

The Stress and Burnout among Lecturers in the Universities  
with Online Teaching in Vietnam during COVID-19 Pandemic:  
A Cross-sectional Study.

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A Thesis Submitted in Partial Fulfillment of the Requirements  
for the Degree of Master of Public Health in Public Health  
Common Course  
COLLEGE OF PUBLIC HEALTH SCIENCES  
Chulalongkorn University  
Academic Year 2021  
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ในช่วงการระบาดของโควิด-19: การศึกษาภาคตัดขวาง



วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต  
สาขาวิชาสาธารณสุขศาสตร์ ไม่สังกัดภาควิชา/เทียบเท่า  
วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย  
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Thesis Title                      The Stress and Burnout among Lecturers in the  
Universities with Online Teaching in Vietnam  
during COVID-19 Pandemic: A Cross-sectional  
Study.  
By                                      Miss Anh Hoang Thi Ngoc  
Field of Study                      Public Health  
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Accepted by the COLLEGE OF PUBLIC HEALTH SCIENCES,  
Chulalongkorn University in Partial Fulfillment of the Requirement for  
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อัน สอง ธิ จอค : ความเครียดและภาวะหมดไฟในการทำงาน ในอาจารย์ที่สอนออนไลน์ในประเทศเวียดนาม ในช่วงการระบาดของโควิด-19: การศึกษาภาคตัดขวาง. ( *The Stress and Burnout among Lecturers in the Universities with Online Teaching in Vietnam during COVID-19 Pandemic: A Cross-sectional Study.*) อ.ที่ปรึกษาหลัก : ดร.ปกเทศ วงศาสุ  
ลักษณ์

ในช่วงการระบาดของโควิด-19 ระบบการศึกษานั้น เป็นหนึ่งในระบบที่มีการเปลี่ยนแปลงไปอย่างมาก ตามระยะเวลาการแพร่ระบาดของโควิด-19 การเปลี่ยนวิธีการสอนจากรูปแบบเดิม เป็นวิธีการสอนดิจิทัลแบบใหม่ ซึ่งอาจก่อให้เกิดทั้งความเครียดและภาวะหมดไฟ และส่งผลกระทบต่อสุขภาพจิตของอาจารย์ผู้สอนได้ การศึกษานี้มีวัตถุประสงค์ 1) เพื่อศึกษาระดับความเครียด และภาวะหมดไฟของอาจารย์ ในมหาวิทยาลัยในประเทศเวียดนาม ในช่วงการระบาดของโควิด-19 2) เพื่อค้นหาปัจจัยเกี่ยวข้อง ระหว่างปัจจัยทางประชากร ปัจจัยของโควิด-19 ความยากในการสอนออนไลน์ และความเครียด ภาวะหมดไฟ ในอาจารย์มหาวิทยาลัย ในประเทศเวียดนาม การศึกษานี้ เป็นการศึกษาภาคตัดขวาง ที่ดำเนินการในช่วงเดือน เมษายนถึงมิถุนายน 2565 โดยใช้แบบสอบถามออนไลน์ อาจารย์ 334 คนในมหาวิทยาลัยในเวียดนาม ได้ถูกรวบรวมข้อมูล ส่วนบุคคล ข้อมูลความเครียด และภาวะหมดไฟ โดยใช้การสุ่มตัวอย่างตามความสะดวก เครื่องมือวัดคือแบบสอบถาม PSS-10 และ MBI\_ES มีการใช้สถิติโคสแควร์เพื่อค้นหาปัจจัยที่เกี่ยวข้อง จากผลการศึกษา พบว่าลักษณะของผู้เข้าร่วมส่วนใหญ่เป็นเพศหญิง (78.4%) ส่วนใหญ่มีอายุระหว่าง 31 ถึง 40 ปี (52.1%) แต่งงานแล้ว (69.5%) และรายได้ส่วนบุคคลจาก 501 USD ถึง 700 USD (33.8%) ผู้เข้าร่วม 82.9% มีความเครียดปานกลาง 62.3% มีภาวะหมดไฟปานกลาง เปอร์เซ็นต์ของบุคคลที่มีความอ่อนเพลียทางอารมณ์สูง (EE) บุคลิกภาพเสื่อมถอยสูง (DE) และความสำเร็จส่วนบุคคลต่ำ (PA) เท่ากับ 15.3%, 14.1% และ 16.8% ตามลำดับ ปัจจัยที่เกี่ยวข้องกับความเครียด ได้แก่ ระดับการศึกษา ( $p=0.025$ ) ชั่วโมงการทำงานต่อสัปดาห์ ( $p=0.00$ ) วิธีการสอน ( $p=0.036$ ) สำหรับภาวะหมดไฟ พบปัจจัยเกี่ยวข้อง ได้แก่ รายได้ส่วนบุคคล ( $p=0.006$ ) ประสบการณ์การทำงาน ( $p=0.011$ ) วุฒิการศึกษา ( $p= 0.021$ ) และชั่วโมงการทำงานต่อสัปดาห์ ( $p=0.00$ ) สำหรับ EE ปัจจัยที่เกี่ยวข้อง ได้แก่ เพศ ( $p=0.006$ ) อายุ ( $p=0.000$ ) รายได้ส่วนบุคคล ( $p=0.006$ ) รายได้ครอบครัว ( $p=0.045$ ) ประสบการณ์การทำงาน ( $p=0.043$ ) ระดับการศึกษา ( $p= 0.000$ ) ชั่วโมงการทำงานต่อสัปดาห์ ( $p=0.000$ ) ด้าน DE ได้แก่ อายุ ( $p=0.024$ ) วุฒิการศึกษา ( $p=0.040$ ) ชั่วโมงการทำงานต่อสัปดาห์ ( $p=0.000$ ) และวิธีการสอน ( $p=0.050$ ) สำหรับ PA พบว่า อายุ ( $p=0.000$ ) สถานภาพสมรส ( $p=0.050$ ) รายได้ส่วนบุคคล ( $p=0.005$ ) ประสบการณ์การทำงาน ( $p=0.000$ ) ระดับการศึกษา ( $p=0.000$ ) ชั่วโมงการทำงานต่อสัปดาห์ ( $p= 0.000$ ) นั้นเป็นปัจจัยเกี่ยวข้องอย่างมีนัยสำคัญ การศึกษานี้ชี้ให้เห็นว่าระดับความเครียดและภาวะหมดไฟ ของอาจารย์มหาวิทยาลัยนั้นค่อนข้างสูง และควรตระหนัก การทำความเข้าใจปัจจัยที่เกี่ยวข้อง จะสามารถช่วยป้องกันและลดระดับความเครียด ภาวะหมดไฟ รวมทั้งปรับปรุงประสิทธิภาพการศึกษาได้ดียิ่งขึ้นในสถานการณ์ระบาดของโควิด-19

สาขาวิชา            สาธารณสุขศาสตร์  
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ลายมือชื่อนิสิต .....  
ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

# # 6474035253 : MAJOR PUBLIC HEALTH

KEYWORD: Burnout, Stress, Lectures, Online teaching, COVID-19

Anh Hoang Thi Ngoc : The Stress and Burnout among Lecturers in the Universities with Online Teaching in Vietnam during COVID-19 Pandemic: A Cross-sectional Study.. Advisor: POKKATE WONGSASULUK, Ph.D.

During COVID-19 pandemic, the education system is one of many aspects in our life which is changed according to the effect of pandemic. Changing from traditional teaching method to new digital teaching method, may lead to adverse health effects directly to mental health of lecturers, including stress and burnout. This study aimed 1) to investigate the level of stress and burnout among lecturers in the universities in Vietnam during COVID-19 pandemic 2) to find the association among demographic, COVID-19 factors, difficulties in teaching online, and stress, burnout among tertiary education lecturers in Vietnam. This study was a cross-sectional study conducted during April to June 2022 using online questionnaire. 334 lecturers in universities in Vietnam were collected their personal information, stress, and burnout using convenience sampling. The measurement tools were PSS-10 and MBI\_ES questionnaire. Chi square test was carried out to find the associated factors. The results of characteristics of participants showed most of them were female (78.4%), majority were aged from 31 to 40 years (52.1%), married (69.5%), and personal income from 501 USD to 700 USD (33.8%). 82.9% of participants were with moderate stress, 62.3% of participants were with moderate burnout. The percentage of individuals with high emotional exhaustion (EE), high depersonalization (DE), and low personal accomplishment (PA), were 15.3%, 14.1%, and 16.8%, respectively. The associated factors of stress were education level ( $p=0.025$ ), working hour per week ( $p=0.00$ ), teaching method ( $p=0.036$ ). For burnout, there were personal income ( $p=0.006$ ), working experience ( $p=0.011$ ), education background ( $p=0.021$ ), and working hour per week ( $p=0.00$ ). For EE, the associated factors included gender ( $p=0.006$ ), age ( $p=0.000$ ), personal income ( $p=0.006$ ), family income ( $p=0.045$ ), working experience ( $p=0.043$ ), education level ( $p=0.000$ ), working hour per week ( $p=0.000$ ). Regarding DE, there were age ( $p=0.024$ ), education background ( $p=0.040$ ), working hour per week ( $p=0.000$ ), and teaching method ( $p=0.050$ ). For PA, found age ( $p=0.000$ ), marital status ( $p=0.050$ ), personal income ( $p=0.005$ ), working experience ( $p=0.000$ ), education level ( $p=0.000$ ), working hour per week ( $p=0.000$ ) were significant association. This study suggested that the stress level and burnout among university lecturers are substantial and should be concerned. Understanding the associated factors are likely to solve disadvantages, minimize the level of stress, burnout and improve the efficiency of education in the regrettable situation.

Field of Study: Public Health  
Academic Year: 2021

Student's Signature .....  
Advisor's Signature .....

## ACKNOWLEDGEMENTS

My sincere thanks go to Dr.Pokkate Wongsasuluk for guiding this work. Thank you to the heads of departments in chosen universities for this research in Vietnam for your kindness to allow me to collect data from your lecturers. And I would like to acknowledge the sponsor of Southeast Asia One Health University Network (SEAOHUN) for my thesis.

Anh Hoang Thi Ngoc



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## **CHAPTER I**

### **INTRODUCTION**

Nowadays, outbreaks and health have been serious concern all over the world in general and Vietnam in particular. COVID-19 pandemic for 2 years changed almost aspects in our life, including education. These swift variations are likely to lead to stress and burnout of lecturers. Based on the factors which was expected to predict the effect to stress and burnout, this study was conducted to find and conclude to the associated factors and stress, burnout of lecturers in the universities in Vietnam.

#### **1.1. Background and Rationale**

The novel human coronavirus disease COVID-19 had become the fifth documented pandemic since the 1918 flu pandemic. Wuhan province in China was the first area reported with the first confirmed case COVID-19 and subsequently spread worldwide (Liu et al., 2020). Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) shocked the world, causing a worldwide pandemic, and on 11 March 2020, the World Health Organization (WHO) declared a global public health emergency (WHO, 2020). According to WHO, as of June 17, 2022, over 535 million confirmed cases and just under 6.3 million deaths had been reported globally. The corona virus was likely to spread strongly in many different ways. The close contacting is the most main way Corona virus spread among people. The small liquid particles from infected people which contact directly to the eyes, nose, or mouth are considered as a main cause of transmission. In addition, in the narrow space, crowded indoor, and poor ventilated rooms where the officers and many people tend to spend much time to be there, the virus can also spread fast. Moreover, the variant of mutation is concerned since the speed of spreading is faster and perhaps the symptoms are more severe. The most common variants reported all over the world were Delta and Omicron variant which caused to new wave of disease with the increasing cases from middle of 2021 to the early of 2022.

Before the danger of COVID-19 disease, the adverse effect of COVID viral mutations for health, and the high risk of virus transmission as well, the government around the world had issued the different policies to prevent from spreading of Corona

Virus. Countries across the globe include developed and developing countries handled the pandemic by applying the protective measures such as wearing masks, keeping social distance, quarantine, and restricting gathering. At the epicenter of the pandemic, almost countries had issued strict measures to contain the virus such as city lockdown, closing public areas, travel limitation, and school closure.

Although lockdown measures protect the health of population and restrict the spread of disease, it is likely to cause reduction of the economy, health, and another social fields. As a result, education was affected and generate the predominant innovations. As UNESCO, the COVID-19 crisis has significantly affected the education sector across all regions. The closing of schools has interrupted the functioning of the teaching – learning system, reduced the responsibilities of students and teachers as well, and restricted the activities of education authorities, and decision-makers. With an attempt to prevent from the pandemic, governments across the global have closed educational institutions, that made the enormous number of children, youth and adolescents not attend schools or universities. According to UNESCO (2020b), 87% of the students from 165 countries were not able to take part in the universities and schools since the confirmed cases COVID-19 climb up.

In early 2020, the consequence of COVID-19 to education was shown strongly that was interruption to the learning of almost 1.5 billion students in the world. The UNESCO-UNICEF-World Bank Survey on National Education Responses to COVID-19 School Closures published the crucial information about the educational situation of more than 110 countries in the world. Ministry of Education in these countries continued providing alternative learning methods despite schools' closure during COVID-19 pandemic. Each level of education had the different approaches; therefore, the policies were improved based on digital tools or broadcast instruments. During this time and situation, online teaching has become more popular than ever compared to the traditional methods of teaching or face-to-face learning (Orfan et al., 2021). Beside the convenience and usefulness of this teaching and learning method in the midst of COVID-19 pandemic, it is not denied that the difficulties still exist and diminish the effectiveness of this approach. An uninterrupted internet supply is a huge challenge in underdeveloped and developing countries nowadays. The transition to e-learning is

moving very swiftly, and the success of online learning greatly depends on the knowledge of teachers and their way of conveying it to students (Ekuase-Anwansedo et al., 2017). The demand for online teaching and learning has increased dramatically and with no doubt teachers around the globe have experienced challenges and opportunities during this pandemic (König et al., 2020).

Gradually, learning online will be the most inevitable method in the whole world. During the COVID-19 lockdown, it is successfully providing potential information to the students and researchers. However, as e-learning may lead to self-isolation and reduction in academic achievements, mental health is able to be affected and that is a reason which may cause to anxiety and mental depression (Agarwal et al., 2021). Staring at the desktop laptop and electricity devices for a long time is likely to increase stress and anxiety, eventually cause exhaustion and burnout. The COVID-19 pandemic has had a relevant impact on the well-being and mental health of lecturers around the world, including by increasing the risk of burnout (P. Puertas-Molero et al., 2018). Stress and burnout are different, but closely associated with identical work-based psycho-social factors (Pines & Keinan, 2005). Stress, as a tendency to overreact to a stressful event, was presented in the final model of personal burnout and work-related burnout. It was not surprising that approximately 25% of lecturers reported that teaching was very or extremely stressful (Pilar Puertas-Molero et al., 2018).

In higher education system of developed and developing countries around the global, there are a great deal of students coming from the different areas where knowledge and information about technology may be collapsed or not. In addition, The COVID-19 pandemic has clearly posed a unique set of challenges to higher education and particularly to face-to-face field activities (Barton, 2020). Field activities defined here as educational activities that occur outside and involve interaction with the natural or built environment (Fleischner et al., 2017). The field pedagogy will give students unique and real knowledge to enhance learning outcomes. Therefore, there are higher requirements to lecturers to approach to new teaching online in terms of the emergency of COVID-19 scenario (Hashemi, 2021).

As mentioned, the adverse effects of COVID-19 pandemic are an important part led to the change educational platform. It is not denied that the inevitable contribution

of technology in the development of learning quality in the midst of COVID-19 situation. However, teachers cannot be replaced by digital tools in the process of teaching and learning. Especially, lecturers in the universities who need to approach as fast as possible to new teaching methods since they not only provide knowledge to their students but also have responsibilities in career orientation via the specialized lessons and practical lessons. Lecturers have to be an initiators and innovators in the link among content of lessons, technology, and motivation for their students. The stress and burnout resulted in new teaching online methods are considered as a tangible barrier which effects to the quality of lessons.

At the beginning of COVID-19, Vietnam had reported no deaths in the early stage of pandemic by taking strong action to stem the spread of the virus and the efforts of local people, although Vietnam is a lower middle-income country. Then, the appearance of mutant variants such as Delta, Omicron, all countries in the world including Vietnam faced to a great deal of confirmed cases with COVID-19. The mass of strict policies had been issued, that consisted of school closure. To maintain the alternative teaching methods, the Internet access play an important role for students and teachers as well. As a report of Digital using in 2021 in Vietnam, the rate of Internet penetration accounted for 70.3% and the percent of internet users slightly increased by 0.8%. between 2020 and 2021. The limitation of Internet access teachers and lecturers in the different areas in Vietnam and the variety of teaching platform in the universities make more difficulties in the approaching new digital teaching method. The relationship between using smart devices and stress, burnout is concerned topic of much research (Sansone & Sansone, 2013).

This study will find out the association among online teaching, burnout, and stress of lecturers in Vietnam – a lower middle-income country. Besides, to figure out whether there are any significant impacts of teaching online by socio-demography and teaching experience during COVID-19 pandemic. The study will be hoped to explore and analyze the factors related to teaching online in COVID-19 which impacts on stress and burnout in level of lecturers in the universities in Vietnam. And the discussion about strategies will be organized to improve quality of teaching online and reduce burnout

of lecturers, changes teaching – learning methods to be appropriate with students and lecturers as well.

## **1.2. Research Questions**

**1.2.1.** Is there any stress and burnout among lecturers in the universities in Vietnam during COVID-19 pandemic?

**1.2.2.** Is there an association between factors related to socio-demography, COVID- 19 and burnout, stress of lecturers in the universities in process of teaching online in Vietnam?

## **1.3. Research Objectives**

- To find the level of stress and burnout among lecturers in the universities in Vietnam during COVID-19 pandemic.
- To find the association between factors related to socio-demography, COVID-19 and burnout, stress of lecturers in process of teaching online in the universities in Vietnam.

## **1.4. Hypothesis research**

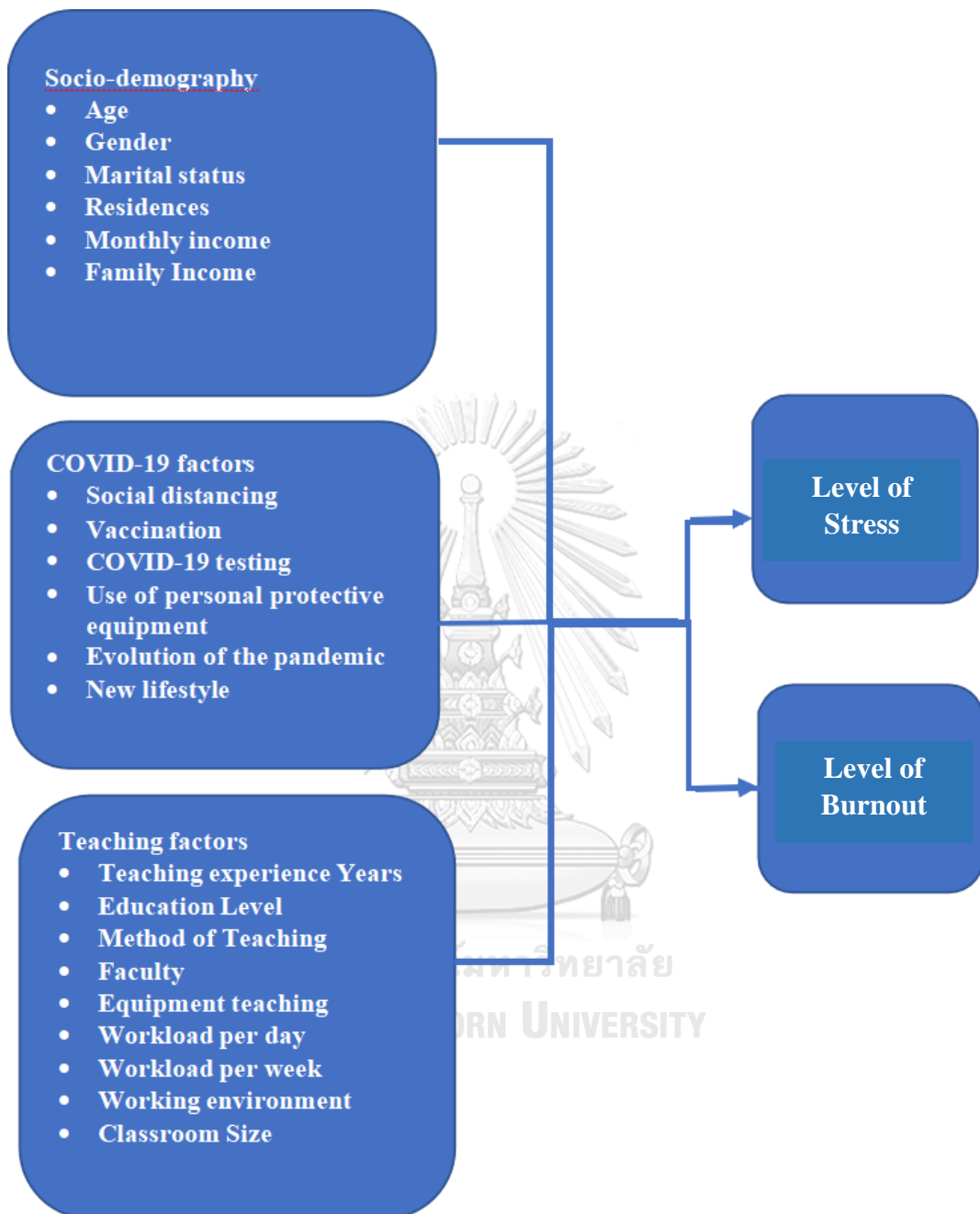
### **1.4.1. Null Hypothesis**

- There is no association among factors related to Online Teaching and Socio- demography and Stress, Burnout of Lecturers in the universities in Vietnam during COVID-19 pandemic.

### **1.4.2. Alternative hypothesis:**

- There is association among factors related to Online Teaching and Socio- demography and Stress, Burnout of Lecturers in the universities in Vietnam during COVID-19 pandemic.

### 1.5. Conceptual Framework



*Figure 1 Conceptual Framework*

### 1.6. Operational Definitions

- Cross-sectional survey study – A type of observational study design where the investigator measures the outcome and the exposures in the study participants at the same time

- Population – A group of individuals in a study or a group containing elements of the study. The population in this study are lecturers in the universities in Vietnam.
- Stress: is great worry caused by a difficult situation, divided into 3 levels: low, moderate and high.
- Burnout: a result of prolonged stress or frustration, including 3 dimensions: emotional exhausted (EE), depersonalization (DE) and personal accomplishment (PA), divided into 3 levels: low, moderate, and high.
- Emotional Exhausted (EE): a feeling like they have no power or control over what happens in life.
- Depersonalization (DE): a state in which an individual feels unreal for his own feelings or his surroundings existence.
- Personal Accomplishment (PA) those that are attached to your own goals and achievements.
- Socio-demography: This particular study will only specify on age, gender, marital status, living space, and monthly income.
- Teaching online: is indirect teaching method in a virtual platform which use the Internet with digital tools such as video, slides, technological devices, etc.
- Classroom Size: the number of students taught in a class.
- Workload: the amount of work an individual need to complete, including quantitative (the amount of work to be done) and qualitative (the difficulty of the work).
- New lifestyle: the changes how to people live with daily routines by new variants and new regulations to restrict Corona virus such as wearing mask, social distancing, and working from home.
- Age: participants from 23 to 70 years old, included retirement and continue teaching.
- Educational Level: participants who graduated bachelor's degree, master's degree, or PhD.
- Marital status: a person's state of being single, married, separated,



divorced, or widowed.

- Living space: city or province or country the participants live in the process of teaching online.
- Monthly income: total of main salary and additional salary in a month.

### **1.7. Scope of Study**

The study is quantitative design with the test of variables: Stress and Burnout Level (Dependent Variables) and Teaching Online Factors (Independent Variables). The research will last within 3 months from March to June 2022. The lecturers in the universities in Vietnam are the participants of this study. Targets are assessment the association among teaching online and stress, burnout level of lecturers in the universities in Vietnam.

### **1.8. Expected Outcomes**

- The level of stress and burnout among lecturers in the universities in Vietnam in teaching online during COVID-19 pandemic.
- The associated factors between Socio-demographic, COVID-19 factor, teaching factors, and stress, burnout and three dimensions of burnout of lecturers in the universities in Vietnam during COVID-19 pandemic.
- The correlation between the associated factors and level of stress, burnout.
- Providing useful information for individual, universities, and policy makers to adjust regulations, improve advantages and limit disadvantages in teaching of lecturers.
- Using technology effectively in teaching in digital era.

## CHAPTER II

### LITERATUR REVIEW

COVID-19 pandemic is crucial evidence to access the effect of diseases to human's health which consists of physical and mental health. It is not denied that the adverse effects to whole society. Under the rapid spreading of Corona virus, Vietnam and all countries in the world have faced to the huge wave of changes to fit in the recent situation. Online teaching is one of many important innovations in the COVID-19 pandemic that affect to educators whether it is positive or negative. Especially, the lecturers in the universities are put under high pressure in the demanding of the educational developments which can cause to stress and burnout.

#### 2.1. COVID-19 Pandemic.

##### 2.1.1 History of COVID-19.

Corona viruses are a huge family of viruses which lead to human's respiratory diseases, included from mild to severe symptoms. In 2003 and 2012, high mortality rate was reported by the adverse effects of Severe Acute Respiratory Syndrome (SARS) and the Middle East Respiratory Syndrome (MERS), respectively. As WHO, Corona viruses are divided into five genera: alpha, beta, gamma, delta and omicron. According to WHO, as of June 17, 2022, over 535 million confirmed cases and just under 6.3 million deaths had been reported globally.

In December 2019, a cluster of acute respiratory illness, now known as novel coronavirus-infected pneumonia (NCIP), occurred in Wuhan, Hubei Province, China (Wang et al., 2020). Severe symptoms associated with Corona virus were discovered in there, during that time. SARS-CoV-2 transmission occurs with high efficacy and infective mainly through the respiratory route. Droplet transmission is the main recognized route, although aerosols may represent another important route. (Leung et al., 2020). There are many assumptions and hypothesis about the causes of the virus floating around. Although, in the emergency situations of spread of virus, the rumors sprout a strong level of hostility among countries and their citizens. The whole world

has been facing the unprecedented new waves of COVID-19 within 2 years. About 535 million of confirmed coronavirus cases have been reported and over 6.3 million people have passed away in the world as of middle of June in 2022. It is unforgettable the strongly contagious wave of COVID-19 in the period from the early 2020 to the early 2022 by Delta and Omicron variant.

Until present, despite the controlled spread of COVID-19 and the updated treatment, the preventive method has been a main concern in the world. The researchers suggested that Omicron has become dominant in many countries quickly, however, symptoms is milder than Delta variant and more contagious. Therefore, the personal protective measures are necessary is against transmissions of mutant variants. Vaccination is a paramount part against Corona virus and more 11 billion vaccine doses administered have reduced the rate of severe symptoms significantly. As WHO, until January 2022, in Vietnam, the new cases continued increase, however the rate of death decrease significantly. On the second ranking of covering vaccination COVID-19 perspective, the Vietnamese government decided to mitigate regulations about lockdown and isolation, and in the middle of February, a few universities can reopen and combine online teaching and on-site teaching.

### **2.1.2 COVID-19 and Health Behavior in New Lifestyle.**

The COVID-19 has changed almost aspects in our life by their danger. The preventative measures for the spread of COVID-19 are necessary in recent situation. Some countries had applied the strict solution in the early stage of pandemic such as limitation of gathering in public areas, lockdown, and utilizing personal protective equipment. That is one of many reasons contributed to change people's routines which are unfamiliar with almost of people. Lifestyle has currently been concerned as a paramount factor which was affected by COVID-19, consisted of physical and spiritual activities, daily routines, nutrition, etc. During the COVID-19 pandemic, individual behaviors, including frequent hand washing with soap or alcohol, facemask wearing, and social distancing in public areas, play an important role in reducing the transmission of COVID-19 in the community (Doung-ngern et al., 2020). The new healthy behaviors

lifestyle was a crucial part in the process of reducing confirmed cases in terms of shortage of vaccination for everybody.

However, self-isolation and restrictions established a limitation of opportunities for everybody to approach physical activities (Pinto et al., 2020). It took much time for people to stay at home in the circumstance of closure of public areas, restaurants, schools, and offices. Working from home becomes a promising alternative method although its inconvenience. Nevertheless, stay at home for a long time may cause to the conflict among family members by the differences of verbal and physical disputes as well. People have reacted to this pandemic and became sensitive in interacting other individuals at large (Paital et al., 2020). Besides, limitation of going out made internet become the best friend of everybody. They spend much more time on working online and entertainment online also. It can't be denied that the internet brings convenience for us, however, it can be a chance for the fake news which have adverse effect to our life as well. It becomes necessary to concern about abusing certain social conditions and to endanger the safety and health of people (Abbas et al., 2019). In the perspective of COVID-19, almost people have to work and study from home, the share of workplace is inevitable. The children have to attend class in the kitchen, dining room or sofas; their parents have to work in the coffee tables, beds, etc. Therefore, perhaps the increasing stress due to sharing of workstations and besides, the increasing discomfort due to prolonged sedentary activities, lack of physical activities.

“The COVID-19 pandemic has highlighted the life-changing power of the Internet,” said United Nations Secretary-General António Guterres. According to the International Telecommunication Union (ITU), the Internet users increase from 4.1 billion in 2019 to 4.9 billion in 2021. The Internet appeared in many fields of our life such as remote education, remote health care system, remote work, remote retail services, etc. Many delivery services have developed during the pandemic due to online shopping. For example, in Vietnam, by lockdown and curfew in almost cities, it said that people are doing a larger share of food shopping online, with a 3.5-time increase in users who buy food items several times a month on their platform. As Vietnam News Agency, at the end of 2021, the biggest e-commerce platform is Lazada shown the significant increase by 14% compared to the first three months. In COVID-19

pandemic, people have trend to approach and use technological products to alter the former ones.

### **2.1.3 Preventative measures and Effects of COVID-19.**

Patients who suffer from SARS-CoV-2 infection may be asymptomatic people or present symptoms from mild to severe. According to researchers in China, the most common symptoms among patients with COVID-19 consisted of fever, fatigue, lack of appetite, shortness of breath and the proportion of fever are the highest, 99%. The COVID-19 pandemic has imposed an unprecedented challenge to global healthcare systems, societies, and governments (Kaushal & Srivastava, 2021). It has affected to all aspects in our life and in particularly, it is detrimental to members of social groups.

The sudden onset of the COVID-19 restrictions enacted across the world meant significant shifts occurred to people's ordinary working and home life (Rigotti et al., 2020). Since lockdown measures to prevent from the spread of COVID-19, border closure, travel restrictions, prohibition of crowded gatherings and mandatory quarantines have become a tangible barrier to economy all over the world. That is the main reason to lead to the discontinuity of supply chain, have adverse effects for import and export products, and the shortage of workforce. As United Nation, during the months of lockdown and movement limitation, the countries in the Southern and Northern hemisphere experienced to the changes in the trade of products and services. As an assessment by ILO on March 2020, as a bad result of COVID-19, almost 25 million people could be unemployed all over the world. In the first quarter of 2021, in Vietnam, the economic growth slowed down due to the prolonged COVID-19 and extended lockdown, that had tightened the business market. The successive waves of COVID-19 disrupted the Vietnamese economy in the first half of 2021, however, the government expected to recover in 2022 by improvement of effective pandemic containment and steps for economic recovery. Regarding loss of income, unemployment in COVID-19 pandemic, over a third (36%) of adolescents reported symptoms related to mental health disorders or forgoing healthcare (Pinchoff et al., 2021).

The COVID-19 effects not only to economy but also to cultural and social factors. To perform these new policies to restrict the spread of COVID-19, many concrete activities has been applied such as work from home, self-quarantine, wearing mask, social distance, hand hygiene, etc. In Vietnam, since detecting the first confirmed case to COVID-19, the government set out the measures to prevent and control the Corona virus. Same as many countries in the world, Vietnam government issued a strict regulation for temporarily closing offices and public areas and performing “Working from Home”. Many international and local companies, organizations and schools recommended their employees to work at home for their safety. The companies believe that their employees will have a comfortable working environment if working from home because they can control indoor factors such as light, room temperature, fresh air condition, etc. Beside the benefits of working from home, there are numerous negative aspects reported. Global survey finds that nearly seven out of 10 women who experienced negative shifts in their routine as a result of the COVID-19 pandemic believe their career progression will slow down. Additionally, the number of women who say they are responsible for 75% or more of care-giving responsibilities such as childcare or care of other family members, that has nearly tripled to 48% during the pandemic compared to their caring responsibilities prior to COVID-19.

Those who live alone, the lack of interaction to social and face to face communication can contribute to mental disorders (Tavares, 2017). For who can't balance between work and life and manage their time, it finds difficulty for them to detach mentally from work which can increases stress and anxiety (Evanoff et al., 2020). According to a survey by American Psychiatric Association (APA), almost respondents had experienced negative mental health impacts after working from home, including isolation, loneliness and difficulty getting away from work at the end of the day.

## **2.2.Stress.**

### **2.2.1. Definition.**

Stress has different meaning for each person under concrete conditions. Stress is part of our daily human experience, but it is associated with a great variety of

essentially dissimilar problems, such as surgical trauma, burns, emotional arousal, mental or physical effort, fatigue, pain, fear, the need for concentration, the humiliation of frustration, the loss of blood, intoxication with drugs or environmental pollutants, or even the kind of unexpected success that requires an individual to reformulate his lifestyle (Fink, 2010). Meanwhile, according to American Psychiatric Association, stress is known as a sense of being overwhelmed, worry, destruction, press, exhaustion, and lethargy.

Stress puts people in the process of adaption, creating a new balance for the body with the environment influences. However, if stress is constant and these changes persist, they can lead to serious problems in the long term. In other words, stress is the normal response of individual to support to the body's adaption. If the individual's stress response is inadequate, and inappropriate, the body's function will be more or less disturbed with signs of physical, psychological, and behavior. Therefore, stress can affect to everybody including younger or elder, male, or female, and in any regions; and it can lead to the bad or good influence on both physical and psychological health.

