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Addis Ababa University
College of Business and Economics
Department of Management
Masters of Science in International Business

**The Effect of Job Stress on Employees' Productivity during COVID-19
Pandemic at Ethiopian Airlines**

**A Thesis Submitted for the Partial Fulfillment of M.Sc. in
International Business**

By: Mahlet Habteselassie

Advisor: Asres Abitie (Ph.D.)

January 2023

Addis Ababa, Ethiopia

Declaration

I, Mahlet Habteselassie declare that the thesis entitled The Effect of Job Stress on Employees' Productivity during COVID-19 Pandemic at Ethiopian Airlines is my original work, the outcome of my own effort which acknowledge all source of materials used for the study. This study has not been submitted for any degree in this university or any other university

Declared By

Name: Mahlet Habteselassie

Signature: _____

Date: _____

Confirmed By

Name: Dr. Asres Abitie

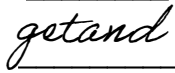
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Approval Sheet

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_____	_____	_____
Internal Examiner	Signature	Date
_____	_____	_____
Dr Getie Andualem		8/2/2023
External Examiner	Signature	Date
_____	_____	_____
Advisor	Signature	Date

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I first would like to say that I am thankful to God for giving me strength to conclude this research. I would also like to thank friends and family for supporting me throughout this research. I am also grateful for my advisor who Dr. Asres Abitie for his guidance and encouragement.

I would also like to thank Ethiopian airline employees for making it easier for me to collect data and their assistance in filling my questionnaire.

Abstract

This purpose of this study is to examine the effect the job stress has on productivity during the time of the Covid-19 pandemic among Ethiopian Airlines Cabin Crew and Technician Employees. Job stress was measured through variables, Role Conflict, Role Ambiguity, Work Overload, Physical Environment and Relationship at work. The study adopted a quantitative research method sourced from primary data collected through a structured questionnaire. To fulfill the research objective, a stratified random sampling technique was used to select respondents of 372. The data was collected through a self-administered questionnaire from these respondents. SPSS v.26 was used to analyze the data. From the analysis it was revealed that Role Conflict, Physical Environment and Relationship at work was found to have statistically significant effects on productivity. Role Conflict was found to have the highest effect on employee productivity. Crucial lessons were observed in industry, policy and educational implications.

Key words: Role conflict, Role Ambiguity, Work Overload, Physical Environment, Relationship At work, covid-19, Productivity.

Contents

Contents.....	6
1.1 Background of the Study.....	11
1.2 Statement of the Problem	12
1.3 Research Questions	13
1.4 Research Objective	14
1.4.1 General Objective of the Study.....	14
1.4.2 Specific Objective of the Study	14
1.5 Scope of the Study	14
1.6 Significance of the Study.....	15
1.7 Definition of Terms Used	15
1.8 Organization of the Paper	15
2.1 Introduction	17
2.2 Meaning and Concept of Employee Performance or Productivity	17
2.3 Job stress.....	18
2.3.1 Types of stress.....	18
2.4Theories of job stress.....	19
2.4.1 Demand-Control Theory	19
Demand-Control/Support Model.....	20
Person-Environment Fit Theory	20
2.5 Job stressors.....	20
2.5.1 Role conflict	21
2.5.2 Role Ambiguity	21
2.5.3 Work Overload	21
2.5.4 Physical Environment.....	22
2.5.5 Relationship at Work	22
2.6 The Covid-19 Pandemic	22
2.7 The concept of Employee Productivity	22
2.7.1 Work performance.....	23
2.7.2 Behavioral Change	23
2.7.3 Physical Environment.....	23
2.7.4 Labor turnover	24

2.8 The impact of Stress on Productivity	24
2.9 Empirical review.....	25
2.10 Conceptual Framework.....	26
2.11 Research Hypothesis.....	26
3.1 Introduction	27
3.2 Research Approach	27
3.3 Research design	27
3.4 Target Population and Sampling Design	28
3.5 Sampling Technique.....	28
3.6 Sample Size determination	28
3.7 Data collection methods	29
3.8 Data processing and Analysis method	29
3.9 Research Reliability and Validity Test	30
3.9.1 Reliability test	30
Table: 3.1 Reliability Statistics Analysis (Cronbach's Alpha)	31
3.9.2 Validity Test.....	31
4.1 Introduction	32
4.2 Descriptive Statistics	32
4.2.1 Background Information	32
4.2.2 Descriptive Analysis	34
4.3 Correlation Analysis	36
4.4 Regression Analysis.....	39
4.4.1 Linearity Assumption	39
4.4.2 Normality Test.....	41
4.4.3 Multi-collinearity Test.....	42
4.4.4 Test of Homoscedasticity	43
4.5 Regression Analysis result.....	44
4.5.1 Model Summary.....	44
4.5.2 Coefficients of Variables	46
4.6 Hypothesis Testing.....	49
5.1 Summary of the Main findings.....	52
5.2 Conclusion.....	53
5.3 Recommendation.....	54

5.4	Policy Implication	55
5.5	Theoretical Contribution	55
5.6	Limitations and Direction for Future Research	56
	References	57
	Appendix I	62

List of Tables

Table 3.1: (Reliability Statistics (Cronbach's Alpha)	30
Table 4.1: Background Information of respondents	32
Table 4.2: Descriptive Statistics.....	34
Table 4.3: Pearson's Correlation table.....	36
Table 4.4: Collinearity Diagnostic.....	42
Table 4.5: Model Summary.....	44
Table 4.6: Anova Table.....	44
Table 4.7: Coefficients of Variables	45

List of Figures

Figure4.1: Test of Linearity	39
Figure 4.2: Test of Linearity	40
Figure 4.3: Histogram	41
Figure 4.4: Heteroscedasticity	43

Chapter One: Introduction

1.1 Background of the Study

The COVID 19 pandemic has been a global concern since 2019 after first being detected in Wuhan, Hubei province, China. As the newest worldwide threat, the pandemic has affected company operations across many industries. It has had a significant impact on many facets of human life across the globe, particularly in the aviation industry. According to Mai Ngoc Khuong and Vu Hai Yen [2016], the number of airline routes and overall passenger traffic are both important risk factors in the current COVID-19 outbreak, prompting the imposition of a global flight ban policy.

The general economic activity, the development of jobs that directly serve passengers in airlines, airports, and air navigation, service providers, are all possible direct effects of flight bans due to Covid-19 pandemic. As a result, it is indicative that this creates issues for the aviation business, including job stress and a negative impact on worker productivity. Job stress can be defined as the harmful physical and emotional responses that occurs when the requirements of the job do not match the capabilities, resources, or needs of the worker.

When employees are at work, they are subjected to a variety of stressors, which have a direct effect on productivity (Azizollah, Zaman, Omeidi, 2013). Productivity of employees is important to both the organization and the workers. When motivation is high and job stressors are managed productivity will increase. The more satisfied an employee is about the work they do the more successful the company will be. Job stress has a huge impact on an employees' productivity. Employee performance can be greatly hampered by excessive levels of stress in the workplace (Ehsan, Ali, 2019). While stress can be beneficial, it can sometimes be detrimental, particularly in terms of job productivity. Stress can have a negative impact on your physical and mental health, which can lead to decreased productivity. Employees may experience negative effects on personality, reduced creativity, and constant worry, lack of focus and lack of energy. And Ethiopian Airlines may see this effects on its' productivity in terms of employee turnover,

tardiness, quality of work may decrease and a lack of peer relationships and communication may have an impact on the company's productivity in the long run.

Job stress has numerous implications on an employees' productivity, which may exacerbate during the COVID-19 pandemic. This research is going to be conducted to determine the effect of Job stress parameters on employee productivity at Ethiopian Airlines. There are multiple researches done on Ethiopian Airlines on different subjects but there is yet research to be done on the effect of job stress on employee productivity during the COVID-19. This research is intended to fill this gap.

1.2 Statement of the Problem

The COVID-19 pandemic has brought with it unprecedented change to the lives of people around the world. Its impact can be seen in almost all areas of life. Among those areas is, the way we work and interact with one another which may bring with it some stress. In today's pandemic ridden world we are forced to isolate from our colleagues and to minimize interactions with one another in order to prevent further spread of the highly contagious Corona Virus (COVID-19). Nick Morgan (2015), stated that as individuals we mirror each other's emotions unconsciously and almost immediately. Therefore, when we are forced to sever that relationship or rather minimize our interactions, it is only natural that we experience a Job stress that may hinder our ability to perform at work and decrease our productivity. Stress is a ubiquitous factor that affects people in almost every occupation (Ekienabor Ehijiele, 2019). And this has been exacerbated by the Covid-19 pandemic. Research has been done on stress in aviation workers by MacDonald, Deddens, Grajeweski, Whelan, Hurrell (2003), who studied the relationship between the causes of Job stress (stressors) and job dissatisfaction to assess the presence of chronic Job stress in flight attendants. They measured the cause of Job stress using role ambiguity, role conflict, superiors' support, coworkers' support, and task control as the independent variables. Indhu and Thirumakkal (2015), measured productivity as an independent variable using the parameters Work performance, Behavioral Changes, Work Engagement Loss of productivity and Labor turnover.

Prasad K and Vaidya R (2020) did research on job stress on employee productivity during COVID -19 pandemic. The Covid-19 parameters they examined included five factors: working

isolation, reduced communication with colleagues, reduced interactions with friends & family, and excessive work. Based on various literature review, there are numerous implications of job stress on employee productivity, which may be exacerbated during the COVID-19 pandemic.

