

**INFLUENCE OF CONTEXTUAL AND DISPOSITIONAL FACTORS, AND
MEDIATING ROLE OF RESILIENCE ON HEALTHCARE WORKERS' EFFORT
PROPENSITY DURING COMMUNICABLE DISEASE OUTBREAKS IN ONDO
STATE**

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MATRIC NO.: 134051

JANUARY, 2022

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**A THESIS IN THE DEPARTMENT OF PSYCHOLOGY SUBMITTED TO THE
FACULTY OF SOCIAL SCIENCES IN THE PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE
DEGREE OF
DOCTOR OF PHILOSOPHY
OF THE
UNIVERSITY OF IBADAN**

JANUARY, 2022

CERTIFICATION

I certify that this work was carried out by POPOOLA-AKINSOLA OLUSOLA STELLA (134051) in the Department of Psychology, Faculty of the Social Sciences, University of Ibadan, Ibadan, Nigeria, under my supervision.

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DEDICATION

This work is dedicated to God Almighty for enabling me to complete this work despite all obstacles and life trajectories that brewed during the write up. The tenacity to complete this work can only be attributed to HIM.

ACKNOWLEDGEMENTS

Sheer combination of words can never be sufficiently fashionable to procure me a precise representation of my thoughts in line with my unfading cause for appreciating and apprizing the relentless guidance and mentorship of my supervisor, Professor Aderemi. I. Alarape, who consistently worked assiduously to ensure the success of this thesis, when the struggles of yesteryears were diffused into the atmosphere of worthy accomplishment.

Need I mention that he valiantly remained behind me against all odds, in the midst of uncertainties, breathing the air of assurance when the immediate future was opaque and onward to a stage where I can look back and acquire more energy and agility to do great in any chosen endeavour.

My unadulterated appreciation goes to the Head of Department, Professor Adebayo. O. Adejumo, for his direction and network that gave vent for a solid foundation to this thesis through Mrs Afun of the University Teaching Hospital, whose insights I got, cemented my resolve for this project.

My sincere eulogy to all the lecturers and staff of the department, as I ascribe the success of this thesis to their constructive recommendations. I express gratitude to Professor Shyngle. K. Balogun for his words of encouragement throughout this journey, his support kept me mobile when all was not done that I looked for before. Many thanks to Professor Peter. O. Olapegba, for stepping in for my supervisor anytime the need arose. I thank Professor Benjamin. O. Ehigie for building the dream and I appreciate Professor Adegbeniga. M. Sunmola and Professor Nyitor. A. Shenge for their enviable dispositions. A wonderful thanks to Professor Benjamin. O. Olley and Professor David. E. Okurame, as their observations introduced more clarity to this thesis. The encouraging words of Professor Bola. I. Udegbe, Professor Catherine. O. Chovwen and Professor Grace. A. Adejuwon were timely

and most appreciated. My sincere thanks to Professor Helen. O. Osinowo, as her suggestions gave credibility to this thesis.

Furthermore, I appreciate the Country Representative of the Damien Foundation Belgium (DFB) – Dr Osman El-Tayeb, his deputy – Ivy O. Amoakohene, Elizabeth Okokwa, and the entire team for their love and support for the preliminary phase of the study and for furnishing me with the contacts that aided the data collection for the study. A special thanks to Dr Olopade. G. Dairo and Dr Adekola Adekunle of Damien Foundation Belgium for granting me access to see the medical world during outbreaks through them. All thanks to the staff of the Tuberculosis clinic, Akure for their support that aided the entire data collection process and all the healthcare workers that gave their time to fill the questionnaires for the success of this thesis.