### **2.2.2. Symptoms.**

#### **2.2.2.1. Psychological Sign**

Stress makes people have some psychological signs such as anger, loss of temper, unwarranted anxiety, and boredom. Using stimulants or not interested in contacting to everybody are recorded in people with stress. Memory is markedly reduced, thought is less sharp, and memory volume is narrowed.

#### **2.2.2.2. Physical Signs.**

Stress can be a reason led to the abnormal changes in organs of whole body such as nerve system: insomnia, headache, dizziness; cardiovascular system: hypertension, palpitation, arrhythmia; digestion system: dry mouth, diarrhea, indigestion and etc. People with stress feel fatigue, tired and even if severe, symptoms can cause to mental disorders.

#### **2.2.2.3. Measurements.**

In the life, everyone has stress at least one time. The different kinds of stress are reported, however, all of them carry health risks. Stress can occur one time or short time or repeat many times and maintain in a long time. Some people can deal with stress better and more effectively than others. In the different situation, stress has different meanings and is a part of modern life. It is related to a great deal of dissimilar problems such as emotional arousal, fatigue, pain, fear or even the kind of unexpected success that requires an individual to reformulate his lifestyle (Fink, 2010).

To measure of personal stress, there are variety instruments that have been already designed to measure individual stress level. One of the instruments is Perceived Stress Scale (PSS). (Cohen et al., 1983). The PSS-10 is one of the most widely used generic measures of stress, having been translated into more than 20 languages and used in different populations (Lee, 2012). In Vietnam, the version of Vietnamese PSS-10 was translated and evaluated by three bilingual experienced researchers with the Cronbach's alpha for the V-PSS-10 was 0,80 (Dao-Tran et al., 2017). Recently, this measure tool PSS-10 had been used in research about stress of professional teachers in Philippines (Oducado et al., 2021). It remains a popular choice to help understanding how different situations affect feelings and perceived stress. Furthermore, the questions are of a general nature and hence are relatively free of content specific to any sub-population group. The original version of PSS was developed and consisted of 14 items (PSS-14); however, this scale was later reduced to 10 item(PSS-10), removing 4 items because of low factor loading based on the results of principal component analysis. It was believed that the PSS-10 was at least a good measure of perceived stress more than the longer 14-irem version of the scale (Cohen, 1988). The PSS-10 consists of 10 items used to assess how unpredictable, how uncontrollable, and how much overloaded a respondent finds their lives. PSS-10 is also a self-reported instrument. Furthermore, the number of questions is enough for participants to focus on answering. Total questions of 3 parts in this survey are 49 questions, if using the other questionnaire with more questions which are too long, that can affect to participants' emotion when perform survey.

PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across



all scale items. The PSS-10 scale was used in much research pertained to measure stress of lecturers (Yusuf & Hasnida, 2020), (Rodrigues et al., 2020). But in Vietnam, there are not any research used this PSS-10 to conduct survey for lecturers. In addition, I used cross-sectional survey, research in a short - time and one point in time, questions of PSS-10 focus on “in the last month”. PSS-10 is considered as the most suitable questionnaire to measure level of stress in lecturers in Vietnam.

Individual score on the PSS can range from 0 to 40 with high scores indicating higher perceived stress (Phuong, 2021):

- 1.Scores ranging from 0-13 would be considered low stress.
- 2.Scores ranging from 14-26 would be considered moderate stress
- 3.Scores ranging from 27-40 would be considered high perceived stress

### **2.3.Burnout.**

#### **2.3.1. Definition.**

Burnout refers to the emotional depletion and loss of motivation that result from prolonged exposure to chronic emotional and interpersonal stressors on the job (Leiter et al., 2014). With the social development, people have to face to numerous burdens of working and studying to adapt to social trends.

Exhaustion, feeling of cynicism, and professional inefficacy are three dimension which are illustrated in assessment of burnout. Exhaustion represents a basic stress level of burnout. People feel negative changes about physical and spiritual health. They are likely to trend overwhelming, isolate themselves to society, family, and friends. In addition, the frequency of their anger increases when their working and studying do not follow as a plan. The cynicism illustrates interpersonal dimension of burnout. If workload is too much and people overload, they will feel tired and bored with the incomplete working time, and then suspicious of their abilities. Finally, they tend to cut down the amount of time they spend on working and studying or escape from their missions. The professional inefficacy shows the self-evaluation aspect of burnout. The more they study, the more ineffective they feel. These sense of self -

efficacy is exacerbated by their thoughts about mistakes they have. Thus, they become a negative factor regard to themselves and people around them.

Research found that job stress is predictive for lowered job performance, problems with family relationships, and poor health, and studies have shown parallel findings with job burnout (Maslach & Leiter, 2006). They impact on both physical health and mental health for people suffer from burnout.

While burnout can occur in our life, many burnout researches about work were concerned. Research by Drs. Michael P. Leiter and Christina Maslach points to six specific sources of burnout at work: (1) workload; (2) lack of control; (3) Insufficient Reward; (4) Breakdown of Community; (5) Fairness; (6) core values.



*Figure 2: Burnout and sources of burnout at work. (Compson, 2015).*

### **2.3.2. Symptoms of Burnout.**

One research was shown that about 90% respondents with severe symptoms of burnout had a physical or psychological disorder (Ahola, 2007). Burnout is a gradual process. It does not happen overnight, but it can creep up on you. The signs and symptoms are likely to appear unclearly which make everybody does not pay attention, but gradually it will get worse. People with burnout related to stress work may

experience mental disorders and accompany some or all of psychological symptoms (Guthrie et al., 1998).

The psychological symptoms were recorded such as reduced performance and productivity, anxiety, detachment, feeling listless, low mood, difficulty concentrating, lack of creativity, fatigue, negative attitudes towards one's coworkers or job, low commitment to the role, loss of purpose, quickness to anger, job turnover, cynicism, emotional numbness, frustration.

Physical symptoms of burnout may include (Bakker & Costa, 2014) such as exhaustion, generalized pain, headache, gastrointestinal disorders, hypertension, difficulty sleeping and/or a disrupted sleep cycle, increased susceptibility to colds and flu, muscle tension.

### **2.3.3. Measurement of burnout.**

Somebody has experience with burnout through working and studying. Burnout has impact on both mental and physical health. Burnout may be described with clear symptoms of physical, emotional exhaustion as a result of stress associated to their job or workplace (Freudenberger, 1974).

The consequences of burnout have been affected directly by coping strategies (Martínez et al., 2020). These strategies are negatively related to emotional exhaustion (EE), cynicism and positively related to personal accomplishment (PA) (Yin et al., 2018). Depersonalization (DE) is associated with the use of denial, mental disconnection, and avoidance. Thus, avoidance is frequently used by individuals with burnout syndrome (Martínez et al., 2020).

To measure of personal burnout, there are some instruments to be designed for individual burnout level. Burnout dimensions were assessed with the Maslach Burnout Inventory- Educators Survey (MBI-ES) (Maslach et al., 1997) which was designed for use by educators. It is now published and distributed online by Mind Garden.

The MBI-ES is an alternative version of the original MBI and measures the same three burnout dimensions as MBI. This inventory is a 22-item measure with a 0-6 rating scale. The scoring key for this inventory directs to the three burnout factors

emotional exhaustion-EE (questions 1,2,3,6,8,13,14,16,20), depersonalization-DE (Questions 5,10,11,15,22), and personal accomplishment – PA (Questions 4,7,9,12,17,18,19,21) (Gaitan, 2009).

+ **EE (total score: 54):** low within the range of 0 – 16, moderate within the range of 17 – 26, and high if over 27.

+ **DE (total score 30):** low within the range of 0 – 6, moderate within the range of 7 – 12, and high if over 13.

+ **PA (total score 48):** low if over 37, moderate within the range of 31 – 36, and high within the range of 0 – 30.

After evaluating about total score of three dimensions EE, DE, PA (total score of three dimensions: 132), The most frequent criterion being the differentiation of three levels of risk considering the confirmation of Burnout (more than 88 points), the middle tendency to Burnout (between 44 and 87 points), and the low level without risk of suffering Burnout (from 0 to 43 points) (Fernández-Suárez et al., 2021).

+ High Burnout:  $\geq 88$  points

+ Middle risk of Burnout: 44- 87 points.

+ Lower risk of Burnout: 0-43 points.

	Low	Moderate	High
<b>Emotional Exhaustion-EE</b>	0 – 16	17 – 26,	$\geq 27$
<b>Depersonalization-DE</b>	0 – 6	7 – 12	$\geq 13$
<b>Personal Accomplishment – PA</b>	$\geq 37$	31 – 36	0 – 30
<b>Burnout</b>	0-43	44- 87	$\geq 88$

*Figure 3: Level of burnout and three dimensions via score*

According to Maslach and Jackson, persons with higher scores on the emotional exhaustion (EE) and depersonalization (DE), and a lower score on the personal accomplishment (PA) would be perceiving themselves as more burned out.

Thus, a person is not classified as "burned out" or "not burned out", but rather placed on a continuum from "more burnout" to "less burnout. It is important to assess the degree to which a person is experiencing the feelings associated with the three dimensions of burnout. Although Maslach and Jackson provide clear support for these three dimensions of burnout for people in the helping profession (including teachers), it is crucial to note that these dimensions are viewed as independent (Schwab & Iwanicki, 1981).

#### **2.4. Treatment and intervention of stress and burnout.**

Stress is a human body's reaction to what happened in our life. Sometimes it can be positive to maintain a healthy work-life balance, however, sometimes it has negative effects made us suffer emotional tension. Whether it is positive, people with stress still can control their emotion, put everything under control. It is easier for us to detect stress through physical daily activities or unhealthy behaviors. In contrary, burnout is extremely hard to identify because of long-term cumulative stress and progress gradually. Burnout and stress in each situation are different, we need respective interventions at the appropriate time. Whether stress or burnout, it has certain affect to physical and spiritual health, so the treatment or intervention need to be performed as soon as possible in the early stage.

It is hard to estimate the exact time to recover from stress and burnout. In a study about burnout recovery, the intervention results show positive effects (Hahn et al., 2011). Due to not continuous intervention, many people still report feeling burnout even after one year, sometimes even after a decade (Cherniss, 1990). The other studies suggest recovery takes between one and three years (Bernier, 1998).

There are many methods helped people keep stress at bay such as to interfere with your home and work life, or talk to doctor for taking medication, therapy, and other strategies. Human cannot avoid stress and burnout also, however, by practicing some healthy daily strategies can restrict them to get worse. Firstly, assert feelings, opinions instead of getting angry, and be assertive instead of aggressive. And then, setting up the goals and learning how to manage time and control works, it is necessary to say no to requirement to create more stress. In addition, relaxation activities play a crucial role in changing unhealthy routines. For example, doing physical exercises after

working, meditation, yoga, breathing exercises or muscle relaxation. Taking good care of body each day help our body handle stress much better. Finally, if people suffering from stress feels overwhelmed or using addictive substance to cope with stress, health care providers can help them by offering advice, prescribing prescriptions, or referring to a therapist for activity therapy or speech therapy.

### **2.5.COVID-19 with Stress and Burnout.**

The COVID-19 may have brought many difficulties and challenges to our life by changes related to daily routine, financial pressure, and social quarantine. During COVID-19 pandemic, you may face to stress, fear and loneliness, and then mental health disorders can worsen.

Policies about movement restriction, travel restrictions, border shutdowns, school closure and working from home were performed in the early stage for at least two weeks. The SARS-CoV-2 related lockdown has not only adversely affected the mental health but also behavioral and mental health research (Torales et al., 2020). The new regulations in lockdown situation of COVID-19 set up the new habits to people, that sometimes or never appear in people's life such as wear masks, hand washing, social distance, limitation of gathering, and health declaration when staying in crowded and public area, and especially working from home.

With high workload and pressure from working rules at home, employees are dealing with numerous difficulties with their jobs, which is taking a toll on their mental health and personal lives. As a survey conducted by SCIKY Market Network in India in June 2021, 59% men admitted stress related to work affecting to their life, in comparison to 56% women. In the other survey in June 2020, 51.4% of participants with working from home said that working with digital tools was leaving them more stressful. Additionally, during this period of isolation or quarantine, lifestyle and healthy habits have been modified due to individual and environmental differences (Brooks et al., 2020). Loneliness is the state of being in isolation from the community or society. It can be considered as a misunderstood feeling and a high risk of mental disorders such as depression, anxiety, chronic stress, etc. (Wilson et al., 2007). Despite the unclear of quarantine time, those quarantined for more than 10 days showed significantly higher stress symptoms than those quarantined for less than 10 days

(Wilson et al., 2007). As Dr Priyanka wrote in an article published in Forbes Health Magazine in October 2021 “Chronic stress is something that lasts much longer than a month,” and chronic stress last for a long period would become burnout. Stress caused by Corona virus has been related to unexpected mental health and well-being outcomes. People with high level of stress is likely to increase level of burnout as well.

The COVID-19 effects not only health care workers but also to everybody in society. After the first weeks of mandatory quarantine, several journalistic reports highlighted that education professionals throughout the country manifested feelings of distress due to the closure of schools, and felt overwhelmed by the dizzying change that virtual teaching implied (Vargas Rubilar & Oros, 2021). Even the effect to librarians was concerned. In 2020, as surveys of the Public Library Association (PLA) and the American Library Association (ALA), 57% respondents experienced burnout which results from chronic workplace stress because the reduction working hours in the COVID-19 pandemic. The fear of unemployment has increased stress and causes to mental health disorders among people worldwide.

Beside the concern about the danger of Corona virus, the protective personal equipment, COVID-19 testing, or vaccination have made them feel afraid, and stress. According to Mental Health America, there were many questions related to the safety of COVID-19 vaccination. They are afraid whether vaccination is safe enough since the short-time research and allowance of using so fast in the emergency of COVID-19. As research in China, 81.3% of all participants experienced any psychological stress about vaccination before and after getting COVID-19 vaccination (Zheng et al., 2021). With the emergence of the highly transmissible Omicron variant, there has been a corresponding increase in COVID-related stress spanning the gamut of fears of infection (Hadjistavropoulos & Asmundson, 2022). In addition, those who tested positive with COVID-19 may increase higher risk to mental health symptoms than others had negative result or not directly affected to Covid patients (Aknin et al., 2021). Finally, the measures considered as the best choices are tangible reasons which lead to stress.

## **2.6.COVID-19 and Online Teaching.**

As the COVID-19 Border Accountability Project, in March 2020, a total of 348 countries closing their borders, completely and partially. Due to the danger of COVID-19, suspend overseas travel by students and teachers was one of regulations which the government of countries required universities to assess and access carefully to the risk of infection by air travel. With the schools' closure, the most necessary measure was a rapid transition from traditional teaching and learning to the digital methods. Teaching and learning online was considered as the best and the most appropriate with the COVID-19 situation. In response to COVID-19, schools at all levels needed an immediate shift towards online education, which can be both an opportunity and a challenge (Toquero, 2020). The pedagogical difficulties in COVID-19 situation brought an opportunity to increase the importance of remote teaching, a temporary shift from traditional teaching to an alternative, online teaching is approached and put under high-pressure circumstances. Different from classic teaching methods, online teaching is an indirect educational environment on virtual platforms, no tables, no chairs, no teacher standing in front of students and makes home as an academic space. The teaching tools consist of technological devices, internet access, video, live classes and other one. Online teaching is promising academic methodology to convey knowledge to students and increase their interest. Teachers use digital resources to share with their students and play a crucial role in the successful interaction to their students. These pedagogical approach uses the class material delivered online without on campus and face-to-face activities.

The conventional teaching methods suggest that instructors and textbooks are the paramount resource to provide students' knowledge. Recently, in COVID-19 scenario, online teaching is different, teachers are not there to instruct and teach students directly, instead of that, they collect, prepare and present to their student through Internet (Abdon et al., 2007).

In COVID-19 pandemic, many institutions are either operating as stand-alone universities or as part of a conventional academic institution. According to the real situation in each country, educational institutions can combine between online process and on-site system to maintain education system.



### **2.7. Online Teaching and Burnout and Stress.**

Definitions related to distance teaching, mobile teaching and online courses have illustrated a promising trend of using Internet for education. However, despite encouragement from governments, there are still a great deal of difficulties and challenges to online educational environment such as teaching equipment, support of the administrative system, technological skills, and motivation from teachers and students as well. As a result, to adapt to the COVID-19 situation, both teachers and students have had to alter the new educational method, whether they were experienced to online education. The pandemic has not only adversely affected the mental health of students but also teachers who have also accumulated a high level of stress because of difficulties of teaching equipment, technology, etc. since the beginning of the crisis. Prior to the COVID-19 pandemic, teaching was a stressful job, with close to 8% of teachers leaving teaching (Fitchett et al., 2018). Over the years, various authors have pointed out that education workers show a high risk of developing anxiety, stress and burnout as a consequence of being exposed to a wide range of work stressors in their daily activities (Vargas Rubilar & Oros, 2021). United Nations Educational, Scientific and Cultural Organization (UNESCO) (2020a) has shown that one of the adverse outcomes of the close educational institutes are stress among teachers due to the sudden measures and the lack of training with digital tools for distance teaching. The teachers were aware of using technology for enhanced learning; however, they were not ready for such revolutionary change.

Instructors are required multi-skill to manage their career such as update the newest information, present personal skills to interact to students, take motivation for learners and use competently technical skills. Parallel to teaching, the additional requirements in teaching methods can increase stress. Teachers are expected to undertake multiple responsibilities as parents, nurses and social workers for their students; they often do not feel patient enough to complete all roles, leading to higher emotional exhaustion, burnout and psychological symptoms (Ratanasiripong et al., 2021). “Burnout” is a psychological syndrome that is the result of long-term, job-specific, physical and emotional exhaustion from interpersonal stress that results in detachment, cynicism, reduced feelings of efficacy and accomplishment and may have

significant impacts on job performance and satisfaction (Maslach & Leiter, 2016). There has been growing awareness of the adverse influence that the environment of higher education institutions has on the mental health of academics, who have shown high levels of stress and burnout and low levels of well-being (Urbina-Garcia, 2020).

As research at Wageningen University and Research in Netherlands, the reason lead to stress of teachers were emerged by the shortage of appropriate teaching tools, the rising of workload, feelings of isolation and imbalance between work and life. Additionally, some international staffs had been coped with the unstable internet connection, not adequate belongings in the universities. The lack of a social network exacerbated feelings of stressful. At Wageningen University and Research, 66% lectures experienced increased level of stress, 80% of them had difficulties by working from home and an increased workload. Face-to-face teaching and learning method have shown the interest of both teachers and students in terms of discussion lessons, Q&A sessions and practical semester. As the growth in distance education continues, the demands on faculty will increase, potentially leading to the burnout (Fernandez-Batanero et al., 2021).

Globally, many countries reported a great deal of occupational stressors that affect teachers' mental health: excessive workload, large classroom size, inadequate teacher preparation, poor working conditions, and lack of resources (Gray et al., 2017). The lecturers may face and have to tackle problems in the process of online teaching. Anything happened can become a risk factor to lead to stress and burnout for lecturers who are teaching online.

### **2.8.Educational System and the effect to lecturers in Vietnam.**

Education system in Vietnam is divided into three level: primary school, lower secondary schools and upper secondary schools and total school years are 12 years. After graduation of secondary school, students will enroll to exam in the higher education sectors included universities and colleges. As report of World Education News Reviews (WENR) February 2018, in Vietnam, there are 224 public and private universities with about 2.1 million students. There are 73.132 lecturers who are teaching in government and private universities in Vietnam, as Vietnam Ministry of Education and Education in 2020 (MOEVN, 2021) The most popular teaching method is

traditional mode. Teachers and students take part in class, face to face, use textbook and board to teach and learn and exchange knowledge. However, in Vietnam, before COVID-19, the Internet was used in the universities for exchange programs with foreign students and lecturers, but the frequency was quite low. There is a special educational channel on television which included many subjects for students from primary school to upper secondary school. The examples in Vietnam illustrated the perspective on internet use and efforts to bring them to educational environment before COVID-19.

During COVID-19 pandemic, the internet plays an important role in education due to changes of teaching and learning routine. In Vietnam, in early February 2020, due to the speedy spread of Corona virus, immediately, all students were required to leave schools and universities and stay at home in 63 provinces. At that time, the Ministry of Education and Training (MOET) announced a stipulation of “suspending education institutions, not stopping studying”. Therefore, teachers and students in Vietnam must adapt to the situation by switching from traditional face-to-face classes to distance teaching and learning. Students from grades 1 to 12 have learnt through education channels on television through local and national TV stations broadcasting lessons. For students in universities, they can study via the popular online platform such as Zoom, Meet, Microsoft Teams, etc. A few universities installed the own software for online teaching and learning. Moreover, Viettel Study software was developed and set up for students living in rural and mountainous area where has low internet connection (UNICEF 2020).

As research of Vietnam National Institute of Occupational Safety and Health (VNNIOSH) in July 2018, among the reasons, work overload is the most important factor which affects to stress of lecturers. Overload can come from workload, income, family, and social factors, etc. In addition, stress in lecturers causes to lose interest in their profession, affects to their health and personal relationships. According to research in Ho Chi Minh City University of Social Sciences and Humanities, lecturers with severe stress often find it difficult to concentrate on work (57%), stop friend relationship (71%), and 28% overreact to small events. In COVID-19 pandemic, the significant changes of working environment and social environment are the main

reasons to lead to disorders mental health in lecturers. Due to the Internet penetration in teaching in Vietnam, the difficulties of different online platform, the lecturers had high risk to face to stress and burnout in online teaching in COVID-19 situation.



## **CHAPTER III**

### **METHODOLOGY**

This chapter showed research design, research scope, the standard to choose population, the validity, reliability of measurement tools and the way to collect and analyze data.

#### **3.1. Research Design.**

This study was a cross-sectional survey study design which conducted from March to June 2022. Questions related to stress, burnout, and socio- demographic aspects as well as factors related to COVID-19 in process of teaching online of lectures in the universities in Vietnam were carried out during an online survey.

#### **3.2. Study Area.**

The research was conducted in the universities in Vietnam.

#### **3.3. Study Population.**

The population in this study were lectures in university who have been teaching online in Vietnam. Vietnam has about 224 private and government universities with 73,132 lecturers (MOEVN, 2021).

##### **3.3.1. Inclusion Criteria:**

- Permanent teaching in the governmental or private universities.
- Lecturer who has been teaching in universities at least 6 months.
- Have taught by online platform at least consecutively 6 months.
- Age more than 23 years old.
- Educational Level: graduation at least Bachelor's degree.

##### **3.3.2. Exclusion Criteria:**

- Do not continue teaching more than 1 year.
- The subject who was ever diagnosed by medical doctor to have mental health disorders such as stress, anxiety.
- Take medicine or under treatment for mental health disorders.

#### **3.4. Sample Size.**

Using formula of Taro Yamane (Yamane, 1967) for calculation of sample size:

$$n = \frac{N}{1 + N \cdot e^2} = \frac{73132}{1 + 73132 \cdot 0.05^2} = 397.8$$

n: sample size

N: the population size (As Vietnam Ministry of Education and Training, total 73,132 lecturers in both government and private universities in Vietnam) (MOEVN, 2021)

e = 0.05

Finally, from calculation for sample size as formula  $n \approx 400$

⇒ Total subjects in this study would be 400 participants

### 3.5. Sample Method.

Convenience sampling: any lecturers in any universities in Vietnam who were conveniently and readily available.

### 3.6. Measurement Tools.

The self-administered questionnaire was divided into three parts.

**Part 1:** Demographic Characteristics consisted of age, gender, marital status, living place, and monthly income.

Social environmental Factors related to teaching online including method of teaching, faculty, equipment teaching, workload, classroom size.

Questions regarding COVID-19 consisted of 3 questions.

#### **Part 2: Perceived Stress**

The questions in the second part were the Perceived Stress Scale (PSS-10) (Cohen et al., 1983). The PSS included 10 questions using a 5-point Likert type rating scale from 0 (never) to 4 (very often) to measure the level of stress participants.

#### **Part 3: Burnout**

The questions in the third part were Maslach Burnout Inventory- Educators Survey (MBI\_ES) (Maslach et al., 1997). The MBI-ES included 22 questions using a

7-point Likert type rating scale from 0 (never) to 6 (every day) to measure level of burnout.

### **3.7. Validity**

The validity for general questionnaire about socio-demographic characteristics, teaching experience, COVID-19 and questionnaire of stress and burnout were measured by Item-Objective Congruence (IOC) scoring. Three experts were invited to evaluate the questionnaire. Questionnaire items which scored less than 0.5 were removed. Indeed, their comments did not change the major content of instruments with IOC = 0.96.

### **3.8. Reliability**

A pilot testing was performed. All the questionnaires in this study were tested to 30 lecturers in the universities in Vietnam in order to evaluate the reliability. The questionnaires were translated into Vietnamese. Some items were removed if it would show poor standard value of Cronbach's alpha. The standard value of acceptable Cronbach's alpha was 0.7.

Indeed, via the usage of Cronbach Alpha, the reliability was strong for stress ( $\alpha = 0.8$ ), for burnout ( $\alpha = 0.88$ ), burnout dimensions: emotional exhaustion ( $\alpha = 0.92$ ), depersonalization ( $\alpha = 0.86$ ), personal accomplishment ( $\alpha = 0.9$ ).

### **3.9. Ethical Consideration.**

The study protocol was reviewed and approved by the Ethics Committee of Nam Dinh University of Nursing, Nam Dinh, Vietnam (protocol number 965/GCN-HDDD) on 13 April 2022. The purpose of ethical consideration was to allow to use the following materials in the above study: research protocol, information and approval form to participate in research and research tools.

### **3.10. Data Collection.**

Data collection was conducted after the study was approved by Ethical Commission. The questionnaire was translated into Vietnamese. A special link was used to spread the questionnaires to lecturers in the universities in Vietnam. Through lecturers' email provided by the chosen universities, this link was distributed to lecturers. Firstly, the respondents had to answer some screening questions. And then,

they could access to questionnaire including socio-demographic, stress and burnout questions if they accomplished the least requirement of screening questions. All data collection in this study were carried out through the Google Form application.

Totally, there were 5 assistants to support this research in these universities:

-Hoang Thi Kim Thoa \_ Lecturers - University of Economics Technology for Industries.

-Tran Xuan Huy \_Lecturer\_ University of Economics Technology for Industries.

-Lai Thi Ha\_ Lecturer\_ Faculty of Medicine \_ Dong A University, Da Nang.

-Do Thi Hoai Thuong\_ Research Staff \_ University of Medicine & Pharmacy Ho Chi Minh City.

-Le Van Dinh\_ Teacher\_ Thanh Oai High School, Ha Noi.

### 3.11. Data Analysis.

Descriptive statistics was performed to describe the variable distribution among respondents. Frequency and percentage were used to describe the categorical variables. Mean and standard deviation were displayed for continuous variables. The study was the Chi-square to find association factors related to teaching online, COVID-19, socio-demography and stress, burnout.

The study used the Chi-square to analyze and run on the SPSS 20.0 software program.

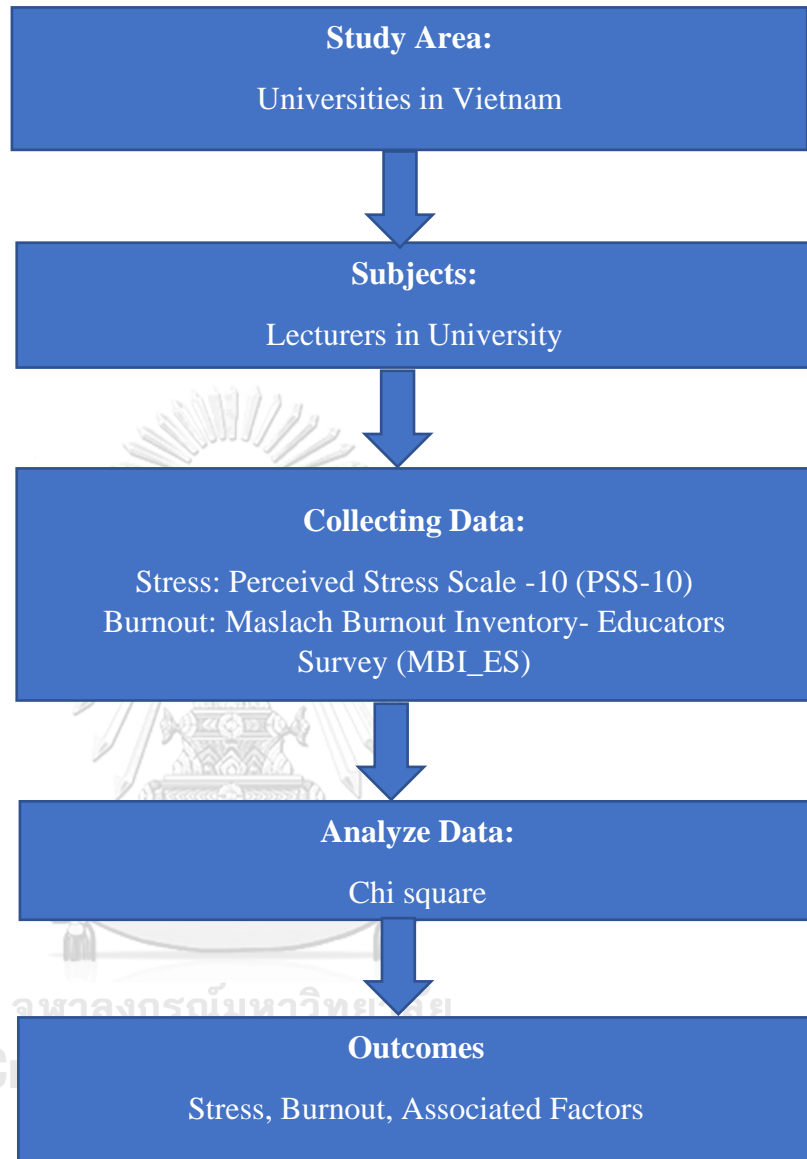
Variable	Details	Description
<b>Dependent Variable</b>	Stress	Categorical variables
	Burnout	Categorical variables
<b>Independent Variable</b>	<b>Socio- demographic Factors</b>	
	Age	<i>Continuous variables</i>



Gender	Categorical variables
Marital Status	Categorical variables
Monthly Income	Categorical variables
Family Income	Categorical variables
Residence	Categorical variables
<b>Teaching Factors</b>	
Teaching experiences	Categorical variables
Education Level	Categorical variables
Method of teaching	Categorical variables
Workload per day	<i>Continuous variables</i>
Workload per week	<i>Continuous variables</i>
<b>Covid-19 Factors</b>	
Doses of Vaccination	Categorical variables
Feeling with protective measures	Categorical variables
Feeling about mutant variants	Categorical variables

Figure 4: Description of Variables

## Methodology Flow Chart



*Figure 5: Flow Chart of Methodology*

## CHAPTER IV

### RESULTS

By analyze data used Chi square test, the prevalence of stress and burnout was investigated. In addition, this study found the association among the associated variables and stress level, burnout level, three dimensions of burnout as well.

#### 4.1. Descriptive Statistic.

##### 4.1.1. Socio demographic characteristic of participants.

The total number of the respondents in this study was 334 lecturers. As can be seen from table 4.1 of these participants, the majority of respondents were female at 262 (78.4%) while 21.6% of total participants were male. For marital status, the most of lecturers were married at 232 (69.5%), and followed by single and divorce, 28.7% and 1.8%, respectively. The ages of respondents ranged between 24 and 55 years with the average of 33.78 years and a standard deviation of 6.4. The age distribution was uneven; 112 (33.5%) subjects were under 30 years old, 174 (52.1%) were between 31 and 40 years old and 48 (14.4%) for the age of over 40. For living area, 281 (84.1%) reported they lived in the urban area that was 5 times higher than the percentage of living in rural area, 15.9%. With regard to the personal income, the majority of participants had income from 501 USD to 700 USD, at 31.7%, from 1001 USD to 1500USD, with 2.2 and more than 1500USD accounted for 0.3%. The distribution of family income was not significant different among groups, and the highest percent was more than 1000 USD, with 28.7% and the lowest percentage was 21.3%, belonged to family income from 701USD to 800 USD.

*Table 4.1: Description of socio-demographic characteristics  
(N=334)*

Variables	Number	Percent (%)
<b>Age</b>		
≤ 30	112	33.5
31-40	174	52.1
>40	48	14.4
Mean ( $\bar{X} \pm SD$ )	33.78 ± 6.4	
Median:	33	

Min:	24	
Max:	55	
<b>Gender</b>		
Male	72	21.6
Female	262	78.4
<b>Marital Status</b>		
Single	96	28.7
Married	232	69.5
Divorce	6	1.8
<b>Living Area</b>		
Urban City	281	84.1
Rural City	53	15.9
<b>Personal Income(USD)</b>		
< 500USD	107	32.0
501USD - 700USD	113	33.8
701USD- 1000USD	106	31.7
1001USD-1500USD	7	2.2
>1500USD	1	0.3
<b>Family Income(USD)</b>		
≥ 500USD - 700USD	79	23.7
701USD- 800USD	71	21.3
801USD- 1000USD	88	26.3
>1000USD	96	28.7

#### 4.1.2. Teaching Factors of participants.

According to the results of teaching factors (table 4.2), most of the lecturers did have less than 5 years of working experiences, at 33.5%, followed by from 5 to 10 years of working experience, with 32.3%, from 10 to 20-year experience, 29.9%, and more than 20 years of experience, at 4.3%. The median working experience was 9 years, the minimum year of experience was 1 and the maximum was 32 years. The majority of participants had master's degree with 59%, bachelor's degree, 35.9% and PhD degree with 5.1%. For workload per week, the average working hour of 52.17 and standard deviation of 11.5. Respondents worked more than 48 hours per week had 51.2% and

the percentage of those who worked less than 48 hours per week were 48.8%. For teaching method, the most participants with online and offline method, at 61.7% whereas only online teaching were 38.3%. The highest percentage of their classroom size is from 31-50 students per class, 37.7%, followed by less than 30 students per class, 32.6% and more than 50 students per class, at 29.7%. For difficulties in teaching online, the most difficult problem was the Internet connection (75.4%), the second popular trouble was the relationship and connection with students in class (58.9%) whereas video conferencing software problem with 56.5%, problems with class material, 26.6%, technological devices insufficient at 22.7% and others at 0.1%.