Many academics claim that job stress has an effect on employee performance in some way. According to Dean (2002), work-related stress is a major driver of reduced workplace productivity. According to Desseller (2000), the impacts of occupational stress are extensive, leading to a reduction in the quality and quantity of work performance. Disorganization and disruption in routine operations can be the negative outcomes of job stress in employees for the airline. Which may cost the airline in the margin profit. Besides the social aspect of the impact that COVID-19 has on employees at Ethiopian airline, it also threatens Job security of the workers. Stress frequently leads to more serious mental health issues, which have an influence on team members' productivity. Job dissatisfaction and low work performance has been identified as one of the leading causes of high work related stress. Employee productivity is determined by their ability to manage their time and focus on the task at hand. All employees face work overload, stress at work as well as their personal lives, all of which have an impact on their performance and job satisfaction (Sobiya and Farooqi, 2014). Unfortunately, when job stress is present, employees struggle to concentrate and achieve deadlines (Fonkeng, 2018). More importantly, stress can precipitate other mental health issues that impair job productivity, such as burnout, anxiety, depression, and conflict. Organizations committed to higher performing employees and retention must understand the effects of stress on productivity. Therefore knowing how job stress caused by the COVID-19 pandemic has affected and is affecting Ethiopian airlines' employees' productivity is of great benefit to the airline in terms of the wellbeing of the employees and also to turn profits.

1.3 Research Questions

The specific research questions are as follows.

1. How does job stress during the COVID-19 pandemic affect employee productivity?
2. How does Work overload affect productivity?
3. How does Role conflict affect employee's productivity?
4. How does Role ambiguity affect employee's productivity?

5. How does Physical environment affect employee's Productivity?
6. How does Relationship at Work affect employees' productivity?

1.4 Research Objective

1.4.1 General Objective of the Study

The general objective of this study is to examine the impact Job stress and Covid-19 has on Ethiopian Airlines' employees during the Covid-19 Pandemic.

1.4.2 Specific Objective of the Study

The specific objective of this study is as follows:

- To analyze how Work overload affects employees' productivity
- To compute how Role conflict affects employees' productivity
- To examine how Role ambiguity affect employees' productivity
- To analyze how Physical environment affect employees' productivity
- To analyze how Relationship at work affect employees' productivity
- To examine how the Covid-19 Pandemic affect employees' productivity

1.5 Scope of the Study

Despite the fact that Job stress during the COVID-19 pandemic is applicable to all types of organizations, this study focuses on the Ethiopian Airlines company located in Addis Ababa, Ethiopia. This study assessed the effect job stress has on productivity in Ethiopian airlines' employees. This research views Job stress and Covid-19 pandemic as the independent variables that influences the dependent variable productivity. The Job stress variables taken are: Work overload, Role ambiguity, Role conflict, Physical Environment, Relationship at work. However, it is apparent that stressors in different jobs have grown throughout the COVID-19 pandemic. Many people are terrified of losing their jobs, or are afraid of becoming sick and/or infecting their family members. Furthermore, according to Indhu G and Thirumakka (2015) productivity will be

taken as a dependent variable that has five factors: Work performance, Behavioral changes, Work engagement, Physical environment, Labor turnover.

The structured questionnaire was distributed to various Ethiopian Airlines employees including those working in production unit of the airline and Cabin Crews. The hypothesis competency will be analyzed using regression analysis.

1.6 Significance of the Study

The researches finding, in addition to fulfilling the academic requirements, will help provide important information for Ethiopian Airlines management, to implement effective techniques for reducing occupational stress and thereby boosting employee performance. Furthermore, the study informs employees to undertake suitable actions to minimize stress and save themselves from a variety of health problems. Finally, this study can be used as a reference document for everyone interested in conducting additional research on the same or a comparable issue.

1.7 Definition of Terms Used

Job stress: - the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker (National Institute of Occupational Safety and Health 1999).

Employee Productivity: - Productivity refers to an individual employee's level of performance in comparison to his or her colleagues on a variety of job-related behaviors and results. (Greenidge, & Coyne, 2014 p.12.)

1.8 Organization of the Paper

This study is organized into five chapters. Chapter one consists of introduction which will give a short explanation of the general idea of the study, Statement of the problem, research question, general objective of the study, specific objective of the study, Definition of terms used. The second chapter will consist of Literature review, which will provide the theoretical perspective of the research including a conceptual framework. It covers major theoretical debates as well as a review of research on related topics, complete with citations for all sources used.

Chapter three presents research design and methodologies that include: Research approach, Research design, sampling technique, Data collection method, reliability and validity techniques. In chapter four presents the data analysis and interpretation done for this study using the different techniques. The final chapter presents the summary findings, conclusion, Recommendations and Limitation and direction for future researches.

Chapter Two: Literature Review

2.1 Introduction

The second chapter of this research reviews existing research done on how job stress affects employee productivity during the Covid-19 pandemic. While many recent studies have focused on the problem Job stress has on employee productivity others have studied the impact the Covid-19 pandemic has on many aspects of businesses across different industries and the impact it has on employees' emotional and behavioral health by taking the COVID-19 pandemic as an independent variable.

2.2 Meaning and Concept of Employee Performance or Productivity

Prasad and Vaidya (2020) define performance as Performance is defined as the fulfillment of a commitment in such a way that the performer is released from all contractual obligations. In some ways, performance is defined as the ability to achieve goals, targets, and a set of standards i.e. an organization's vision and mission. The job performance is defined in different ways depending on the different stages and complexities of the job (June S & Mahmood R, 2011). Prasad and Vaidya also suggest that, Job performance as a person-specific variable, or something carried out by a single individual, is a fundamental principle for organizational achievements and success (2020). Performance is a collection of behavior of employees engaged in work, and that behavior should contribute to the attainment of organization's vision, mission and goals (Campbell C.H, Ford P, Rumsey M.G, Pulakos E.D, 1990). Mathis and Jackson (2009), argue that the quantity of production, the quality of output, the efficiency and effectiveness of the work accomplished, the timeliness of output, and attendance on the job all contribute to performance. The complexity of the work also have an impact on performance.

2.3 Job stress

Job stress is now commonly acknowledged as an issue by social scientists. The concept of stress was introduced into life sciences by an Austrian endocrinologist by Selye H (1956). Selye first coined the term 'Stress' and defined it as "Unspecific response to the body to any demand for change" (1976). Selye consequently introduced a new concept, stressor, and stress is an individual's reaction to a stressor. Drawing heavily from the theory of evolution, Walter Cannon and Hans Selye are credited with establishing stress as a legitimate scientific phenomena. According to the International Labor Organization, workplace stress is becoming a more serious issue than ever before, due to increased global competition, difficulty in achieving a work-life balance, globalization that has changed the nature of jobs, longer working hours, and an increase in work pressure (Bower, 2016).

The job stress concept was highlighted in the 1990s where researchers started to focus more on occupational health and safety (Bower, 2016). According to the International Labor Organization, workplace stress is becoming a more serious issue than ever before, due to increased global competition, difficulty in achieving a work-life balance, globalization that has changed the nature of jobs, longer working hours, and an increase in work pressure (Bower, 2016). As stated by Chen, Silverthorne and Hung (2006), Job stress is a type of psychological pressure associated to work that affects an employee's skills and capacity to respond to a certain scenario. Job stress is caused by unreasonable demands and pressure that surpass an employee's ability to do the assigned tasks. Therefore, Stress is thought to be a complicated and dynamic concept that can lead to poor performance not just for employees by not working efficiently and effectively, but also for the business as a whole by failing to meet its objectives (Chinyere, Ngige, & Mojekeh, 2019).

2.3.1 Types of stress

According to Sheraz (2014) there are two main types of stress and they are:

- **Eustress:** Employees who experience eustress will be able to meet job demands, which may help them improve the quality of their work life.
- **Distress:** Employees who are distressed will be unable to meet workplace obligations, which may encourage them to diminish the quality of their work life.

According to Sangupta (2016), stress can cause Physiological, Behavioral and Psychological problems. And he describes them as follows:

1. **Physiological:** Humans' fight or flight response is triggered by hormone release. These hormones enable them to make more effort or run faster. They raise blood pressure, heart rate, and sweating. Prolonged stress raises the tension in the arteries due to an increase in heart rate and blood pressure. It also has an effect on the immune system, which is why cold and flu illnesses commonly occur during exams.
2. **Behavioral:** Stress can cause some individuals to resort to unhealthy habits like smoking or excessive alcohol consumption, to neglect physical health and a healthy nutrition, or to overuse either television or computers. It can make people jittery, excitable, or even irritable.
3. **Psychological:** Anxiety and depression are known to be exacerbated by stress. The stress response may impair one's ability to work or interact effectively with others, as well as make sound decisions.

2.4 Theories of job stress

2.4.1 Demand-Control Theory

When employees are put under high expectations but with a few room to affect change, strain happens according to Karasek and Theorell's (1979) job demand—control model. Unlike commonly held beliefs about workplace stress, Karasek and Theorell's model rejects the notion that occupational stress is unavoidable. In fact, they reject the term stress because it is too simplistic to convey the nature and complexity of the model's proposed range of employee-job interacting experiences. The term demand relates to the job needs, which may include environmental variables, the actual task being performed, and other elements that "act upon" the employee. 'Control' is meant to be understood as the extent an employee has to be able to take action on the job demand that is put onto them. Job demands aren't necessarily "bad," nor do they always result in stress. The

influence of job demands on the individual's control resources is crucial in determining either stress related to work or satisfaction with the individual's job.