Once again my heartfelt gratitude: to my mum, Mrs Olufunke B. Popoola, for planting the academic dream and nourishing it to a point of self-sufficiency, beaming on me the inspiration which defines my personality today; to my husband, Mr Olanrewaju O. Ogunnika-Akinsola for his interposition in course of my life's sojourn and aspirations with multi-faceted support that cannot be underestimated; to my dad, Mr Olajire A. Popoola for being my foundational afflatus, giving full support to anything aimed at bringing progress and accomplishment to my efforts, so sad, you left before I could achieve this, rest well; to all my siblings, for all time encouragement, the admonition in the face of various challenges encountered in the course of this study, soothing and assuaging words of hope for promising days ahead that kept me swimming against the tide of constraints till I am able to attain my point of destination.

My gratitude also goes to Professor Emmanuel A. Fasakin, Dr Toyese. N. Dahunsi and Pst. Adewunmi Oludeyi, for their organisational and social support, and encouragement of my dream. Also to Dr Olaseni Abayomi, Danjubo Chidima and Adu Richard, for being

directly instrumental to the course of the struggle that eventually evolved what we have today as this thesis. The direct assistance and support of the trio is an uncommon human capital that can only be accessed by just a microscopic few individuals.

To all my friends whose support cannot be taken for granted. The list would not be complete without the names of Bademosi-Ekunpa Opeyemi, Ogunraku Festus and Solana Ene, who have always partnered with me in my journey through life.

I appreciate you all for the journey so far in anticipation of greater windows of opportunities as we continue to explore the evolution of each day.

Olusola

ABSTRACT

Nigeria, like many other countries, has been experiencing outbreak of communicable diseases which necessitates healthcare workers' effort propensity. Studies conducted among healthcare workers have shown that effort propensity during disease outbreak can be influenced by perception of risk and the safety involved. Previous studies focused on healthcare workers' demographic characteristics, fear and concerns for self and loved ones as predictors of effort propensity during communicable disease outbreaks, with little attention paid to contextual and dispositional factors. This study was, therefore, designed to investigate the influence of contextual (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) and the mediating role of resilience on effort propensity during communicable disease outbreaks among healthcare workers in Ondo State.

Vroom's Expectancy Theory and Knobe's Motivational Model were employed as the framework, while a cross-sectional survey design was utilised. The participants were 477 healthcare workers (289 nurses, 102 doctors, 44 laboratory technologists and 42 pharmacists) purposively sampled based on their prominent contacts with patients and willingness to participate. They were drawn from specialist hospitals in each senatorial district of Ondo State: Akure, Ikare and Okitipupa. A questionnaire that measured perceived organisational support (POS, $\alpha = 0.93$), pay satisfaction (PS, $\alpha = 0.94$), risk perception (RP, $\alpha = 0.76$), self-efficacy ($\alpha = 0.88$), perceived vulnerability to disease (PVD, $\alpha = 0.90$), effort propensity (EP, $\alpha = 0.71$) and resilience ($\alpha = 0.82$) was administered on the selected healthcare workers. Data were analysed using Hierarchical Multiple Regression and Linear Regression at $p \leq 0.05$.

The respondents' age was 31 ± 10.4 years. Age ($r = .19$), employment duration ($r = .24$) and PS ($r = .31$) had significant positive relationship with EP. Risk perception ($r = -.58$), self-efficacy ($r = -.65$) and PVD ($r = -.59$) had significant negative relationship with EP. Age and employment duration ($F_{(2,474)} = 14.46$; $\Delta R^2 = .06$), contextual ($F_{(2,472)} = 24.22$; $\Delta R^2 = .11$) and dispositional factors ($F_{(3,469)} = 94.63$; $\Delta R^2 = .42$) jointly predicted EP, accounting for 59% of its variance. Pay satisfaction ($\beta = .17$), RP ($\beta = -.18$), self-efficacy ($\beta = -.37$) and PVD ($\beta = -.29$) significantly predicted EP. Age and employment duration ($F_{(2,474)} = 14.89$; $\Delta R^2 = .06$), contextual ($F_{(2,472)} = 13.42$, $\Delta R^2 = .04$) and dispositional factors ($F_{(3,469)} = 49.28$, $\Delta R^2 = .32$) jointly predicted resilience, accounting for 42% of its variance. Age ($\beta = -.19$), RP ($\beta = .20$), self-efficacy ($\beta = .32$) and PVD ($\beta = .22$) significantly predicted resilience. Resilience completely mediated the influence of POS ($B = -.10$, $CI = -.1610$; $-.0403$) and partially mediated the influence of RP ($B = -.21$, $CI = -.3194$; $-.0983$), self-efficacy ($B = -.07$, $CI = -.1519$; $-.0055$) and PVD ($B = -.08$, $CI = -.1209$; $-.0472$) on EP.