Table 4.2: Description of teaching factors (N=334)

Variables	Number	Percent (%)
<b>Working experience(years)</b>		
≤ 5 years	112	33.5
5-10 years	108	32.3
>10-20 years	100	29.9
> 20 years	14	4.3
Mean ( $\bar{X} \pm SD$ )	8.9 ± 5.8	
Median:	9	
Min:	1	
Max:	32	
<b>Education Background</b>		
Bachelor	120	35.9
Master	197	59
PhD	17	5.1
<b>Working hour per week</b>		
≤ 48hours/ week	163	48.8
> 48 hours/ week	171	51.2
Mean ( $\bar{X} \pm SD$ )	52.17 ± 11.5	
Median:	48	
Min:	40	
Max:	84	

Mean ( $\bar{X} \pm SD$ )	52.17	±
	11.5	
<b>Teaching Method</b>		
Online	128	38.3
Online and Offline	206	61.7
<b>Class Size (Students)</b>		
< 30	109	32.6
31-50	126	37.7
>50	99	29.7
<b>Difficulties when teaching online</b>		
Technological devices insufficient such as Laptop, iPad, Mobile.	76	22.7
Internet connection problem.	252	75.4
Video conferencing software problem (ex. Zoom, MS team, Google Meet, Skype)	189	56.5
Problem with class material preparing.	89	26.6
Connection with students in class	197	58.9
Other	4	0.1

#### 4.1.3. COVID factors and participants

Table 4.3 provided that almost participants had 3 doses of COVID vaccine (85.3%), followed by 2 doses of COVID vaccine and 4 doses, 12.6% and 2.1%, respectively. For feeling uncomfortable with COVID regulations, the majority of participants sometimes felt uncomfortable with COVID regulation (58.4%), usually (22.2%), never (9.9%), often (8.3%) and always (1.2%). For feeling worried about COVID variants, almost respondents sometimes felt worried about the mutant Corona variants (42.8%), usually (35.6%), always (10.2%), never (6.0%), and often (5.4%).

Table 4.3: Descriptions of COVID-19 factors (N=334)

Variables	Number	Percent (%)
<b>Covid Vaccine Doses.</b>		
2 doses	42	12.6
3 doses	285	85.3

4 doses	7	2.1
<b>Feeling uncomfortable with COVID regulations.</b>		
Never (0%)	33	9.9
Sometimes (20%)	195	58.4
Usually (50%)	74	22.2
Often (80%)	28	8.3
Always (100%)	4	1.2
<b>Feeling worried about COVID variants.</b>		
Never (0%)	20	6.0
Sometimes (20%)	143	42.8
Usually (50%)	119	35.6
Often (80%)	18	5.4
Always (100%)	34	10.2

#### 4.1.4. Stress Level and Burnout Level of Participants.

According to the results of the PSS and MBI-ES of the 334 participants, the most of respondents suffered from moderate stress, with 82.9%, low stress at 10.5% and 6.6% for high stress. For burnout, the majority of participants had moderate burnout (62.3%), low burnout (37.1%) and high burnout at 0.6%.

*Table 4.4: Distribution of participants according to levels of the stress, burnout, and dimensions of burnout. (N=334).*

Dependent Variables	Level		
	Low n (%)	Moderate n (%)	High n (%)
Stress	35 (10.5)	277 (82.9)	22 (6.6)
Burnout	124 (37.1)	208 (62.3)	2 (0.6)
<b>Dimension of burnout</b>			
Emotional Exhaustion (EE)	51 (15.3)	214 (64.1)	69 (20.6)
Depersonalization (DE)	47 (14.1)	245 (73.3)	42 (12.6)

Personal Accomplishment (PA)	56 (16.8)	230 (68.8)	48 (14.4)
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## 4.2. The association between stress, burnout, and the independent variables.

### 4.2.1. Demographic Variables.

#### 4.2.1.1. The association between stress, burnout and demographic variables.

Regarding demographic factors, the results showed that no association between level of stress and demographic variables.

The most lecturers had suffered from moderate level of stress and burnout also. However, according to table 4.5, regarding to age, participants less than 30 years had high level stress, at 8.1%, moderate level at 84.8%, low level at 7.1%; from 31 to 40 years old, high level stress, at 5.8%, moderate level at 83.9%, low level at 10.3%; age of more than 40, high level stress, at 6.2%, moderate level at 75%, low level at 18.8%. For gender, male had 6.9% high stress, 79.2% moderate stress and 13.9% low stress; female had high level stress, at 6.5%, moderate level at 83.9%, low level at 9.6%. Regarding marital status, those who were divorced had 16.7% of high stress, 83.3% of moderate level and 0% for low level; married had high level stress, at 6%, moderate level at 81.9%, low level at 12.1%; single with high level stress, at 7.3%, moderate level at 85.4%, low level at 7.3%. Respondents living in urban area had 6.8% high stress, 83.2% of moderate stress and 10% low stress whereas people living in rural area accounted for 5.7% high stress, 81.1% of moderate stress and 13.2% low stress. Regarding to personal income, the number of respondents with income from 501 USD to 700USD was the biggest, with high level stress, at 4.4%, moderate level at 84.1%, low level at 11.5%. For family income, the number of participants with income more than 1000USD was the biggest and had 9.4% high stress, 76% of moderate level, 14.6% of low level.

*Table 4.5: Chi Square Test Results of the association between stress and the demographic variables.*

	Stress
--	--------



Variables	Low n (%)	Moderate n (%)	High n (%)	Total	p-value
<b>Age</b>					
≤ 30	8 7.1%	95 84.8%	<b>9</b> <b>8.1%</b>	112 100.0%	0.303
31-40	18 10.3%	146 83.9%	10 5.8%	174 100.0%	
>40	9 18.8%	36 75.0%	3 6.2%	48 100.0%	
<b>Gender</b>					
Male	10 13.9%	57 79.2%	<b>5</b> <b>6.9%</b>	73 100%	0.558
Female	25 9.6%	219 83.9%	17 6.5%	261 100%	
<b>Marital Status</b>					
Single	7 7.3%	82 85.4%	7 7.3%	96 100%	0.434
Married	28 12.1%	190 81.9%	14 6.0%	232 100%	
Divorce	0 0%	5 83.3%	<b>1</b> <b>16.7%</b>	6 100%	
<b>Living Area</b>					
Urban City	28 10%	234 83.2%	<b>19</b> <b>6.8%</b>	281 100%	0.758
Rural City	7 13.2%	43 81.1%	3 5.7%	53 100%	
<b>Personal Income (USD)</b>					
< 500	5 4.7%	93 86.9%	9 8.4%	107 100%	0.142
501 to 700	13 11.5%	95 84.1%	5 4.4%	113 100%	
701 to 1000	17 16%	82 77.4%	7 6.6%	106 100%	
1001 to 1500	0 0%	6 85.7%	<b>1</b> <b>14.3%</b>	7 100%	
>1500	0 0%	1 100%	0 0%	1 100%	
<b>Family Income (USD)</b>					
≥ 500 to 700	5 6.3%	68 86.1%	6 7.6%	79 100%	0.323
701 to 800	9 12.7%	59 83.1%	3 4.2%	71 100%	
801 to 1000	7	77	4	88	

	8.0%	87.5%	4.5%	100%
> 1000	14	73	9	96
	14.6%	76%	9.4%	100%

Regarding demographic factors, the results showed that one variable and level of burnout had a significant association as the following: there was the association between personal income and level of burnout,  $p < 0.01$ , according to table 4.5.

Regarding level of burnout, the most participants had moderate burnout level. With the ages, respondents with less than 30 years old had 29.4% low burnout, 68.8% moderate burnout and 1.8% high burnout. Followed by the age of 31 to 40 years with low burnout 42%, moderate burnout level 58% and 0% high burnout, the age of more than 40 years with 37.5% low burnout, 62.5% moderate burnout and 0% high level of burnout. Regarding gender, male had low burnout at 34.7% which was lower than that of female, at 37.9%; and 0% high burnout for male, 0.8% high burnout for female. Married respondents had low burnout level with 39.7% which was higher than that of single and divorce, 31.2% and 33.3%, respectively. Single respondents had 2.1% high burnout, and this was 0% for both married and divorced. For living area, 37.7% low burnout, 62.3% moderate burnout and 0% high burnout for living in rural area whereas 37% low burnout, 62.3% of moderate burnout and 0.7% high burnout for living in urban area. Regarding to personal income, the number of respondents with income from 501 USD to 700USD was the biggest, with 0% of high-level burnout, moderate level at 58.4%, low level at 41.6%. For family income, the number of participants with income more than 1000USD was the biggest and had 1% high stress, 55.2% of moderate level, 43.8% of low level.

*Table 4.6: Chi Square Test Results of the association between Burnout and the demographic variables.*

Variables	Burnout			Total	p-value
	Low n (%)	Moderate n (%)	High n (%)		
<b>Age</b>					
≤ 30	33 29.4%	77 68.8%	2 1.8%	112 100.0%	0.051
31-40	73 42.0%	101 58.0%	0 0.0%	174 100.0%	
>40	18 43.8%	30 66.7%	0 0%	48 100%	

	37.5%	62.5%	0.0%	100.0%	
<b>Gender</b>					
Male	25	47	0	73	0.804
	34.7%	65.3%	0%	100%	
Female	99	160	2	261	
	37.9%	61.3%	0.8%	100%	
<b>Marital Status</b>					
Single	30	64	2	96	0.130
	31.2%	66.7%	2.1%	100%	
Married	92	140	0	232	
	39.7%	60.3%	0%	100%	
Divorce	2	4	0	6	
	33.3%	66.7%	0%	100%	
<b>Living Area</b>					
Urban City	104	175	2	281	0.825
	37%	62.3%	0.7%	100%	
Rural City	20	33	0	53	
	37.7%	62.3%	0%	100%	
<b>Personal Income (USD)</b>					
< 500	28	78	1	107	< 0.01**F
	26.2%	72.9%	0.9%	100.0%	
501 to 700	47	66	0	113	
	41.6%	58.4%	0.0%	100.0%	
701 to 1000	47	59	0	106	
	44.3%	55.7%	0.0%	100.0%	
1001 to 1500	2	4	1	7	
	28.6%	57.1%	14.3%	100.0%	
>1500	0	1	0	1	
	0.0%	100.0%	0.0%	100.0%	
<b>Family Income (USD)</b>					
≥ 500 to 700	29	50	0	79	0.191
	36.7%	63.3%	0.0%	100.0%	
701 to 800	19	51	1	71	
	26.8%	71.8%	1.4%	100.0%	
801 to 1000	34	54	0	88	
	38.6%	61.4%	0.0%	100.0%	
> 1000	42	53	1	96	
	43.8%	55.2%	1%	100%	

Note: \*\*F Means Fisher's exact test and significant at p-value 0.01

#### 4.2.1.2. The association between demographic variables and Emotional Exhausted (EE).

Regarding demographic factors, the results showed that two variables and level of emotional exhausted (EE) had significant associations as the following: age, personal income,  $p < 0.01$ .

According to table 4.7, the ages of less than 30 was 31.2% high EE level, followed by 30 to 40 years old, at 14.4% and more than 40 years old with 18.8%. Male

respondents have 19.4% low EE level, 62.5% moderate EE level and 18.1% high EE level, whereas female with 14.2% low EE, 64.4% moderate EE and 21.5% high EE. For marital status, single had the first rank of low EE at 17.7% whereas the first rank of high EE was divorce with 50%. Respondents living in rural area had 20.8% low EE, 62.3% moderate EE and 17% high EE. Respondents living in urban area had low EE at 14.2%, 64.4% moderate EE and 21.4% high EE. Regarding personal income, the first rank of low EE was 701 USD to 1000 USD, at 21.7% and the highest percent of high EE was 1001 USD to 1500USD. For family income variable, from 500 - 700 USD hold 26.6% of high EE which the highest percent among the groups.

*Table 4.7: Chi Square Test Results of the association between Emotional Exhausted(EE) and the demographic variables.*

Variables	Burnout			Total	p-value
	Low n (%)	Moderate n (%)	High n (%)		
<b>Age</b>					
≤ 30	14 12.5%	63 56.2%	35 31.2%	112 100.0%	<0.01**
31-40	26 14.9%	123 70.7%	25 14.4%	174 100.0%	
>40	11 22.9%	28 58.3%	9 18.8%	48 100.0%	
<b>Gender</b>					
Male	14 19.4%	45 62.5%	14 18.1%	73 100.0%	0.505
Female	37 14.2%	168 64.4%	56 21.5%	261 100%	
<b>Marital Status</b>					
Single	17 17.7%	54 56.2%	25 26%	96 100%	0.103
Married	34 14.7%	157 67.7%	41 17.7%	232 100%	
Divorce	0 0%	3 50%	3 50%	6 100%	
<b>Living Area</b>					
Urban City	40 14.2%	181 64.4%	60 21.4%	281 100%	0.430
Rural City	11 20.8%	33 62.3%	9 17%	53 100%	
<b>Personal Income (USD)</b>					
< 500	8 7.5%	69 64.5%	30 28%	107 100%	<0.01**F
501 to 700	19 16.8%	74 65.5%	20 17.7%	113 100%	
701 to 1000	23 21.7%	68 64.2%	15 14.2%	106 100%	
1001 to 1500	1	2	4	7	

>1500	14.3%	28.6%	57.1%	100%	
	0	1	0	1	
	0%	100%	0%	100%	
<b>Family Income (USD)</b>					
≥ 500 to 700	11	47	21	79	0.213
	13.9%	59.5%	26.6%	100%	
701 to 800	8	49	14	71	
	11.3%	69%	19.7%	100%	
801 to 1000	11	63	14	88	
	12.5%	71.6%	15.9%	100%	
> 1000	21	55	20	96	
	21.9%	57.3%	20.8%	100%	

\*\*Means Pearson's Chi-square test and significant at p-value 0.01.

\*\*F Means Fisher's exact test and significant at p-value 0.01.

#### 4.2.1.3. The association between demographic variables and Depersonalization (DE).

Regarding demographic factors, the results showed that age variable and level of depersonalization (DE) had a significant association,  $p < 0.05$ .

According to table 4.8, the ages of less than 30 was 18.8% high DE level, followed by 30 to 40 years old, at 9.2% and more than 40 years old with 10.4%. Male respondents have 18.1% low DE level, 69.4% moderate DE level and 12.5% high DE level, whereas female with 13% low DE level, 74.3% moderate DE level and 12.6% high DE level. For marital status, single had the first rank of low DE at 18.8% whereas the first rank of high DE was divorce with 16.7%. Respondents living in rural area had 24.5% low DE level, 62.3% moderate DE level and 13.2% high DE level while people living in urban area had low DE at 12.1%, 75.4% moderate DE and 12.5% high DE. Regarding personal income, the first rank of low DE was 701 USD to 1000 USD, at 18.9% and the highest percent of high DE was 1001 USD to 1500USD, at 28.6%. For family income variable, more than 1000 USD hold 14.6% of high DE which the highest percent among the groups.

*Table 4.8: Chi Square Test Results of the association between depersonalization (DE) and the demographics variables.*

Variables	Burnout			Total	p-value
	Low n (%)	Moderate n (%)	High n (%)		

<b>Age</b>					
≤ 30	14	77	21	112	<b>&lt;0.05*<sup>F</sup></b>
	12.5%	68.8%	18.8%	100%	
31-40	22	136	16	174	
	12.6%	78.2%	9.2%	100%	
>40	11	32	5	48	
	22.9%	66.7%	10.4%	100%	
<b>Gender</b>					
Male	13	50	9	72	0.551
	18.1%	69.4%	12.5%	100%	
Female	34	194	33	261	
	13%	74.3%	12.6%	100%	
<b>Marital Status</b>					
Single	18	65	13	96	0.429
	18.8%	67.7%	13.5%	100%	
Married	29	175	28	232	
	12.5%	75.4%	12.1%	100%	
Divorce	0	5	1	6	
	0%	83.3%	16.7%	100%	
<b>Living Area</b>					
Urban City	34	212	35	281	0.051
	12.1%	75.4%	12.5%	100%	
Rural City	13	33	7	53	
	24.5%	62.3%	13.2%	100%	
<b>Personal Income (USD)</b>					
< 500	11	78	18	107	0.343
	10.3%	72.9%	16.8%	100%	
501 to 700	16	85	12	113	
	14.2%	75.2%	10.5%	100%	
701 to 1000	20	76	10	106	
	18.9%	71.7%	9.4%	100%	
1001 to 1500	0	5	2	7	
	0%	71.4%	28.6%	100%	
>1500	0	1	0	1	
	0%	100%	0%	100%	
<b>Family Income (USD)</b>					
≥ 500 to 700	9	59	11	79	0.352
	11.4%	74.7%	13.9%	100%	
701 to 800	12	50	9	71	
	16.9%	70.4%	12.7%	100%	
801 to 1000	8	72	8	88	
	9.1%	81.8%	9.1%	100%	
> 1000	18	64	14	96	
	18.8%	66.7%	14.6%	100%	

<sup>\*F</sup> Means Fisher's exact test and significant at p-value 0.05

#### 4.2.1.4. The association between demographic variables and Personal Accomplishment (PA).

Regarding demographic factors, the results showed that three variables including age, marital status, personal income, and level of personal accomplishment (PA) had a significant association,  $p < 0.05$ .

According to table 4.9, the ages of less than 30 was 25.9% high PA level, followed by 30 to 40 years old, at 8% and more than 40 years old with 10.4%. Male respondents have 18% low PA level, 65.3% moderate PA level and 16.7% high PA level, whereas female with 16.5% low PA level, 69.7% moderate PA level and 13.8% high PA level. For marital status, married had the first rank of low PA at 19.8% whereas the first rank of high PA was single with 20.8%. Respondents living in rural area had 15.1% low PA level, 71.7% moderate PA level and 13.2% high PA level while people living in urban area had low PA at 17.1%, 68.3% moderate PA and 14.6% high PA. Regarding personal income, the first rank of low PA was 1001 USD to 1500 USD, at 42.9% and the highest percent of high PA was 1001 USD to 1500USD, at 28.6%. For family income variable, from 500USD to 700 USD hold 21.5% of high PA which the highest percent among the groups.

*Table 4.9: Chi Square Test Results of the association between personal accomplishment (PA) and the demographic variables.*

Variables	Burnout			Total	p-value
	Low n (%)	Moderate n (%)	High n (%)		
<b>Age</b>					
≤ 30	10 8.9%	73 65.2%	29 25.9%	112 100.0%	<0.01**
31-40	32 18.4%	128 73.6%	14 8%	174 100.0%	
>40	14 29.2%	29 60.4%	5 10.4%	48 100.0%	
<b>Gender</b>					
Male	13 18%	47 65.3%	12 16.7%	72 100%	0.752
Female	43 16.5%	182 69.7%	36 13.8%	216 100%	
<b>Marital Status</b>					
Single	9 9.4%	67 69.8%	20 20.8%	96 100%	<0.05*F
Married	46 19.8%	158 68.1%	28 12.1%	232 100%	
Divorce	1 16.7%	5 83.3%	0 0%	6 100%	
<b>Living Area</b>					
Urban City	48 17.1%	192 68.3%	41 14.6%	281 100%	0.888
Rural City	8 15.1%	38 71.7%	7 13.2%	53 100%	
<b>Personal Income (USD)</b>					

< 500	14	69	24	107	<b>&lt;0.01**F</b>
	13.1	64.5%	22.4%	100%	
501 to 700	18	79	16	113	
	15.9%	69.9%	14.2%	100%	
701 to 1000	21	79	6	106	
	19.8%	74.5%	5.7%	100%	
1001 to 1500	3	2	2	7	
	42.9%	28.5%	28.6%	100%	
>1500	0	1	0	1	
	0%	100%	0%	100%	
<b>Family Income (USD)</b>					
≥ 500 to 700	11	51	17	79	0.053
	13.9%	64.6%	21.5%	100%	
701 to 800	9	50	12	71	
	12.7%	70.4%	16.9%	100%	
801 to 1000	12	68	8	88	
	13.6%	77.3%	9.1%	100%	
> 1000	24	61	11	96	
	25%	63.5%	11.5%	100%	

*\*\*Means Pearson's Chi-square test and significant at p-value 0.01*

*\*F Means Fisher's exact test and significant at p-value 0.05*

*\*\*F Means Fisher's exact test and significant at p-value 0.01*

#### **4.2.2. Teaching Variables.**

##### **4.2.2.1. The association between teaching variables and Stress level.**

Regarding teaching factors, the results showed that three variables and level of stress had significant associations as the following: teaching method, education background, working hour per week,  $p < 0.05$ .

According to the results of table 4.10, the highest percentage of the lecturers with high stress had under 5 years of working experience (8%), worked more than 48 hours per week (13.5%) with 31 to 50 students per class (9.5%), used both online and offline teaching method (9.2%), and 17.6% participants had PhD degree suffered from high stress. In contrary, regarding low stress level, the highest percentage of participants was 16% for 15-20 years of working experience, 1.3% for working less than 48 hours per week, 5.8% of bachelor's degree, 8.8% for both online and offline teaching method and 9.1% for more than 50 students per class.

*Table 4.10: Chi Square Test Results of the association between*



*Stress level and teaching factors.*

Variables	Stress				p-value
	Low n (%)	Moderate n (%)	High n (%)	Total	
<b>Working Experience(years)</b>					
≤ 5 years	7 6.3%	96 85.7%	9 8.0%	112 100%	0.332
5-10years	11 10.2%	90 83.3%	7 6.5%	108 100%	
>10-20years	16 16.0%	78 78.0%	6 6.0%	100 100%	
>20 years	1 7.1%	13 92.9%	0 0.0%	14 100%	
<b>Working Hour per week.</b>					
≤48hours/week	33 1.3%	138 80.7%	0 0%	171 100%	<b>&lt;0.01**</b>
> 48hours/week	2 1.2%	139 85.3%	22 13.5%	163 100%	
<b>Education Level</b>					
Bachelor	7 5.8%	99 82.5%	14 11.7%	120 100%	<b>&lt;0.01**<sup>F</sup></b>
Master	27 13.7%	165 83.8%	5 2.5%	197 100.0%	
PhD	1 5.9%	13 76.5%	<b>3</b> <b>17.6%</b>	17 100%	
<b>Teaching Method</b>					
Online	17 13.3%	108 84.4%	3 2.3%	128 100%	<b>&lt;0.05*</b>
Online and Offline	18 8.8%	169 82.0%	<b>19</b> <b>9.2%</b>	206 100%	
<b>Class Size</b>					
<30	11 10.1%	90 82.6%	8 7.3%	109 100%	0.197
31-50	15 11.9%	99 78.6%	<b>12</b> <b>9.5%</b>	126 100%	
>50	9 9.1%	88 88.9%	2 2.0%	99 100%	

\*Means Pearson's Chi-square test and significant at p-value 0.05.

\*\*Means Pearson's Chi-square test and significant at p-value 0.01.

\*\*<sup>F</sup> Means Fisher's exact test and significant at p-value 0.01.

#### **4.2.2.2. The association between burnout and teaching variables.**

Regarding teaching factors, the results showed that three variables and level of burnout had significant associations as the following: working experience, education background, working hour per week,  $p < 0.05$ .

According to the results of table 4.11, the highest percentage of the lecturers with high burnout had under 5 years and from 5 to 10 years of working experience (0.9%), worked more than 48 hours per week (1.2%), bachelor's degree (1.7%), teach both online and offline method (1%), less than 30 students per class (1.8%). In contrary, regarding low burnout level, the highest percentage was 49% for 15 to 2 years of working experience, 59.1% of working hour per week less than 48 hours per week, 43.1% for master's degree, 38.3% for only online teaching method, and 41.4% for more than 50 students per class.

*Table 4.11: Chi Square Test Results of the association between Burnout level and teaching factors.*

Variables	Burnout				p-value
	Low n (%)	Moderate n (%)	High n (%)	Total	
<b>Working Experience(years)</b>					
≤ 5 years	30 26.8%	81 72.3%	1 0.9%	112 100%	<0.05 <sup>*F</sup>
5-10years	42 38.9%	65 60.2%	1 0.9%	108 100%	
>10-20years	49 49.0%	51 51.0%	0 0.0%	100 100%	
>20 years	3 21.4%	11 78.6%	0 0.0%	14 100%	
<b>Working Hour per week.</b>					
≤48hours/week	101 59.1%	70 40.9%	0 0%	171 100%	<0.01 <sup>**F</sup>
> 48hours/week	23 14.1%	138 84.7%	2 1.2%	163 100%	
<b>Education Level</b>					
Bachelor	34 28.3%	84 70.0%	2 1.7%	120 100%	<0.05 <sup>*F</sup>
Master	85 43.1%	112 56.9%	0 0.0%	197 100.0%	
PhD	5 29.4%	12 70.6%	0 0.0%	17 100%	
<b>Teaching Method</b>					
Online	49 38.3%	79 61.7%	0 0%	128 100%	0.236
Online and Offline	75 36.4%	129 62.6%	2 1%	206 100%	
<b>Class Size</b>					
<30	33 30.3%	74 67.9%	2 1.8%	109 100%	0.146
31-50	50 50.0%	76 76.0%	0 0%	126 100%	

	39.7%	60.3%	0.0%	100%
>50	41	58	0	99
	41.4%	58.6%	0.0%	100%

\**F* Means Fisher's exact test and significant at p-value 0.05

\*\**F* Means Fisher's exact test and significant at p-value 0.01

#### 4.2.2.3. The association between emotional exhausted (EE) and teaching variables.

Regarding teaching factors, the results showed that three variables and level of emotional exhausted (EE) had significant associations as the following: working experience, education background, working hour per week,  $p < 0.05$ .

According to the results of table 4.12, the highest percentage of the lecturers with high EE level had under 5 years (30.4%), worked more than 48 hours per week (40.5%), PhD degree (41.2%), teach both online and offline method (22.8%), less than 30 students per class (23.6%). In contrary, regarding low EE level, the highest percentage was 20% for 10 to 2 years of working experience, 27.5% of working hour per week less than 48 hours per week, 11.7% for bachelor's degree, 19.5% for online teaching method, and 17.2% for more than 50 students per class.

Table 4.12: Chi Square Test Results of the association between Emotional Exhaustion (EE) and teaching factors.

Variables	Emotional Exhausted (EE)				p-value
	Low n (%)	Moderate n (%)	High n (%)	Total	
<b>Working Experience(years)</b>					
≤ 5 years	13 11.6%	65 58%	34 30.4%	112 100%	<b>&lt;0.05*</b>
5-10years	17 15.7%	74 68.5%	17 15.7%	108 100%	
>10-20years	20 20%	66 66%	14 14%	100 100%	
>20 years	1 7.1%	9 64.3%	4 28.6%	14 100%	
<b>Working Hour per week.</b>					
≤48hours/week	47 27.5%	121 70.8%	3 1.8%	171 100%	<b>&lt;0.01**</b>
> 48hours/week	4 2.5%	93 57.1%	66 40.5%	163 100%	
<b>Education Level</b>					
Bachelor	14 11.7%	67 55.8%	39 32.5%	120 100%	<b>&lt;0.01**<i>F</i></b>
Master	35	139	23	197	

	17.8%	70.6%	11.7%	100.0%	
PhD	2	8	7	17	
	11.8%	47.1%	41.2%	100%	
<b>Teaching Method</b>					
Online	25	81	22	128	0.157
	19.5%	63.3%	17.2%	100%	
Online and Offline	26	133	47	206	
	12.6%	64.6%	22.8%	100%	
<b>Class Size</b>					
<30	15	65	26	109	0.346
	16.5%	59.6%	23.9%	100%	
31-50	16	81	29	126	
	12.7%	64.3%	23%	100%	
>50	17	68	14	99	
	17.2%	68.7%	14.1%	100%	

\*Means Pearson's Chi-square test and significant at p-value 0.05.

\*\*Means Pearson's Chi-square test and significant at p-value 0.01.

\*\*<sup>F</sup> Means Fisher's exact test and significant at p-value 0.01.

#### 4.2.2.4. The association between Depersonalization (DE) and teaching variables.

Regarding teaching factors, the results showed that three variables and level of emotional exhausted (EE) had significant associations as the following: education background, working hour per week, teaching method,  $p < 0.05$ .

According to the results of table 4.13, the lecturers with high DE level had under 5 years of working experience (17%), worked more than 48 hours per week (24.5%), with less than 30 students per class (13.8%), used both teaching method which were online and offline (15.5%), and 23.5% participants with PhD degree. In term of low DE level, the highest percentage was 18% for 10 to 20 years of working experience, 24% of working hour per week less than 48 hours per week, 11.7% for bachelor's degree, 18% for online teaching method, and 10.1% for more than 50 students per class.

Table 4.13: Chi Square Test Results of the association between Depersonalization (DE) and teaching factors.

Variables	Depersonalization (DE)				p-value
	Low n (%)	Moderate n (%)	High n (%)	Total	
<b>Working Experience(years)</b>					
≤ 5 years	14 12.5%	79 70.5%	19 17%	112 100%	0.479

5-10years	14	81	13	108	
	13%	75%	12%	100%	
>10-20years	18	74	8	100	
	18%	74%	8%	100%	
>20 years	1	11	2	14	
	7.1%	78.6%	14.3%	100%	
<b>Working Hour per week.</b>					
≤48hours/week	41	128	2	171	<0.01**
	24%	74.9%	1.2%	100%	
> 48hours/week	6	117	40	163	
	3.7%	71.8%	24.5%	100%	
<b>Education Level</b>					
Bachelor	14	84	22	120	<0.05 <sup>F</sup>
	11.7%	70%	18.3%	100%	
Master	31	150	16	197	
	15.7%	76.1%	8.1%	100.0%	
PhD	2	11	4	17	
	11.8%	64.7%	23.5%	100%	
<b>Teaching Method</b>					
Online	23	95	10	128	<0.05*
	18%	74.2%	7.8%	100%	
Online and Offline	24	150	32	206	
	11.7%	72.8%	15.5%	100%	
<b>Class Size</b>					
<30	21	73	15	109	0.121
	19.3%	67%	13.8%	100%	
31-50	16	91	19	126	
	12.7%	72.2%	15.1%	100%	
>50	10	81	8	99	
	10.1%	81.8%	8.1%	100%	

\*Means Pearson's Chi-square test and significant at p-value 0.05.

\*\*Means Pearson's Chi-square test and significant at p-value 0.01.

<sup>F</sup> Means Fisher's exact test and significant at p-value 0.05.

#### 4.2.2.5. The association between Personal Accomplishment (PA) and teaching variables.

Regarding teaching factors, the results showed that three variables and level of personal accomplishment (PA) had significant associations as the following: working experience, education background, working hour per week,  $p < 0.05$ .

According to the results of table 4.14, the lecturers with high PA level had under 5 years of working experience (25.9%), worked more than 48 hours per week (26.4%), with less than 30 students per class (15.6%), used both teaching method which were online and offline (16.5%), and 23.5% participants with bachelor's degree. In term of low PA level, the highest percentage was 42.9% for more than 20 years of working experience, 3.1% of working hour per week less than 48 hours per week, 20.8% for

master's degree, 21.1% for online teaching method, and 20.2% for more than 50 students per class.

*Table 4.14: Chi Square Test Results of the association between personal accomplishment (PA) and teaching factors.*

Variables	Personal Accomplishment (PA)				p-value
	Low n (%)	Moderate n (%)	High n (%)	Total	
<b>Working Experience(years)</b>					
≤ 5 years	9 8%	74 66.1%	29 25.9%	112 100%	<b>&lt;0.01**</b>
5-10years	18 16.7%	79 73.1%	11 10.2%	108 100%	
>10-20years	23 23%	70 70%	7 7%	100 100%	
>20 years	6 42.9%	7 50%	1 7.1%	14 100%	
<b>Working Hour per week.</b>					
≤48hours/week	51 29.8%	115 67.3%	5 2.9%	171 100%	<b>&lt;0.01**</b>
> 48hours/week	5 3.1%	115 70%	43 26.4%	163 100%	
<b>Education Level</b>					
Bachelor	12 10%	76 63.3%	32 26.7%	120 100%	<b>&lt;0.01**<sup>F</sup></b>
Master	41 20.8%	143 72.6%	13 6.6%	197 100.0%	
PhD	3 17.6%	11 64.7%	3 17.6%	17 100%	
<b>Teaching Method</b>					
Online	27 21.1%	87 68%	14 10.9%	128 100%	0.132
Online and Offline	29 14.1%	143 69.4%	34 16.5%	206 100%	
<b>Class Size</b>					
<30	12 11%	80 73.4%	17 15.6%	109 100%	0.372
31-50	24 19%	83 65.9%	19 15.1%	126 100%	
>50	20 20.2%	67 67.7%	12 12.1%	99 100%	

*\*\*Means Pearson's Chi-square test and significant at p-value 0.01.*

*\*<sup>F</sup> Means Fisher's exact test and significant at p-value 0.05.*

#### 4.2.3. COVID-19 Variables.

There were no association between level of stress, burnout and these COVID variables.

#### 4.2.3.1. The association between level stress and COVID variable.

Regarding to COVID vaccine doses, the highest percent of low stress level was 14.3% for participants with 4 doses and high stress level, at 11.9% for 2 doses. Participants usually feel uncomfortable with COVID regulation, had 13.5% of high stress level, 6.8% of low stress level. Respondents usually feel worried about COVID variants, at 7.6% of high stress level. Only 2.9% people always feel worried about COVID variants had low stress level which the lowest percent among the groups.

Table 4.15: The association between stress level and COVID variants.