Demand-Control/Support Model

It contends that the stretch put on an individual because of job stress emerges from the interaction of extreme demand from their and insufficient job control. The model now includes social support; strain effects are accentuated in low-support environments. The biggest dangers to physical and mental health are manifested among employees who encounter high isolation-strain (iso-strain) jobs—that is, those who are subjected to high job demands in an environment of poor control or choice latitude and low social support (iso-strain hypothesis).

Person-Environment Fit Theory

The mismatch among an individual and their surroundings is the concept of person-environment fit theory. If people believe that their job environmental setting is unsatisfactory or there is a mismatch between their core beliefs and wants or are unhappy with their jobs it can produce tensions which in turn may affect the individual's overall health (Melanie, 2005). The needs of employees are met by the individual's capacities, which are represented by aptitudes, skills, training, time, and energy. The premise is that the bigger the disparity between person and environment, the more likely it is that stress and a unhealthy habits will occur (Cotton, Dollard and Jonge, 2002).

2.5 Job stressors

Predictors of job stress are called job stressors and there are numerous job stressors and there are multiple job stressors. According to Azizollah, Zaman & Omeidi (2013) identified: role ambiguity, role conflict, role overload, excessive demands, tough decisions, management failure, and employee failure as stressors. Furthermore, Shultz and Shultz (2006) also identified role conflict, role ambiguity, Organizational change, work overload, physical environment, and work under load as stressors. Job stressors vary depending on the individual and the work environment, and each job stressor has a varied impact on whether they are satisfied with their jobs. The individual approach can be accomplished through two methods: exercise and opening up to

someone. The current study selected work overload, role ambiguity, role conflict, job autonomy connection at work, and physical environment as the key stressors from prior studies. According to Beehr, McGrath (1992) role ambiguity and role conflict are the most frequently searched job stressors and Physical environment (Kim and Yoon, 2002), Relationship at work (Iqbal and Waseem, 2012).

2.5.1 Role conflict

Role conflict is a type of role demand that happens when an individual's workplace has two or more sets of role requirements, and fulfilling one role would make fulfilling another problematic (Jawahar, Stone and Kisamore, 2007). Role conflict is caused by mismatched job anticipation. These mismatches are just theoretical differences between subordinates and supervisors on the essential job duties and conditions. Therefore, conflict might be created between employees and supervisors.

2.5.2 Role Ambiguity

Role ambiguity denotes uncertainty that occurs when people are unclear about their positions. Employees face role ambiguity doing complicated tasks, as well as when they are unaware of performance goals or the repercussions of their professional conduct. According to Lee and Young (2012), when duties are vague for certain roles Role Ambiguity occurs. Role ambiguity can also mean a lack of adequate details essential for people to perform their roles successfully (Zhao and Rashid, 2010).

2.5.3 Work Overload

Work overload is the result of a relationship between actual work expectations and the physiological strain caused by satisfying those requirements. This occurs when demands is thought to surpass the employees' capacity (Beehr et al, 2001). Quantitative and qualitative overload are types of work overloads. Quantitative overload is the mismatch between the work load and time allotted. Because the allotted time available for the work to be completed is restricted, workers face role overload. In contrast, qualitative overload entails tasks/jobs that is exceedingly hard to complete. When the job exceeds employee's capacity qualitative overload occurs.

2.5.4 Physical Environment

When employees work in an undesirable setting, they are more likely to experience job stress. Temperature extremes, inadequate illumination, working in shifts, and pollutions inside the workplace are all indicators of physical working situations that can create workplace stress (Shultz and Shultz, 2006).

2.5.5 Relationship at Work

Beehr and McGrath (1992), state that coworker's social support is defined as coworkers' readiness to help one another. An employee's relationship with their colleagues and managers is essential in influencing how much stress a person endures at their job (Ross and Altmaier, 1994). Poor leadership from supervisors causes employees to feel higher levels of job stress (Iqbal and waseem, 2012). Employee behavior can also cause stress for a Supervisor.

2.6 The Covid-19 Pandemic

Coronavirus disease (COVID-19) is an infectious disease that was initially detected in the Chinese city of Wuhan on December, 2019. The spreading to other parts of Asia and then worldwide. The first confirmed case in Ethiopia was announced on March 30, 2020. Ethiopia declared a state of emergency in April, 2020. Due to lockdowns employees around the world fear that they might lose their jobs, or get the COVID infection while at work which brings on added stress for most workers and hence impact their productivity. Bloom et al (2020) found that during 2020-2021 productivity levels fell 5% across the United Kingdom.

2.7 The concept of Employee Productivity

Meneze (2005) stated that productivity is a workers capability to create tasks or products in accordance with or beyond the expected criteria set by the employer. Productivity is determined by comparing total production to total input required to produce that output. (Bojke, Castelli, Goudie, Street and Ward, 2012). These productivity measurements according to a Singapore guide to performance measurements is to compute and permit an objective evaluation of worker's productivity. They provide details on productivity gaps and aid in determining employee training requirements. The guide specified the most popular metric of productivity is labor productivity,

defined as value added per worker. It represents labor's efficacy and efficiency in the production and selling of output. The Organization for Economic Cooperation and Development (OECD), (2001) identified the many forms of productivity measures. The choice of which one to adopt in a given case is dictated by the aim of performance measurement and, in many cases, on data accessibility.

2.7.1 Work performance

Performance is a throughput obtained by performing something in accordance with a predetermined expectation, objective, and standard. Armstrong and Baron (2005) stated that Performance is frequently defined solely in terms of production - the attainment of quantifiable goals. But it is more than that: that is the outputs of activities and endeavor that are meaningful. These can be analyzed qualitatively by reference to quality of performance defined in the form 'performance will meet the required standard when...' Outcomes can also, of course, be assessed against quantified targets or goals expressed as projects or tasks to be completed satisfactorily on a One-off or continuing basis".

2.7.2 Behavioral Change

Employee behavior is described as an employee's behavior to a specific workplace environment. And a behavior change in the context of work, is a change to the way an employee gets their job done. Behavioral change affects both the employee and the organization.

2.7.3 Physical Environment

Physical environment in the workplace involves the things that can be seen, recognized or touched such as, equipment, workplace layout, lighting, noise level, ventilation (Agbozo, Owsu, Hoedoafia & Atakorah, 2017). According to (Bushiri, 2014) an employee's performance may be influenced by the task assigned to them as well as the environment in which they operate. A noise disturbance, uncomfortable temperature, congested workplace, absence of sunlight, or even a confined work environment have a consequence on productivity (Baday, 2012). Employees will enhance their performance if the concerns highlighted are addressed by management. Work place physical environment should

encourage employees to continue to want to stay in the office, be comfortable and finish their work (Bushri, 2014).

2.7.4 Labor turnover

Job turnover is the total of year-to-year variations in levels of employment through all firms, and it is one sign of the magnitude of change in the labor market. Labor turnover has an impact on both workers and businesses. Workers face disruption, the need to learn new job-specific skills, and the need to explore alternative career paths (Martin and Garino, 2005).

2.8 The impact of Stress on Productivity

In order to quantify organizational human resource productivity, unit labor cost, or total labor cost per unit of output, should be included (Mathis & Jackson, 2000). According to this authors, an individual's performance is determined by three factors: level of effort, support given to that person and ability to do the work. Performance is reduced if these variables are diminished or lacking. Mathis and Jackson (2000) further reiterate, that underline that production standard should be addressed among productivity because another substitute could be to create more but of inferior quality.

Steers and Porter (1991) believe that from a managerial position, it is beneficial to evaluate many types of impractical behaviors that can arise from persistent stress. According to Thompson and McHugh (1995), when it comes to workplace stress, recent accounts of the stress 'process' frequently adhere to the concept of stress as a mismatch among a person and their specific surrounding, when internal and outside influences propel the person's ability to adapt past their limit. However different individuals can have different reactions to the same job. Type A personalities, for example, workaholics who are compelled to constantly be on time and fulfill deadlines, typically subject their own self to stress than anyone else. (Dessler, 2000). Bowin and Harvey (2001) noted that individuals are incapable to entirely detach their professional and private life. Furthermore, Blumenthal (2003) used an inverted U-type curve to represent the influence of job stress on productivity. Nevertheless, if job stress carries on increasing above the average point, performance will first increase then it starts to decrease. This demonstrates

that while job stress is required to increase productivity, it is damaging and counterproductive once it reaches a degree of acute discomfort. Blumenthal (2003) continued by claiming that excessive job stress is dangerous, disruptive, and adverse to overall wellbeing and productivity. Stress can negatively affect a person's overall health by generating instability or disturbance in a variety of areas. This disturbance can have a negative impact on productivity. Corporations have grown increasingly aware of the challenges produced by stress (Garrison and Bly, 1997). Stress-related illnesses are expensive and might impede a productive employee. When we cannot manage stress appropriately, absenteeism, turnover, and medical compensation increase, while productivity decrease. Because we spend many hours a day at our jobs, our workplace is important (Garrison and Bly, 1997) stated that the workplace is special only because we spend so much of our time at work.

2.9 Empirical review

According to Ostroff (1992) job stress has an effect on employee productivity on various stages, including employee motivation and performance. Job stress has an effect on employee performance on varying levels, including employee motivation and performance. Palmer (2004) found that employment stress costs the US economy billions of dollars in lost productivity, sick pay, medical costs, and lawsuit costs.