Perceived organisational support, risk perception, self-efficacy and perceived vulnerability to disease negatively influenced effort propensity of healthcare workers in Ondo State. To reduce effort propensity, healthcare administrators should focus on disposition to work and ensure positive organisational support.

Keywords: Effort propensity, Healthcare facilities in Ondo State, Disease outbreaks

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

“Effort propensity is the tendency or predisposition to offer a particular level of effort” (Schnake, 2007). According to Schnake (2007), effort propensity deals with the problem of employees not supplying the expected level of effort required for a given task or level of output. It involves being physically present at work but mentally absent at the expense of the organisation and co-workers. Effort propensity in organisations has a direct influence on the output and efficacy of the organisations especially in service-oriented organisations where an individual contribution to group goals and accomplishment cannot be quantified. The fact that effort propensity, a less explorative component of withdrawal from work, is an essential and evolving subject to all organisations, has stimulated the search for novel means to increase the level of effort provided by employees.

Essentially, employee effort is an indispensable component and basic necessity that may increase or inhibit effectiveness and efficiency. The effort of employees is the driving force of every organisation and no organisation can survive without its employee’s expenditure of energy to accomplish its set objectives. Employee effort is needed - both in its physical and mental form to engage in activities towards achievement or attempt to do a task. The concept of withholding of effort was initially proposed by Kidwell and Bennet (1993) who described it as “the probability that workers may provide below the expected level of effort in achieving work responsibilities” (Geneviciute-Janoniene, 2013). Due to the belief that observing a predisposition to act in a specific manner is more informative than the actual behaviour, Schnake (2007) came up with a refined concept and termed it “effort propensity”.

According to Schnake (2007), the concept of effort propensity ranges from total withholding of effort on a task to offering effort beyond what is required by the organisation

or contract agreement, within which, other forms of withholding of effort occur. Effort propensity has five dimensions, that is, effort propensity is made up of five components which include: the propensity to turnover, propensity to withdraw, propensity to withhold effort, propensity to offer expected level of effort (in-role performance), and propensity to offer an extra effort (extra-role performance). This means that employees' have countless inclinations of withholding effort at work which are reinforced by motivation.

Historically, effort propensity was founded on the background of employee "shirking, social loafing, free riding and job neglect" (Bennett & Naumann, 2004); which all involve individuals' tendency to withhold effort at work. These terms have always been used to refer to or describe the withholding of effort. Bennett and Naumann (2004) explained that the shirking concept of effort propensity is a situation that occurs in organisations when employees deliberately create "free time" for themselves to engage in non-work activity at the expense of the organisations. These non-work-related activities such as surfing the internet or personal activities do not benefit the organisations but organisational resources are used for the sole benefit of the employee involved. The shirking concept of effort propensity has been attributed to organisational monitoring or supervisory problems (Bennett & Naumann, 2004).

The job neglect concept of effort propensity occurs when employees are inactive and allow work performance to decline because of their attention to other interests that are not related to the job. Often, job neglect is manifested through effort withholding behaviours such as high levels of absenteeism, tardiness and reduced pace of work (Bennett & Naumann, 2004). Employees neglect to work the minute they spend work time gossiping, browsing on phone, and doing other non-work-related activities during work time which later harm performance and the organisations.

Bennett and Naumann (2004) explained further that the social loafing concept of effort propensity and the free-riding concept of withholding effort materialises in group settings.