Variables	Stress			Total	p-value
	Low n (%)	Moderate n (%)	High n (%)		
<b>Covid Vaccine</b>					
2 doses	3 7.1%	34 81.0%	5 11.9%	42 100.0%	0.495
3 doses	31 10.9%	237 83.1%	17 6.0%	285 100.0%	
4 doses	1 14.3%	6 85.7%	0 0.0%	7 100.0%	
<b>Feeling uncomfortable with COVID regulations</b>					
Never (0%)	4 12.1%	27 81.8%	2 6.1%	33 100.0%	0.12
Sometimes (20%)	22 11.3%	166 85.1%	7 3.6%	195 100.0%	
Usually (50%)	5 6.8%	59 79.7%	10 13.5%	74 100.0%	
Often (80%)	3 10.7%	22 78.6%	3 10.7%	28 100.0%	
Always (100%)	1 25.0%	3 75.0%	0 0.0%	4 100.0%	
<b>Feeling worried about COVID variants</b>					
Never (0%)	6 30.0%	14 70.0%	0 0.0%	20 100.0%	0.159
Sometimes (20%)	18 12.6%	115 80.4%	10 7.0%	143 100.0%	
Usually (50%)	9 7.5%	101 84.9%	9 7.6%	119 100.0%	
Often (80%)	1 5.5%	16 88.9%	1 5.6%	18 100.0%	

Always (100%)	1	31	2	34
	2.9%	91.2%	5.9%	100.0%

#### 4.2.3.2. The association between level burnout and COVID variables.

Regarding to COVID vaccine doses, the highest percent of low stress level was 38.6% for participants with 3 doses and high stress level, at 2.4% for 2 doses. Participants usually feel uncomfortable with COVID regulation, had 1.4% of high stress level, and participants often feel uncomfortable with COVID regulation 42.9% of low stress level. Respondents usually feel worried about COVID variants, at 1.7% of high stress level. People never feel worried about COVID variants had low stress level which the lowest percent among the groups, at 55%.

Table 4.16: The association between burnout and COVID variants

Variables	Burnout			Total	p-value
	Low n (%)	Moderate n (%)	High n (%)		
<b>Covid Vaccine</b>					
2 doses	12 28.6%	29 69.0%	1 2.4%	42 100.0%	0.26
3 doses	110 38.6%	174 61.1%	1 0.4%	285 100.0%	
4 doses	2 28.6%	5 71.4%	0 0.0%	7 100.0%	
<b>Feeling uncomfortable with COVID regulations</b>					
Never (0%)	13 39.4%	20 60.6%	0 0.0%	33 100.0%	0.884
Sometimes (20%)	74 37.9%	120 61.6%	1 0.5%	195 100.0%	
Usually (50%)	24 32.4%	49 66.2%	1 1.4%	74 100.0%	
Often (80%)	12 42.9%	16 57.1%	0 0.0%	28 100.0%	
Always (100%)	1 25.0%	3 75.0%	0 0.0%	4 100.0%	
<b>Feeling worried about COVID variants</b>					
Never (0%)	11 55.0%	9 45.0%	0 0.0%	20 100.0%	0.21
Sometimes (20%)	53 37.1%	90 62.9%	0 0.0%	143 100.0%	



Usually (50%)	47 39.5%	70 58.8%	2 1.7%	119 100.0%
Often (80%)	5 27.8%	13 72.2%	0 0.0%	18 100.0%
Always (100%)	8 23.5%	26 76.5%	0 0.0%	34 100.0%

#### 4.2.3.3. The association between Emotional Exhaustion (EE) and COVID variables.

Regarding to COVID vaccine doses, the highest percent of low EE level was 16.7% for participants with 2 doses and high EE level, at 2.4% for 2 doses. Participants usually feel uncomfortable with COVID regulation, had 25.7% of high EE level, and participants often always uncomfortable with COVID regulation 25% of low EE level. Respondents often feel worried about COVID variants, at 27.8% of high EE level. People never feel worried about COVID variants had low EE level which the lowest percent among the groups, at 30%.

Table 4.17: The association between Emotional Exhaustion (EE) and COVID variants.

Variables	Emotional Exhaustion (EE)				p-value
	Low n (%)	Moderate n (%)	High n (%)	Total	
<b>Covid Vaccine</b>					
2 doses	7 16.7%	21 50%	14 33.3%	42 100%	0.161
3 doses	43 15.1%	189 66.3%	53 18.6%	285 100%	
4 doses	1 14.3%	4 57.1%	2 28.6%	7 100%	
<b>Feeling uncomfortable with COVID regulations</b>					
Never (0%)	5 15.2%	20 60.6%	8 24.2%	33 100%	0.852
Sometimes (20%)	26 14.9%	129 66.2%	37 19%	195 100%	
Usually (50%)	10 13.5%	45 60.8%	19 25.7%	74 100.0%	
Often (80%)	6 21.4%	17 60.7%	5 17.9%	28 100%	

Always (100%)	1	3	0	4
	25%	75%	0%	100%

#### Feeling worried about COVID variants

Never (0%)	6	13	1	20	0.404
	30%	62.5%	5%	100%	
Sometimes (20%)	25	90	28	143	
	17.5%	62.9%	19.6%	100%	
Usually (50%)	15	77	27	119	
	12.6%	64.7%	22.7%	100%	
Often (80%)	2	11	5	18	
	11.1%	61.1%	27.8%	100%	
Always (100%)	3	23	8	34	
	8.8%	67.6%	23.5%	100%	

#### 4.2.3.4. The association between Depersonalization (DE) and COVID variables.

Regarding to COVID vaccine doses, the highest percent of low DE level was 14.3% for participants with 2 doses and 4 doses and high DE level, at 19% for 2 doses. Participants usually never feel uncomfortable with COVID regulation, had 18.2% of high DE level, and 21.2% of low DE level. Respondents usually feel worried about COVID variants, at 16% of high DE level. People never feel worried about COVID variants had low DE level which the lowest percent among the groups, at 30%.

Table 4.18: The association between Depersonalization (DE) and COVID variants.

Variables	Depersonalization (DE)				p-value
	Low n (%)	Moderate n (%)	High n (%)	Total	
<b>Covid Vaccine</b>					
2 doses	6 14.3%	28 66.7%	8 19%	42 100%	0.601
3 doses	40 14%	212 74.4%	33 11.6%	285 100%	
4 doses	1 14.3%	5 71.4%	1 14.3%	7 100%	
<b>Feeling uncomfortable with COVID regulations</b>					
Never (0%)	7 21.2%	20 60.6%	6 18.2%	33 100%	0.111
Sometimes (20%)	31	145	19	195	

	15.9%	74.4%	9.7%	100%
Usually (50%)	4	54	13	74
	5.4%	77%	17.6%	100%
Often (80%)	4	20	4	28
	14.3%	71.4%	14.3%	100%
Always (100%)	1	3	0	4
	25%	75%	0%	100%

#### Feeling worried about COVID variants

Never (0%)	6	14	0	20	0.057
	30%	70%	0%	100%	
Sometimes (20%)	26	100	17	143	
	18.2%	69.9%	11.9%	100%	
Usually (50%)	13	87	19	119	
	10.9%	73.1%	16%	100%	
Often (80%)	1	15	2	18	
	5.6%	83.3%	11.1%	100%	
Always (100%)	1	29	4	34	
	2.9%	85.3%	11.8%	100%	

#### 4.2.3.5. The association between personal accomplishment (PA) and COVID variables.

Regarding to COVID vaccine doses, the highest percent of low PA level was 28.6% for participants with 4 doses and 4 doses and high PA level, at 16.7% for 2 doses. Participants usually always feel uncomfortable with COVID regulation, had 25% of high PA level, and often feel uncomfortable with COVID regulation, at 21.4% of low PA level. Respondents always feel worried about COVID variants, at 23.5% of high PA level. People never feel worried about COVID variants had low PA level which the lowest percent among the groups, at 30%.

Table 4.19: The association between personal accomplishment and COVID variants.

Variables	Personal Accomplishment (PA)				p-value
	Low n (%)	Moderate n (%)	High n (%)	Total	
<b>Covid Vaccine</b>					
2 doses	3	32	7	42	0.288
	7.1%	76.2%	16.7%	100%	
3 doses	51	193	41	285	
	17.9%	67.7%	14.4%	100%	

4 doses	2	5	0	7
	28.6%	71.4%	0%	100%

#### Feeling uncomfortable with COVID regulations

Never (0%)	6	21	6	33	0.384
	18.2%	63.6%	18.2%	100%	
Sometimes (20%)	35	139	21	195	
	17.9%	71.3%	10.8%	100%	
Usually (50%)	9	49	16	74	
	12.2%	66.2%	21.6	100%	
Often (80%)	6	18	4	28	
	21.4%	64.3%	14.3%	100%	
Always (100%)	0	3	1	4	
	0%	75%	25%	100%	

#### Feeling worried about COVID variants

Never (0%)	6	13	1	20	0.159
	30%	65%	5%	100%	
Sometimes (20%)	27	98	18	143	
	18.9%	68.5%	12.6%	100%	
Usually (50%)	18	87	14	119	
	15.1%	73.1%	11.8%	100%	
Often (80%)	1	10	7	18	
	5.6%	55.6%	38.9%	100%	
Always (100%)	4	22	8	34	
	11.8%	64.7%	23.5%	100%	

### 4.3. The correlation between the associated variables and level of stress and burnout.

The results of the normality test using the Kolmogorov-Smirnov Test were in Table 4.20 based on the test results of score of stress, burnout and three dimensions of burnout, a significance value of 0.000 was obtained where the value is less than the value of  $\alpha = 0.05$ . Therefore, data was not normally distributed as p-value was less than 0.05.

Table 4.20: Tests of Normality.

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Burnout Score	.119	334	.000	.955	334	.000
PA score	.182	334	.000	.885	334	.000

DE score	.158	334	.000	.934	334	.000
EE score	.115	334	.000	.950	334	.000
Stress Score	.073	334	.000	.983	334	.001

Table 4.21 presented the bivariate correlations between demographic, teaching variables and stress, burnout, burnout dimensions. The bivariate correlations on Table 4.21 showed that age had significant negative correlations with emotional exhaustion ( $r = -0.182$ ,  $p < 0.05$ ) and depersonalization ( $r = -0.163$ ,  $p < 0.05$ ) except with personal accomplishment ( $r = 0.263$ ,  $p < 0.05$ ). Marital status had positive correlation with personal accomplishment ( $r = 0.168$ ,  $p < 0.05$ ). Personal income had negative correlation with burnout ( $r = -0.166$ ,  $p < 0.05$ ) and burnout for personal accomplishment ( $r = -0.160$ ,  $p < 0.05$ ), except personal accomplishment. None of the demographic variables had significant correlations with stress.

Of the teaching variables, working hour per week was positively correlated with stress ( $r = 0.814$ ,  $p < 0.05$ ), burnout ( $r = 0.697$ ,  $p < 0.05$ ), emotional exhaustion ( $r = 0.695$ ,  $p < 0.05$ ) and depersonalization ( $r = 0.591$ ,  $p < 0.05$ ) and negatively correlated with personal accomplishment ( $r = -0.477$ ,  $p < 0.05$ ). Teaching method had positive correlation with stress ( $r = 0.121$ ,  $p < 0.05$ ) and burnout for depersonalization ( $r = 0.107$ ,  $p < 0.05$ ). Working experience was negatively correlated with burnout ( $r = -0.223$ ,  $p < 0.05$ ), emotional exhausted ( $r = -0.184$ ,  $p < 0.05$ ) and positively correlated with personal accomplishment ( $r = 0.282$ ,  $p < 0.05$ ). Education background had significant correlation with stress, burnout and three burnout dimensions. The negative correlation with stress ( $r = -0.224$ ,  $p < 0.05$ ), burnout ( $r = -0.213$ ,  $p < 0.05$ ), emotional exhausted ( $r = -0.190$ ,  $p < 0.05$ ), depersonalization ( $r = -0.165$ ,  $p < 0.05$ ), and positive correlation with personal accomplishment ( $r = 0.235$ ,  $p < 0.05$ ).

*Table 4.21: The correlation matrix of demographic, teaching variables and stress, burnout, burnout dimensions.*

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Stress	-											
2 Burnout	0.867	-										
3 EE	0.861	0.948	-									

4	DE	0.744	0.837	0.796	-								
5	PA	-0.617	-0.734	-0.577	-0.469	-							
6	Age	-0.252	-0.216	<b>-0.182*</b>	<b>-0.163*</b>	<b>0.263*</b>	-						
7	Marital Status	-0.138	-0.077	-0.047	0.035	<b>0.168*</b>	0.580	-					
8	Personal Income	-0.205	<b>-0.166*</b>	<b>-0.160*</b>	-0.108	<b>0.184*</b>	0.622	0.423	-				
9	Working hour per week	<b>0.814*</b>	<b>0.697*</b>	<b>0.695*</b>	<b>0.591*</b>	<b>-0.477*</b>	-0.095	-0.074	-0.098	-			
10	Teaching Method	<b>0.121*</b>	0.078	0.064	<b>0.107*</b>	-0.054	-0.024	0.080	0.024	0.081	-		
11	Working Experience	-0.247	<b>-0.223*</b>	<b>-0.184*</b>	-0.158	<b>0.282*</b>	0.941	0.554	0.659	-0.095	-0.019	-	
12	Education Background	<b>-0.224*</b>	<b>-0.213*</b>	<b>-0.190*</b>	<b>-0.165*</b>	<b>0.235*</b>	0.728	0.442	0.454	-0.062	0.044	0.723	-

\*  $p < 0.05$



## **CHAPTER V DISCUSSION**

Nowadays stress burnout is a problem more popular than that we believed. It has a great influence on both societies in general and lecturers in particular. Our research has conducted to find out the association among three main characteristics, named socio- demographic, teaching online, COVID factors and level of stress, burnout and three dimensions of burnout. There were a few previous researches in other countries to compare to our study as followed.

Total participants taken part in this research were 334 lecturers which was less than that of formulas in chapter 3 methodology which was 397 participants. This can be explained that in Vietnam, in the researched period, almost universities were allowed to reopen. The number of lecturers with teaching online were not too many for research. In addition, the elderly respondents had not been familiar with Google Form questionnaires, so some answers missed and were not enough information that were removed in the list of answers. However, compared to 397 respondents as formula, 334 lecturers who had high academic level and equal to awareness of stress and burnout still made the research have valuable. That was proved by Cronbach  $\alpha$  of reliably being more than 0.8 which were higher than some previous research.

### **5.1. Socio demographic description.**

Most of the participants taken part in this research were female with mean of age 33.78. The respondents were quite young with the age from 31 to 40 years old. It can be explained that the proficiency of using technology of the young is better than that of the older. The questionnaires were distributed via Google form – one of Internet platform which was one of reasons made the lower number of the senior. In addition, almost universities in this research are located in urban city, so the percentage of lecturers living in urban city was higher than that of living in rural city. Regarding personal income, as protocol of Vietnam Ministry of Education (40/2020/TT-BGDĐT, 26/10/2020), the base salary of lectures in Vietnam is from 300USD to 500USD. In this study, the average of salary was a bit higher that is from 500 USD to 700 USD. When

it comes to working experience, due to most of young lecturers joined in the research, the number of working experiences was from 5 to 10 years and less than 5 years that stand to the highest percent among the other groups. As Vietnam Labor Law (No.45/2019/QH14, 2019), the standard working hour of all workers in almost fields are 48 hours per week and not over 8 hours per day. This study used 48 hours to become a cutoff point to divide into 2 parts less than 48 hours per week and more than 48 hours per week. Regarding education background, almost lecturers in Vietnam had master's degree. As regulations about recruitment (116/2003/NĐ-CP, 10/10/2003) , new lecturers has to have at least bachelor's degree . Each universities have different regulations about degree and certificates such as master's degree or PhD degree. Almost participants were the young, so the percentage of bachelor and master were higher than PhD's degree.

## **5.2. Level of stress and burnout.**

The result of this study showed that the majority of lecturers suffered from moderate level of stress (82.9%). It was similar to the result found in Arab and Jewish education college study (Jarmas & Raed, 2018) with the average score reflecting a mediocre degree of stress. Similarity to level of burnout and three dimensions of burnout, our result indicated that level of burnout, the EE, DP and PA levels of lecturers were found to be moderate. It was confirmed to research in Turkey (Toker, 2011) which showed the average score of burnout and its dimensions.

Numerous work-related factors have been found to be associated with burnout among teachers including excessive time pressure, poor relationships with colleagues, large classes, lack of resources, fear of violence, behavioral problems of pupils, role ambiguity and role conflict, poor opportunities for promotion, lack of support and lack of participation in decision-making (Azeem & Nazir, 2008). In COVID-19 pandemic, the Vietnam government has supported partly to reduce difficulties of the new teaching method. For instance, creating the special software for teaching between teachers and students easily such as Viettel software; supporting technical devices, provide computers and necessary equipment for teaching; improving the speed of Internet connect, and so on. That was reasons why stress and burnout level did not reach to high level. However, it found that the lecturers' workload was higher than that of the



previous time because the work related to technology and teaching system in software. In addition, the connection to students were affected by stopping temporarily face to face teaching and only interact via teaching platform on the Internet. With difficulties, existence of stress and burnout was still reported in moderate level.

### **5.3. The association with socio demographic characteristics.**

Regarding socio demographic factors, the results showed that no association between these variables and level of stress, one variable associated to level of burnout, four variables had association to emotional exhaustion (EE), one variable associated to depersonalization (DE) and three variables had association to personal accomplishment (PA).

Although, no association between demographic variables and level of stress, with regarding to gender and age, the higher percentage of participants with high stress were male and the age of under 30 years. Compared to our research, the other study showed contradictory result which have found discrepancies regarding gender differences in the stress response. Female professors showed higher levels of perceived stress than males (Aparisi et al., 2019). Furthermore, the age variable was considered as a significant relationship with the level of stress. As a study of Naylor (Naylor, 2001), young teachers such experienced such high levels of stress.

In term of marital status, despite no association between marital status and stress, in our study, the result showed that the high stress of divorced respondents was higher than the other group. These one coincided with the study of Pietersen and van Zyl (Van Zyl & Pietersen, 1999) which illustrated those possible reasons why the teachers in the divorced and widowed groups experience high levels of stress, could be due to the extra family and financial responsibilities that they have as single parents (Engle, 2012).

Burnout is stress-related and a prolonged response to stressors. However, although in our study, lecturers with high burnout were male, the age of under 30 years and single, there was not significant association between level of burnout and those variables. An international study was shown a similar result, in which burnout syndrome is higher than in males (Aparisi et al., 2019) and the age of 21-30 years had

higher burnout in the research in Turkey (Toker, 2011) and no association to marital status which was found in the study among academicians at universities in Pakistan (Faisal et al., 2015).

Besides, Anderson and Iwanicki (1984) found that gender difference existed in all burnout dimensions. Male teachers scored significantly higher in emotional exhaustion (EE), depersonalization (DE) and personal accomplishment (PA). However, in our study, no association between gender and stress, burnout. Our study found an association between EE, DE, PA, and age, however, contrary to our study, Anderson and Iwanicki (1984) reported no difference in age for these two burnout dimensions: depersonalization (DE) and personal accomplishment (PA). Regarding marital status, research of Russell (Russell et al., 1987) and De Heus (De Heus & Diekstra, 1999) found that married teachers reported significantly higher scores in personal accomplishment, less emotional exhausted and depersonalizing than single persons. The results of our study showed that marital status had an association to PA and insignificant association to EE and DE.

With online teaching in COVID, findings uncover the association between living area and stress, burnout, and three dimensions of burnout also. As table 4.2, the most difficulties which lecturers had to face were the Internet connection. In the recent research from Sri Rahayu (Rahayu et al., 2022) among teachers in Indonesia, the Internet access is available and stable for teachers in urban areas but tends to be unstable or indecent for those in rural areas. However, access to technology greatly supports distance learning implemented by the government during the current COVID-19 pandemic. That may be a reason why living area did not have any association to stress and burnout.

Financial factor such as personal income and family income were expected to predict to level of stress, however no association between those variables and stress. Most of participants having income from 1000USD suffered from high level of stress. These results were opposite to the previous one. According to research of Aizah et al., (2016) in public university in Malaysia, lecturers with the income lower than 600USD showed more stress than those who had higher income (Ahmad & Alam, 2016). Finding in our research covered the association between personal income and level of burnout

and lecturers with income over 1000USD had high level of burnout. This result was contradicted to a study of Sarkhel, 2020 (Mohammed et al., 2020). The fewer salary payments even at no payment for a long time, teachers showed some of the burnout behaviors. The explanation for the differences between the current study and this study were a great deal of changes in society in general and education in particular during COVID pandemic. Those who had high salary usually had more working years and reached to high positions such as a head of department or a supervisor of group. They had much more responsibility in organization of new teaching method and ensure COVID regulations in the department or universities that have made them more stress.

In addition, personal income had significant association to EE and PA. Our result is similar to research in Turkey (Barutçu & Serinkan, 2013). There was an association between emotional exhaustion (EE) and personal income. People who were thought not adequate salary were higher score of EE than that of the others. However, in that study, related to salary, with depersonalization (DE) and personal accomplishment (PA) dimensions, there was no significant differences that contradicted to our results.

#### **5.4. The association with teaching factors.**

Regarding teaching factors, the results showed that three variables associated to level of stress, including education background, working hour per week and teaching method. Three variables had a significant association to level of burnout, and two dimensions, emotional exhaustion (EE), and personal accomplishment (PA). They consisted of working experience, education background and working hour per week. Three variables associated to depersonalization (DE) were education background, working hour per week and teaching method.

Firstly, regarding working hours per week, Lectures who worked more than 48 hours a week were more affected by high level of stress and burnout. A significant association was found between the prevalence of stress and working hours (Kinman, 2001), similar to the findings of this study. Working within long working hours was linked with psychological and physical ill-health (Stevens et al., 1998). This relationship is especially strong where average working weeks regularly exceed 48 hours. (Kinman, 2001). Working hour per week includes teaching works and non-

teaching works. As research in Queensland, work pressure is one of the factors that predict burnout and show the correlation with three dimensions of burnout (Dorman, 2003). Burden of workload display higher level of EE, DE and reduce PA. Our findings indicate that in COVID pandemic, working time at home has increased and that is a cause of burnout because it leaves no time for social life, which is parallel to Dorman (2003) findings.

Secondary, with respect to the education background, this was a factor considered as having significant association to stress and burnout levels among lecturers in universities. In this study, those who with higher education background (PhD) expressed more stress which may be because their higher expectation to oneself and to their students in the short time (i.e one month for report about stress), however, people with lower education background (Bachelor) showed the high level of burnout which was reported for a long time (i.e at least 6 months to report about burnout). It can be explained that in COVID pandemic, the changes of education were utilized for a long time, lectures with bachelor's degree were younger and had less experience. They are not capable of managing their work, control their emotion that can lead to more burnout. This result was contrary to an international survey which conducted with respondents in UK academics (Kinman, 2001). It showed that employees from the lower grades may be particularly vulnerable to occupational stressors. In addition, as for the effect of educational background, the participants with lower degree received higher scores than the other groups in emotional exhaustion and depersonalization while they received the lowest score in personal accomplishment (Seferoğlu et al., 2014). This result was parallel to our results.

Thirdly, with regards to working experience, despite no association to level of stress, the finding indicates that the level of stress among lecturers differs significantly based on experience of the lecturer (Ofoegbu & Nwadiani, 2006) with a significant association which is contrary to the results found in this study. People under 5 years of working experience had trend to high level of stress. These results were considered as evidence that the first working years were the most challenged, new lecturers were not able to solve and face to difficulties which the experienced lecturers learned in their process of working. Several studies investigated association between working

experience variables and burnout (Schwab & Iwanicki, 1982) which confirmed the findings of this study. Parallel to the results of our study, in the other study in Turkey, those participants who had working experience from six to ten years received higher scores in all the three dimensions of burnout when compared to the other groups, whereas those who had been working for 21 to 25 years received the lowest scores of all in all the three sub-dimensions. In other words, the teachers with more experience suffered from a low level of burnout (Seferoğlu et al., 2014).

Last but not least, regarding teaching method, there were a significant association to level of stress and depersonalization (DE). Unsurprisingly, the innovations of education in COVID-19 are a milestone in teaching of almost teachers. In the early of COVID-19 pandemic, the turnaround from traditional teaching method to digital teaching made many difficulties to teachers in general and lecturers in particular. Later, in a new situation of COVID in Vietnam, it has been necessary to reopen schools and universities and allow students to come back to study directly with teachers. The changes have occurred one more time and lecturers need to adapt to teaching method swiftly to ensure both theory lessons and field activities for their students. The combination online teaching and offline teaching has put lecturers under working pressure to fit into the updated regulations.

Besides, no association between class size and level of stress, burnout, teacher who taught in schools with large student-teacher ratios reported that class size was a prominent source of stress for them (French, 1993). Many assignments sent from students; unmanageable class size can be a stressful task (Ofoegbu & Nwadiani, 2006). A significant association was found between the level of stress and class size that were contrary to the findings of this study. The result of our study indicated an insignificant association between burnout and class size which is similar to research in Finnish (Saloviita & Pakarinen, 2021). Class size had a minimal association with teachers' burnout. However, intuitively, one might infer that higher numbers of students taught would lead to higher levels of burnout. Some research indicate that relationship could well exist at the university level and number of students directly correlate with burnout (Lackritz, 2004).

### 5.5. The association with COVID factors.

In the researched period, almost participants had 3 doses of COVID vaccine and almost universities in Vietnam reopened so that students and lecturers can teach and study on-site. It was not surprising that participants with low level stress and burnout were people who never feel worried about COVID variants and never uncomfortable with regulations to prevent from COVID. By knowledge about COVID in general, COVID vaccine and variants in particular and updated treatments as well, lecturers may feel safe and minimize level of stress and burnout in process of teaching.



## CHAPTER VI

### CONCLUSION AND RECOMMENDATION

From the results and analyze, this study concluded the major of stress and burnout of lecturers in teaching online in COVID-19 pandemic. Besides there were associations among stress, burnout, three dimensions of burnout and the independent variables. Lastly, the recommendations were mentioned to enhance awareness of stress, burnout level and the associated factors that will contribute to the future policies and research.

#### **6.1. Conclusion.**

Nowadays, stress and burnout have been considered as a serious concern for higher education instructors. The level of stress, burnout and three dimensions of burnout in the lecturers in universities in Vietnam in the study is average but still record the percentage of low and high level which were worthy concerned.

Most of participants were female (78.4%), age from 31 to 40 (52.1%), married (69.5%), living in urban area (84.1%), with personal income from 501 USD to 700 USD (33.8%) and family income from 801 USD to 1000 USD (26.3%). The majority of respondents had less than 5 years of working experience and mean was 8.9 years. Almost participants had master's degree (59%), working hour per week more than 48 hours (51.2%), teaching both online and offline method (61.7%), with 31 to 50 students per class (37.7%), most of difficulties in process of teaching was Internet connection problem (75.4%). Most of respondents had 3 doses of COVID vaccination (85.3%), 58.4% of participants sometimes felt uncomfortable with COVID regulations and 42.8 % of participants sometimes felt worried about COVID variants.

There were associations between stress level and education background, working hour per week, teaching method.

There were associations between burnout level and personal income, working experience, education background, working hour per week.

There were associations between Emotional Exhaustion (EE) and gender, age, personal income, family Income, working experience, education background, working hour per week

There were associations between Depersonalization (DE) and age, education background, working hour per week, teaching method.

There were associations between Personal Accomplishment (PA) and personal income, working experience, education background, working hour per week.

*Table 4.22: The matrix of association between dependent variables and independent variables.*

	Stress Level	Burnout Level	Emotional Exhausted (EE)	Depersonalization (DE)	Personal Accomplishment (PA)
<b>Demographics</b>					
Age			X	X	X
Gender					
Marital Status					X
Living Area					
Personal Income		X	X		X
Family Income					
<b>Teaching Factors</b>					
Working Experience		X	X		X
Education Background	X	X	X	X	X
Working hour per week	X	X	X	X	X
Teaching Method	X			X	X

## 6.2. Limitation.

Chi square was used in this research that showed the association between dependent variables and independent variables. However, this statistical method has not showed the strength of association among variables yet.

In addition, almost of participants are youngers who are familiar with technology and how to work with digital devices. It is not popular for senior or older lecturers, so many answers were missed information or not complete all of questions



which affected to the results of research. With totally 49 questionnaires distributed via Google Form made difficulties for collecting data. Participants did not focus on answering all questions from No.1 to No.49 that was likely to lead to bias in research.

### **6.3. Recommendation.**

The recommendation to each level of stakeholder as following:

#### **6.3.1. Personal Level:**

This study will be useful in the future for individuals to increase awareness of stress and burnout, three dimensions as well such as symptoms, personal test, and examination for finding out level of stress and burnout. The individual strategies should be utilized by themselves such as relaxation, time management, training in interpersonal and social skills. Time management is one of important solutions to reduce stress and burnout. Lecturers should work combined to relaxation, make time for themselves, set appropriate boundaries at work and at home.

Lecturers may choose to do physical exercise as a great stress reliever. Thirty minutes of vigorous exercise at least three times a week is helpful for managing stress. Find a workout buddy or exercise alone. Listen to your favorite music while working out can be a solution.

#### **6.3.2. Organization Level:**

The results of study will contribute the ideas to the administrators of the universities to improve the quality of education and minimize the level of stress and burnout by the suitable regulations. It is necessary for the attention to stress and burnout of educators in general and lecturers in particular. Based on the association of the associated variables and level stress, burnout, each department of universities may adjust some characteristics to decrease the degree of stress and burnout.

Policies regarding the workload and regulation about overtime working hours should be altered and distributed to all lecturers equally, the standard working hour per day and working day per week need following the labor law in Vietnam and provide relaxed time for lecturers after demanding working hours, limit overtime work as well. The university education needs to organize the training course among the more

experienced lecturers and the younger lecturers about how to manage time and control class, social skills in class as well.

The organization of a class should be a standard number of students. With the large class size can one reason lead to overload of working by assignments, class material preparations or control the interaction with students.

### **6.3.3. National Level:**

The Vietnam government needs to recognize the importance of stress and burnout of lectures on quality of higher education to adjust suitable policies for more benefits. The teaching criteria based on working experience and education background should be separated. For instance, lecturers with high education degree and/or high working experience should have a responsibility for training and sharing experience to the younger to help them increasing the quality of teaching and control difficulties in working.

Financial problems should change based on the real working hour. Overtime payment is a necessary solution which may restrict partly risk of stress and burnout because the high salary always parallel to the reduced financial burden.

Recently, the Vietnam government has made a new decision to rise base pay for all employees including educators. With the aim to ease the difficulties happened during 2 years of COVID-19, the change has contributed partly to minimize financial burden which was one of factors leading to stress and burnout.

### **6.3.4. Future Research:**

Since the limitation of this study, in the research period, the better COVID pandemic affected to the change of teaching method. It focusses on not only online teaching but also on-site teaching. In the future research, researchers should concentrate on stress and burnout in utilization of technological devices into teaching. In the digital era, the use of software in teaching and learning is inevitable, besides the innovation of Internet and technical products appear and become one important part in our life. Their effects will have impact on mental health of teachers and students whether good or not good.



จุฬาลงกรณ์มหาวิทยาลัย  
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### Research Timeline

Activity	Timeline year 2022						
	Jan	Feb	Mar	Apr	May	Jun	Jul
Literature Review	x	x	x	x	x	x	
Proposal Developing	x	x					
Proposal Exam		x	x				
Ethic Submission			x	x			
Data Collection			x	x			
Data Analysis				x	x		
Report Writing				x	x	x	
Conferences						x	x
Final Exam						x	x



## Budgets

No.	Items	Quantity	Cost/ Person	Time	Total
1	Administrator Fee	1	1000B	1 month	1.000B
2	Enumerator Fee	5	1000B	3 months	15.000B
Total					16.000B



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จุฬาลงกรณ์มหาวิทยาลัย  
**CHULALONGKORN UNIVERSITY**

## Appendix 1 Ethical Approval

BẢN DỊCH  
TRANSLATION

NAM DINH UNIVERSITY OF NURSING  
ETHICS COMMITTEE IN  
BIOMEDICAL RESEARCH

SOCIALIST REPUBLIC OF VIETNAM  
Independence – Freedom – Happiness

Nam Dinh, April 13<sup>th</sup>, 2022

No. 965/GCN-HDDD

### CERTIFICATE

Ref: Approval of biomedical research protocol

*Pursuant to Decision No. 12/QĐ-DDN dated January 08<sup>th</sup>, 2018 of the Rector of Nam Dinh University of Nursing on promulgating the Regulations on organization and operation of the Ethics Committee in Biomedical Research for grassroots level at the Nam Dinh University of Nursing;*

*Pursuant to Decision No. 259/QĐ-DDN dated February 15<sup>th</sup>, 2019 of the Rector of Nam Dinh University of Nursing on consolidating the Ethics Committee in Biomedical Research for grassroots level at the Nam Dinh University of Nursing in 2018-2022;*

*Pursuant to Official Dispatch No. 503/K2ĐT-KHCN dated June 02<sup>nd</sup>, 2020 of the Department of Science, Technology and Training - Ministry of Health on updating activities of the Ethics Committee in Biomedical Research (IRB) of the Nam Dinh University of Nursing. Committee No. IRB-VN01012;*

*Pursuant to the Minutes of opinions summary dated April 13<sup>th</sup>, 2022 of the members of the Ethics Committee assigned to appraise the protocol according to shortened process.*

On the recommendation of the Standing Ethics Committee in Biomedical Research at the Nam Dinh University of Nursing in 2018-2022;

**The Ethics Committee in Biomedical Research hereby accepts:**

**A. To approve the scientific and ethical aspects to the research**

1. Research No. HSDC.49.2022.S
2. Title of the research: The Stress and Burnout among Lecturers in the Universities with Online Teaching in Vietnam during COVID-19 Pandemic: A Cross-sectional Study
3. Name of main researcher: Hoang Thi Ngoc Anh
4. Sponsor (if any): .....
5. Place of implementation: Universities in Vietnam
6. Research objects: Lecturers in the Universities with online teaching
7. Number of expected objects: 400
8. Time of Research: From August 2021 to July 2022.

**B. To allow to use the following materials in the above study:**

1. Research protocol
2. Information and approval form to participate in the Research
3. Research tools

**C. Validity of the written approval:**

From April 13<sup>th</sup>, 2022 to April 12<sup>th</sup>, 2023.

**D. Responsibility of main researcher:**

- Complying with the approved research protocol, implementation procedures, principles of good clinical practice (if any), and current legal regulations on research ethics.