In general multiple studies have been done on the effect of job stress on productivity. According to Jamal (1984), a survey of 305 employees and 325 managers from various Canadian organizations discovered a negative relationship between occupational stress and job performance. The Towers Watson (2014) study also found a link between high levels of stress and decreased productivity. According to their research, one in three workers are nervous about the increasing job demand, which impacts their productivity. A study conducted by the American Psychological Association (2015) revealed that work is the second most stressful element in people's lives, after finances. In addition, a study conducted by Widodo, Xavier, Wibisono, Murti, Putra, Gunwan, Asrol (2021), concluded that Job stress and Covid-19 problems both have an impact on engineering employees' productivity in the aviation sector. Moreover, Bui, Zackula, Dugan, Ablah (2021) suggested in their study that overall stress and productivity have a negative

relationship: Higher stress levels were found to be substantially connected with low productivity levels.

2.10 Conceptual Framework

In response to the preceding literature, the following conceptual remark has been developed in order to meet the study objectives. The research model includes independent factors of job stress causes and dependent variable that is productivity. The independent variable of Job stress include Role conflict, Role Ambiguity, work overload, physical Environment & Relationship at work.

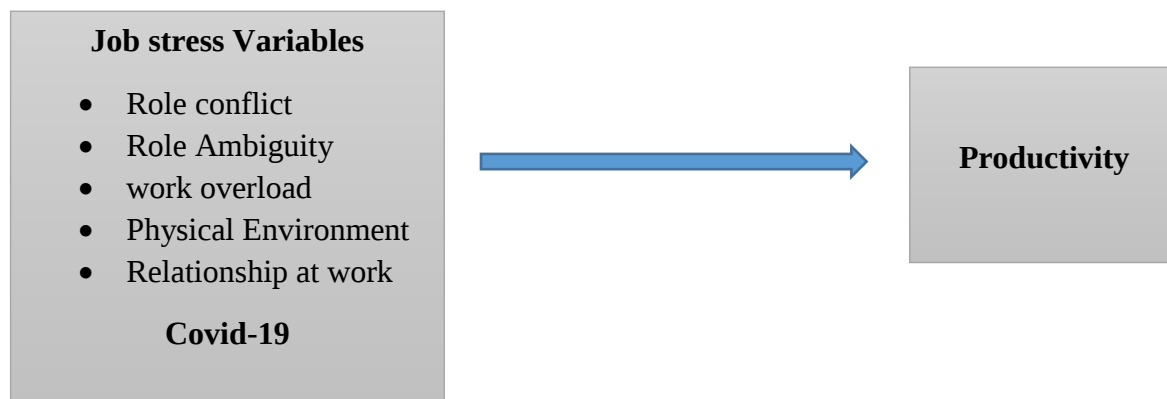


Figure 1. Conceptual framework

2.11 Research Hypothesis

According to the theoretical review, empirical studies and conceptual framework outlined above the following hypothesis were formulated. This research will empirically evaluate the effect of job stress on productivity during the COVID-19 pandemic.

H1: Role Conflict has a negative and significant effect on Productivity.

H2: Role Ambiguity has a negative and significant effect on Productivity.

H3: Work Overload has a negative and significant effect on Productivity.

H4: Physical Environment has a negative and significant effect on Productivity.

H5: Relationship at Work has a negative and significant effect on Productivity.

H6: The Covid -19 pandemic has a negative and significant effect on productivity.

Chapter Three: Research methodology

3.1 Introduction

The objective of this study is to examine the impact of Job stress on productivity during COVID-19 pandemic in Ethiopian Airlines. This section describes the how the research is intended to be carried out including the data collection method carried out. This study has heavily relied on Primary data that was obtained from the respondents through structured questionnaires. The questionnaires have closed questions.

3.2 Research Approach

This study used Quantitative research approach to analyze the data that was collected through the structured Questionnaire. The reason for using quantitative research approach is justified because this study have analyzed the cause of job stress' effect on productivity during the Covid-19 pandemic.

3.3 Research design

This research tried to explain the impact of the relationship between the variables of Job Stress and the Covid-19 pandemic with Productivity. Explanatory design and cross sectional study were used to explain the relationship between the dependent and independent variable. The explanatory

design approach is used to explain the cause and effect between job stress and productivity. The study is a Cross-sectional study in the sense that data was collected at a given point in time. The researcher have conducted a cross-sectional survey due to time and expense constraints.

3.4 Target Population and Sampling Design

The research have identified the sample population from Ethiopian Airlines employees. The main respondents that were chosen for this research are technicians in every production unit in the component departments and Cabin Crews at Ethiopian Airlines. The sample size examined here is deemed to be representative of the target population and to allow for accuracy and generalizability.

3.5 Sampling Technique

This study used a Stratified Random Sampling technique. The reasoning for this technique is to gather a sample population that best represents the complete population. The two strata that are considered were used to obtain data on job stress and its effect on productivity during the Covid-19 pandemic.

3.6 Sample Size determination

To determine the sample size, the researcher used Taro Yamane's (1967), Sample selection method with a probability of 95% free error. The sample size was calculated as follows:

$$n = \frac{N}{1 + N(e^2)}$$

Where,

n = Signifies the Sample Size

N = Signifies the Population under study

e = Signifies the margin error

3.7 Data collection methods

The study gathered primary data by distributing a structured self-administered questionnaire to the selected respondents. Because the researcher wants to address the issues in a standardized manner in addition to time and budget constraints questionnaires were selected as a means of data collection method. The questionnaires were adapted from various sources Vanishree (2013), Widodo et al (2021). The items included in the questionnaire were all represented the conceptual framework and are formulated with the research questions in mind.

A Five-Point Likert scale questionnaire was used varying from strongly disagree, Agree, Neutral, Disagree and strongly disagree. The questionnaire has thirty three (33) items and are systematically formulated to meet the research objectives and the research questions. The questionnaire is intended to measure the cause of job stress and its effect on productivity during the Covid-19 pandemic.

3.8 Data processing and Analysis method

After collecting responses, data analysis was conducted. Descriptive statistics were used to describe the sample of the study. Regression analysis have been carried out to find out which of the predictor variables has the biggest effect on the dependent variable.

Regression functions

Dependent Variable

Productivity (P)

Independent Variables

Job stressors

Regress productivity on job stressors

$$P = \beta_0 + \beta_1 RC + \beta_2 RA + \beta_3 WO + \beta_4 PE + \beta_5 RW + \beta_6 C$$

Where:

P = Productivity

RC = Role Conflict

RA = Role Ambiguity

WO = Work Overload

PE = Physical Environment

RW = Relationship at work

C = Covid-19

β_0 = is the intercept term-it gives the average value of JS when the stated independent variables are set equal to zero.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ refers to the coefficient of their respective independent variable which measures the change in the mean value of P, per unit change in their respective independent variables.

ε = Error term

3.9 Research Reliability and Validity Test

3.9.1 Reliability test

It is important to test for reliability before collecting any data needed for this research. According to Kothari (2004) A good research study must fulfill reliability, practicability, and validity. Internal consistency, also referred to as reliability, is a measure of consistency across items belonging to the same concept. Lee Cronbachs (1951) designed a widely accepted Cronbachs alpha to test for reliability. According to Lee Cronbachs an alpha coefficient value between 0.6 and 0.7 represents fair level of reliability, an alpha coefficient value of between 0.7 and 0.8 is considered to have good reliability and an alpha coefficient value between 0.8 and 0.95 is considered to have very good reliability.

Table: 3.1 Reliability Statistics Analysis (Cronbach's Alpha)

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.659	.609	7

Source: Own survey data output, 2022

As demonstrated in table 3.1, the Cronbach's alpha coefficient value for the study is 0.659. This indicates that the internal consistency level is fair.

3.9.2 Validity Test

According to Babbie and Mouton (2013), validity indicates how well an instrument measures what it is intends to measure. A standard questionnaire with 33 items was used to collect responses. As well as reviews of related literature was optimized. Furthermore, the content validity in this study was evaluated by reviewing related literature, as well as the research advisor's assessment.

Chapter Four: Data Analysis and Discussion

4.1 Introduction

This chapter contains the presentation of the analysis and interpretation of the primary data collected through questionnaires.

Three hundred and fifty questionnaires were distributed for both strata (Cabin Crew and Technicians). There were One hundred and fifty four respondents for cabin crew Employees and two hundred and eighteen respondents for the Technicians in Ethiopian Airlines. Thus, the analysis and interpretation of this study is based on these responses.

4.2 Descriptive Statistics

4.2.1 Background Information

The background information included in this study are Gender, Age, Education Level, Experience and occupation which will be presented in table 4.1.