Social loafing is defined as the predisposition of employees' to decrease the level of effort offered because the individual contribution to group work and achievement cannot be determined. This often occurs in service-orientated organisations, like the health industry, where an individual's contribution to group goals and achievement cannot be easily quantified. An example of a situation where social loafing may thrive is among a team of medical personnel on ward rounds or healthcare workers working under stringent conditions during an epidemic or pandemic. Due to the teamwork nature of the health industry (combination of doctors, nurses, pharmacists) loafing of one medical personnel may not be easily identified.

The free-riding concept of effort propensity refers to withholding effort that occurs when an employee receives almost the same level of benefits as employees who offer the required share of effort to the input of the workgroup task. The free-rider, as the name implies, gets paid despite not contributing to group tasks. The fact that employee members working in the same group and the same level of employment in organisations get the same proportion of reward or salary and bonuses promotes free riding and this often generates feelings of injustice and makes the employees who put in the required level of effort to feel cheated due to carrying the work-burden of freeloaders. Hence, the non-free-riders become apathetic to the collective goals and successes of the group and organisation at large. More so, they become less committed to the group's objectives, have lower individual performance levels, establish lower performance targets, and perform worse. According to Miles and Klein (2002), free riding starts a downward spiral that, if unchecked, has a negative influence on the organisation.

Consequently, it is imperative to note that organisations are made up of people, which are employees, without which the organisations' objectives cannot be achieved. Nevertheless, it is acknowledged that employees withhold effort in various organisations because they have opposing interests and selfishly take for granted the supervisory and monitoring deficiencies of the organisations to withhold effort and thus get paid for work hours that cannot be

effectively accounted for by the organisation. Withholding of effort often harms organisations' performance particularly its profitability, which is the end goal of most organisations except the non-profit organisations, but it can be disastrous when it occurs in specific organisations or industries such as the health industry.

The healthcare industry is a big industry comprising of various categories of healthcare workers, ranging from doctors, nurses, pharmacists, laboratory technicians, and others, whom all work together as a team to care for the sick and save lives. Worldwide, the healthcare industry has under its employment more than 59 million employees who render varieties of services to people who need care, and due to these services rendered, these employees are categorised as a high-risk workgroup (Omoijiade, 2018; Stonerock, 2004).

The fact that healthcare workers diagnose and administer care to others, makes them more susceptible to a lot of health hazards, such as biological hazards (tuberculosis, HIV / AIDS, hepatitis, SARS), chemical hazards, and psychosocial hazards (shift work, anxiety, stress, work/family balance), fire-related and explosive hazards (oxygen, alcohol sanitizer) and many other hazards out there (World Health Organisations, 2001) and also because they have personal experience with human to human disease transmission, this can be a primary reason for withholding effort.

The general belief is that healthcare workers will always be at work to give the required service to those in need of medical aid based on their health challenges at all times, thus, healthcare professionals are expected to prioritize patient needs and care over their safety and well-being because of their professional responsibilities and "duty of care". This contention may not be true for all healthcare workers at all times, especially during the outbreak of deadly communicable diseases.

Qureshi, Gershon, Sherman, Straub, Gebbie, et al., (2005) averred that healthcare workers are the least likely to report to work in the event of a communicable disease outbreak

but more willing to report to work in cases of fire outbreaks and radiation disasters. Hence, this assertion shows that healthcare workers tend to withhold effort during catastrophic disasters such as an outbreak of a deadly unknown or known communicable disease such as tuberculosis.

Healthcare workers can withhold effort for various reasons, which can range from the protection of self to the protection of loved ones. Effort propensity during this critical period can also be a function of the nature, novel and severity of the disease outbreak, fear of contracting the disease and, relentlessness attached to a public health disaster. Nevertheless, healthcare workers are essential workers that are expected to care for the sick even during major biological hazards such as major respiratory disease outbreaks like tuberculosis, SARS and coronavirus.