- Reporting to the Ethics Committee in Biomedical Research at the Nam Dinh University of Nursing on serious adverse events (SAE) and Suspected Unexpected Serious Adverse Reactions (SUSARs) in accordance with applicable guidelines and regulations.

- Reporting to the Ethics Committee in Biomedical Research at Nam Dinh University of Nursing on consideration and approval of changes, deviations or corrections of the approved protocol and the approval form to participate in the research, the information document to research participants before being applied in the research, unless it is clearly necessary to change to eliminate direct risk to the objects.

- Reporting the progress at least once a year or at the request of the Ethics Committee in Biomedical Research at the Nam Dinh University of Nursing.

- Notifying the suspension and termination of the research before the expected completion term, reasons for early termination.

- Preparing for the possibility of research place inspection of the Ethics Committee in Biomedical Research at the Nam Dinh University of Nursing.

**Attns:**

- Head of the topic;
- Filed: Archives, HDDD.

**ON BEHALF OF THE ETHICS COMMITTEE**

**CHAIRMAN**

*(Signed and sealed)*

**HEAD OF POSTGRADUATE TRAINING**

**DEPARTMENT**

*PhD. Tran Van Long*





TRƯỜNG ĐẠI HỌC ĐIỀU DƯỠNG  
NAM ĐỊNH  
HỘI ĐỒNG ĐẠO ĐỨC TRONG  
NGHIÊN CỨU Y SINH HỌC

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM  
Độc lập – Tự do – Hạnh phúc

Số: 965 /GCN-HĐĐĐ

Nam Định, ngày 13 tháng 4 năm 2022

**GIẤY CHỨNG NHẬN**  
**Về việc chấp thuận đề cương nghiên cứu y sinh học**

Căn cứ Quyết định số 12/QĐ-ĐDN ngày 08 tháng 01 năm 2018 của Hiệu trưởng Trường Đại học Điều dưỡng Nam Định về việc ban Ban hành Quy chế tổ chức và hoạt động của Hội đồng đạo đức trong nghiên cứu y sinh học cấp cơ sở Trường Đại học Điều dưỡng Nam Định;

Căn cứ Quyết định số 259/QĐ-ĐDN ngày 15 tháng 02 năm 2019 của Hiệu trưởng Trường Đại học Điều dưỡng Nam Định về việc kiện toàn Hội đồng đạo đức trong nghiên cứu y sinh học cấp cơ sở Trường Đại học Điều dưỡng Nam Định nhiệm kỳ 2018-2022;

Căn cứ Công văn số 503/K2ĐT-KHCN ngày 02/6/2020 của Cục Khoa học công nghệ và Đào tạo – Bộ Y tế về việc cập nhật hoạt động Hội đồng đạo đức trong nghiên cứu y sinh học (IRB) của Trường Đại học Điều dưỡng Nam Định. Mã số của Hội đồng: IRB-VN01012;

Căn cứ Biên bản tổng hợp ý kiến ngày 13 tháng 4 năm 2022 của các thành viên Hội đồng đạo đức được phân công thẩm định đề cương theo quy trình rút gọn,

Theo đề nghị của Thường trực Hội đồng đạo đức trong nghiên cứu y sinh học Trường Đại học Điều dưỡng Nam Định nhiệm kỳ 2018-2022.

**Hội đồng đạo đức trong nghiên cứu y sinh học chấp thuận:**

**A. Chấp thuận về mặt khoa học và đạo đức đối với nghiên cứu**

1. Mã nghiên cứu: HSDC.49.2022.S
2. Tên nghiên cứu: Tình trạng căng thẳng và kiệt sức của giảng viên đại học trong việc dạy học trực tuyến tại Việt Nam giữa bối cảnh COVID-19: Nghiên cứu cắt ngang
3. Nghiên cứu viên chính: Hoàng Thị Ngọc Ánh
4. Nhà tài trợ (nếu có): .....
5. Địa điểm triển khai: các trường Đại học tại Việt Nam
6. Đối tượng nghiên cứu: Giảng viên Đại học dạy học trực tuyến
7. Số lượng đối tượng dự kiến: 400

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/NC  
/GJ  
/P/



8. Thời gian nghiên cứu: từ tháng 8/2021 đến tháng 7/2022

**B. Cho phép sử dụng các tài liệu sau trong nghiên cứu nêu trên:**

1. Đề cương nghiên cứu
2. Phiếu cung cấp thông tin và chấp thuận tham gia nghiên cứu
3. Công cụ nghiên cứu

**C. Thời gian có giá trị của giấy chấp thuận:**

Từ ngày 13/4/2022 đến ngày 12/04/2023

**D. Trách nhiệm của Nghiên cứu viên chính:**

- Tuân thủ đề cương nghiên cứu được phê duyệt, các quy trình thực hiện chuẩn, các nguyên tắc thực hành lâm sàng tốt (nếu có), các quy định của pháp luật hiện hành về đạo đức nghiên cứu.

- Báo cáo Hội đồng đạo đức trong nghiên cứu y sinh học Trường Đại học Điều dưỡng Nam Định các biến cố bất lợi nghiêm trọng (SAE) và các phản ứng bất lợi ngoài dự kiến nghiêm trọng có liên quan đến sản phẩm nghiên cứu (SUSARs) theo đúng các hướng dẫn và quy định hiện hành.

- Báo cáo Hội đồng đạo đức trong nghiên cứu y sinh học Trường Đại học Điều dưỡng Nam Định xem xét và chấp thuận những thay đổi, sai lệch hay chỉnh sửa đề cương đã được phê duyệt và mẫu chấp thuận tham gia nghiên cứu, các tài liệu cung cấp thông tin cho đối tượng tham gia nghiên cứu trước khi áp dụng trong nghiên cứu, trừ trường hợp rõ ràng cần thiết thay đổi để loại trừ nguy cơ trực tiếp cho đối tượng.

- Báo cáo tiến độ ít nhất mỗi năm một lần hoặc khi có yêu cầu của Hội đồng đạo đức trong nghiên cứu y sinh học Trường Đại học Điều dưỡng Nam Định.

- Thông báo về việc ngừng nghiên cứu, kết thúc nghiên cứu trước thời hạn hoàn thành dự kiến, lý do của việc kết thúc sớm.

- Chuẩn bị cho khả năng tới kiểm tra điểm nghiên cứu của Hội đồng đạo đức trong nghiên cứu y sinh học Trường Đại học Điều dưỡng Nam Định.

**Nơi nhận:**

- Chủ nhiệm đề tài;
- Lưu: VT, HĐĐĐ.

**TM. HỘI ĐỒNG ĐẠO ĐỨC  
CHỦ TỊCH**



**TRƯỞNG PHÒNG QUẢN LÝ ĐÀO TẠO SAU ĐẠI HỌC  
TS. Trần Văn Long**

**LỜI CHỨNG CỦA CÔNG CHỨNG VIÊN/NOTARY TESTIMONY**

Hôm nay, ngày 22 tháng 04 năm 2022 (Ngày hai mươi hai tháng tư năm hai nghìn không trăm hai mươi hai)  
*Today, 22/04/2022 (the twenty-second of April in Two thousand and twenty-two)*

Tại trụ sở Văn phòng Công chứng Trương Thị Nga; Địa chỉ tại: A4 – TT19 KĐT Văn Quán, Yên Phúc, Phường  
 Phúc La, Quận Hà Đông, TP Hà Nội.

*At Trương Thị Nga Notary Office; Address: A4 – TT19 Van Quan urban area, Yen Phuc, Phuc La Ward, Ha  
 Dong District, Hanoi City.*

Tôi, công chứng viên, trong phạm vi trách nhiệm của mình theo quy định của pháp luật.  
*I, Notary Public, within the scope of my liability in accordance with the law.*

**CHỨNG NHẬN/CERTIFY THAT:**

- Bản dịch này do ông Trương Đức Hải, cộng tác viên phiên dịch của Văn phòng Công chứng Trương Thị Nga, Thành phố Hà Nội dịch từ **tiếng Việt** sang **tiếng Anh**;  
*This is translation from Vietnamese to English by Mr. Trương Duc Hai, who is translation collaborator of Trương Thị Nga Notary Office, Hanoi City;*
- Chữ ký trong bản dịch đúng là chữ ký của Ông Trương Đức Hải;  
*Signature in the translation is the true and authentic signature of Mr. Trương Duc Hai;*
- Nội dung bản dịch chính xác, không vi phạm pháp luật, không trái đạo đức xã hội;  
*The contents of the translation are correct and do not violate the law or social morality;*
- Văn bản công chứng này được lập thành 02 (hai) bản chính, mỗi bản gồm 05 tờ, 05 trang, lưu 01 bản tại Văn phòng Công chứng Trương Thị Nga, thành phố Hà Nội.  
*This Notary certificate is made into 02 (two) originals, each original 05 sheets, 05 pages, one of which is retained in Trương Thị Nga Notary Office, Hanoi City.*

Số công chứng:  
 Notarized No.:

1740

Quyển số 01/2022 TP/CC-SCC/BD  
 Book No. 01/2022 TP/CC-SCC/BD

NGƯỜI DỊCH  
 TRANSLATOR

H

Trương Đức Hải

CÔNG CHỨNG VIÊN  
 NOTARY PUBLIC



CÔNG CHỨNG VIÊN  
 Vũ Thị Thùy Trang

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## Appendix 2

### Screening Questionnaire

This screening questionnaire is a part of research thesis entitle “The Stress and Burnout among Lecturers in the Universities with Online Teaching in Vietnam during COVID-19 Pandemic: A Cross-sectional Study”. In addition, this research is a part of thesis of Miss Anh Hoang Thi Ngoc – Master of Public Health – A2 program in College of Public Health Sciences, Chulalongkorn University, academic year 2021-2022.

This questionnaire is to obtain criteria that are in accordance with the expected participant criteria for my research.. Please follow the instruction indicated and answer as close to your opinion as possible. Your answers and your information herein will be kept confidently and be used for academic purposes in this study only. Thank you for your cooperation.

**Direction:** Please mark (✓) in the boxes provided and fill the blank.

1. Are you a lecturer in University  Yes  No (stop here)
2. Age:
  - < 23 years old (stop)  ≥ 23 years old
3. I am teaching in online platform consecutively in the university at least 6 months.
  - Yes  No (stop here)
4. Have you ever taught online during COVID-19 pandemic?
  - Yes  No (stop here)
5. Recently, Have you not continued teaching temporarily more than 12 months because of any problems?
  - Yes (stop here)  No
6. Have you taken any medicine or been under treatment of mental health problems?
  - Yes (stop here)  No

### English Version of Questionnaire



This questionnaire is set up as a part of thesis of Miss Anh Hoang Thi Ngoc – Master of Public Health – A2 program in College of Public Health Sciences, Chulalongkorn University, academic year 2021-2022. Title of this study is “The Stress and Burnout among Lecturers in the Universities with Online Teaching in Vietnam during COVID-19 Pandemic: A Cross-sectional Study”. The purpose of this study is to find out the association among online teaching, burnout and stress of lecturers and as well as figure out whether there are any significant impacts of teaching online by socio-demography and teaching experience during COVID-19 pandemic.

This questionnaire is divided into three parts which are:

- 1) Part 1: Sociodemographic characteristic, teaching online factors and COVID-19 factors: 17 questions
- 2) Stress of lecturers during online teaching in COVID-19: 10 questions
- 3) Burnout of lecturers during online teaching in COVID-19: 22 questions

Please answer as close to your opinion as possible. Your answers and your information here will be kept confidentially and be used for academic purposes in this study only. Thank you for your cooperation

### Part 1: Sociodemographic

#### 1. Gender

- Male                       Female                       Other

2. Age: ..... Years old.

#### 3. Marital Status

- Single                       Married                       Widow                       Divorce                       Separate

#### 4. Living place

- Urban                       Rural

#### 5. Your Income (Circular 40/2020 of Ministry of Education in Vietnam)

- < 500USD                       ≥ 500USD - 700USD  
 > 700USD- 1000USD                       > 1000USD-1500USD  
 >1500USD

#### 6. Income of family monthly including you

- $\geq 500\text{USD} - 700\text{USD}$         $> 700\text{USD} - 800\text{USD}$   
  $> 800\text{USD} - 1000\text{USD}$         $> 1000\text{USD} - 1200\text{USD}$   
  $> 1200\text{USD} - 1500\text{USD}$         $> 1500\text{USD}$

**7. Faculty.....**

**8. Working experience ..... years.....months**

**9. Education Level**

- Bachelor Degree       Master Degree       PhD Degree

**10. Working hour..... hour/day**

**11. Working day..... days/week**

**12. Method of Teaching last in the consecutive 6 months**

- Online only       Both online and on-site teaching

**13. Problems happened during your process of online teaching**

- Technological devices insufficient such as Laptop, iPad, Mobile.  
 Internet connection problem.  
 Video conferencing software problem (ex. Zoom, MS team, Google Meet, Skype)  
 Problem with class material preparing and using.  
 Connection or relationship with students in class  
 Other. Please specify...

**14. Classroom size that mostly teach**

- $< 10$  students        $\geq 10 - 15$  students  
  $> 15 - 20$  students        $> 20 - 30$  students  
  $> 30 - 50$  students        $> 50 - 100$  students  
  $> 100$  students

**15. How many doses of vaccination did you have?**

- No       1 dose       2 doses       3 doses       4 doses        $> 4$  doses

**16. Do you feel uncomfortable with regulation to control COVID-19 such as work from home, social distancing in classroom, etc?**

- Never (0%)       Sometimes (20%)       Usually (50%)  
 Often (80%)       Always (100%)

**17. Do you feel worried about the mutant variants of Corona Virus?**

- Never (0%)       Sometimes (20%)       Usually (50%)  
 Often (80%)       Always (100%)



## Part 2: Stress

**Direction:** Below are the factors for stress of lecturers who has been teaching online during COVID-19. This section asks about your feelings and thoughts during the last month. Participants will be asked to indicate how often you felt or thought a certain way with the following statement? Please mark (✓) in the boxes as appropriate. Please don't leave any item unanswered. From each question choose from the following alternative:

**Always** means you always feel or thought about this statement during the last month.

**Very often** means you very often feel or thought about this statement during the last month.

**Sometimes** means you sometimes feel or thought about this statement during the last month.

**Rarely** means you rarely feel or thought about this statement during the last month.

**Never** means you never feel or thought about this statement during the last month.

<b>Score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>How often</b>	<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Often</b>	<b>Always</b>

No	Score	Statements
1		In the last month, how often have you been upset because of something that happened unexpectedly?
2		In the last month, how often have you felt that you were unable to control the important things in your life?
3		In the last month, how often have you felt nervous and stressed?
4		In the last month, how often have you felt confident about your ability to handle your personal problems?
5		In the last month, how often have you felt that things were going your way?
6		In the last month, how often have you found that you could not cope with all the things that you had to do?



7		In the last month, how often have you been able to control irritations in your life?
8		In the last month, how often have you felt that you were on top of things?
9		In the last month, how often have you been angered because of things that happened that were outside of your control?
10		In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?



### Part 3: Burnout

**Direction:** Below are the factors for burnout of lecturers who has been teaching online during COVID-19. This section asks about your feelings and thoughts during the last month. Participants will be asked to indicate how often you felt or thought a certain way with the following statement? Please mark (✓) in the boxes as appropriate. Please don't leave any item unanswered.

<i>Score</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
<i>How often</i>	<i>Never</i>	<i>A few times a year or less</i>	<i>Once a month or less</i>	<i>A few times a month</i>	<i>Once a week</i>	<i>A few times a week</i>	<i>Every day</i>

No.	Score	Statements
1		I feel emotionally drained from my work
2		I feel used up at the end of the workday
3		I feel fatigued when I get up in the morning and have to face another day on the job
4		I can easily understand how my students feel about things.
5		I feel I treat some students as if they were impersonal objects
6		Working with people all day is really a strain on me
7		I deal very effectively with the problems of my students
8		I feel burned out from my work
9		I feel I'm positively influencing other people's lives through my work
10		I've become more callous toward people since I took this job
11		I worry that this job is hardening me emotionally.
12		I feel very energetic.
13		I feel frustrated by my job
14		I feel I'm working too hard on my job.
15		I don't really care what happens to some students.
16		working with people directly puts too much stress on me
17		I can easily create a relaxed atmosphere with my students
18		I feel exhilarated after working closely with my students
19		I have accomplished many worthwhile things in this job
20		I feel like I'm at the end of my rope.
21		In my work, I deal with emotional problems very calmly

22	I feel students blame me for some of their problems
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## Vietnamese Version of Questionnaire

### Bộ câu hỏi sàng lọc

Bộ câu hỏi sàng lọc này là một phần của nghiên cứu với tiêu đề “Tình trạng căng thẳng và kiệt sức của giảng viên đại học trong việc dạy học trực tuyến tại Việt Nam giữa bối cảnh COVID-19: Nghiên cứu cắt ngang”. Bên cạnh đó, nghiên cứu là một phần của luận văn thạc sĩ của học viên Hoàng Thị Ngọc Ánh - Chương trình học A2, trường Y tế Công Cộng - Đại học Chulalongkorn, Bangkok, Thái Lan – năm học 2021-2022.

Bộ câu hỏi này bao gồm các tiêu chuẩn để lựa chọn các đối tượng tham gia nghiên cứu phù hợp cho bài nghiên cứu của tôi. Vui lòng làm theo hướng dẫn và trả lời các câu hỏi một cách chính xác nhất có thể. Những câu trả lời và thông tin cá nhân cung cấp sẽ được giữ bí mật và chỉ được sử dụng cho mục đích nghiên cứu.

Trân thành cảm ơn sự hợp tác!

**Hướng dẫn:** Vui lòng đánh dấu (✓) vào ô trống và điền vào chỗ trống.

1. Có phải bạn là giảng viên đại học không  
 Đúng  Sai (dừng lại)
2. Tuổi:  
 < 23 tuổi (dừng lại)  ≥ 23 tuổi.
3. Bạn đang giảng dạy tại trường đại học ở Việt Nam, trên các hệ thống giảng dạy trực tuyến ít nhất liên tục 6 tháng.  
 Đúng  Sai (dừng lại)
4. Có phải bạn đã và đang tham gia dạy trực tuyến trong suốt thời gian Covid-19 không?  
 Đúng  Sai (dừng lại)
5. Gần đây, Bạn có tạm thời nghỉ dạy trong khoảng thời gian vượt quá 12 tháng bởi vì bất kì lí do nào?  
 Đúng (dừng lại)  Sai
6. Bạn có đang phải dùng các loại thuốc điều trị tâm lí hay đang trong quá trình điều trị tâm lí không?  
 Đúng (dừng lại)  Sai



## Vietnamese Version of Questionnaire

### Bộ câu hỏi

Bộ câu hỏi này được thực hiện như là một phần của luận văn thạc sĩ của Miss. Hoàng Thị Ngọc Ánh- chương trình A2, trường Y tế Công Cộng- Đại học Chulalongkorn, Bangkok, Thái Lan, năm học 2021-2022. Tiêu đề bài nghiên cứu “ Tình trạng căng thẳng và kiệt sức của giảng viên đại học trong việc dạy học trực tuyến tại Việt Nam giữa bối cảnh COVID-19: Nghiên cứu cắt ngang”. Mục đích của bài nghiên cứu là tìm kiếm mối tương quan giữa việc dạy trực tuyến, sự căng thẳng và sự kiệt sức của giảng viên đại học và cũng như là việc đánh giá sự ảnh hưởng của yếu tố nhân khẩu học và kinh nghiệm giảng dạy tới sự căng thẳng và sự kiệt sức của giảng viên đại học trong bối cảnh đại dịch COVID-19.

Bộ câu hỏi này gồm 3 phần:

**Phần 1:** Nhân khẩu học, yếu tố liên quan tới dạy trực tuyến và COVID-19: 17 câu hỏi .

**Phần 2:** Sự căng thẳng: 10 câu hỏi.

**Phần 3:** Sự kiệt sức: 22 câu hỏi.

Vui lòng trả lời câu hỏi chính xác hoặc gần nhất với lựa chọn của bạn. Những câu trả lời và thông tin của bạn sẽ được giữ bí mật và chỉ được sử dụng cho mục đích nghiên cứu trong đề tài nghiên cứu này.

Trân thành cảm ơn sự hợp tác!

**Phần I: Nhân khẩu học:****1. Giới tính:**

Nam       Nữ       Khác

**2. Tuổi: .....****3. Tình trạng hôn nhân:**

Độc thân       Đã kết hôn       Góa vợ/ chồng       Ly hôn       Ly thân

**4. Nơi sống**

Đô thị       Ngoại ô

**5. Thu nhập hàng tháng:**

< 500USD       501USD - 700USD  
 701USD- 1000USD       1001USD-1500USD  
 >1500USD

**6. Thu nhập hàng tháng của gia đình bao gồm cả của bạn:**

500USD - 700USD       701USD- 800USD  
 801USD- 1000USD       1001USD-1200USD  
 1201USD – 1500 USD       > 1500USD

**7. Khoa: .....**

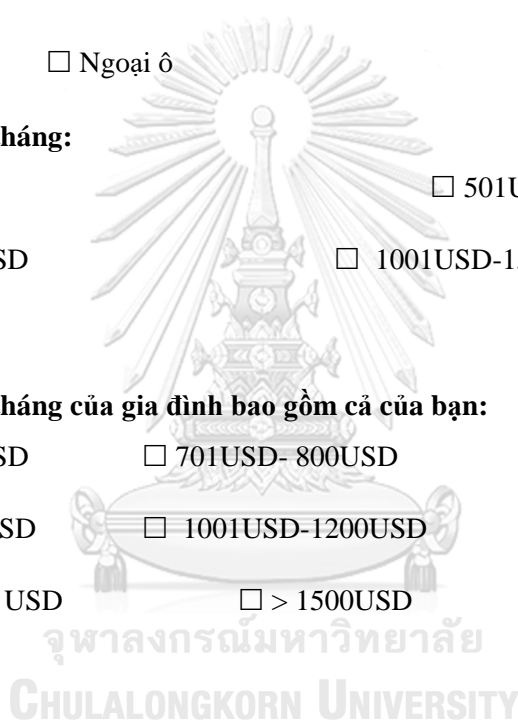
Trường:

**8. Kinh nghiệm làm việc : ... năm... tháng****9. Trình độ học vấn**

Cử nhân       Thạc Sĩ       Tiến sĩ

**10. Giờ làm việc: ..... giờ/ ngày.****11. Ngày làm việc: ..... ngày/ tuần.****12. Hình thức giảng dạy trong 6 tháng liên tiếp gần đây:**

Trực tuyến       Trực tuyến và giảng dạy tại lớp



**13. Những vấn đề xảy ra trong quá trình giảng dạy trực tuyến:**

- Thiếu thiết bị kỹ thuật như laptop, Ipad, điện thoại,...
- Vấn đề đường truyền Internet.
- Vấn đề với các phần mềm video (Ví dụ: Zoom, MS team, Google Meet, Skype)
- Vấn đề với việc chuẩn bị và sử dụng, trình chiếu bài giảng trực tuyến
- Vấn đề về việc kết nối với sinh viên
- Các vấn đề khác. Vui lòng liệt kê:.....

**14. Số lượng sinh viên trong lớp học phụ trách :**

- < 10 sinh viên
- ≥10 - 15 sinh viên
- >15 - 20 sinh viên
- > 20 - 30 sinh viên
- > 30 - 50 sinh viên
- > 50 - 100 sinh viên
- > 100 sinh viên

**15. Bạn đã tiêm bao nhiêu mũi vaccine Covid-19?**

- Chưa 0
- 1 mũi
- 2 mũi
- 3 mũi
- 4 mũi
- >4 mũi

**16. Bạn có thấy không thoải mái với những quy định xoay quanh các biện pháp ngăn chặn Covid-19 như làm việc tại nhà, giãn cách xã hội, ...?**

- Không bao giờ (0%)
- Thỉnh thoảng (20%)
- Thường xuyên (50%)
- Rất thường xuyên (80%)
- Luôn luôn (100%)

**17. Bạn có cảm thấy lo lắng về những biến chứng của Corona Virus không?**

- Không bao giờ (0%)
- Thỉnh thoảng (20%)
- Thường xuyên (50%)
- Rất thường xuyên (80%)
- Luôn luôn (100%)

## Phần 2: Sự căng thẳng.

**Hướng dẫn:** Dưới đây là các nhân tố liên quan tới sự căng thẳng của các giảng viên đại học người đang dạy trực tuyến trong Covid-19. Phần câu hỏi này hỏi về những cảm giác và suy nghĩ trong tháng trước. Người tham gia sẽ trả lời về tần suất của những cảm giác và suy nghĩ theo những câu hỏi bên dưới.

Vui lòng tích (✓) vào những ô thích hợp và đừng bỏ sót bất cứ câu nào. Mỗi câu hỏi sẽ chọn những mức độ tương ứng:

**Luôn luôn** nghĩa là bạn luôn luôn cảm thấy hoặc suy nghĩ về những gì đề cập trong câu hỏi trong suốt thời gian tháng trước.

**Thường xuyên** nghĩa là bạn thường xuyên cảm thấy hoặc suy nghĩ về những gì đề cập trong câu hỏi trong suốt thời gian tháng trước.

**Thỉnh thoảng** nghĩa là bạn thỉnh thoảng cảm thấy hoặc suy nghĩ về những gì đề cập trong câu hỏi trong suốt thời gian tháng trước.

**Hiếm khi** nghĩa là bạn hiếm khi cảm thấy hoặc suy nghĩ về những gì đề cập trong câu hỏi trong suốt thời gian tháng trước.

**Không bao giờ** nghĩa là bạn không bao giờ cảm thấy hoặc suy nghĩ về những gì đề cập trong câu hỏi trong suốt thời gian tháng trước.

Điểm	0	1	2	3	4
Tần suất	Không bao giờ	Hiếm khi	Thỉnh thoảng	Thường xuyên	Luôn luôn

CHULALONGKORN UNIVERSITY

STT	Điểm	Câu hỏi
1		Trong tháng trước, tần suất mà bạn cảm thấy chán nản vì những điều xảy ra không như ý muốn?
2		Trong tháng trước, tần suất bạn cảm thấy bạn không thể kiểm soát được những việc quan trọng trong cuộc sống?
3		Trong tháng trước, tần suất bạn cảm thấy lo lắng và căng thẳng?
4		Trong tháng trước, tần suất bạn cảm thấy tự tin về khả năng có thể kiểm soát được những vấn đề cá nhân của bản thân?
5		Trong tháng trước, tần suất bạn cảm thấy mọi thứ đang diễn ra suôn sẻ theo ý muốn của bạn?



6		Trong tháng trước, tần suất bạn nhận ra rằng bạn không thể đối mặt và giải quyết những vấn đề bạn bắt buộc phải làm?
7		Trong tháng trước, tần suất bạn có thể kiểm soát được cơn tức giận trong cuộc sống của bạn?
8		<b>In the last month, how often have you felt that you were on top of things?</b>
9		Trong tháng trước, tần suất bạn tức giận vì những điều xảy ra ngoài sự kiểm soát của bạn?
10		Trong tháng trước, tần suất bạn cảm thấy thật sự rất khó khăn và bạn không thể vượt qua được chúng?

### Phần 3: Sự kiệt sức

**Hướng dẫn:** Dưới đây là các nhân tố liên quan tới sự kiệt sức của các giảng viên đại học người đang dạy trực tuyến trong Covid-19. Phần câu hỏi này hỏi về những cảm giác và suy nghĩ trong tháng trước. Người tham gia sẽ trả lời về tần suất của những cảm giác và suy nghĩ theo những câu hỏi bên dưới.

Vui lòng tích (✓) vào những ô thích hợp và đừng bỏ sót bất cứ câu nào..

Điểm	0	1	2	3	4	5	6
Tần suất	Không bao giờ	Mỗi năm ít nhất vài lần	Mỗi tháng ít nhất là một lần	Mỗi tháng vài lần	Mỗi tuần một lần	Mỗi tuần vài lần.	Hàng ngày

STT	Điểm	Câu hỏi
1		Về mặt cảm xúc, tôi cảm thấy trống rỗng trong công việc.
2		Cuối ngày, tôi cảm thấy “kiệt quệ”.
3		Mỗi sáng khi thức dậy, đối diện với một ngày làm việc mới, tôi cảm thấy mệt mỏi.
4		Tôi có thể dễ dàng hiểu được những gì sinh viên đang cảm thấy.
5		Tôi cảm thấy tôi đối xử với sinh viên quá hờ hững như thể là họ là những vật thể.
6		<b>Làm việc với mọi người cả ngày thật sự áp lực với tôi .</b>
7		Tôi xử lý các vấn đề phát sinh của sinh viên một cách hiệu quả.
8		Tôi cảm thấy bị suy sụp là vì công việc.
9		Tôi có cảm giác tôi có ảnh hưởng tích cực tới người khác thông qua công việc của tôi.

10	Tôi trở nên dần vô cảm hơn với mọi người kể từ khi tôi làm công việc này.
11	Tôi sợ rằng công việc này sẽ làm tôi chai lì cảm xúc.
12	Tôi cảm thấy đầy năng lượng.
13	Tôi cảm thấy bức bối vì công việc của tôi.
14	Tôi cảm thấy công việc tôi đang làm quá khó.
15	Tôi không lo lắng tới những gì xảy ra với sinh viên của tôi.
16	Làm việc tiếp xúc trực tiếp với người khác làm tôi quá căng thẳng.
17	Tôi có thể dễ dàng tạo ra bầu không khí thư giãn cho sinh viên của tôi.
18	Tôi cảm thấy vui vẻ, hào hứng khi được thân thiện và gần gũi với sinh viên của tôi trong công việc.
19	Tôi hoàn thành nhiều điều đáng phải làm trong công việc của mình.
20	Tôi cảm thấy không đủ kiên nhẫn để giải quyết 1 số việc.
21	Trong công việc của tôi , tôi xử lí những vấn đề về cảm xúc rất bình tĩnh.
22	Tôi cảm thấy sinh viên đang bắt tôi chịu trách nhiệm về một số vấn đề của họ.

### Appendix 3

#### Analyze from SPSS

#### 1. Description of Independent Variables

##### Frequency Table

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	72	21.6	21.6	21.6
	Female	261	78.1	78.4	100.0
	Total	333	99.7	100.0	
Missing	System	1	.3		
Total		334	100.0		

marital					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	single	96	28.7	28.7	28.7
	married	232	69.5	69.5	98.2
	divorce	6	1.8	1.8	100.0
	Total	334	100.0	100.0	

area					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	urban	281	84.1	84.1	84.1
	rural	53	15.9	15.9	100.0
	Total	334	100.0	100.0	

**workexpnew**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<=5yr	112	33.5	33.5	33.5
	5-10 yr	108	32.3	32.3	65.9
	11-15 yr	73	21.9	21.9	87.7
	16-20 yr	27	8.1	8.1	95.8
	>20 yr	14	4.2	4.2	100.0
	Total	334	100.0	100.0	

**classizenew2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<=30	109	32.6	32.6	32.6
	31-50	126	37.7	37.7	70.4
	>50	99	29.6	29.6	100.0
	Total	334	100.0	100.0	

**workexnew2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<=5	112	33.5	33.5	33.5
	5-10	108	32.3	32.3	65.9
	>10-20	100	29.9	29.9	95.8
	>20	14	4.2	4.2	100.0
	Total	334	100.0	100.0	

**agenew2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<=30	112	33.5	33.5	33.5
	31-40	174	52.1	52.1	85.6
	>41	48	14.4	14.4	100.0
	Total	334	100.0	100.0	

<b>edulevel</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bachelor	120	35.9	35.9	35.9
	master	197	59.0	59.0	94.9
	PhD	17	5.1	5.1	100.0
	Total	334	100.0	100.0	

<b>method</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Online	128	38.3	38.3	38.3
	On and off	206	61.7	61.7	100.0
	Total	334	100.0	100.0	



**covidvac**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 doses	42	12.6	12.6	12.6
	3 doses	285	85.3	85.3	97.9
	4 doses	7	2.1	2.1	100.0
	Total	334	100.0	100.0	

**regulations**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	33	9.9	9.9	9.9
	1	195	58.4	58.4	68.3
	2	74	22.2	22.2	90.4
	3	28	8.4	8.4	98.8
	4	4	1.2	1.2	100.0
	Total	334	100.0	100.0	

**mutant**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	20	6.0	6.0	6.0
	1	143	42.8	42.8	48.8
	2	119	35.6	35.6	84.4
	3	18	5.4	5.4	89.8
	4	34	10.2	10.2	100.0
	Total	334	100.0	100.0	

## 2. Description of dependent variables

**Enew**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	51	15.3	15.3	15.3
	moderate	214	64.1	64.1	79.3
	high	69	20.7	20.7	100.0
	Total	334	100.0	100.0	

**Dnew**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	47	14.1	14.1	14.1
	moderate	245	73.4	73.4	87.4
	high	42	12.6	12.6	100.0
	Total	334	100.0	100.0	

**PAnew**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	56	16.8	16.8	16.8
	moderate	230	68.9	68.9	85.6
	high	48	14.4	14.4	100.0
	Total	334	100.0	100.0	

**MLnewconvert**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	124	37.1	37.1	37.1
	moderate	208	62.3	62.3	99.4
	high	2	.6	.6	100.0
	Total	334	100.0	100.0	

**pssnew**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	low	35	10.5	10.5	10.5
	moderate	277	82.9	82.9	93.4
	high	22	6.6	6.6	100.0
	Total	334	100.0	100.0	





### 3. The association between Stress and the independent Variables

#### Gender \* pssnew

Crosstab

		pssnew			Total	
		low	moderate	high		
Gender	Male	Count	10	57	5	72
		% within Gender	13.9%	79.2%	6.9%	100.0%
		% within pssnew	28.6%	20.7%	22.7%	21.6%
		% of Total	3.0%	17.1%	1.5%	21.6%
	Female	Count	25	219	17	261
		% within Gender	9.6%	83.9%	6.5%	100.0%
		% within pssnew	71.4%	79.3%	77.3%	78.4%
Total	% of Total	7.5%	65.8%	5.1%	78.4%	
	Count	35	276	22	333	
	% within Gender	10.5%	82.9%	6.6%	100.0%	
	% within pssnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	10.5%	82.9%	6.6%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability

Pearson Chi-Square	1.166 <sup>a</sup>	2	.558	.599		
Likelihood Ratio	1.102	2	.576	.599		
Fisher's Exact Test	1.345			.496		
Linear-by-Linear Association	.499 <sup>b</sup>	1	.480	.519	.292	.100
N of Valid Cases	333					

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.76.

b. The standardized statistic is .706.