Table 4.1. Background Information of Respondents

No.	Items	Classifications	Frequency	Percent
-----	-------	-----------------	-----------	---------

1	Gender	Male	203	54.6
		Female	169	45.4
2	Age	25 or below	66	17.7
		26-35	254	68.3
		36-45	45	12.1
		>= 46	7	1.9
3	Education level	High School Diploma	26	7.0
		Trade/Technical/Vocational Training	220	59.1
		Bachelor's Degree	120	32.3
		Master's Degree	6	1.6
		Ph.D. or higher	0	0
4	Experience	Less than 5 years	127	34.1
		5-10 years	196	52.7
		11-20 years	48	12.9
		>=21 years	1	0.3
5	Occupation	0	2	0.5
		Cabin Crew	154	41.4
		Technician	216	58.1
		Total	372	100.0

Source: SPSS output, 2022

As depicted in table 4.1, the gender distribution of the survey, 169(45.4%) are female and, 203(54.6%) are male. Although table 4.1 indicates that the male respondents sampled were slightly high compared to the female respondents, we can conclude that there is good representations of the genders in order to generalize the results. According to Ethiopian Airlines, its total Cabin crew Employees amount to 2,063 with 1,975 of those employees being female and 88 being Male. Moreover, its technician employees amount to 2,935 employees, with 2630 of those employees being male and 305 Female. Due to the working nature of both these strata's Ethiopian Airlines tends to hire more female employees as its Cabin crew and in comparison hires more male employees as Technicians. Regarding the respondents' ages, the highest number of respondents were from the age group 26-35 which comes to 68% of the total respondents. The remaining age groups 25 and below and 36-45 accounted for 17.7% and 12.1% of the total responses respectively. When it comes to Education Level, the majority of the respondents (59.1%) hold a trade/Technical/Vocational training certificate. This is not surprising because according to Ethiopian Airlines, the minimum educational background required to be hired as a Technician or cabin crew staff is a High school Diploma. The prospect employees then have to go through training for a varying duration and earn a trade/Technical/Vocational training certificate before finally being hired by the airline. Bachelor's degree holders make up about 32.3% of the total respondents, furthermore High school Diploma holders and Master's degree holders account for 7% and 1.6% of the total respondents. There are no Ph.D. holders among the respondents for this study in Ethiopian Airlines. Regarding experience of the respondents 52.7 % had been working for Ethiopian airlines for 5-10 years, 34.1% have been working there for less than 5 years, 12.1% have worked in the airline for 11-20 years and only 0.3% have been working in the airlines for ≥ 21 years. This indicates that the majority of the respondents have adequate experience to contribute to the study. The last item in table 4.1, occupation indicates that 41.4% of the respondents are Cabin Crew Employees and 58.1% are Technicians. This tells us that most of the respondents are Technicians and is a good representation of the Technician and Cabin crew population currently employed in Ethiopian Airlines.

4.2.2 Descriptive Analysis

This section explains the descriptive statistics calculated based on the independent variables (Role Conflict, Role Ambiguity, Work Overload, Physical Environment, and Relationship at work and

Covid 19) and dependent variable (Productivity) that are included in the questionnaire. Respondents were asked to rate each questions based on a 5-point Liker Scale questionnaire to measure the responses (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). The researcher used Akmaliah (2014) interpretation of mean values (Mean value: <3.39 = Low; 3.40-3.79 = Moderate; >3.80 = High).

Table 4.2 Descriptive Statistics

Variables	Mean	Std.Deviation	N	Mean score Evaluation
Productivity	4.1983	.53752	372	High
Role Conflict	3.8532	.53941	372	High
Role Ambiguity	1.9288	.53951	372	Low
Work Overload	4.1523	.43102	372	High
Physical Environment	3.5539	.80313	372	Moderate
Relationship At Work	3.4409	.80417	372	Moderate
Covid19	3.2276	.69667	372	Low

Source: SPSS output, 2022

As indicated from Table 4.2 there are 372 observations (respondents) and the independent variable with the highest mean is Role Work overload with a mean of 4.1523 and standard Deviation of .43102. This indicates that most of the respondents rated work overload as a major stressor. The variable with the second highest mean is Role conflict with mean value of 3.8532 and standard deviation of .53941 which means that the respondents believe that Role conflict is one of the major stressor variable to affect productivity. The third largest mean belongs to Physical Environment with mean of 3.5539 and standard deviation of .80313. This means that the Physical environment such as working condition, cleanliness, temperature, and exposure to dangerous substances affects their productivity greatly. The variables Role Ambiguity, Relationship at Work and Covid-19 have a mean value of 1.9288, 3.4409, 3.2276 respectively and a standard deviation value of .53951, .80417, .69667 respectively. The effect of Job stress during

the Covid-19 pandemic was found to be modest. This is due to the fact that Ethiopian airlines had a strict preventive measures put in place to protect its employees and customers from Covid-19 infections. Ethiopian airlines deployed multiple covid-19 centers throughout its headquarters located alongside Addis Ababa airport, to test for covis-19 infection, gave all the necessary equipment for its employees to protect themselves from the infection and was one of the first in Ethiopia to deploy vaccinations for its staff. Therefore employees of Ethiopian don't perceive Covid-19 pandemic as a major job stressor that hinders their productivity in the workplace. Role Ambiguity has the least mean value for the respondents. This indicates that the job description is clearly defined for the Cabin Crew and Technicians strata and there are no confusions when it comes to duties of each individuals.

4.3 Correlation Analysis

On this analysis Pearson's correlation analysis is used to explore the relationship between the measured independent variables namely and Productivity. The results are shown in the table 4.3.

Table 4.3 Pearson's Correlation table

		Productivity	Role Conflict	Role Ambiguity	Work Overload	Physical Environment	Relationship At Work	Covid 19
Productivity	Pearson Correlation	1	.373**	.028	-.060	.395**	.434**	.272**
	Sig. (2-tailed)		.000	.591	.249	.000	.000	.000
	N	372	372	372	372	372	372	372
Role	Pearson Correlation	.373**	1	.048	-.104*	.315**	.447**	.388**

Conflict	on							
	Sig. (2-tailed)	.000		.004	.046	.000	.000	.000
	N	372	372	372	372	372	372	372
Role Ambiguity	Pearson Correlation	.028	.048	1	.058	.001	.057	.052
	Sig. (2-tailed)	.591	.004		.261	.977	.277	.321
	N	372	372	372	372	372	372	372
Work Overload	Pearson Correlation	-.060	-.104 [*]	.058	1	-.140 ^{**}	-.089	-.098
	Sig. (2-tailed)	.249	.046	.261		.007	.087	.059
	N	372	372	372	372	372	372	372
Physical Environment	Pearson Correlation	.395 ^{**}	.315 ^{**}	.001	-.140 ^{**}	1	.634 ^{**}	.373 ^{**}
	Sig. (2-tailed)	.000	.000	.977	.007		.000	.000
	N	372	372	372	372	372	372	372

Relations hip At Work	Pearson Correlati on	.434**	.447**	.057	-.089	.634**	1	.436**
	Sig. (2- tailed)	.000	.000	.277	.087	.000		.000
	N	372	372	372	372	372	372	372
Covid19	Pearson Correlati on	.272**	.388**	.052	-.098	.373**	.436**	1
	Sig. (2- tailed)	.000	.000	.321	.059	.000	.000	
	N	372	372	372	372	372	372	372

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS output, 2022

According to Cohen (1998) standards, correlation coefficients greater than ± 0.49 are considered to have large effects; medium effects has a $\pm 0.28-0.49$ range of correlation effects; $< \pm 0.28$ correlation effect is considered small. The coefficient of correlation between 0 and 1 was interpreted as follows (Warokka et al, 2012). Correlation coefficient (r) ranging from 0.50-1.00 may be regarded as high, 0.30-0.49 as moderate correlation, and 0.10-0.29 as low correlation. There as we can see from table 4.3 that the correlation between Productivity and Role conflict had high correlation, $r=0.371$, $n=372$, $p<0.05$. This suggest that there is a high degree relationship between productivity and Role conflict. Similarly, there was a high correlation between Productivity and Physical environment, $r = 0.395$, $n = 372$, $p<0.05$. Furthermore, the correlation

between productivity and Role Ambiguity was found to be low, $r = 0.28$, $n = 372$, $P > 0.05$.

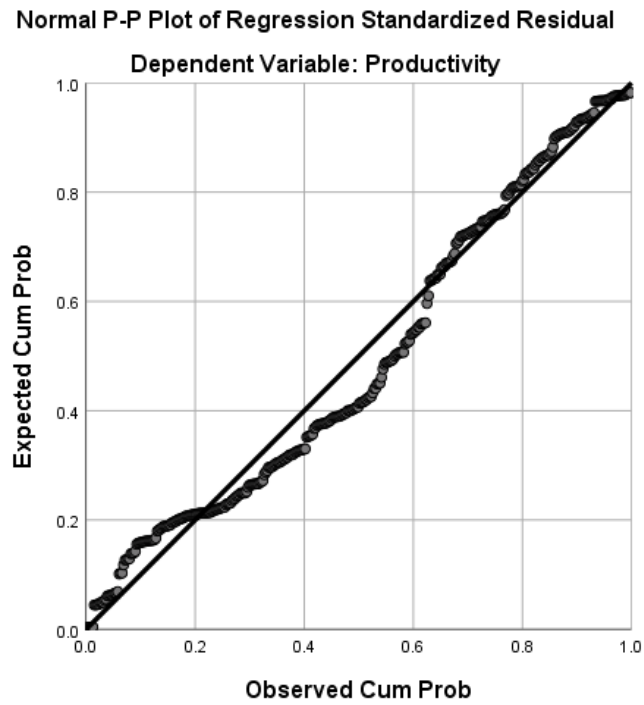
4.4 Regression Analysis

The regression analysis is carried out to decide the extent to which the independent variables may explain the dependent variable. A preliminary analysis was conducted before running the regression analysis to satisfy the assumptions of the linear regression models such as, linearity test, normality test, multi-Collinearity test, and homoscedasticity test. Following the previously established objectives, the analysis is given in a topical presentation.

