 1A. Survey Questionnaire items

Latent Variable	Item/indicator	Coding
Performance in achieving academic tasks- PERP	During the Covid-19 pandemic, I managed to plan transformation of my classes into digital media/live streaming using remote tools so that it is done on time.	PERP1
	During the Covid-19 pandemic, my planning on the transformation of my classes into media/live streaming using remote tools is optimal.	PERP2
	During the Covid-19 pandemic, I kept in mind upskilling and the lessons that I learned during the teaching sessions or transformation of courses to save my time, efforts, and hardworking in the future	PERP3
	During the Covid-19 pandemic, I was able to separate main issues from side issues encountered during the transformation of classes into digital media or live streaming.	PERP4
	During the Covid-19 pandemic, I was able to perform my work well with minimal time and effort.	PERP5 (Removed as being below the recommended loading thresholds)
Positive feelings influence on performance- P_Feel	During the Covid-19 pandemic, I get support to maintain morale from my institution and/or colleagues.	P_Feel1
	During the Covid-19 pandemic, I feel relief through exploring social media websites (e.g., Facebook, twitter, Instagram, Telegram, etc.)	P_Feel2
	During the Covid-19 pandemic, I feel positive through practicing sports in-house	P_Feel3 (Removed as being below the recommended loading thresholds)
	During the Covid-19 pandemic, I feel positively joyful when chatting with my colleagues in various social media Apps	P_Feel4
	During the Covid-19 pandemic, I get better mood when chatting with my children and/or my wife.	P_Feel5
	During the Covid-19 pandemic, I feel cheerful when getting to know good news of decreasing the number of infected people.	P_Feel6
Negative feelings influence on performance- N_Feel	Covid-19 made my future financial arrangements and plans in doubt	N_Feel1 (Removed as being below the recommended loading thresholds)
	During the Covid-19 pandemic, when I follow up with students, I feel exhausted and overwhelmed	N_Feel2
	During the Covid-19 pandemic, I feel depressed as I am not accustomed to the new situation of self-isolation.	N_Feel3
	During the Covid-19 pandemic, I feel frustrated as I am not accustomed to the new teaching environment at home with family disturbance.	N_Feel4
	During the Covid-19 pandemic, I have a feeling of anxiety of the possibility of being infected.	N_Feel5
	During the Covid-19 pandemic, I am not able to control my stress and anxiety.	N_Feel6
	During the Covid-19 pandemic, I envisioned losing my job and financial burden.	N_Feel7
	During the Covid-19 pandemic, I get angry and lose my balance easily because of the pressure from my workload and increased family responsibilities.	N_Feel8
	During the Covid-19 pandemic, I feel disappointed as I cannot practice my social life outside my house easily.	N_Feel9
	During the Covid-19 pandemic, I feel board as I cannot practice any sport activities outside my house.	N_Feel10
Self-efficacy impact on performance - SEF	During the Covid-19 pandemic, I am capable of using online teaching methods to deliver courses' contents	SEF1
	During the Covid-19 pandemic, I am able to use the online teaching methods to deliver courses' contents	SEF2
	During the Covid-19 pandemic, I have the technical backgrounds to understand and use the online teaching methods	SEF3
	During the Covid-19 pandemic, I possess the technical skills to use the online teaching methods	SEF4
	During the Covid-19 pandemic, I own the intellectual capabilities to understand, learn, or use online teaching methods	SEF5
	During the Covid-19 pandemic, I possess the patience to get acquainted with using the new digital methods to deliver course's content to my students	SEF6
	During the Covid-19 pandemic, I have the indomitable and iron will to understand, learn, or practice the new digital methods in delivering courses' contents to my students	SEF7