**marital \* pssnew**



**Crosstab**

		pssnew			Total	
		low	moderate	high		
marital	single	Count	7	82	7	96
		% within marital	7.3%	85.4%	7.3%	100.0%
		% within pssnew	20.0%	29.6%	31.8%	28.7%
		% of Total	2.1%	24.6%	2.1%	28.7%
	married	Count	28	190	14	232
		% within marital	12.1%	81.9%	6.0%	100.0%
		% within pssnew	80.0%	68.6%	63.6%	69.5%
		% of Total	8.4%	56.9%	4.2%	69.5%

	Count	0	5	1	6
divorce	% within marital	0.0%	83.3%	16.7%	100.0%
	% within pssnew	0.0%	1.8%	4.5%	1.8%
	% of Total	0.0%	1.5%	0.3%	1.8%
Total	Count	35	277	22	334
	% within marital	10.5%	82.9%	6.6%	100.0%
	% within pssnew	100.0%	100.0%	100.0%	100.0%
	% of Total	10.5%	82.9%	6.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	3.326 <sup>a</sup>	4	.505	.462		
Likelihood Ratio	3.762	4	.439	.469		
Fisher's Exact Test	3.352			.434		
Linear-by-Linear Association	.096 <sup>b</sup>	1	.757	.807	.425	.093
N of Valid Cases	334					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .40.

b. The standardized statistic is -.310.

**area \* pssnew**

Crosstab

		pssnew			Total	
		low	moderate	high		
area	urban	Count	28	234	19	281
		% within area	10.0%	83.3%	6.8%	100.0%
		% within pssnew	80.0%	84.5%	86.4%	84.1%
		% of Total	8.4%	70.1%	5.7%	84.1%
	rural	Count	7	43	3	53
		% within area	13.2%	81.1%	5.7%	100.0%
		% within pssnew	20.0%	15.5%	13.6%	15.9%
		% of Total	2.1%	12.9%	0.9%	15.9%
	Total	Count	35	277	22	334
		% within area	10.5%	82.9%	6.6%	100.0%
		% within pssnew	100.0%	100.0%	100.0%	100.0%
		% of Total	10.5%	82.9%	6.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)	Point Probability
Pearson Chi-Square	.554 <sup>a</sup>	2	.758	.830		
Likelihood Ratio	.530	2	.767	.830		
Fisher's Exact Test	.650			.724		

Linear-by-Linear Association	.496 <sup>b</sup>	1	.481	.584	.299	.112
N of Valid Cases	334					

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 3.49.

b. The standardized statistic is -.704.

### income \* pssnew



Crosstab

		pssnew			Total	
		low	moderate	high		
income	< 500USD	Count	5	93	9	107
		% within income	4.7%	86.9%	8.4%	100.0%
		% within pssnew	14.3%	33.6%	40.9%	32.0%
		% of Total	1.5%	27.8%	2.7%	32.0%
	501USD - 700USD	Count	13	95	5	113
		% within income	11.5%	84.1%	4.4%	100.0%
		% within pssnew	37.1%	34.3%	22.7%	33.8%
		% of Total	3.9%	28.4%	1.5%	33.8%
	701USD- 1000USD	Count	17	82	7	106
		% within income	16.0%	77.4%	6.6%	100.0%

	% within pssnew	48.6%	29.6%	31.8%	31.7%
	% of Total	5.1%	24.6%	2.1%	31.7%
	Count	0	6	1	7
1001USD-1500USD	% within income	0.0%	85.7%	14.3%	100.0%
	% within pssnew	0.0%	2.2%	4.5%	2.1%
	% of Total	0.0%	1.8%	0.3%	2.1%
	Count	0	1	0	1
>1500USD	% within income	0.0%	100.0%	0.0%	100.0%
	% within pssnew	0.0%	0.4%	0.0%	0.3%
	% of Total	0.0%	0.3%	0.0%	0.3%
	Count	35	277	22	334
Total	% within income	10.5%	82.9%	6.6%	100.0%
	% within pssnew	100.0%	100.0%	100.0%	100.0%
	% of Total	10.5%	82.9%	6.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	10.219 <sup>a</sup>	8	.250	.271		
Likelihood Ratio	11.492	8	.175	.134		
Fisher's Exact Test	12.096			.142		
Linear-by-Linear Association	3.061 <sup>b</sup>	1	.080	.090	.047	.013
N of Valid Cases	334					

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .07.

b. The standardized statistic is -1.750.

### faincome \* pssnew



Crosstab

		pssnew			Total	
		low	moderate	high		
faincome	500USD-700USD	Count	5	68	6	79
		% within faincome	6.3%	86.1%	7.6%	100.0%
		% within pssnew	14.3%	24.5%	27.3%	23.7%
		% of Total	1.5%	20.4%	1.8%	23.7%
	701USD- 800USD	Count	9	59	3	71
		% within faincome	12.7%	83.1%	4.2%	100.0%
		% within pssnew	25.7%	21.3%	13.6%	21.3%
		% of Total	2.7%	17.7%	0.9%	21.3%
	801USD- 1000USD	Count	7	77	4	88
		% within faincome	8.0%	87.5%	4.5%	100.0%
		% within pssnew	20.0%	27.8%	18.2%	26.3%
		% of Total	2.1%	23.1%	1.2%	26.3%
1001USD-1200USD	Count	8	40	4	52	
	% within faincome	15.4%	76.9%	7.7%	100.0%	

	% within pssnew	22.9%	14.4%	18.2%	15.6%
	% of Total	2.4%	12.0%	1.2%	15.6%
	Count	0	14	0	14
1201USD – 1500 USD	% within faincome	0.0%	100.0%	0.0%	100.0%
	% within pssnew	0.0%	5.1%	0.0%	4.2%
	% of Total	0.0%	4.2%	0.0%	4.2%
	Count	6	19	5	30
> 1500USD	% within faincome	20.0%	63.3%	16.7%	100.0%
	% within pssnew	17.1%	6.9%	22.7%	9.0%
	% of Total	1.8%	5.7%	1.5%	9.0%
	Count	35	277	22	334
Total	% within faincome	10.5%	82.9%	6.6%	100.0%
	% within pssnew	100.0%	100.0%	100.0%	100.0%
	% of Total	10.5%	82.9%	6.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	16.766 <sup>a</sup>	10	.080	. <sup>b</sup>		
Likelihood Ratio	17.545	10	.063	. <sup>b</sup>		
Fisher's Exact Test	. <sup>b</sup>			. <sup>b</sup>		
Linear-by-Linear Association	.219 <sup>c</sup>	1	.640	.659	.336	.031
N of Valid Cases	334					

a. 6 cells (33.3%) have expected count less than 5. The minimum expected count is .92.



b. Cannot be computed because there is insufficient memory.

c. The standardized statistic is -.468.

### edulevel \* pssnew



Crosstab

		pssnew			Total	
		low	moderate	high		
edulevel	bachelor	Count	7	99	14	120
		% within edulevel	5.8%	82.5%	11.7%	100.0%
		% within pssnew	20.0%	35.7%	63.6%	35.9%
		% of Total	2.1%	29.6%	4.2%	35.9%
	master	Count	27	165	5	197
		% within edulevel	13.7%	83.8%	2.5%	100.0%
		% within pssnew	77.1%	59.6%	22.7%	59.0%
		% of Total	8.1%	49.4%	1.5%	59.0%
	PhD	Count	1	13	3	17
		% within edulevel	5.9%	76.5%	17.6%	100.0%
		% within pssnew	2.9%	4.7%	13.6%	5.1%
		% of Total	0.3%	3.9%	0.9%	5.1%
Total	Count	35	277	22	334	

% within edulevel	10.5%	82.9%	6.6%	100.0%
% within pssnew	100.0%	100.0%	100.0%	100.0%
% of Total	10.5%	82.9%	6.6%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	17.637 <sup>a</sup>	4	.001	.003		
Likelihood Ratio	17.629	4	.001	.001		
Fisher's Exact Test	17.545			.001		
Linear-by-Linear Association	4.546 <sup>b</sup>	1	.033	.034	.022	.010
N of Valid Cases	334					

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is 1.12.

b. The standardized statistic is -2.132.



**method \* pssnew**

#### Crosstab

	pssnew			Total
	low	moderate	high	

method	Count	17	108	3	128
	Online				
	% within method	13.3%	84.4%	2.3%	100.0%
	% within pssnew	48.6%	39.0%	13.6%	38.3%
	% of Total	5.1%	32.3%	0.9%	38.3%
	Count	18	169	19	206
	On and off				
	% within method	8.7%	82.0%	9.2%	100.0%
	% within pssnew	51.4%	61.0%	86.4%	61.7%
Total	% of Total	5.4%	50.6%	5.7%	61.7%
	Count	35	277	22	334
	% within method	10.5%	82.9%	6.6%	100.0%
	% within pssnew	100.0%	100.0%	100.0%	100.0%
	% of Total	10.5%	82.9%	6.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	7.280 <sup>a</sup>	2	.026	.028		
Likelihood Ratio	8.161	2	.017	.019		
Fisher's Exact Test	7.597			.022		
Linear-by-Linear Association	6.072 <sup>b</sup>	1	.014	.014	.010	.005
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.43.

b. The standardized statistic is 2.464.

**covidvac \* pssnew**

**Crosstab**

		pssnew			Total	
		low	moderate	high		
covidvac	2 doses	Count	3	34	5	42
		% within covidvac	7.1%	81.0%	11.9%	100.0%
		% within pssnew	8.6%	12.3%	22.7%	12.6%
		% of Total	0.9%	10.2%	1.5%	12.6%
	3 doses	Count	31	237	17	285
		% within covidvac	10.9%	83.2%	6.0%	100.0%
		% within pssnew	88.6%	85.6%	77.3%	85.3%
		% of Total	9.3%	71.0%	5.1%	85.3%
	4 doses	Count	1	6	0	7
		% within covidvac	14.3%	85.7%	0.0%	100.0%
		% within pssnew	2.9%	2.2%	0.0%	2.1%
		% of Total	0.3%	1.8%	0.0%	2.1%
Total	Count	35	277	22	334	
	% within covidvac	10.5%	82.9%	6.6%	100.0%	
	% within pssnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	10.5%	82.9%	6.6%	100.0%	

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	3.046 <sup>a</sup>	4	.550	.514		
Likelihood Ratio	3.207	4	.524	.603		
Fisher's Exact Test	2.870			.495		
Linear-by-Linear Association	2.474 <sup>b</sup>	1	.116	.147	.080	.042
N of Valid Cases	334					

a. 4 cells (44.4%) have expected count less than 5. The minimum expected count is .46.

b. The standardized statistic is -1.573.

regulations \* pssnew



## Crosstab

		pssnew			Total	
		low	moderate	high		
	Count	4	27	2	33	
regulations	0	% within regulations	12.1%	81.8%	6.1%	100.0%
		% within pssnew	11.4%	9.7%	9.1%	9.9%

	% of Total	1.2%	8.1%	0.6%	9.9%
	Count	22	166	7	195
1	% within regulations	11.3%	85.1%	3.6%	100.0%
	% within pssnew	62.9%	59.9%	31.8%	58.4%
	% of Total	6.6%	49.7%	2.1%	58.4%
	Count	5	59	10	74
2	% within regulations	6.8%	79.7%	13.5%	100.0%
	% within pssnew	14.3%	21.3%	45.5%	22.2%
	% of Total	1.5%	17.7%	3.0%	22.2%
	Count	3	22	3	28
3	% within regulations	10.7%	78.6%	10.7%	100.0%
	% within pssnew	8.6%	7.9%	13.6%	8.4%
	% of Total	0.9%	6.6%	0.9%	8.4%
	Count	1	3	0	4
4	% within regulations	25.0%	75.0%	0.0%	100.0%
	% within pssnew	2.9%	1.1%	0.0%	1.2%
	% of Total	0.3%	0.9%	0.0%	1.2%
	Count	35	277	22	334
Total	% within regulations	10.5%	82.9%	6.6%	100.0%
	% within pssnew	100.0%	100.0%	100.0%	100.0%
	% of Total	10.5%	82.9%	6.6%	100.0%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	11.345 <sup>a</sup>	8	.183	.176		
Likelihood Ratio	10.665	8	.221	.248		
Fisher's Exact Test	11.649			.124		
Linear-by-Linear Association	1.825 <sup>b</sup>	1	.177	.190	.102	.026
N of Valid Cases	334					

a. 8 cells (53.3%) have expected count less than 5. The minimum expected count is .26.

b. The standardized statistic is 1.351.

**mutant \* pssnew**



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**Crosstab**

		pssnew			Total
		low	moderate	high	
0	Count	6	14	0	20
	% within mutant	30.0%	70.0%	0.0%	100.0%
	% within pssnew	17.1%	5.1%	0.0%	6.0%
	% of Total	1.8%	4.2%	0.0%	6.0%
1	Count	18	115	10	143
	% within mutant	12.6%	80.4%	7.0%	100.0%

	% within pssnew	51.4%	41.5%	45.5%	42.8%
	% of Total	5.4%	34.4%	3.0%	42.8%
	Count	9	101	9	119
2	% within mutant	7.6%	84.9%	7.6%	100.0%
	% within pssnew	25.7%	36.5%	40.9%	35.6%
	% of Total	2.7%	30.2%	2.7%	35.6%
	Count	1	16	1	18
3	% within mutant	5.6%	88.9%	5.6%	100.0%
	% within pssnew	2.9%	5.8%	4.5%	5.4%
	% of Total	0.3%	4.8%	0.3%	5.4%
	Count	1	31	2	34
4	% within mutant	2.9%	91.2%	5.9%	100.0%
	% within pssnew	2.9%	11.2%	9.1%	10.2%
	% of Total	0.3%	9.3%	0.6%	10.2%
	Count	35	277	22	334
Total	% within mutant	10.5%	82.9%	6.6%	100.0%
	% within pssnew	100.0%	100.0%	100.0%	100.0%
	% of Total	10.5%	82.9%	6.6%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	13.607 <sup>a</sup>	8	.093	.091		
Likelihood Ratio	13.367	8	.100	.141		



Fisher's Exact Test	10.812			.159		
Linear-by-Linear Association	5.612 <sup>b</sup>	1	.018	.019	.010	.003
N of Valid Cases	334					

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is 1.19.

b. The standardized statistic is 2.369.

**classsizenew2 \* pssnew**



**Crosstab**

		pssnew			Total	
		low	moderate	high		
classsizenew2	<=30	Count	11	90	8	109
		% within classsizenew2	10.1%	82.6%	7.3%	100.0%
		% within pssnew	31.4%	32.5%	36.4%	32.6%
		% of Total	3.3%	26.9%	2.4%	32.6%
	31-50	Count	15	99	12	126
		% within classsizenew2	11.9%	78.6%	9.5%	100.0%
		% within pssnew	42.9%	35.7%	54.5%	37.7%
		% of Total	4.5%	29.6%	3.6%	37.7%
	>50	Count	9	88	2	99
		% within classsizenew2	9.1%	88.9%	2.0%	100.0%

Total	% within pssnew	25.7%	31.8%	9.1%	29.6%
	% of Total	2.7%	26.3%	0.6%	29.6%
	Count	35	277	22	334
	% within classsize2	10.5%	82.9%	6.6%	100.0%
	% within pssnew	100.0%	100.0%	100.0%	100.0%
	% of Total	10.5%	82.9%	6.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	6.034 <sup>a</sup>	4	.197	.197		
Likelihood Ratio	7.003	4	.136	.147		
Fisher's Exact Test	6.407			.165		
Linear-by-Linear Association	.547 <sup>b</sup>	1	.460	.501	.257	.051
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.52.

b. The standardized statistic is -.739.

**workexnew2 \* pssnew**

Crosstab

		pssnew			Total	
		low	moderate	high		
workexnew2	<=5	Count	7	96	9	112
		% within workexnew2	6.2%	85.7%	8.0%	100.0%
		% within pssnew	20.0%	34.7%	40.9%	33.5%
		% of Total	2.1%	28.7%	2.7%	33.5%
	5-10	Count	11	90	7	108
		% within workexnew2	10.2%	83.3%	6.5%	100.0%
		% within pssnew	31.4%	32.5%	31.8%	32.3%
		% of Total	3.3%	26.9%	2.1%	32.3%
	>10-20	Count	16	78	6	100
		% within workexnew2	16.0%	78.0%	6.0%	100.0%
		% within pssnew	45.7%	28.2%	27.3%	29.9%
		% of Total	4.8%	23.4%	1.8%	29.9%
>20	Count	1	13	0	14	
	% within workexnew2	7.1%	92.9%	0.0%	100.0%	
	% within pssnew	2.9%	4.7%	0.0%	4.2%	
	% of Total	0.3%	3.9%	0.0%	4.2%	
Total	Count	35	277	22	334	
	% within workexnew2	10.5%	82.9%	6.6%	100.0%	
	% within pssnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	10.5%	82.9%	6.6%	100.0%	

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	6.877 <sup>a</sup>	6	.332	.327		
Likelihood Ratio	7.714	6	.260	.303		
Fisher's Exact Test	5.901			.395		
Linear-by-Linear Association	3.947 <sup>b</sup>	1	.047	.053	.028	.008
N of Valid Cases	334					

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is .92.

b. The standardized statistic is -1.987.

agenew2 \* pssnew



## Crosstab

		pssnew			Total	
		low	moderate	high		
agenew2	<=30	Count	8	95	9	112
		% within agnew2	7.1%	84.8%	8.0%	100.0%
		% within pssnew	22.9%	34.3%	40.9%	33.5%
		% of Total	2.4%	28.4%	2.7%	33.5%
	31-40	Count	18	146	10	174

	% within ageneu2	10.3%	83.9%	5.7%	100.0%
	% within pssnew	51.4%	52.7%	45.5%	52.1%
	% of Total	5.4%	43.7%	3.0%	52.1%
	Count	9	36	3	48
>41	% within ageneu2	18.8%	75.0%	6.2%	100.0%
	% within pssnew	25.7%	13.0%	13.6%	14.4%
	% of Total	2.7%	10.8%	0.9%	14.4%
	Count	35	277	22	334
Total	% within ageneu2	10.5%	82.9%	6.6%	100.0%
	% within pssnew	100.0%	100.0%	100.0%	100.0%
	% of Total	10.5%	82.9%	6.6%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	5.310 <sup>a</sup>	4	.257	.256		
Likelihood Ratio	4.857	4	.302	.319		
Fisher's Exact Test	5.115			.271		
Linear-by-Linear Association	3.594 <sup>b</sup>	1	.058	.072	.036	.013
N of Valid Cases	334					

a. 1 cells (11.1%) have expected count less than 5. The minimum expected count is 3.16.

b. The standardized statistic is -1.896.

## whournew \* pssnew

Crosstab

		pssnew			Total	
		low	moderate	high		
whournew	Count	2	139	22	163	
	> 48h/w	% within whournew	1.2%	85.3%	13.5%	100.0%
	% within pssnew	5.7%	50.2%	100.0%	48.8%	
	% of Total	0.6%	41.6%	6.6%	48.8%	
whournew	Count	33	138	0	171	
	0-48h/w	% within whournew	19.3%	80.7%	0.0%	100.0%
	% within pssnew	94.3%	49.8%	0.0%	51.2%	
	% of Total	9.9%	41.3%	0.0%	51.2%	
Total	Count	35	277	22	334	
	% within whournew	10.5%	82.9%	6.6%	100.0%	
	% within pssnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	10.5%	82.9%	6.6%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability

Pearson Chi-Square	49.297 <sup>a</sup>	2	.000	.000		
Likelihood Ratio	63.498	2	.000	.000		
Fisher's Exact Test	58.506			.000		
Linear-by-Linear Association	49.021 <sup>b</sup>	1	.000	.000	.000	.000
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.74.

b. The standardized statistic is -7.001.

#### 4. The association between Burnout and the independent Variables

#### Gender \* MLnewconvert



Crosstab

		MLnewconvert			Total	
		low	moderate	high		
Gender	Male	Count	25	47	0	72
		% within Gender	34.7%	65.3%	0.0%	100.0%
		% within MLnewconvert	20.2%	22.7%	0.0%	21.6%
	% of Total	7.5%	14.1%	0.0%	21.6%	
	Female	Count	99	160	2	261
		% within Gender	37.9%	61.3%	0.8%	100.0%

Total	% within MLnewconvert	79.8%	77.3%	100.0%	78.4%
	% of Total	29.7%	48.0%	0.6%	78.4%
	Count	124	207	2	333
	% within Gender	37.2%	62.2%	0.6%	100.0%
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
	% of Total	37.2%	62.2%	0.6%	100.0%



### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	.851 <sup>a</sup>	2	.653	.804		
Likelihood Ratio	1.275	2	.529	.631		
Fisher's Exact Test	.511			.804		
Linear-by-Linear Association	.137 <sup>b</sup>	1	.711	.788	.408	.101
N of Valid Cases	333					

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .43.

b. The standardized statistic is -.371.

**marital \* MLnewconvert**



## Crosstab

		MLnewconvert			Total
		low	moderate	high	
single	Count	30	64	2	96
	% within marital	31.2%	66.7%	2.1%	100.0%
	% within MLnewconvert	24.2%	30.8%	100.0%	28.7%
	% of Total	9.0%	19.2%	0.6%	28.7%
marital married	Count	92	140	0	232
	% within marital	39.7%	60.3%	0.0%	100.0%
	% within MLnewconvert	74.2%	67.3%	0.0%	69.5%
	% of Total	27.5%	41.9%	0.0%	69.5%
divorce	Count	2	4	0	6
	% within marital	33.3%	66.7%	0.0%	100.0%
	% within MLnewconvert	1.6%	1.9%	0.0%	1.8%
	% of Total	0.6%	1.2%	0.0%	1.8%
Total	Count	124	208	2	334
	% within marital	37.1%	62.3%	0.6%	100.0%
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
	% of Total	37.1%	62.3%	0.6%	100.0%

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)	Point Probability
Pearson Chi-Square	6.729 <sup>a</sup>	4	.151	.110		

Likelihood Ratio	6.795	4	.147	.144		
Fisher's Exact Test	7.358			.130		
Linear-by-Linear Association	1.847 <sup>b</sup>	1	.174	.187	.105	.032
N of Valid Cases	334					

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .04.

b. The standardized statistic is -1.359.

area \* MLnewconvert



Crosstab

		MLnewconvert			Total
		low	moderate	high	
area	Count	104	175	2	281
	urban				
	% within area	37.0%	62.3%	0.7%	100.0%
	% within MLnewconvert	83.9%	84.1%	100.0%	84.1%
	% of Total	31.1%	52.4%	0.6%	84.1%
	rural				
	Count	20	33	0	53
	% within area	37.7%	62.3%	0.0%	100.0%
% within MLnewconvert	16.1%	15.9%	0.0%	15.9%	
% of Total	6.0%	9.9%	0.0%	15.9%	
Total	Count	124	208	2	334

% within area	37.1%	62.3%	0.6%	100.0%
% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
% of Total	37.1%	62.3%	0.6%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	.384 <sup>a</sup>	2	.825	1.000		
Likelihood Ratio	.697	2	.706	1.000		
Fisher's Exact Test	.204			1.000		
Linear-by-Linear Association	.038 <sup>b</sup>	1	.846	.880	.480	.118
N of Valid Cases	334					

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .32.

b. The standardized statistic is -.194.



#### income \* MLnewconvert

#### Crosstab

	MLnewconvert			Total
	low	moderate	high	

	Count	28	78	1	107
	% within income	26.2%	72.9%	0.9%	100.0%
	% within MLnewconvert	22.6%	37.5%	50.0%	32.0%
	% of Total	8.4%	23.4%	0.3%	32.0%
	Count	47	66	0	113
	% within income	41.6%	58.4%	0.0%	100.0%
	% within MLnewconvert	37.9%	31.7%	0.0%	33.8%
	% of Total	14.1%	19.8%	0.0%	33.8%
	Count	47	59	0	106
	% within income	44.3%	55.7%	0.0%	100.0%
	% within MLnewconvert	37.9%	28.4%	0.0%	31.7%
	% of Total	14.1%	17.7%	0.0%	31.7%
	Count	2	4	1	7
	% within income	28.6%	57.1%	14.3%	100.0%
	% within MLnewconvert	1.6%	1.9%	50.0%	2.1%
	% of Total	0.6%	1.2%	0.3%	2.1%
	Count	0	1	0	1
	% within income	0.0%	100.0%	0.0%	100.0%
	% within MLnewconvert	0.0%	0.5%	0.0%	0.3%
	% of Total	0.0%	0.3%	0.0%	0.3%
	Count	124	208	2	334
	% within income	37.1%	62.3%	0.6%	100.0%
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
	% of Total	37.1%	62.3%	0.6%	100.0%
income	< 500USD				
	501USD - 700USD				
	701USD- 1000USD				
	1001USD-1500USD				
	>1500USD				
Total					

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	32.694 <sup>a</sup>	8	.000	.008		
Likelihood Ratio	17.082	8	.029	.010		
Fisher's Exact Test	20.706			.006		
Linear-by-Linear Association	4.282 <sup>b</sup>	1	.039	.040	.022	.006
N of Valid Cases	334					

a. 9 cells (60.0%) have expected count less than 5. The minimum expected count is .01.

b. The standardized statistic is -2.069.

**faincome \* MLnewconvert**



## Crosstab

		MLnewconvert			Total
		low	moderate	high	
faincome 500USD-700USD	Count	29	50	0	79
	% within faincome	36.7%	63.3%	0.0%	100.0%
	% within MLnewconvert	23.4%	24.0%	0.0%	23.7%

	% of Total	8.7%	15.0%	0.0%	23.7%
	Count	19	51	1	71
701USD- 800USD	% within faincome	26.8%	71.8%	1.4%	100.0%
	% within MLnewconvert	15.3%	24.5%	50.0%	21.3%
	% of Total	5.7%	15.3%	0.3%	21.3%
	Count	34	54	0	88
801USD- 1000USD	% within faincome	38.6%	61.4%	0.0%	100.0%
	% within MLnewconvert	27.4%	26.0%	0.0%	26.3%
	% of Total	10.2%	16.2%	0.0%	26.3%
	Count	26	26	0	52
1001USD-1200USD	% within faincome	50.0%	50.0%	0.0%	100.0%
	% within MLnewconvert	21.0%	12.5%	0.0%	15.6%
	% of Total	7.8%	7.8%	0.0%	15.6%
	Count	5	9	0	14
1201USD – 1500 USD	% within faincome	35.7%	64.3%	0.0%	100.0%
	% within MLnewconvert	4.0%	4.3%	0.0%	4.2%
	% of Total	1.5%	2.7%	0.0%	4.2%
	Count	11	18	1	30
> 1500USD	% within faincome	36.7%	60.0%	3.3%	100.0%
	% within MLnewconvert	8.9%	8.7%	50.0%	9.0%
	% of Total	3.3%	5.4%	0.3%	9.0%
Total	Count	124	208	2	334

% within faincome	37.1%	62.3%	0.6%	100.0%
% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
% of Total	37.1%	62.3%	0.6%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)	Point Probability
Pearson Chi-Square	12.720 <sup>a</sup>	10	.240	.238		
Likelihood Ratio	11.981	10	.286	.215		
Fisher's Exact Test	12.435			.183		
Linear-by-Linear Association	.723 <sup>b</sup>	1	.395	.398	.208	.020
N of Valid Cases	334					

a. 6 cells (33.3%) have expected count less than 5. The minimum expected count is .08.

b. The standardized statistic is -.850.

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**edulevel \* MLnewconvert**

#### Crosstab

	MLnewconvert	Total
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		low	moderate	high		
edulevel	bachelor	Count	34	84	2	120
		% within edulevel	28.3%	70.0%	1.7%	100.0%
		% within MLnewconvert	27.4%	40.4%	100.0%	35.9%
		% of Total	10.2%	25.1%	0.6%	35.9%
	master	Count	85	112	0	197
		% within edulevel	43.1%	56.9%	0.0%	100.0%
		% within MLnewconvert	68.5%	53.8%	0.0%	59.0%
		% of Total	25.4%	33.5%	0.0%	59.0%
	PhD	Count	5	12	0	17
		% within edulevel	29.4%	70.6%	0.0%	100.0%
		% within MLnewconvert	4.0%	5.8%	0.0%	5.1%
		% of Total	1.5%	3.6%	0.0%	5.1%
Total	Count	124	208	2	334	
	% within edulevel	37.1%	62.3%	0.6%	100.0%	
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%	
	% of Total	37.1%	62.3%	0.6%	100.0%	

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	10.530 <sup>a</sup>	4	.032	.054		
Likelihood Ratio	11.183	4	.025	.017		
Fisher's Exact Test	10.493			.021		



Linear-by-Linear Association	4.385 <sup>b</sup>	1	.036	.039	.023	.009
N of Valid Cases	334					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .10.

b. The standardized statistic is -2.094.

### method \* MLnewconvert



Crosstab

		MLnewconvert			Total	
		low	moderate	high		
method	Online	Count	49	79	0	128
		% within method	38.3%	61.7%	0.0%	100.0%
		% within MLnewconvert	39.5%	38.0%	0.0%	38.3%
		% of Total	14.7%	23.7%	0.0%	38.3%
	On and off	Count	75	129	2	206
		% within method	36.4%	62.6%	1.0%	100.0%
		% within MLnewconvert	60.5%	62.0%	100.0%	61.7%
		% of Total	22.5%	38.6%	0.6%	61.7%
Total		Count	124	208	2	334
		% within method	37.1%	62.3%	0.6%	100.0%

% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
% of Total	37.1%	62.3%	0.6%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	1.328 <sup>a</sup>	2	.515	.571		
Likelihood Ratio	2.018	2	.365	.532		
Fisher's Exact Test	.942			.685		
Linear-by-Linear Association	.261 <sup>b</sup>	1	.609	.649	.345	.079
N of Valid Cases	334					

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .77.

b. The standardized statistic is .511.



**covidvac \* MLnewconvert**

#### Crosstab

			MLnewconvert			Total
			low	moderate	high	
covidvac	2 doses	Count	12	29	1	42

	% within covidvac	28.6%	69.0%	2.4%	100.0%
	% within MLnewconvert	9.7%	13.9%	50.0%	12.6%
	% of Total	3.6%	8.7%	0.3%	12.6%
	Count	110	174	1	285
3 doses	% within covidvac	38.6%	61.1%	0.4%	100.0%
	% within MLnewconvert	88.7%	83.7%	50.0%	85.3%
	% of Total	32.9%	52.1%	0.3%	85.3%
	Count	2	5	0	7
4 doses	% within covidvac	28.6%	71.4%	0.0%	100.0%
	% within MLnewconvert	1.6%	2.4%	0.0%	2.1%
	% of Total	0.6%	1.5%	0.0%	2.1%
	Count	124	208	2	334
Total	% within covidvac	37.1%	62.3%	0.6%	100.0%
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
	% of Total	37.1%	62.3%	0.6%	100.0%

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#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	4.166 <sup>a</sup>	4	.384	.279		
Likelihood Ratio	3.363	4	.499	.351		
Fisher's Exact Test	5.628			.260		
Linear-by-Linear Association	1.292 <sup>b</sup>	1	.256	.294	.162	.064
N of Valid Cases	334					

- a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .04.
- b. The standardized statistic is -1.137.

## regulations \* MLnewconvert



Crosstab

		MLnewconvert			Total	
		low	moderate	high		
regulations	0	Count	13	20	0	33
		% within regulations	39.4%	60.6%	0.0%	100.0%
		% within MLnewconvert	10.5%	9.6%	0.0%	9.9%
		% of Total	3.9%	6.0%	0.0%	9.9%
	1	Count	74	120	1	195
		% within regulations	37.9%	61.5%	0.5%	100.0%
		% within MLnewconvert	59.7%	57.7%	50.0%	58.4%
		% of Total	22.2%	35.9%	0.3%	58.4%
	2	Count	24	49	1	74
		% within regulations	32.4%	66.2%	1.4%	100.0%
		% within MLnewconvert	19.4%	23.6%	50.0%	22.2%
		% of Total	7.2%	14.7%	0.3%	22.2%
3	Count	12	16	0	28	

	% within regulations	42.9%	57.1%	0.0%	100.0%
	% within MLnewconvert	9.7%	7.7%	0.0%	8.4%
	% of Total	3.6%	4.8%	0.0%	8.4%
	Count	1	3	0	4
4	% within regulations	25.0%	75.0%	0.0%	100.0%
	% within MLnewconvert	0.8%	1.4%	0.0%	1.2%
	% of Total	0.3%	0.9%	0.0%	1.2%
	Count	124	208	2	334
Total	% within regulations	37.1%	62.3%	0.6%	100.0%
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
	% of Total	37.1%	62.3%	0.6%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	2.478 <sup>a</sup>	8	.963	.928		
Likelihood Ratio	2.704	8	.952	.953		
Fisher's Exact Test	5.266			.884		
Linear-by-Linear Association	.148 <sup>b</sup>	1	.701	.734	.377	.051
N of Valid Cases	334					

a. 7 cells (46.7%) have expected count less than 5. The minimum expected count is .02.

b. The standardized statistic is .384.