4.4.1 Linearity Assumption

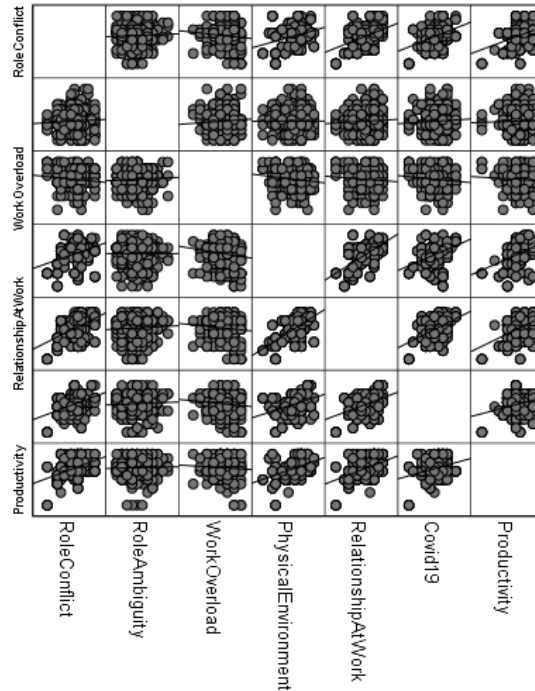
The relationships between the independent variables and dependent variables need to be linear in order to carry out a multiple regression analysis with Ordinary Least square. The linearity assumption test can be checked by examining the scatter plot and the normal P-P plot. Among the different ways of assessing linearity used in this study, a scatter plot diagram (P-P plot) with a line of fit was used to determine whether the connection is linear. The normal P-P plot examined suggests that the points lie in a reasonable straight line and the data set is normally distributed. Which indicates that Linearity assumption of the linear regression model is satisfied or not violated.

Figure 4.1 Test of Linearity



Source: SPSS output, 2022

Figure 4.2 Test of linearity



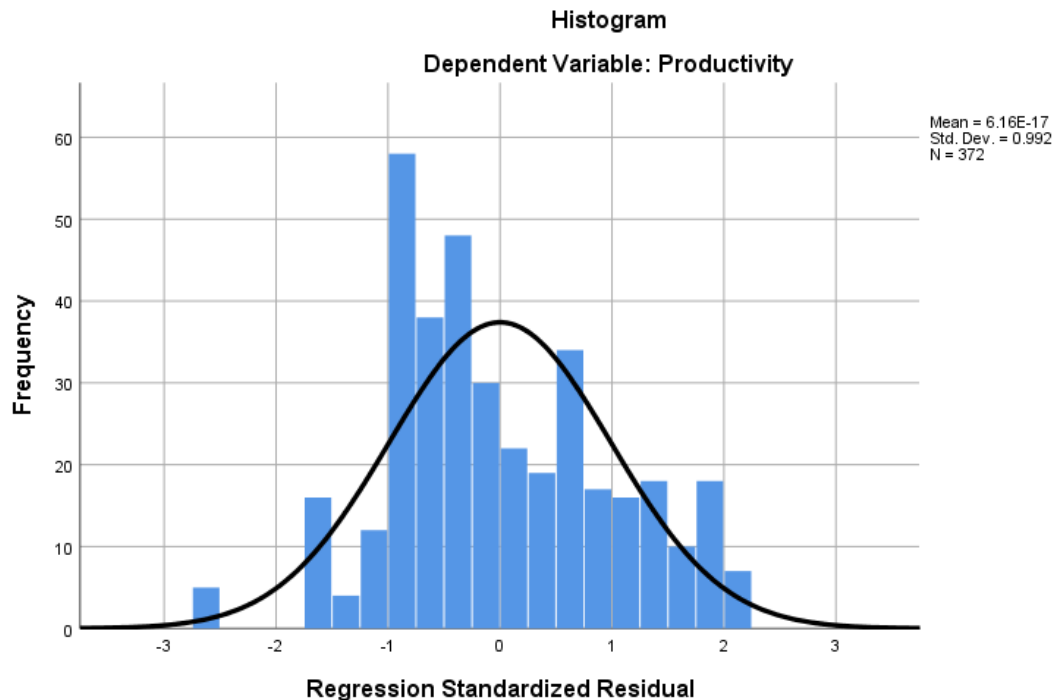
Source: SPSS output, 2022

A scatter plot matrix can demonstrate the relationship between the different variables. The matrix scatter plot in Figure 4.2 shows us that the variables have a linear relationship with each other.

4.4.2 Normality Test

The normality assumption test was used to determine whether the data sample was drawn from a normally distributed population that is, bell shaped or following a symmetrical shape. Even though every normally distributed data are bell shaped or symmetrical, that doesn't mean they have the same mean or variance. The normality assumption indicates that errors are normally distributed and that the plot of residual values will approximate a normal curve (Hervey et al, 2006). Thus the Histogram in figure 4.3 shows that the distributed error of term is Bell-shaped that has a symmetrical pattern. This allowed the researcher to conclude that the distribution of error term for the model was normal. Thus the assumption of normally distributed error term was not violated.

Figure 4.3 Histogram



Source: SPSS output, 2022

4.4.3 Multi-collinearity Test

In multiple regression analysis, multi-collinearity is used to determine the correlation between multiple variables in a model. According to Brooks (2008), Multi-Collinearity is a statistical occurrence where two or more predictor variables are greatly correlated. We can test multi-collinearity either by looking at the correlation coefficients analysis or from the Tolerance and Variance Inflation Factor (VIF) values. “The VIF is a tool to measure and quantify how much the variance is inflated” (Daoud, 2017). The accepted value of VIF and tolerance are either above 0.10 or below 10 (Sekaran and Bougie, 2016). Tolerance is the percentage of variance in the predictor that is not explained by other variables. This means that smaller number values imply that a predictor is redundant, hence values less than 0.10 are problematic. As shown below in table 4.4 the tolerance and VIF values the independent variables are all between the allowed thresholds. The values are all greater than 0.10 and less than 10. Therefore we can conclude that collinearity issue among the independent values doesn’t exist for this model.

Table 4.4 Collinearity Diagnosis

Coefficients ^a			
Collinearity Statistic			
Model		Tolerance	VIF
	Role Conflict	0.751	1.331
1	Role Ambiguity	0.989	1.011
	Work Overload	0.971	1.030
	Physical environment	0.580	1.725
	Relationship At work	0.509	1.965
	Covid 19	0.748	1.336

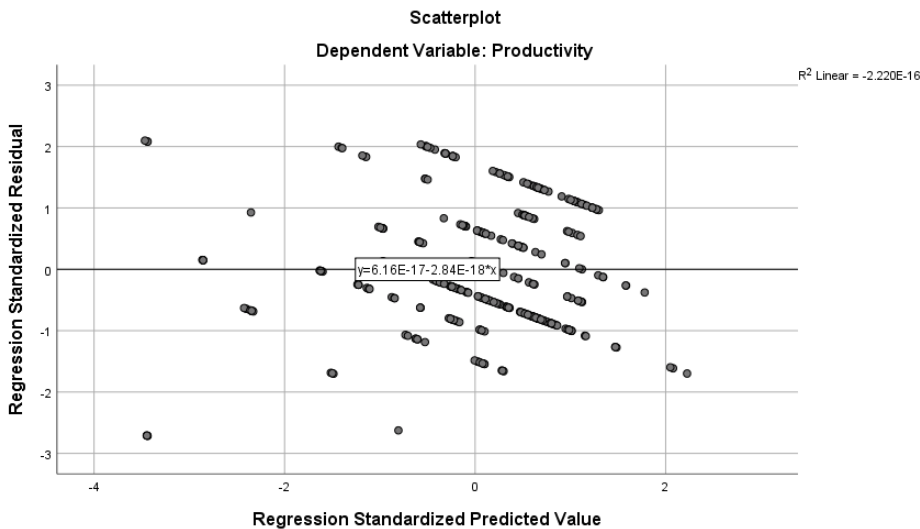
a. Dependent variable: Productivity

Source: SPSS output, 2022

4.4.4 Test of Homoscedasticity

When analyzing regression results, it's paramount to make sure that the residuals have constant variance. When we do have constant variance in the residuals, then our data is homoscedastic. To test for homoscedasticity, examine a plot of the standardized residuals by the regression standardized predicted value. (Osborne and Waters, 2002). When the variance in the plot is unequal, it is known as Heteroscedasticity. Heteroscedasticity usually occurs in a cross-sectional data.

Figure 4.4 Heteroscedasticity



Source: SPSS data output, 2022

As we can see from figure 4.4 above, the standardized residuals are evenly distributed. Thus the model is Homoscedastic and there is no Heteroscedastic problem.

4.5 Regression Analysis result

To determine the effect of the explanatory factors on the dependent variable, multiple linear regressions approach is applied. This is an essential step to figure out how well the independent variables can predict the dependent variable (Productivity) value.

4.5.1 Model Summary

The model summary table shows the strength of the relationship between independent and dependent variable. As seen in table 4.5, after the linear regression analysis was done, the output revealed that the adjusted R-square value is .250. This suggests that 25% of the variation in the independent variable was explained by the independent variables.

Table 4.5 Model Summary

Model Summary^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.500 ^a	.250	.238	.46919	.250	20.321	6	365	.000	1.924

a. Predictors: (Constant), Covid19, Role Ambiguity, Work Overload, Physical Environment, Role Conflict, Relationship At Work

b. Dependent Variable: Productivity

Source: SPSS Data Output, 2022

Regression Diagnostic tests were carried out before to validate the linear regression model (CLRM). As shown in table 4.5 the R which indicates the correlation between the independent and dependent variables is 0.500. Furthermore the R square and adjusted R square of the linear regression is indicated to be 0.250 and 0.238 respectively. This implies that 25.0% of the variation in productivity is explained by Role conflict, Role Ambiguity, Work Overload, Physical Environment, Relationship at Work and Covid-19 pandemic. Therefore 75% of the variance is explained by other factors.