Recently, Nigeria has experienced several communicable and very high mortality disease outbreaks. Some of the diseases include; “Lassa fever, cerebrospinal meningitis, yellow fever, cholera, measles, monkeypox, acute flaccid paralysis, influenza” (Nigeria Centre for Disease Control, 2021) tuberculosis, Ebola virus, and lately coronavirus disease. Some of these diseases (tuberculosis), are endemic to Nigeria, while some, such as Ebola and coronavirus, were imported into Nigeria and later declared epidemics and pandemics respectively. Respiratory diseases, such as tuberculosis, are highly contagious in nature, spread easily, and are quite severe in most cases. The severity of these diseases can further motivate effort propensity among healthcare workers.

Basically, “Nigeria has the highest burden of tuberculosis in Africa and ranks third in the world” (Ojiezeh, Ogundipe & Adefosoye, 2015). The report of a tuberculosis prevalence survey carried out in 2012 reported that tuberculosis disease burden estimate was 338/100,000 population and an estimated 4,097,114 cases of tuberculosis cases was predicted for 2020 which of course shows an astronomical increase in the disease burden in Nigeria (Agofure, Okandeji-Barry, Musa & Odjimogho, 2018).

In Ondo State alone, a total of 1,485 persons were infected with tuberculosis out of the 91,354 tuberculosis case findings in Nigeria in 2014 (NTBLCP, 2014). Also, a tuberculosis centre in Ondo State reported 342 new cases of tuberculosis in 2015 (Ojiezeh, Ogundipe & Adefosoye, 2015). In 2019, the state had a record of 16,000 tuberculosis cases, with 800 cases being drug-resistant. These figures from the various reports suggest that tuberculosis is endemic in Nigeria and in specific, Ondo state, therefore the disease should be classified as a significant public health problem in Nigeria. Due to the human-to-human easy transmission nature, severity, prognosis, resistance, and long treatment regimen of tuberculosis, healthcare workers may thus withhold effort in the event of a tuberculosis outbreak.

Through the ages, healthcare workers have been afflicted by communicable diseases due to their responsibility of providing care and treatment to patients especially during the outbreak of various endemic and communicable diseases. These workers are constantly at higher risk of contagion of disease during an epidemic or pandemic than non-healthcare-related workers. Since this group of employees (healthcare workers) is at high risk of contagion, this may somewhat affect the level of their effort offered for organisational goals. Hence, the need to study healthcare workers' effort propensity against the eventuality of an outbreak of a deadly communicable disease such as tuberculosis.

From organisational and employees perspective, some characteristics are unique to the individual or group and these characteristics that influence behaviour and actions are possible predictors of employee withdrawal behaviour in various organisations and these characteristics can also influence effort propensity among healthcare workers. Simply, contextual (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) can influence effort propensity during a communicable disease outbreak.

Contextual factors which are the characteristics unique to a particular group, community, society and individual have been implicated in studies related to turnover and withdrawal behaviours. Perceived organisational support (POS), according to Eisenberger, Huntington, Hutchison, and Sowa (1986), is the degree to which employees believe “their employer prices their inputs and is concerned about their overall health” and meets their socio-emotional needs. This means that, although being paid, employees, like everyone else, want to be recognised for their efforts.

The concept of perceived organisational support derived its foundation from the organisational support theory which refers to the organisational predisposition to fulfil workers’ social and emotional wants (Eisenberger et al., 1986). Perception of organisational support is the belief workers hold that the organisation is committed to them, values their continued membership, and is generally concerned about the employee’s wellbeing in the organisations (Celik & Findik, 2012).

Eisenberger et al. (1986) opined that employees develop a general opinion that relates to the level “which the organisation values their contributions and cares about their well-being” (p.504). These researchers believe that perception of support from the organisations to healthcare workers should translate into provision of effort and if otherwise, they may reciprocate the gesture to the organisations through the withdrawal of effort.

Support from the organisations to healthcare workers during a disease outbreak, epidemic and pandemic can include adequate provision of personal protective equipment and vaccine (if and when available), training on the disease, sincere information about the disease and the risk involved, provision of transportation to and fro the health facility, increase pay and other incentives that can influence healthcare workers to give effort despite challenges posed by dangers of working during communicable disease outbreaks.