## mutant \* MLnewconvert

Crosstab

		MLnewconvert			Total	
		low	moderate	high		
mutant	0	Count	11	9	0	20
		% within mutant	55.0%	45.0%	0.0%	100.0%
		% within MLnewconvert	8.9%	4.3%	0.0%	6.0%
		% of Total	3.3%	2.7%	0.0%	6.0%
		Count	53	90	0	143
		% within mutant	37.1%	62.9%	0.0%	100.0%
		% within MLnewconvert	42.7%	43.3%	0.0%	42.8%
		% of Total	15.9%	26.9%	0.0%	42.8%
		Count	47	70	2	119
		% within mutant	39.5%	58.8%	1.7%	100.0%
		% within MLnewconvert	37.9%	33.7%	100.0%	35.6%
		% of Total	14.1%	21.0%	0.6%	35.6%
	Count	5	13	0	18	
	% within mutant	27.8%	72.2%	0.0%	100.0%	
	% within MLnewconvert	4.0%	6.2%	0.0%	5.4%	
	% of Total	1.5%	3.9%	0.0%	5.4%	
	4	Count	8	26	0	34

	% within mutant	23.5%	76.5%	0.0%	100.0%
	% within MLnewconvert	6.5%	12.5%	0.0%	10.2%
	% of Total	2.4%	7.8%	0.0%	10.2%
	Count	124	208	2	334
Total	% within mutant	37.1%	62.3%	0.6%	100.0%
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
	% of Total	37.1%	62.3%	0.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	10.214 <sup>a</sup>	8	.250	.262		
Likelihood Ratio	10.815	8	.212	.150		
Fisher's Exact Test	10.373			.210		
Linear-by-Linear Association	4.042 <sup>b</sup>	1	.044	.045	.025	.006
N of Valid Cases	334					

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .11.

b. The standardized statistic is 2.010.

**classizenew2 \* MLnewconvert**

## Crosstab

		MLnewconvert			Total	
		low	moderate	high		
classsizenew2	<=30	Count	33	74	2	109
		% within classsizenew2	30.3%	67.9%	1.8%	100.0%
		% within MLnewconvert	26.6%	35.6%	100.0%	32.6%
		% of Total	9.9%	22.2%	0.6%	32.6%
	31-50	Count	50	76	0	126
		% within classsizenew2	39.7%	60.3%	0.0%	100.0%
		% within MLnewconvert	40.3%	36.5%	0.0%	37.7%
		% of Total	15.0%	22.8%	0.0%	37.7%
	>50	Count	41	58	0	99
		% within classsizenew2	41.4%	58.6%	0.0%	100.0%
		% within MLnewconvert	33.1%	27.9%	0.0%	29.6%
		% of Total	12.3%	17.4%	0.0%	29.6%
Total	Count	124	208	2	334	
	% within classsizenew2	37.1%	62.3%	0.6%	100.0%	
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%	
	% of Total	37.1%	62.3%	0.6%	100.0%	

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)	Point Probability



Pearson Chi-Square	7.064 <sup>a</sup>	4	.133	.109		
Likelihood Ratio	7.475	4	.113	.110		
Fisher's Exact Test	5.703			.146		
Linear-by-Linear Association	3.670 <sup>b</sup>	1	.055	.058	.032	.009
N of Valid Cases	334					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .59.

b. The standardized statistic is -1.916.

**workexnew2 \* MLnewconvert**



**Crosstab**

		MLnewconvert			Total
		low	moderate	high	
workexnew2	Count	30	81	1	112
	<=5 % within workexnew2	26.8%	72.3%	0.9%	100.0%
	% within MLnewconvert	24.2%	38.9%	50.0%	33.5%
	% of Total	9.0%	24.3%	0.3%	33.5%
5-10	Count	42	65	1	108
	% within workexnew2	38.9%	60.2%	0.9%	100.0%
	% within MLnewconvert	33.9%	31.2%	50.0%	32.3%
	% of Total	12.6%	19.5%	0.3%	32.3%

>10-20	Count	49	51	0	100
	% within workexnew2	49.0%	51.0%	0.0%	100.0%
	% within MLnewconvert	39.5%	24.5%	0.0%	29.9%
	% of Total	14.7%	15.3%	0.0%	29.9%
>20	Count	3	11	0	14
	% within workexnew2	21.4%	78.6%	0.0%	100.0%
	% within MLnewconvert	2.4%	5.3%	0.0%	4.2%
	% of Total	0.9%	3.3%	0.0%	4.2%
Total	Count	124	208	2	334
	% within workexnew2	37.1%	62.3%	0.6%	100.0%
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
	% of Total	37.1%	62.3%	0.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	13.610 <sup>a</sup>	6	.034	.057		
Likelihood Ratio	14.409	6	.025	.015		
Fisher's Exact Test	14.471			.011		
Linear-by-Linear Association	6.216 <sup>b</sup>	1	.013	.013	.008	.002
N of Valid Cases	334					

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is .08.

b. The standardized statistic is -2.493.

## agenew2 \* MLnewconvert

Crosstab

		MLnewconvert			Total	
		low	moderate	high		
agenew2	<=30	Count	33	77	2	112
		% within agenew2	29.5%	68.8%	1.8%	100.0%
		% within MLnewconvert	26.6%	37.0%	100.0%	33.5%
		% of Total	9.9%	23.1%	0.6%	33.5%
	31-40	Count	73	101	0	174
		% within agenew2	42.0%	58.0%	0.0%	100.0%
		% within MLnewconvert	58.9%	48.6%	0.0%	52.1%
		% of Total	21.9%	30.2%	0.0%	52.1%
	>41	Count	18	30	0	48
		% within agenew2	37.5%	62.5%	0.0%	100.0%
		% within MLnewconvert	14.5%	14.4%	0.0%	14.4%
		% of Total	5.4%	9.0%	0.0%	14.4%
Total	Count	124	208	2	334	
	% within agenew2	37.1%	62.3%	0.6%	100.0%	
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%	
	% of Total	37.1%	62.3%	0.6%	100.0%	

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	8.084 <sup>a</sup>	4	.089	.072		
Likelihood Ratio	8.568	4	.073	.064		
Fisher's Exact Test	7.143			.085		
Linear-by-Linear Association	2.981 <sup>b</sup>	1	.084	.096	.050	.015
N of Valid Cases	334					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .29.

b. The standardized statistic is -1.726.



whournew \* MLnewconvert

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### Crosstab

			MLnewconvert			Total
			low	moderate	high	
whournew > 48h/w	Count		23	138	2	163
	% within whournew		14.1%	84.7%	1.2%	100.0%
	% within MLnewconvert		18.5%	66.3%	100.0%	48.8%

	% of Total	6.9%	41.3%	0.6%	48.8%
	Count	101	70	0	171
0-48h/w	% within whournew	59.1%	40.9%	0.0%	100.0%
	% within MLnewconvert	81.5%	33.7%	0.0%	51.2%
	% of Total	30.2%	21.0%	0.0%	51.2%
	Count	124	208	2	334
Total	% within whournew	37.1%	62.3%	0.6%	100.0%
	% within MLnewconvert	100.0%	100.0%	100.0%	100.0%
	% of Total	37.1%	62.3%	0.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	73.146 <sup>a</sup>	2	.000	.000		
Likelihood Ratio	78.183	2	.000	.000		
Fisher's Exact Test	76.433			.000		
Linear-by-Linear Association	72.775 <sup>b</sup>	1	.000	.000	.000	.000
N of Valid Cases	334					

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .98.

b. The standardized statistic is -8.531.

#### 5. The association between Emotional Exhaustion (EE) and the independent Variables Gender \* EEnew

**Crosstab**

		EEnew			Total	
		low	moderate	high		
Gender	Male	Count	14	45	13	72
		% within Gender	19.4%	62.5%	18.1%	100.0%
		% within EEnew	27.5%	21.1%	18.8%	21.6%
		% of Total	4.2%	13.5%	3.9%	21.6%
	Female	Count	37	168	56	261
		% within Gender	14.2%	64.4%	21.5%	100.0%
		% within EEnew	72.5%	78.9%	81.2%	78.4%
		% of Total	11.1%	50.5%	16.8%	78.4%
Total	Count	51	213	69	333	
	% within Gender	15.3%	64.0%	20.7%	100.0%	
	% within EEnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	15.3%	64.0%	20.7%	100.0%	

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	1.368 <sup>a</sup>	2	.505	.494		
Likelihood Ratio	1.321	2	.517	.515		
Fisher's Exact Test	1.391			.503		

Linear-by-Linear Association	1.183 <sup>b</sup>	1	.277	.317	.164	.049
N of Valid Cases	333					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.03.

b. The standardized statistic is 1.088.

**marital \* EEnew**



**Crosstab**

		EEnew			Total
		low	moderate	high	
single	Count	17	54	25	96
	% within marital	17.7%	56.2%	26.0%	100.0%
	% within EEnew	33.3%	25.2%	36.2%	28.7%
	% of Total	5.1%	16.2%	7.5%	28.7%
marital married	Count	34	157	41	232
	% within marital	14.7%	67.7%	17.7%	100.0%
	% within EEnew	66.7%	73.4%	59.4%	69.5%
	% of Total	10.2%	47.0%	12.3%	69.5%
divorce	Count	0	3	3	6
	% within marital	0.0%	50.0%	50.0%	100.0%

Total	% within EEnew	0.0%	1.4%	4.3%	1.8%
	% of Total	0.0%	0.9%	0.9%	1.8%
	Count	51	214	69	334
	% within marital	15.3%	64.1%	20.7%	100.0%
	% within EEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	15.3%	64.1%	20.7%	100.0%



### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	7.767 <sup>a</sup>	4	.100	.096		
Likelihood Ratio	7.943	4	.094	.101		
Fisher's Exact Test	7.039			.103		
Linear-by-Linear Association	.181 <sup>b</sup>	1	.671	.675	.367	.061
N of Valid Cases	334					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .92.

b. The standardized statistic is .425.

**area \* EEnew**



Crosstab

		EEnew			Total	
		low	moderate	high		
area	urban	Count	40	181	60	281
		% within area	14.2%	64.4%	21.4%	100.0%
		% within EEnew	78.4%	84.6%	87.0%	84.1%
		% of Total	12.0%	54.2%	18.0%	84.1%
rural		Count	11	33	9	53
		% within area	20.8%	62.3%	17.0%	100.0%
		% within EEnew	21.6%	15.4%	13.0%	15.9%
		% of Total	3.3%	9.9%	2.7%	15.9%
Total		Count	51	214	69	334
		% within area	15.3%	64.1%	20.7%	100.0%
		% within EEnew	100.0%	100.0%	100.0%	100.0%
		% of Total	15.3%	64.1%	20.7%	100.0%

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Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	1.686 <sup>a</sup>	2	.430	.432		
Likelihood Ratio	1.606	2	.448	.466		
Fisher's Exact Test	1.693			.419		
Linear-by-Linear Association	1.480 <sup>b</sup>	1	.224	.259	.137	.048

N of Valid Cases	334				
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a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.09.

b. The standardized statistic is -1.216.

### income \* ENew



Crosstab

		EEnew			Total	
		low	moderate	high		
income	< 500USD	Count	8	69	30	107
		% within income	7.5%	64.5%	28.0%	100.0%
		% within EEnew	15.7%	32.2%	43.5%	32.0%
		% of Total	2.4%	20.7%	9.0%	32.0%
	501USD - 700USD	Count	19	74	20	113
		% within income	16.8%	65.5%	17.7%	100.0%
		% within EEnew	37.3%	34.6%	29.0%	33.8%
		% of Total	5.7%	22.2%	6.0%	33.8%
	701USD- 1000USD	Count	23	68	15	106
		% within income	21.7%	64.2%	14.2%	100.0%
		% within EEnew	45.1%	31.8%	21.7%	31.7%
		% of Total	6.9%	20.4%	4.5%	31.7%

	Count	1	2	4	7
1001USD-1500USD	% within income	14.3%	28.6%	57.1%	100.0%
	% within ENew	2.0%	0.9%	5.8%	2.1%
	% of Total	0.3%	0.6%	1.2%	2.1%
	Count	0	1	0	1
>1500USD	% within income	0.0%	100.0%	0.0%	100.0%
	% within ENew	0.0%	0.5%	0.0%	0.3%
	% of Total	0.0%	0.3%	0.0%	0.3%
	Count	51	214	69	334
Total	% within income	15.3%	64.1%	20.7%	100.0%
	% within ENew	100.0%	100.0%	100.0%	100.0%
	% of Total	15.3%	64.1%	20.7%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	19.264 <sup>a</sup>	8	.014	.012		
Likelihood Ratio	19.144	8	.014	.010		
Fisher's Exact Test	19.370			.006		
Linear-by-Linear Association	6.938 <sup>b</sup>	1	.008	.009	.005	.001
N of Valid Cases	334					

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is .15.

b. The standardized statistic is -2.634.

## faincome \* EEnew

Crosstab

		EEnew			Total	
		low	moderate	high		
faincome	500USD-700USD	Count	11	47	21	79
		% within faincome	13.9%	59.5%	26.6%	100.0%
		% within EEnew	21.6%	22.0%	30.4%	23.7%
		% of Total	3.3%	14.1%	6.3%	23.7%
	701USD- 800USD	Count	8	49	14	71
		% within faincome	11.3%	69.0%	19.7%	100.0%
		% within EEnew	15.7%	22.9%	20.3%	21.3%
		% of Total	2.4%	14.7%	4.2%	21.3%
	801USD- 1000USD	Count	11	63	14	88
		% within faincome	12.5%	71.6%	15.9%	100.0%
		% within EEnew	21.6%	29.4%	20.3%	26.3%
		% of Total	3.3%	18.9%	4.2%	26.3%
1001USD-1200USD	Count	13	28	11	52	
	% within faincome	25.0%	53.8%	21.2%	100.0%	
	% within EEnew	25.5%	13.1%	15.9%	15.6%	
	% of Total	3.9%	8.4%	3.3%	15.6%	

	Count	0	13	1	14
	% within faincome	0.0%	92.9%	7.1%	100.0%
1201USD – 1500 USD	% within EEnew	0.0%	6.1%	1.4%	4.2%
	% of Total	0.0%	3.9%	0.3%	4.2%
	Count	8	14	8	30
	% within faincome	26.7%	46.7%	26.7%	100.0%
> 1500USD	% within EEnew	15.7%	6.5%	11.6%	9.0%
	% of Total	2.4%	4.2%	2.4%	9.0%
	Count	51	214	69	334
	% within faincome	15.3%	64.1%	20.7%	100.0%
Total	% within EEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	15.3%	64.1%	20.7%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	18.679 <sup>a</sup>	10	.045	. <sup>b</sup>		
Likelihood Ratio	20.225	10	.027	. <sup>b</sup>		
Fisher's Exact Test	. <sup>b</sup>			. <sup>b</sup>		
Linear-by-Linear Association	1.931 <sup>c</sup>	1	.165	.171	.087	.009
N of Valid Cases	334					

a. 3 cells (16.7%) have expected count less than 5. The minimum expected count is 2.14.

b. Cannot be computed because there is insufficient memory.

c. The standardized statistic is -1.390.

**edulevel \* ENew**



**Crosstab**

		EEnew			Total	
		low	moderate	high		
edulevel	bachelor	Count	14	67	39	120
		% within edulevel	11.7%	55.8%	32.5%	100.0%
		% within EEnew	27.5%	31.3%	56.5%	35.9%
		% of Total	4.2%	20.1%	11.7%	35.9%
	master	Count	35	139	23	197
		% within edulevel	17.8%	70.6%	11.7%	100.0%
		% within EEnew	68.6%	65.0%	33.3%	59.0%
		% of Total	10.5%	41.6%	6.9%	59.0%
	PhD	Count	2	8	7	17
		% within edulevel	11.8%	47.1%	41.2%	100.0%
		% within EEnew	3.9%	3.7%	10.1%	5.1%
		% of Total	0.6%	2.4%	2.1%	5.1%
Total	Count	51	214	69	334	
	% within edulevel	15.3%	64.1%	20.7%	100.0%	

% within EEnew	100.0%	100.0%	100.0%	100.0%
% of Total	15.3%	64.1%	20.7%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	24.599 <sup>a</sup>	4	.000	.000		
Likelihood Ratio	24.199	4	.000	.000		
Fisher's Exact Test	24.185			.000		
Linear-by-Linear Association	5.550 <sup>b</sup>	1	.018	.022	.011	.004
N of Valid Cases	334					

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is 2.60.

b. The standardized statistic is -2.356.



**method \* EEnew**

#### Crosstab

			EEnew			Total
			low	moderate	high	
method	Online	Count	25	81	22	128

	% within method	19.5%	63.3%	17.2%	100.0%
	% within EEnew	49.0%	37.9%	31.9%	38.3%
	% of Total	7.5%	24.3%	6.6%	38.3%
	Count	26	133	47	206
On and off	% within method	12.6%	64.6%	22.8%	100.0%
	% within EEnew	51.0%	62.1%	68.1%	61.7%
	% of Total	7.8%	39.8%	14.1%	61.7%
	Count	51	214	69	334
Total	% within method	15.3%	64.1%	20.7%	100.0%
	% within EEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	15.3%	64.1%	20.7%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	3.699 <sup>a</sup>	2	.157	.152		
Likelihood Ratio	3.665	2	.160	.157		
Fisher's Exact Test	3.651			.155		
Linear-by-Linear Association	3.472 <sup>b</sup>	1	.062	.073	.038	.013
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.54.

b. The standardized statistic is 1.863.



**covidvac \* EEnew**

**Crosstab**

		EEnew			Total	
		low	moderate	high		
covidvac	2 doses	Count	7	21	14	42
		% within covidvac	16.7%	50.0%	33.3%	100.0%
		% within EEnew	13.7%	9.8%	20.3%	12.6%
		% of Total	2.1%	6.3%	4.2%	12.6%
	3 doses	Count	43	189	53	285
		% within covidvac	15.1%	66.3%	18.6%	100.0%
		% within EEnew	84.3%	88.3%	76.8%	85.3%
		% of Total	12.9%	56.6%	15.9%	85.3%
	4 doses	Count	1	4	2	7
		% within covidvac	14.3%	57.1%	28.6%	100.0%
		% within EEnew	2.0%	1.9%	2.9%	2.1%
		% of Total	0.3%	1.2%	0.6%	2.1%
Total	Count	51	214	69	334	
	% within covidvac	15.3%	64.1%	20.7%	100.0%	
	% within EEnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	15.3%	64.1%	20.7%	100.0%	

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	5.704 <sup>a</sup>	4	.222	.214		
Likelihood Ratio	5.289	4	.259	.313		
Fisher's Exact Test	5.972			.161		
Linear-by-Linear Association	1.044 <sup>b</sup>	1	.307	.322	.184	.059
N of Valid Cases	334					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.07.

b. The standardized statistic is -1.022.

regulations \* EEnew

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## Crosstab

		EEnew			Total	
		low	moderate	high		
regulations	0	Count	5	20	8	33
		% within regulations	15.2%	60.6%	24.2%	100.0%
		% within EEnew	9.8%	9.3%	11.6%	9.9%

1	% of Total	1.5%	6.0%	2.4%	9.9%
	Count	29	129	37	195
	% within regulations	14.9%	66.2%	19.0%	100.0%
	% within EEnew	56.9%	60.3%	53.6%	58.4%
	% of Total	8.7%	38.6%	11.1%	58.4%
	Count	10	45	19	74
2	% within regulations	13.5%	60.8%	25.7%	100.0%
	% within EEnew	19.6%	21.0%	27.5%	22.2%
	% of Total	3.0%	13.5%	5.7%	22.2%
3	Count	6	17	5	28
	% within regulations	21.4%	60.7%	17.9%	100.0%
	% within EEnew	11.8%	7.9%	7.2%	8.4%
	% of Total	1.8%	5.1%	1.5%	8.4%
4	Count	1	3	0	4
	% within regulations	25.0%	75.0%	0.0%	100.0%
	% within EEnew	2.0%	1.4%	0.0%	1.2%
	% of Total	0.3%	0.9%	0.0%	1.2%
Total	Count	51	214	69	334
	% within regulations	15.3%	64.1%	20.7%	100.0%
	% within EEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	15.3%	64.1%	20.7%	100.0%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	3.861 <sup>a</sup>	8	.869	.882		
Likelihood Ratio	4.511	8	.808	.870		
Fisher's Exact Test	4.043			.852		
Linear-by-Linear Association	.303 <sup>b</sup>	1	.582	.612	.311	.039
N of Valid Cases	334					

a. 4 cells (26.7%) have expected count less than 5. The minimum expected count is .61.

b. The standardized statistic is -.550.

mutant \* EEnew



Crosstab

		EEnew			Total
		low	moderate	high	
0 mutant	Count	6	13	1	20
	% within mutant	30.0%	65.0%	5.0%	100.0%
	% within EEnew	11.8%	6.1%	1.4%	6.0%
	% of Total	1.8%	3.9%	0.3%	6.0%
1	Count	25	90	28	143

	% within mutant	17.5%	62.9%	19.6%	100.0%
	% within EEnew	49.0%	42.1%	40.6%	42.8%
	% of Total	7.5%	26.9%	8.4%	42.8%
	Count	15	77	27	119
2	% within mutant	12.6%	64.7%	22.7%	100.0%
	% within EEnew	29.4%	36.0%	39.1%	35.6%
	% of Total	4.5%	23.1%	8.1%	35.6%
	Count	2	11	5	18
3	% within mutant	11.1%	61.1%	27.8%	100.0%
	% within EEnew	3.9%	5.1%	7.2%	5.4%
	% of Total	0.6%	3.3%	1.5%	5.4%
	Count	3	23	8	34
4	% within mutant	8.8%	67.6%	23.5%	100.0%
	% within EEnew	5.9%	10.7%	11.6%	10.2%
	% of Total	0.9%	6.9%	2.4%	10.2%
	Count	51	214	69	334
Total	% within mutant	15.3%	64.1%	20.7%	100.0%
	% within EEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	15.3%	64.1%	20.7%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	8.383 <sup>a</sup>	8	.397	.399		

Likelihood Ratio	8.953	8	.346	.385		
Fisher's Exact Test	8.187			.404		
Linear-by-Linear Association	5.104 <sup>b</sup>	1	.024	.025	.013	.003
N of Valid Cases	334					

a. 4 cells (26.7%) have expected count less than 5. The minimum expected count is 2.75.

b. The standardized statistic is 2.259.

**whournew \* EEnew**



**Crosstab**

		EEnew			Total
		low	moderate	high	
whournew	Count	4	93	66	163
	> 48h/w % within whournew	2.5%	57.1%	40.5%	100.0%
	% within EEnew	7.8%	43.5%	95.7%	48.8%
	% of Total	1.2%	27.8%	19.8%	48.8%
0-48h/w	Count	47	121	3	171
	% within whournew	27.5%	70.8%	1.8%	100.0%
	% within EEnew	92.2%	56.5%	4.3%	51.2%
	% of Total	14.1%	36.2%	0.9%	51.2%
Total	Count	51	214	69	334

% within whournew	15.3%	64.1%	20.7%	100.0%
% within EEnew	100.0%	100.0%	100.0%	100.0%
% of Total	15.3%	64.1%	20.7%	100.0%

### Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	97.304 <sup>a</sup>	2	.000	.000		
Likelihood Ratio	117.115	2	.000	.000		
Fisher's Exact Test	114.163			.000		
Linear-by-Linear Association	94.935 <sup>b</sup>	1	.000	.000	.000	.000
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.89.

b. The standardized statistic is -9.743.

**classsizenew2 \* EEnew**

**Crosstab**

		EEnew			Total	
		low	moderate	high		
classsize <sub>new2</sub>	<=30	Count	18	65	26	109
		% within classsize <sub>new2</sub>	16.5%	59.6%	23.9%	100.0%
		% within EEnew	35.3%	30.4%	37.7%	32.6%
		% of Total	5.4%	19.5%	7.8%	32.6%
	31-50	Count	16	81	29	126
		% within classsize <sub>new2</sub>	12.7%	64.3%	23.0%	100.0%
		% within EEnew	31.4%	37.9%	42.0%	37.7%
		% of Total	4.8%	24.3%	8.7%	37.7%
	>50	Count	17	68	14	99
% within classsize <sub>new2</sub>		17.2%	68.7%	14.1%	100.0%	
% within EEnew		33.3%	31.8%	20.3%	29.6%	
	% of Total	5.1%	20.4%	4.2%	29.6%	
Total	Count	51	214	69	334	
	% within classsize <sub>new2</sub>	15.3%	64.1%	20.7%	100.0%	
	% within EEnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	15.3%	64.1%	20.7%	100.0%	

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	4.469 <sup>a</sup>	4	.346	.349		



Likelihood Ratio	4.708	4	.319	.325		
Fisher's Exact Test	4.644			.326		
Linear-by-Linear Association	1.474 <sup>b</sup>	1	.225	.246	.124	.022
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.12.

b. The standardized statistic is -1.214.

**workexnew2 \* EEnew**



**Crosstab**

		EEnew			Total
		low	moderate	high	
workexnew2	Count	13	65	34	112
	% within workexnew2	11.6%	58.0%	30.4%	100.0%
	% within EEnew	25.5%	30.4%	49.3%	33.5%
	% of Total	3.9%	19.5%	10.2%	33.5%
5-10	Count	17	74	17	108
	% within workexnew2	15.7%	68.5%	15.7%	100.0%
	% within EEnew	33.3%	34.6%	24.6%	32.3%
	% of Total	5.1%	22.2%	5.1%	32.3%

>10-20	Count	20	66	14	100
	% within workexnew2	20.0%	66.0%	14.0%	100.0%
	% within EEnew	39.2%	30.8%	20.3%	29.9%
	% of Total	6.0%	19.8%	4.2%	29.9%
>20	Count	1	9	4	14
	% within workexnew2	7.1%	64.3%	28.6%	100.0%
	% within EEnew	2.0%	4.2%	5.8%	4.2%
	% of Total	0.3%	2.7%	1.2%	4.2%
Total	Count	51	214	69	334
	% within workexnew2	15.3%	64.1%	20.7%	100.0%
	% within EEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	15.3%	64.1%	20.7%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	13.033 <sup>a</sup>	6	.043	.042		
Likelihood Ratio	12.849	6	.045	.055		
Fisher's Exact Test	12.429			.045		
Linear-by-Linear Association	5.004 <sup>b</sup>	1	.025	.028	.014	.003
N of Valid Cases	334					

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.14.

b. The standardized statistic is -2.237.

### agenew2 \* EEnew



Crosstab

		EEnew			Total	
		low	moderate	high		
agenew2	<=30	Count	14	63	35	112
		% within agenew2	12.5%	56.2%	31.2%	100.0%
		% within EEnew	27.5%	29.4%	50.7%	33.5%
		% of Total	4.2%	18.9%	10.5%	33.5%
	31-40	Count	26	123	25	174
		% within agenew2	14.9%	70.7%	14.4%	100.0%
		% within EEnew	51.0%	57.5%	36.2%	52.1%
		% of Total	7.8%	36.8%	7.5%	52.1%
	>41	Count	11	28	9	48
		% within agenew2	22.9%	58.3%	18.8%	100.0%
		% within EEnew	21.6%	13.1%	13.0%	14.4%
		% of Total	3.3%	8.4%	2.7%	14.4%
Total	Count	51	214	69	334	
	% within agenew2	15.3%	64.1%	20.7%	100.0%	

% within EEnew	100.0%	100.0%	100.0%	100.0%
% of Total	15.3%	64.1%	20.7%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	14.418 <sup>a</sup>	4	.006	.006		
Likelihood Ratio	13.794	4	.008	.009		
Fisher's Exact Test	13.867			.007		
Linear-by-Linear Association	7.238 <sup>b</sup>	1	.007	.007	.004	.001
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.33.

b. The standardized statistic is -2.690.

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#### 6. The association between deperonalisation (DE) and the independent Variables Gender \* DEnew

#### Crosstab

	DEnew			Total
	low	moderate	high	

Gender	Male	Count	13	50	9	72
		% within Gender	18.1%	69.4%	12.5%	100.0%
		% within DEnew	27.7%	20.5%	21.4%	21.6%
	% of Total	3.9%	15.0%	2.7%	21.6%	
	Female	Count	34	194	33	261
		% within Gender	13.0%	74.3%	12.6%	100.0%
% within DEnew		72.3%	79.5%	78.6%	78.4%	
Total	% of Total	10.2%	58.3%	9.9%	78.4%	
	Count	47	244	42	333	
	% within Gender	14.1%	73.3%	12.6%	100.0%	
Total	% within DEnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	14.1%	73.3%	12.6%	100.0%	



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	1.196 <sup>a</sup>	2	.550	.568		
Likelihood Ratio	1.139	2	.566	.568		
Fisher's Exact Test	1.294			.555		
Linear-by-Linear Association	.564 <sup>b</sup>	1	.453	.520	.267	.077
N of Valid Cases	333					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.08.

b. The standardized statistic is .751.

## marital \* DNew

Crosstab

		DNew			Total	
		low	moderate	high		
marital	single	Count	18	65	13	96
		% within marital	18.8%	67.7%	13.5%	100.0%
		% within DNew	38.3%	26.5%	31.0%	28.7%
		% of Total	5.4%	19.5%	3.9%	28.7%
		Count	29	175	28	232
		% within marital	12.5%	75.4%	12.1%	100.0%
		% within DNew	61.7%	71.4%	66.7%	69.5%
		% of Total	8.7%	52.4%	8.4%	69.5%
		Count	0	5	1	6
		% within marital	0.0%	83.3%	16.7%	100.0%
		% within DNew	0.0%	2.0%	2.4%	1.8%
		% of Total	0.0%	1.5%	0.3%	1.8%
Total		Count	47	245	42	334
		% within marital	14.1%	73.4%	12.6%	100.0%
		% within DNew	100.0%	100.0%	100.0%	100.0%
		% of Total	14.1%	73.4%	12.6%	100.0%

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	3.578 <sup>a</sup>	4	.466	.435		
Likelihood Ratio	4.294	4	.368	.433		
Fisher's Exact Test	3.379			.429		
Linear-by-Linear Association	1.249 <sup>b</sup>	1	.264	.285	.154	.042
N of Valid Cases	334					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .75.

b. The standardized statistic is 1.118.



area \* DEnew

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### Crosstab

		DEnew			Total	
		low	moderate	high		
	Count	34	212	35	281	
area	urban	% within area	12.1%	75.4%	12.5%	100.0%
	% within DEnew	72.3%	86.5%	83.3%	84.1%	

	% of Total	10.2%	63.5%	10.5%	84.1%
	Count	13	33	7	53
rural	% within area	24.5%	62.3%	13.2%	100.0%
	% within DEnew	27.7%	13.5%	16.7%	15.9%
	% of Total	3.9%	9.9%	2.1%	15.9%
	Count	47	245	42	334
Total	% within area	14.1%	73.4%	12.6%	100.0%
	% within DEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	14.1%	73.4%	12.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	5.971 <sup>a</sup>	2	.051	.048		
Likelihood Ratio	5.302	2	.071	.075		
Fisher's Exact Test	5.651			.056		
Linear-by-Linear Association	2.277 <sup>b</sup>	1	.131	.148	.086	.037
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.66.

b. The standardized statistic is -1.509.



## income \* DEnew

Crosstab

		DEnew			Total	
		low	moderate	high		
income	< 500USD	Count	11	78	18	107
		% within income	10.3%	72.9%	16.8%	100.0%
		% within DEnew	23.4%	31.8%	42.9%	32.0%
		% of Total	3.3%	23.4%	5.4%	32.0%
	501USD - 700USD	Count	16	85	12	113
		% within income	14.2%	75.2%	10.6%	100.0%
		% within DEnew	34.0%	34.7%	28.6%	33.8%
		% of Total	4.8%	25.4%	3.6%	33.8%
	701USD- 1000USD	Count	20	76	10	106
		% within income	18.9%	71.7%	9.4%	100.0%
		% within DEnew	42.6%	31.0%	23.8%	31.7%
		% of Total	6.0%	22.8%	3.0%	31.7%
	1001USD-1500USD	Count	0	5	2	7
		% within income	0.0%	71.4%	28.6%	100.0%
		% within DEnew	0.0%	2.0%	4.8%	2.1%
		% of Total	0.0%	1.5%	0.6%	2.1%
>1500USD	Count	0	1	0	1	
	% within income	0.0%	100.0%	0.0%	100.0%	

Total	% within DEnew	0.0%	0.4%	0.0%	0.3%
	% of Total	0.0%	0.3%	0.0%	0.3%
	Count	47	245	42	334
	% within income	14.1%	73.4%	12.6%	100.0%
	% within DEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	14.1%	73.4%	12.6%	100.0%



### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	8.409 <sup>a</sup>	8	.395	.418		
Likelihood Ratio	9.165	8	.329	.326		
Fisher's Exact Test	8.781			.343		
Linear-by-Linear Association	2.447 <sup>b</sup>	1	.118	.126	.066	.014
N of Valid Cases	334					

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .13.

b. The standardized statistic is -1.564.

**faincome \* DEnew**

## Crosstab

		DEnew			Total	
		low	moderate	high		
faincome	500USD-700USD	Count	9	59	11	79
		% within faincome	11.4%	74.7%	13.9%	100.0%
		% within DEnew	19.1%	24.1%	26.2%	23.7%
		% of Total	2.7%	17.7%	3.3%	23.7%
	701USD- 800USD	Count	12	50	9	71
		% within faincome	16.9%	70.4%	12.7%	100.0%
		% within DEnew	25.5%	20.4%	21.4%	21.3%
		% of Total	3.6%	15.0%	2.7%	21.3%
	801USD- 1000USD	Count	8	72	8	88
		% within faincome	9.1%	81.8%	9.1%	100.0%
		% within DEnew	17.0%	29.4%	19.0%	26.3%
		% of Total	2.4%	21.6%	2.4%	26.3%
1001USD-1200USD	Count	11	34	7	52	
	% within faincome	21.2%	65.4%	13.5%	100.0%	
	% within DEnew	23.4%	13.9%	16.7%	15.6%	
	% of Total	3.3%	10.2%	2.1%	15.6%	
1201USD – 1500 USD	Count	1	13	0	14	
	% within faincome	7.1%	92.9%	0.0%	100.0%	
	% within DEnew	2.1%	5.3%	0.0%	4.2%	
	% of Total	0.3%	3.9%	0.0%	4.2%	
> 1500USD	Count	6	17	7	30	

	% within faincome	20.0%	56.7%	23.3%	100.0%
	% within DEnew	12.8%	6.9%	16.7%	9.0%
	% of Total	1.8%	5.1%	2.1%	9.0%
	Count	47	245	42	334
Total	% within faincome	14.1%	73.4%	12.6%	100.0%
	% within DEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	14.1%	73.4%	12.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	14.234 <sup>a</sup>	10	.163	. <sup>b</sup>		
Likelihood Ratio	15.544	10	.113	. <sup>b</sup>		
Fisher's Exact Test	. <sup>b</sup>			. <sup>b</sup>		
Linear-by-Linear Association	.118 <sup>c</sup>	1	.731	.752	.379	.026
N of Valid Cases	334					

a. 4 cells (22.2%) have expected count less than 5. The minimum expected count is 1.76.

b. Cannot be computed because there is insufficient memory.

c. The standardized statistic is -.344.