Table 4.6 ANOVA table

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.841	6	4.473	20.321	.000 ^b

	Residual	80.351	365	.220		
	Total	107.191	371			

a. Dependent Variable: Productivity

b. Predictors: (Constant), Covid19, Role Ambiguity, Work Overload, Physical Environment, Role Conflict, Relationship At Work

Source: SPSS output, 2022

As indicated in the ANOVA table, the P-value is less than 0.005, thus the model is significant. The overall regression model was significant, $F(6,365) = 20.321$, $p < 0.05$, $R^2 = 0.250$

4.5.2 Coefficients of Variables

Table 4.7 Coefficients of variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.338	.330		7.088	.000	1.689	2.986
	Role Conflict	.209	.052	.210	4.011	.000	.107	.311
	Role Ambiguity	.004	.045	.004	.080	.937	-.086	.093
	Work Overload	.012	.057	.009	.201	.841	-.101	.124
	Physical Environment	.124	.040	.186	3.118	.002	.046	.203
	Relationship At Work	.140	.042	.210	3.302	.001	.057	.224
	Covid19	.024	.040	.031	.590	.556	-.056	.103

Source: Own data survey, 2022

The Unstandardized coefficient (B) column indicates how much a predictor variable (Independent variable) influences the variation in the outcome value (Dependent variable) when all the other predictor variables are constant. In addition the 'Sig' column or the P-value indicates how much of an impact the predictor variables have on the outcome variable. A predictor variable with a p value that is less than 0.05 is considered significant. Moreover, the Confidence interval column indicates that there is a 95% chance that the actual value of the unstandardized coefficient is between the Lower Bound and Upper Bound values.

From table 4.7 we can see that for the predictor variable Role conflict, the unstandardized coefficient B value or Beta value is 0.209 and has a P-value of 0.000. This signifies that one unit increase of the predictor variable Role conflict is associated with 0.209 unit increase with the outcome variable Productivity and has a significance level which is less than 0.05, thus this variable has a statistically significant relationship with the outcome variable (Productivity). The unstandardized coefficient B value for the predictor variable Relationship at Work is 0.140 with a P-value of 0.001 and an upper bound a lower bound value of 0.224 and 0.057 respectively. This indicates that for one unit increase of the variable Relationship at Work is linked to a 0.140 unit increase in the outcome variable (Productivity). The P-value for the variable Relationship at Work is 0.001, which is less than 0.05. So we can conclude that Relationship at Work and Productivity have a statistical significant relationship. Similarly we can conclude that the predictor variable has a statistically significant relationship with the outcome variable with a P-value of 0.02 and has a Beta value of 0.124 which indicates that for every one unit of this variable the outcome variable increases by 0.0124 unit.

The unstandardized Coefficient B value of the predictor variable Role Ambiguity is 0.04 and a P-value of 0.937. This indicates that for every one unit increase of the variable Role Ambiguity there is a 0.04 unit increase in the outcome variable (Productivity) and with a P-value greater than 0.05 we fail to reject the null hypothesis. Although several researches have shown that Role Ambiguity is associated with negative impacts on employees (Davis and Stazyk, 2016). Other researches show that Role Ambiguity can be mitigated by performance recognition (Martinez-Diaz et al, 2020). According to Igbaria and Shayo (2003), Role Ambiguity can also be decreased by clearly defining job roles and task priorities. Role Ambiguity occurs when job responsibilities are not clearly defined (Carter et al, 2016). In this research to population groups were used; Cabin

Crews and Technicians in Ethiopian Airlines. Both this strata's require according to Ethiopian airlines a job specific training by the airline itself, before employment and a handbook/Manual is given detailing every task that is to be performed. Therefore it can be concluded that, employees of the Ethiopian airline Cabin Crew and technician department don't have confusions in regards to task prioritization and how well to perform their jobs and duties. The unstandardized Coefficient B value of the predictor variable Work overload is 0.12 and has a P-value of 0.841. This suggests that for every one unit increase of Work Overload there is a 0.12 unit increase in the outcome variable Productivity, and has P-value that is greater than 0.05. Thus we fail reject the null hypothesis for the relationship between the independent variable (Work overload) and dependent variable (Productivity). The unstandardized Coefficient B value of the predictor variable Covid-19 pandemic is 0.24 and has a P-value of 0.556. The P-value of the Covid-19 pandemic variable is less than 0.05, therefore we fail to reject the null hypothesis for the relationship between this predictor variable and Productivity. During the unprecedented time of the Covid-19 pandemic, many countries closed borders and restricted flights from entering their borders. The airline industry was especially affected by this decision. However Ethiopian airlines made up for its losses by converting its aircraft to carry cargo and by putting in place preventive measures such as setting up covid-19 testing and vaccination centers for its staff to prevent the virus from spreading. Therefore it can be concluded from analyzing the responses from the respondents that Work overload and the Covid-19 pandemic were not seen as a hindrance to the employees' productivity.

Consequently, we can formulate our regression model as follows:

Therefore, based on our regression model;

$$P = \beta_0 + \beta_1 RC + \beta_2 RA + \beta_3 WO + \beta_4 PE + \beta_5 RW + \beta_6 C + \epsilon,$$

We can calculate the function as:

$$P = .330 + .052 RC + .040 PE + .042 RW + \epsilon,$$

Where:

P = Productivity

RC = Role Conflict

PE = Physical Environment

RW = Relationship at work

β_0 = is the intercept term-it gives the average value of JS when the stated independent variables are set equal to zero.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ refers to the coefficient of their respective independent variable which measures the change in the mean value of P, per unit change in their respective independent variables.

ε = Error term

4.6 Hypothesis Testing

H1: Role Conflict has a Negative and significant effect on Productivity.

A correlation analysis was done in SPSS to test this hypothesis in section 4.3 and presented in table 4.3. It was indicated that Role conflict has a significant correlation with Productivity, where $r = 0.373$ and $P = 0.000$. In addition, we can see from table 4.7 that Role conflict significantly affects Productivity with the Unstandardized coefficient B value of 0.209 and a P-value of 0.000. This signifies that Role Conflict has a positive and significant relationship with productivity, therefore Hypothesis 1 is accepted.

H2: Role Ambiguity has a Negative and significant effect on Productivity.

In order to validate this hypothesis a correlation analysis was done in SPSS. In section 4.3, and presented in table 4.3, it is indicated that Role Ambiguity does not have a significant correlation with Productivity with values of r and P of 0.28 and 0.59 respectively. Furthermore, as shown in table 4.7, the Unstandardized Coefficient B value of the variable Role Ambiguity is 0.004 and has a P-value 0.937. Thus we can conclude that Hypothesis 2 is not accepted.

H3: Work Overload has a Negative and significant effect on Productivity.

To test Hypothesis 3, a correlation analysis was done in SPSS. It is indicated in section 4.3 and shown in table 4.3 that Work overload does not have a significant correlation with Productivity with r value of -0.60 and P-value of 0.249. Moreover the Unstandardized Coefficient B value of

variable Work Overload is 0.12 and has a P-value of 0.841. Therefore we can conclude that Hypothesis 3 is not accepted.

H4: Physical Environment has a Negative and significant effect on Productivity.

To test the validity of hypothesis 4, a correlation analysis was done in SPSS. As signified in section 4.3 and demonstrated in table 4.3, Physical Environment has a significant correlation with Productivity with r value of 0.395 and a P-value of 0.000. In addition, the Unstandardized Coefficient B value of the Physical Environment variable is 0.124 and a P-value of 0.002. Therefore we can conclude that hypothesis 4 is accepted.

H5: Relationship at Work has a Negative and significant effect on Productivity.

To validate hypothesis 5 a correlation analysis was done in SPSS in section 4.3 and presented in table 4.3 and it was indicated that the variable Relationship at Work has a significant correlation with Productivity, where $r = 0.434$, and $P = 0.000$. Moreover the unstandardized coefficient B value of the variable Relationship at Work is 0.140 and a P-value of 0.001. Thus we can conclude that hypothesis 5 is accepted.

H6: The Covid -19 pandemic has a Negative and significant effect on productivity.

To test this hypothesis, a correlation analysis was done in SPSS in section 4.3 and presented in table 4.3. As indicated in the table the variable COVID-19 has a significant correlation with Productivity, with an r value of 0.272 and a P-value of 0.000. Furthermore, the Unstandardized B value of the variable Covid-19 is 0.24 and a P-Value of 0.556, which indicates that this variable does not have a significant effect on productivity. Therefore we can conclude that the hypothesis 6 is not accepted.

Table 4.8 Summary of proposed hypothesis

Hypothesis	Beta Coefficient	T value	P-Value	Result
H1: Role Conflict has a Negative and significant effect on Productivity.	0.209	4.011	0.000	Accepted

H2: Role Ambiguity has a Negative and significant effect on Productivity.	0.004	0.80	0.0937	Not Accepted
H3: Work Overload has a Negative and significant effect on Productivity.	0.12	0.201	0.841	Not Accepted
H4: Physical Environment has a Negative and significant effect on Productivity.	0.124	3.118	0.002	Accepted
H5: Relationship at Work has a Negative and significant effect on Productivity.	0.140	3.302	0.001	Accepted
H6: The Covid-19 pandemic has a Negative and significant effect on productivity.	0.24	0.590	0.556	Not Accepted

Chapter Five

Summary, Conclusion and Recommendation

This last chapter summarizes the major findings of the study, discussion of the findings, conclusion and future research direction for the future.

5.1 Summary of the Main findings

The main objective of this research is to analyze the effect that job stress has on productivity during the time of the Covid-19 pandemic in Ethiopian Airlines. Five variables were used to measure Job stress: Role Conflict, Role Ambiguity, work Overload, Physical Environment and Relationship at Work. The study used two strata's from the population (Cabin crew and Technicians). The researcher sampled 372 respondents in total. 154 respondents from the Cabin Crew strata and 218 from the Technicians strata. 56% percent of the respondents were male and 45.4% were Female. The majority of the respondents (68.1%) were between the ages of 26-35. Structured questionnaires were used along with secondary data collection. The questionnaires were adapted from Vanishree (2013) and Widodo et al (2021). The questionnaire consisted 28 questions about job stress, Covid-19 and productivity and used a psychometric response scale of a 5-point Likert-scale. The summary of the findings are as follows.

After running a regression analysis, it was found that the independent variables Role conflict, Physical environment and Relationship at work, all have significant effects on the dependent variable Productivity with Unstandardized coefficient value of 0.204, 0.124 and 0.140 respectively. Furthermore, it was found that Role Ambiguity with Unstandardized Beta value of 0.04, Work Overload and Covid-19 with Unstandardized Beta value of 0.12 and 0.24 had no

significant relationship with Productivity during the time of the pandemic on Ethiopian Airline Cabin Crew and Technicians employees.

The majority of the respondents rated the aggregated mean score of the independent variables, Role conflict and work overload as High, and the variables Physical Environment and Relationship at Work as Moderate and Role Ambiguity and COVID-19 as Low. The model summary of the regression analysis has indicated that the R square value of 0.250 shows 25% variation in Productivity is explained by the independent variables included in this research.

5.2 Conclusion

The main objective of this research was to find out how Job stress and Covid-19 pandemic affects productivity in Ethiopian Airlines. In accordance to the hypothesis developed for this research and empirical findings the following conclusions were drawn.

According to the Pearson Correlation analysis it was found that Role conflict had a medium significant correlation with productivity. Role ambiguity, Physical Environment and Relationship at work all had a positive and significant correlation with productivity. Furthermore, Work overload had a negative and a large significant correlation with productivity.

The result in the regression analysis revealed that three of the independent variables, Role Conflict, Physical Environment and Covid-19 had a significant effect on productivity. In addition it was found that the independent variables Role Ambiguity, Work overload and Covid-19 do not have significant effect on productivity. This results indicates that not all the variables considered here in this research have a significant effect on productivity.

It can be inferred from this study that Cabin Crew and Technician employees of Ethiopian airlines were clear of their duties and responsibilities. These respondents didn't feel overworked perhaps because of minimization of the airlines' commercial flights due to the unprecedented time of the Covid -19 pandemic and country lock-downs across the globe. And finally Covid-19 infection threat was moderated by Ethiopian airline by putting in place strict preventive measures for its employees and customers and by retaining all its employees throughout the pandemic which is in contrast to other global airlines around the world. Therefore it can be concluded that employees of

Ethiopian airlines didn't perceive Role Ambiguity, work overload and Covid-19 pandemic as a hindrance to their productivity level during the Covid-19 pandemic.

5.3 Recommendation

According to the findings and conclusion of the study, there were some gaps that should be addressed by Ethiopian airlines in order to improve productivity of its employees and hence improve the productivity of the airline. Therefore, in order to improve productivity levels among Ethiopian airlines the researcher recommends the following:

- ❖ Role conflict was found to be the most influential indicator that affects productivity. Hence forth, the airline should avoid putting conflicting demands on employees and make sure that the various demands are as compatible as possible, ensure that procedures are in place to allow employees to voice concerns about any conflicts in their roles and responsibilities. For instance, have frequent team meetings to allow employees to discuss any future role conflicts. Furthermore have clear and proper reporting procedures in place so that employees know who they are directly report to. To eliminate potential conflict in job expectations, avoid making workers accountable to more than one direct supervisor whenever possible. And lastly, avoid assigning tasks to employees that conflict with their personal needs and values whenever possible.
- ❖ The second major stressor variable to affect productivity found in this study is Relationship at Work. Relationship at Work can be avoided by creating a team culture where employees help one another and offer assistance when needed. Secondly, look for design flaws that may impair team collaboration. Reduce the number of solitary work groups, and if this is unachievable, provide additional support to these groups. Lastly, Provide incentives that encourage teamwork such as, a team dinner or a team trip. Make

certain that the incentive is fair and available to all team members who contributed to the project or assignment.

- ❖ Physical Environment is the last stressor that found to significantly affect productivity. Physical Environment issues can be addressed by first, making sure the safety of system ventilations and carry out repeated maintenance. Secondly by documenting and handing a cleaning guideline to the all the appropriate parties. The airline should constantly monitor temperatures in working areas and be ready to take action if limits are reached. And lastly, have a policy in place to use and dispose potentially dangerous or hazardous materials in a safe manner.

5.4 Policy Implication

As mentioned above there are many expectations from the airline to improve productivity. Here below are the policy implication to be set by Ethiopian Airlines.

- Role conflict is a critical factor that determines the productivity of an employee. The airline will increase its productivity if policies are implemented to avoid stresses brought on by Role conflict.
- Relationship at work affects employees' productivity, thus Ethiopian Airline should implement and exercise policies to improve the stress Relationship at Work has on productivity.
- Physical Environment is crucial element to affecting the productivity of employees. Therefore the airline should implement policies to ensure safe working spaces for its employees to increase productivity.

5.5 Theoretical Contribution

This research has shed some insight into determining the effect job stress has on Productivity during the COVID-19 pandemic. These insights can be helpful for other companies and industries to learn and take lessons from the implications of this study. Even though the research was

focused on a single company in the airline industry, the implications can be useful not only for companies in the same industry but also for other industries.

5.6 Limitations and Direction for Future Research

The purpose of this study was satisfied and there were some limitations encounters during the process. Although it is not possible to address everything in a single study, it does leave room for other researchers in the future to conduct further study and use this research as a reference. The following are proposed for future researches:

- This study was focused on analyzing the effect job stress has on productivity during the Covid-19 pandemic. Therefore it was limited to a single company in the air transport industry. It would be adding value if other researchers expand their research to other airline companies or other types of businesses or corporations such as land transport and sea transport. Future research may reproduce this study to more industries as well.
- The researcher found the variables Role Ambiguity, Work overload and Covid-19 to be insignificant in explaining the effect Job stress has on Productivity during the COVID-19 pandemic. Therefore, further research can be carried out to see if this can be replicated in another air transport company
- In addition, this study adopted a quantitative research method through primary data source. Future research could utilize a qualitative research method to obtain a complete understanding of the subject matter.
- In this research job stress and Covid-19 explained about 25% of the variation in Productivity. This indicates that there are other factors that heavily affect productivity. Other researchers should focus on other variables that potentially affect Productivity of Ethiopian Airline employees.

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Appendix I

**GRADUATE PROGRAM OF THE DEPARTMENT OF MANAGEMENT AND THE
COLLEGE OF BUSINESS AND ECONOMICS OF
ADDIS ABABA UNIVERSITY**

Dear Respondents,

This questionnaire is designed to collect information on the effect of job stress on employees' productivity during the Covid-19 pandemic. The response you give will only be used for this research. Participation is entirely voluntary and your response will be kept anonymous.

I confirm that all information will be confidential and will only be used for academic purposes.

Thank you in advance for your kind cooperation and if you have any questions please feel free to reach out to me via email on millu.mahi@gmail.com

Sincerely,

Mahlet Habteselassie Alemayehu

Section I: Background information

1. Gender

☐ **Male**

☐ **Female**

2. Age

☐ **25 or below**

☐ **26-35**

☐ **36-45**

☐ **≥46**

3. Educational Background

☐ **High school Diploma**

☐ **Trade/Technical/Vocational training**

☐ **Bachelor's degree**

☐ **Master's Degree**

☐ **Ph.D. or higher**

4. How long have you been working at Ethiopian Airlines?

☐ **Less than 5 years**

☐ **5 – 10 years**

☐ 11- 20 years

☐ ≥ 21 years

5. Please specify your occupation?

☐ Cabin Crew

☐ Technician

☐ Other. Please specify _____

Section 2: Questions about Job Stress, Employee Productivity and Covid-19

The following questions are constructed using the 5-point Likert-scale. If the item strongly matches with your response choose 5 (Strongly Agree), if you moderately agree on the idea choose 4(Agree), if you do not have any idea or information on the point choose 3 (Neutral), if you moderately disagree with the point choose 2 (Disagree) and if you completely disagree with the point choose 1 (Strongly Disagree).

Instruction: Please indicate your level of agreement with each statement by ticking (✓) under the number which is more applicable to you.

Role conflict		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1.	I have adequate resources and materials to perform my duties					
2.	There is a match between my abilities and requirements of my job					
3.	I feel clear when I think of how best to perform my role					

4..	Do you put high demands on yourself at work?					
5.	Due to work, do you find it hard to find time to be with your friends?					
Role Ambiguity						
1.	Roles and objectives are clear for my job					
2.	I am sure of what is expected of me					
3.	I am clear of my responsibilities					
4.	I am properly guided					
5.	I am certain about how my job is linked to other jobs					
Work Overload						
1	I work under Extreme time pressure					
2.	I experience work pressure often					
3.	I have to perform tasks that are too difficult					
4.	I work on unnecessary things					
Physical Environment						
1.	The working condition is suitable to the work I do					
2.	The place where I conduct my work is clean					

3.	The temperature of the place I conduct my work is moderate					
4.	In my job I am well protected from exposure to Dangerous substances					
Relationship at work						
1.	If work gets difficult my colleagues will help me.					
2.	I am given supportive feedback on the work I do from my boss					
3.	I can rely on my manager to help me out with a work problem					
Covid-19						
1.	I feel that work activities are not limited by the isolation policy during the Covid-19 pandemic					
2.	I don't feel overwhelmed by the current isolation policy					
3.	I feel that physical distancing is applied at my work place.					
Productivity						
1.	I always try to improve my work					
2.	I have really good skills for doing my task					
3.	I don't experience a decrease of my performance because of the current condition in the company					
4.	I go beyond what is expected of me					