**edulevel \* DEnew**

Crosstab

		DEnew			Total	
		low	moderate	high		
edulevel	bachelor	Count	14	84	22	120
		% within edulevel	11.7%	70.0%	18.3%	100.0%
		% within DEnew	29.8%	34.3%	52.4%	35.9%
		% of Total	4.2%	25.1%	6.6%	35.9%
	master	Count	31	150	16	197
		% within edulevel	15.7%	76.1%	8.1%	100.0%
		% within DEnew	66.0%	61.2%	38.1%	59.0%
		% of Total	9.3%	44.9%	4.8%	59.0%
	PhD	Count	2	11	4	17
		% within edulevel	11.8%	64.7%	23.5%	100.0%
		% within DEnew	4.3%	4.5%	9.5%	5.1%
		% of Total	0.6%	3.3%	1.2%	5.1%
Total	Count	47	245	42	334	
	% within edulevel	14.1%	73.4%	12.6%	100.0%	
	% within DEnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	14.1%	73.4%	12.6%	100.0%	

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	9.405 <sup>a</sup>	4	.052	.051		
Likelihood Ratio	9.152	4	.057	.070		
Fisher's Exact Test	9.487			.040		
Linear-by-Linear Association	2.024 <sup>b</sup>	1	.155	.158	.092	.027
N of Valid Cases	334					

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is 2.14.

b. The standardized statistic is -1.423.

**method \* DEnew**



**Crosstab**

		Dnew			Total	
		low	moderate	high		
method	Online	Count	23	95	10	128
		% within method	18.0%	74.2%	7.8%	100.0%
		% within Dnew	48.9%	38.8%	23.8%	38.3%
		% of Total	6.9%	28.4%	3.0%	38.3%
	On and off	Count	24	150	32	206

	% within method	11.7%	72.8%	15.5%	100.0%
	% within DEnew	51.1%	61.2%	76.2%	61.7%
	% of Total	7.2%	44.9%	9.6%	61.7%
	Count	47	245	42	334
Total	% within method	14.1%	73.4%	12.6%	100.0%
	% within DEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	14.1%	73.4%	12.6%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	6.004 <sup>a</sup>	2	.050	.047		
Likelihood Ratio	6.208	2	.045	.049		
Fisher's Exact Test	6.033			.049		
Linear-by-Linear Association	5.827 <sup>b</sup>	1	.016	.017	.010	.005
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.10.

b. The standardized statistic is 2.414.

**covidvac \* DEnew**

## Crosstab

		DEnew			Total	
		low	moderate	high		
covidvac	2 doses	Count	6	28	8	42
		% within covidvac	14.3%	66.7%	19.0%	100.0%
		% within DEnew	12.8%	11.4%	19.0%	12.6%
		% of Total	1.8%	8.4%	2.4%	12.6%
	3 doses	Count	40	212	33	285
		% within covidvac	14.0%	74.4%	11.6%	100.0%
		% within DEnew	85.1%	86.5%	78.6%	85.3%
		% of Total	12.0%	63.5%	9.9%	85.3%
	4 doses	Count	1	5	1	7
		% within covidvac	14.3%	71.4%	14.3%	100.0%
		% within DEnew	2.1%	2.0%	2.4%	2.1%
		% of Total	0.3%	1.5%	0.3%	2.1%
Total	Count	47	245	42	334	
	% within covidvac	14.1%	73.4%	12.6%	100.0%	
	% within DEnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	14.1%	73.4%	12.6%	100.0%	

## Chi-Square Tests



	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	1.943 <sup>a</sup>	4	.746	.783		
Likelihood Ratio	1.764	4	.779	.878		
Fisher's Exact Test	2.530			.601		
Linear-by-Linear Association	.526 <sup>b</sup>	1	.468	.476	.280	.088
N of Valid Cases	334					

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is .88.

b. The standardized statistic is -.725.

regulations \* DNew



Crosstab

		DNew			Total
		low	moderate	high	
0	Count	7	20	6	33
	% within regulations	21.2%	60.6%	18.2%	100.0%
	% within DNew	14.9%	8.2%	14.3%	9.9%
	% of Total	2.1%	6.0%	1.8%	9.9%
1	Count	31	145	19	195
	% within regulations	15.9%	74.4%	9.7%	100.0%

	% within DNew	66.0%	59.2%	45.2%	58.4%
	% of Total	9.3%	43.4%	5.7%	58.4%
	Count	4	57	13	74
2	% within regulations	5.4%	77.0%	17.6%	100.0%
	% within DNew	8.5%	23.3%	31.0%	22.2%
	% of Total	1.2%	17.1%	3.9%	22.2%
	Count	4	20	4	28
3	% within regulations	14.3%	71.4%	14.3%	100.0%
	% within DNew	8.5%	8.2%	9.5%	8.4%
	% of Total	1.2%	6.0%	1.2%	8.4%
	Count	1	3	0	4
4	% within regulations	25.0%	75.0%	0.0%	100.0%
	% within DNew	2.1%	1.2%	0.0%	1.2%
	% of Total	0.3%	0.9%	0.0%	1.2%
	Count	47	245	42	334
Total	% within regulations	14.1%	73.4%	12.6%	100.0%
	% within DNew	100.0%	100.0%	100.0%	100.0%
	% of Total	14.1%	73.4%	12.6%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	10.960 <sup>a</sup>	8	.204	.196		
Likelihood Ratio	12.323	8	.137	.155		

Fisher's Exact Test	12.159			.111		
Linear-by-Linear Association	1.272 <sup>b</sup>	1	.259	.268	.144	.028
N of Valid Cases	334					

a. 7 cells (46.7%) have expected count less than 5. The minimum expected count is .50.

b. The standardized statistic is 1.128.

**mutant \* DEnew**



**Crosstab**

		DEnew			Total
		low	moderate	high	
0	Count	6	14	0	20
	% within mutant	30.0%	70.0%	0.0%	100.0%
	% within DEnew	12.8%	5.7%	0.0%	6.0%
	% of Total	1.8%	4.2%	0.0%	6.0%
mutant 1	Count	26	100	17	143
	% within mutant	18.2%	69.9%	11.9%	100.0%
	% within DEnew	55.3%	40.8%	40.5%	42.8%
	% of Total	7.8%	29.9%	5.1%	42.8%
2	Count	13	87	19	119

	% within mutant	10.9%	73.1%	16.0%	100.0%
	% within DEnew	27.7%	35.5%	45.2%	35.6%
	% of Total	3.9%	26.0%	5.7%	35.6%
	Count	1	15	2	18
3	% within mutant	5.6%	83.3%	11.1%	100.0%
	% within DEnew	2.1%	6.1%	4.8%	5.4%
	% of Total	0.3%	4.5%	0.6%	5.4%
	Count	1	29	4	34
4	% within mutant	2.9%	85.3%	11.8%	100.0%
	% within DEnew	2.1%	11.8%	9.5%	10.2%
	% of Total	0.3%	8.7%	1.2%	10.2%
	Count	47	245	42	334
Total	% within mutant	14.1%	73.4%	12.6%	100.0%
	% within DEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	14.1%	73.4%	12.6%	100.0%

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#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	14.952 <sup>a</sup>	8	.060	.059		
Likelihood Ratio	18.099	8	.020	.030		
Fisher's Exact Test	14.291			.057		
Linear-by-Linear Association	7.566 <sup>b</sup>	1	.006	.006	.003	.001
N of Valid Cases	334					

- a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is 2.26.
- b. The standardized statistic is 2.751.

### whournew \* DEnew



Crosstab

		DEnew			Total
		low	moderate	high	
whournew	Count	6	117	40	163
	> 48h/w				
	% within whournew	3.7%	71.8%	24.5%	100.0%
	% within DEnew	12.8%	47.8%	95.2%	48.8%
	% of Total	1.8%	35.0%	12.0%	48.8%
whournew	Count	41	128	2	171
	0-48h/w				
	% within whournew	24.0%	74.9%	1.2%	100.0%
	% within DEnew	87.2%	52.2%	4.8%	51.2%
	% of Total	12.3%	38.3%	0.6%	51.2%
Total	Count	47	245	42	334
	% within whournew	14.1%	73.4%	12.6%	100.0%
	% within DEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	14.1%	73.4%	12.6%	100.0%

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	60.782 <sup>a</sup>	2	.000	.000		
Likelihood Ratio	71.701	2	.000	.000		
Fisher's Exact Test	69.297			.000		
Linear-by-Linear Association	59.586 <sup>b</sup>	1	.000	.000	.000	.000
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 20.50.

b. The standardized statistic is -7.719.

**classsizenew2 \* DNew**



## Crosstab

		DNew			Total
		low	moderate	high	
classsizenew2	Count	21	73	15	109
	% within classsizenew2	19.3%	67.0%	13.8%	100.0%
	% within DNew	44.7%	29.8%	35.7%	32.6%
	% of Total	6.3%	21.9%	4.5%	32.6%

31-50	Count	16	91	19	126
	% within classsize <sub>new2</sub>	12.7%	72.2%	15.1%	100.0%
	% within DE <sub>new</sub>	34.0%	37.1%	45.2%	37.7%
	% of Total	4.8%	27.2%	5.7%	37.7%
>50	Count	10	81	8	99
	% within classsize <sub>new2</sub>	10.1%	81.8%	8.1%	100.0%
	% within DE <sub>new</sub>	21.3%	33.1%	19.0%	29.6%
	% of Total	3.0%	24.3%	2.4%	29.6%
Total	Count	47	245	42	334
	% within classsize <sub>new2</sub>	14.1%	73.4%	12.6%	100.0%
	% within DE <sub>new</sub>	100.0%	100.0%	100.0%	100.0%
	% of Total	14.1%	73.4%	12.6%	100.0%



### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	7.303 <sup>a</sup>	4	.121	.121		
Likelihood Ratio	7.387	4	.117	.122		
Fisher's Exact Test	7.169			.125		
Linear-by-Linear Association	.267 <sup>b</sup>	1	.605	.639	.327	.047
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.45.

b. The standardized statistic is .517.

## workexnew2 \* DNew

Crosstab

		DNew			Total	
		low	moderate	high		
workexnew2	<=5	Count	14	79	19	112
		% within workexnew2	12.5%	70.5%	17.0%	100.0%
		% within DNew	29.8%	32.2%	45.2%	33.5%
		% of Total	4.2%	23.7%	5.7%	33.5%
	5-10	Count	14	81	13	108
		% within workexnew2	13.0%	75.0%	12.0%	100.0%
		% within DNew	29.8%	33.1%	31.0%	32.3%
		% of Total	4.2%	24.3%	3.9%	32.3%
	>10-20	Count	18	74	8	100
		% within workexnew2	18.0%	74.0%	8.0%	100.0%
		% within DNew	38.3%	30.2%	19.0%	29.9%
		% of Total	5.4%	22.2%	2.4%	29.9%
>20	Count	1	11	2	14	
	% within workexnew2	7.1%	78.6%	14.3%	100.0%	
	% within DNew	2.1%	4.5%	4.8%	4.2%	
	% of Total	0.3%	3.3%	0.6%	4.2%	



	Count	47	245	42	334
Total	% within workexnew2	14.1%	73.4%	12.6%	100.0%
	% within DEnew	100.0%	100.0%	100.0%	100.0%
	% of Total	14.1%	73.4%	12.6%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	5.522 <sup>a</sup>	6	.479	.480		
Likelihood Ratio	5.626	6	.466	.523		
Fisher's Exact Test	5.303			.492		
Linear-by-Linear Association	2.282 <sup>b</sup>	1	.131	.139	.073	.015
N of Valid Cases	334					

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 1.76.

b. The standardized statistic is -1.511.

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**agenew2 \* DEnew**

#### Crosstab

	DEnew	Total
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		low	moderate	high		
agenew2	<=30	Count	14	77	21	112
		% within agenew2	12.5%	68.8%	18.8%	100.0%
		% within DEnew	29.8%	31.4%	50.0%	33.5%
		% of Total	4.2%	23.1%	6.3%	33.5%
	31-40	Count	22	136	16	174
		% within agenew2	12.6%	78.2%	9.2%	100.0%
		% within DEnew	46.8%	55.5%	38.1%	52.1%
	>41	% of Total	6.6%	40.7%	4.8%	52.1%
		Count	11	32	5	48
% within agenew2		22.9%	66.7%	10.4%	100.0%	
% within DEnew		23.4%	13.1%	11.9%	14.4%	
Total	% of Total	3.3%	9.6%	1.5%	14.4%	
	Count	47	245	42	334	
	% within agenew2	14.1%	73.4%	12.6%	100.0%	
	% within DEnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	14.1%	73.4%	12.6%	100.0%	

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)	Point Probability
Pearson Chi-Square	9.436 <sup>a</sup>	4	.051	.050		
Likelihood Ratio	8.753	4	.068	.074		
Fisher's Exact Test	8.898			.061		

Linear-by-Linear Association	4.938 <sup>b</sup>	1	.026	.031	.016	.005
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.04.

b. The standardized statistic is -2.222.

### 7. The association between personal accomplishment and the independent Variables Gender \* PAnew



**Crosstab**

		PAnew			Total	
		low	moderate	high		
Gender	Male	Count	13	47	12	72
	% within Gender	18.1%	65.3%	16.7%	100.0%	
	% within PAnew	23.2%	20.5%	25.0%	21.6%	
	% of Total	3.9%	14.1%	3.6%	21.6%	
	Female	Count	43	182	36	261
	% within Gender	16.5%	69.7%	13.8%	100.0%	
	% within PAnew	76.8%	79.5%	75.0%	78.4%	
	% of Total	12.9%	54.7%	10.8%	78.4%	
Total	Count	56	229	48	333	
% within Gender	16.8%	68.8%	14.4%	100.0%		
% within PAnew	100.0%	100.0%	100.0%	100.0%		

% of Total	16.8%	68.8%	14.4%	100.0%
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**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	.570 <sup>a</sup>	2	.752	.772		
Likelihood Ratio	.559	2	.756	.772		
Fisher's Exact Test	.703			.723		
Linear-by-Linear Association	.030 <sup>b</sup>	1	.862	.905	.478	.093
N of Valid Cases	333					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.38.

b. The standardized statistic is -.174.



**marital \* PAnew**

**Crosstab**

	PAnew			Total
	low	moderate	high	

	Count	9	67	20	96
single	% within marital	9.4%	69.8%	20.8%	100.0%
	% within PAnew	16.1%	29.1%	41.7%	28.7%
	% of Total	2.7%	20.1%	6.0%	28.7%
marital married	Count	46	158	28	232
	% within marital	19.8%	68.1%	12.1%	100.0%
	% within PAnew	82.1%	68.7%	58.3%	69.5%
	% of Total	13.8%	47.3%	8.4%	69.5%
divorce	Count	1	5	0	6
	% within marital	16.7%	83.3%	0.0%	100.0%
	% within PAnew	1.8%	2.2%	0.0%	1.8%
	% of Total	0.3%	1.5%	0.0%	1.8%
Total	Count	56	230	48	334
	% within marital	16.8%	68.9%	14.4%	100.0%
	% within PAnew	100.0%	100.0%	100.0%	100.0%
	% of Total	16.8%	68.9%	14.4%	100.0%

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#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)	Point Probability
Pearson Chi-Square	9.146 <sup>a</sup>	4	.058	.055		
Likelihood Ratio	10.230	4	.037	.034		
Fisher's Exact Test	8.709			.050		

Linear-by-Linear Association	7.311 <sup>b</sup>	1	.007	.007	.004	.002
N of Valid Cases	334					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .86.

b. The standardized statistic is -2.704.

### area \* PAnew



Crosstab

		PAnew			Total	
		low	moderate	high		
area	urban	Count	48	192	41	281
		% within area	17.1%	68.3%	14.6%	100.0%
		% within PAnew	85.7%	83.5%	85.4%	84.1%
		% of Total	14.4%	57.5%	12.3%	84.1%
rural		Count	8	38	7	53
		% within area	15.1%	71.7%	13.2%	100.0%
		% within PAnew	14.3%	16.5%	14.6%	15.9%
		% of Total	2.4%	11.4%	2.1%	15.9%
Total		Count	56	230	48	334
		% within area	16.8%	68.9%	14.4%	100.0%
		% within PAnew	100.0%	100.0%	100.0%	100.0%
		% of Total	16.8%	68.9%	14.4%	100.0%

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	.238 <sup>a</sup>	2	.888	.897		
Likelihood Ratio	.242	2	.886	.897		
Fisher's Exact Test	.165			.921		
Linear-by-Linear Association	.005 <sup>b</sup>	1	.942	1.000	.525	.107
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.62.

b. The standardized statistic is .072.

income \* PAnew



## Crosstab

		PAnew			Total
		low	moderate	high	
income < 500USD	Count	14	69	24	107
	% within income	13.1%	64.5%	22.4%	100.0%
	% within PAnew	25.0%	30.0%	50.0%	32.0%
	% of Total	4.2%	20.7%	7.2%	32.0%

	Count	18	79	16	113
501USD - 700USD	% within income	15.9%	69.9%	14.2%	100.0%
	% within PAnew	32.1%	34.3%	33.3%	33.8%
	% of Total	5.4%	23.7%	4.8%	33.8%
	Count	21	79	6	106
701USD- 1000USD	% within income	19.8%	74.5%	5.7%	100.0%
	% within PAnew	37.5%	34.3%	12.5%	31.7%
	% of Total	6.3%	23.7%	1.8%	31.7%
	Count	3	2	2	7
1001USD-1500USD	% within income	42.9%	28.6%	28.6%	100.0%
	% within PAnew	5.4%	0.9%	4.2%	2.1%
	% of Total	0.9%	0.6%	0.6%	2.1%
	Count	0	1	0	1
>1500USD	% within income	0.0%	100.0%	0.0%	100.0%
	% within PAnew	0.0%	0.4%	0.0%	0.3%
	% of Total	0.0%	0.3%	0.0%	0.3%
Total	Count	56	230	48	334
	% within income	16.8%	68.9%	14.4%	100.0%
	% within PAnew	100.0%	100.0%	100.0%	100.0%
	% of Total	16.8%	68.9%	14.4%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability



Pearson Chi-Square	18.671 <sup>a</sup>	8	.017	.017		
Likelihood Ratio	19.361	8	.013	.009		
Fisher's Exact Test	20.191			.005		
Linear-by-Linear Association	9.118 <sup>b</sup>	1	.003	.003	.001	.000
N of Valid Cases	334					

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is .14.

b. The standardized statistic is -3.020.



**faincome \* PAnew**

**Crosstab**

		PAnew			Total	
		low	moderate	high		
faincome	500USD-700USD	Count	11	51	17	79
		% within faincome	13.9%	64.6%	21.5%	100.0%
		% within PAnew	19.6%	22.2%	35.4%	23.7%
		% of Total	3.3%	15.3%	5.1%	23.7%
	701USD- 800USD	Count	9	50	12	71
		% within faincome	12.7%	70.4%	16.9%	100.0%
		% within PAnew	16.1%	21.7%	25.0%	21.3%
		% of Total	2.7%	15.0%	3.6%	21.3%
	801USD- 1000USD	Count	12	68	8	88

	% within faincome	13.6%	77.3%	9.1%	100.0%
	% within PAnew	21.4%	29.6%	16.7%	26.3%
	% of Total	3.6%	20.4%	2.4%	26.3%
	Count	16	30	6	52
1001USD-1200USD	% within faincome	30.8%	57.7%	11.5%	100.0%
	% within PAnew	28.6%	13.0%	12.5%	15.6%
	% of Total	4.8%	9.0%	1.8%	15.6%
	Count	1	12	1	14
1201USD – 1500 USD	% within faincome	7.1%	85.7%	7.1%	100.0%
	% within PAnew	1.8%	5.2%	2.1%	4.2%
	% of Total	0.3%	3.6%	0.3%	4.2%
	Count	7	19	4	30
> 1500USD	% within faincome	23.3%	63.3%	13.3%	100.0%
	% within PAnew	12.5%	8.3%	8.3%	9.0%
	% of Total	2.1%	5.7%	1.2%	9.0%
	Count	56	230	48	334
Total	% within faincome	16.8%	68.9%	14.4%	100.0%
	% within PAnew	100.0%	100.0%	100.0%	100.0%
	% of Total	16.8%	68.9%	14.4%	100.0%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability

Pearson Chi-Square	17.678 <sup>a</sup>	10	.061	. <sup>b</sup>		
Likelihood Ratio	16.708	10	.081	. <sup>b</sup>		
Fisher's Exact Test	. <sup>b</sup>			. <sup>b</sup>		
Linear-by-Linear Association	5.331 <sup>c</sup>	1	.021	.022	.011	.002
N of Valid Cases	334					

a. 3 cells (16.7%) have expected count less than 5. The minimum expected count is 2.01.

b. Cannot be computed because there is insufficient memory.

c. The standardized statistic is -2.309.

**edulevel \* PAnew**



**Crosstab**

		PAnew			Total
		low	moderate	high	
edulevel	Count	12	76	32	120
	% within edulevel	10.0%	63.3%	26.7%	100.0%
	% within PAnew	21.4%	33.0%	66.7%	35.9%
	% of Total	3.6%	22.8%	9.6%	35.9%
master	Count	41	143	13	197
	% within edulevel	20.8%	72.6%	6.6%	100.0%

PhD	% within PAnew	73.2%	62.2%	27.1%	59.0%
	% of Total	12.3%	42.8%	3.9%	59.0%
	Count	3	11	3	17
	% within edulevel	17.6%	64.7%	17.6%	100.0%
	% within PAnew	5.4%	4.8%	6.2%	5.1%
	% of Total	0.9%	3.3%	0.9%	5.1%
	Count	56	230	48	334
	% within edulevel	16.8%	68.9%	14.4%	100.0%
	% within PAnew	100.0%	100.0%	100.0%	100.0%
Total	% of Total	16.8%	68.9%	14.4%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	27.211 <sup>a</sup>	4	.000	.000		
Likelihood Ratio	27.170	4	.000	.000		
Fisher's Exact Test	27.019			.000		
Linear-by-Linear Association	15.386 <sup>b</sup>	1	.000	.000	.000	.000
N of Valid Cases	334					

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is 2.44.

b. The standardized statistic is -3.923.

## method \* PAnew

Crosstab

		PAnew			Total	
		low	moderate	high		
method	Online	Count	27	87	14	128
		% within method	21.1%	68.0%	10.9%	100.0%
		% within PAnew	48.2%	37.8%	29.2%	38.3%
		% of Total	8.1%	26.0%	4.2%	38.3%
	On and off	Count	29	143	34	206
		% within method	14.1%	69.4%	16.5%	100.0%
		% within PAnew	51.8%	62.2%	70.8%	61.7%
		% of Total	8.7%	42.8%	10.2%	61.7%
Total	Count	56	230	48	334	
	% within method	16.8%	68.9%	14.4%	100.0%	
	% within PAnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	16.8%	68.9%	14.4%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability

Pearson Chi-Square	4.045 <sup>a</sup>	2	.132	.134		
Likelihood Ratio	4.052	2	.132	.136		
Fisher's Exact Test	3.991			.138		
Linear-by-Linear Association	4.010 <sup>b</sup>	1	.045	.055	.028	.011
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.40.

b. The standardized statistic is 2.002.

**covidvac \* PAnew**



**Crosstab**

		PAnew			Total	
		low	moderate	high		
covidvac	2 doses	Count	3	32	7	42
		% within covidvac	7.1%	76.2%	16.7%	100.0%
		% within PAnew	5.4%	13.9%	14.6%	12.6%
		% of Total	0.9%	9.6%	2.1%	12.6%
	3 doses	Count	51	193	41	285

	% within covidvac	17.9%	67.7%	14.4%	100.0%
	% within PAnew	91.1%	83.9%	85.4%	85.3%
	% of Total	15.3%	57.8%	12.3%	85.3%
	Count	2	5	0	7
4 doses	% within covidvac	28.6%	71.4%	0.0%	100.0%
	% within PAnew	3.6%	2.2%	0.0%	2.1%
	% of Total	0.6%	1.5%	0.0%	2.1%
	Count	56	230	48	334
Total	% within covidvac	16.8%	68.9%	14.4%	100.0%
	% within PAnew	100.0%	100.0%	100.0%	100.0%
	% of Total	16.8%	68.9%	14.4%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	4.666 <sup>a</sup>	4	.323	.313		
Likelihood Ratio	6.191	4	.185	.218		
Fisher's Exact Test	4.536			.288		
Linear-by-Linear Association	3.309 <sup>b</sup>	1	.069	.083	.045	.020
N of Valid Cases	334					

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.01.

b. The standardized statistic is -1.819.

## regulations \* PAnew

Crosstab

		PAnew			Total	
		low	moderate	high		
regulations	0	Count	6	21	6	33
		% within regulations	18.2%	63.6%	18.2%	100.0%
		% within PAnew	10.7%	9.1%	12.5%	9.9%
		% of Total	1.8%	6.3%	1.8%	9.9%
	1	Count	35	139	21	195
		% within regulations	17.9%	71.3%	10.8%	100.0%
		% within PAnew	62.5%	60.4%	43.8%	58.4%
		% of Total	10.5%	41.6%	6.3%	58.4%
	2	Count	9	49	16	74
		% within regulations	12.2%	66.2%	21.6%	100.0%
		% within PAnew	16.1%	21.3%	33.3%	22.2%
		% of Total	2.7%	14.7%	4.8%	22.2%
3	Count	6	18	4	28	
	% within regulations	21.4%	64.3%	14.3%	100.0%	
	% within PAnew	10.7%	7.8%	8.3%	8.4%	
	% of Total	1.8%	5.4%	1.2%	8.4%	
4	Count	0	3	1	4	



	% within regulations	0.0%	75.0%	25.0%	100.0%
	% within PAnew	0.0%	1.3%	2.1%	1.2%
	% of Total	0.0%	0.9%	0.3%	1.2%
	Count	56	230	48	334
Total	% within regulations	16.8%	68.9%	14.4%	100.0%
	% within PAnew	100.0%	100.0%	100.0%	100.0%
	% of Total	16.8%	68.9%	14.4%	100.0%



**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	7.766 <sup>a</sup>	8	.457	.451		
Likelihood Ratio	8.224	8	.412	.459		
Fisher's Exact Test	8.039			.384		
Linear-by-Linear Association	1.084 <sup>b</sup>	1	.298	.305	.164	.028
N of Valid Cases	334					

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is .57.

b. The standardized statistic is 1.041.

**mutant \* PAnew**

**Crosstab**

	PAnew			Total
	low	moderate	high	

	Count	6	13	1	20
0	% within mutant	30.0%	65.0%	5.0%	100.0%
	% within PAnew	10.7%	5.7%	2.1%	6.0%
	% of Total	1.8%	3.9%	0.3%	6.0%
	Count	27	98	18	143
1	% within mutant	18.9%	68.5%	12.6%	100.0%
	% within PAnew	48.2%	42.6%	37.5%	42.8%
	% of Total	8.1%	29.3%	5.4%	42.8%
	Count	18	87	14	119
mutant 2	% within mutant	15.1%	73.1%	11.8%	100.0%
	% within PAnew	32.1%	37.8%	29.2%	35.6%
	% of Total	5.4%	26.0%	4.2%	35.6%
	Count	1	10	7	18
3	% within mutant	5.6%	55.6%	38.9%	100.0%
	% within PAnew	1.8%	4.3%	14.6%	5.4%
	% of Total	0.3%	3.0%	2.1%	5.4%
	Count	4	22	8	34
4	% within mutant	11.8%	64.7%	23.5%	100.0%
	% within PAnew	7.1%	9.6%	16.7%	10.2%
	% of Total	1.2%	6.6%	2.4%	10.2%
	Count	56	230	48	334
Total	% within mutant	16.8%	68.9%	14.4%	100.0%
	% within PAnew	100.0%	100.0%	100.0%	100.0%
	% of Total	16.8%	68.9%	14.4%	100.0%

## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	17.038 <sup>a</sup>	8	.030	.030		
Likelihood Ratio	14.920	8	.061	.082		
Fisher's Exact Test	14.362			.059		
Linear-by-Linear Association	8.654 <sup>b</sup>	1	.003	.003	.002	.000
N of Valid Cases	334					

a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is 2.59.

b. The standardized statistic is 2.942.



**whournew \* PAnew**

## Crosstab

		PAnew			Total
		low	moderate	high	
whournew	Count	5	115	43	163
	% within whournew	3.1%	70.6%	26.4%	100.0%
	% within PAnew	8.9%	50.0%	89.6%	48.8%
	% of Total	1.5%	34.4%	12.9%	48.8%
0-48h/w	Count	51	115	5	171
	% within whournew	29.8%	67.3%	2.9%	100.0%
	% within PAnew	91.1%	50.0%	10.4%	51.2%
	% of Total	15.3%	34.4%	1.5%	51.2%
Total	Count	56	230	48	334

% within whournew	16.8%	68.9%	14.4%	100.0%
% within PAnew	100.0%	100.0%	100.0%	100.0%
% of Total	16.8%	68.9%	14.4%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	67.716 <sup>a</sup>	2	.000	.000		
Likelihood Ratio	78.206	2	.000	.000		
Fisher's Exact Test	76.168			.000		
Linear-by-Linear Association	67.498 <sup>b</sup>	1	.000	.000	.000	.000
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 23.43.

b. The standardized statistic is -8.216.



#### classizenew2 \* PAnew

#### Crosstab

	PAnew			Total
	low	moderate	high	

	Count	12	80	17	109
	% within classsize <sub>new2</sub>	11.0%	73.4%	15.6%	100.0%
<=30	% within P <sub>Anew</sub>	21.4%	34.8%	35.4%	32.6%
	% of Total	3.6%	24.0%	5.1%	32.6%
	Count	24	83	19	126
	% within classsize <sub>new2</sub>	19.0%	65.9%	15.1%	100.0%
classsize <sub>new2</sub> 31-50	% within P <sub>Anew</sub>	42.9%	36.1%	39.6%	37.7%
	% of Total	7.2%	24.9%	5.7%	37.7%
	Count	20	67	12	99
	% within classsize <sub>new2</sub>	20.2%	67.7%	12.1%	100.0%
>50	% within P <sub>Anew</sub>	35.7%	29.1%	25.0%	29.6%
	% of Total	6.0%	20.1%	3.6%	29.6%
	Count	56	230	48	334
	% within classsize <sub>new2</sub>	16.8%	68.9%	14.4%	100.0%
Total	% within P <sub>Anew</sub>	100.0%	100.0%	100.0%	100.0%
	% of Total	16.8%	68.9%	14.4%	100.0%

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#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	4.258 <sup>a</sup>	4	.372	.375		
Likelihood Ratio	4.510	4	.341	.348		
Fisher's Exact Test	4.422			.351		

Linear-by-Linear Association	2.707 <sup>b</sup>	1	.100	.106	.057	.013
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.23.

b. The standardized statistic is -1.645.

**workexnew2 \* PAnew**



**Crosstab**

		PAnew			Total	
		low	moderate	high		
workexnew2	<=5	Count	9	74	29	112
		% within workexnew2	8.0%	66.1%	25.9%	100.0%
		% within PAnew	16.1%	32.2%	60.4%	33.5%
		% of Total	2.7%	22.2%	8.7%	33.5%
	5-10	Count	18	79	11	108
		% within workexnew2	16.7%	73.1%	10.2%	100.0%
		% within PAnew	32.1%	34.3%	22.9%	32.3%
		% of Total	5.4%	23.7%	3.3%	32.3%
	>10-20	Count	23	70	7	100
		% within workexnew2	23.0%	70.0%	7.0%	100.0%

	% within PAnew	41.1%	30.4%	14.6%	29.9%
	% of Total	6.9%	21.0%	2.1%	29.9%
	Count	6	7	1	14
	% within workexnew2	42.9%	50.0%	7.1%	100.0%
>20	% within PAnew	10.7%	3.0%	2.1%	4.2%
	% of Total	1.8%	2.1%	0.3%	4.2%
	Count	56	230	48	334
	% within workexnew2	16.8%	68.9%	14.4%	100.0%
Total	% within PAnew	100.0%	100.0%	100.0%	100.0%
	% of Total	16.8%	68.9%	14.4%	100.0%



#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	30.203 <sup>a</sup>	6	.000	.000		
Likelihood Ratio	28.683	6	.000	.000		
Fisher's Exact Test	28.014			.000		
Linear-by-Linear Association	24.979 <sup>b</sup>	1	.000	.000	.000	.000
N of Valid Cases	334					

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.01.

b. The standardized statistic is -4.998.

## agenew2 \* PAnew

Crosstab

		PAnew			Total	
		low	moderate	high		
agenew2	<=30	Count	10	73	29	112
		% within agenew2	8.9%	65.2%	25.9%	100.0%
		% within PAnew	17.9%	31.7%	60.4%	33.5%
		% of Total	3.0%	21.9%	8.7%	33.5%
	31-40	Count	32	128	14	174
		% within agenew2	18.4%	73.6%	8.0%	100.0%
		% within PAnew	57.1%	55.7%	29.2%	52.1%
		% of Total	9.6%	38.3%	4.2%	52.1%
	>41	Count	14	29	5	48
		% within agenew2	29.2%	60.4%	10.4%	100.0%
		% within PAnew	25.0%	12.6%	10.4%	14.4%
		% of Total	4.2%	8.7%	1.5%	14.4%
Total	Count	56	230	48	334	
	% within agenew2	16.8%	68.9%	14.4%	100.0%	
	% within PAnew	100.0%	100.0%	100.0%	100.0%	
	% of Total	16.8%	68.9%	14.4%	100.0%	



## Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	25.768 <sup>a</sup>	4	.000	.000		
Likelihood Ratio	24.794	4	.000	.000		
Fisher's Exact Test	24.459			.000		
Linear-by-Linear Association	18.938 <sup>b</sup>	1	.000	.000	.000	.000
N of Valid Cases	334					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.90.

b. The standardized statistic is -4.352.



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