According to this proposition, employees (in this case- healthcare workers) positive perception of organisational support may result in lower tendencies to withhold effort in the event of an outbreak of tuberculosis diseases while healthcare workers who perceive lower organisational support may have higher tendencies to withhold effort during the outbreak of tuberculosis diseases. A cursory assessment of literature recommends that employees' perception of organisational support, is a potent factor that binds employees to the organisations and enhances productivity thereby reducing the likelihood of withholding effort during epidemics.

Likewise, the unique characteristics of pay satisfaction as a contextual variable and a monetary incentive scheme have been implicated to influence job satisfaction and performance among workers. Pay satisfaction according to Miceli and Lane (1991) is “the amount of overall positive or negative affect (or feelings) that individuals have towards their pay” (p.246). Simply, employees often have various perceptions of their pay and related issues with pay. These perceptions may be positive or negative, based on the pay and how the pay decisions were reached and often, it is a function of comparison with other employees' pay. Ideally, it is expected that employees will not withhold effort on the premise that high performance will be compensated with increased pay. More so, employees who perceive fairness and allow this perception to have a positive effect on their pay may not withhold effort against the employees who perceive unfairness. Therefore, observations relating to the objectivity of pay and rules used to judge the level of pay are anticipated players in employee choice or decision making to engage in effort propensity (Bennett & Naumann, 2004) or not during an outbreak of communicable diseases such as tuberculosis disease.

The country's health sector has experienced a series of industrial actions (strikes) because of dissatisfaction with pay and working conditions. Employees are always agitating for pay raises; nurses agitate for unfairness in pay when compared with medical doctors – once

health care workers are discontented with their pay, pay raise, pay level and structure; they may withhold effort. Nigerian Volunteers to Liberia during the 2014/2016 Ebola virus epidemic, left their station for Liberia with the promise of a pay incentive. When the promised incentive was not forthcoming, the volunteers withdrew their services. The general practice of trading pay for performance strategies has permitted researchers to gather knowledge on its influence on employers' performance.

In addition, dispositional factors, which are personal characteristics that influence a person's behaviour and actions, have been linked in employee motivation and performance studies. The perception of risk of communicable disease among healthcare personnel may have a substantial impact on their commitment to care for affected patients. Risk perception is defined by Sjoberg, Moen and Rundmo (2004) as "a subjective evaluation of the likelihood of a specific type of accident occurring and how concerned we are about the repercussions." When it comes to natural disasters and dangers to the environment or health, the term "risk perception" is most typically employed.

Risk perception, according to Bujoreanu (2012), is people's assessment of a risk's features and severity, as well as the likelihood of unfavourable outcomes such as injury, illness, disease, and death occurring. The risk perception study was developed from the finding that people frequently disagreed on how dangerous various natural hazards were (Li & Tong, 2019) because of perception biases and human differences in interpreting situations and events.

Information received and communicated from various means of communication such as newspapers, television and recently, popular social media platforms such as Instagram, Facebook and Twitter influence people's risk perception. Hence, healthcare workers may be particularly influenced by the information they receive from these uncensored channels of communication and they may overestimate risk based on the information received from these

channels when the disease in question is novel and they have no essential knowledge and experience about it. Such was the situation during the Ebola virus outbreak in 2014 and the coronavirus (COVID 19) in 2020. Several studies have examined the process by which new information modifies the perceptions of risk and researchers have established the efficacy of communication strategies in modifying risk perceptions (Dionne, Desjardins, Lebeau, Messier & Dascal, 2018).

Based on human differences in response to stimuli, some employees are more likely to perceive and take risks than others. Some individuals might even find it thrilling to take risks and therefore plan their career or search for jobs in an industry that triggers risk to feed their risk appetite while some individuals are risk-averse and will not want to work in risky environments. The level of risk each individual is ready to take may also be different. The healthcare workers' work environment is very hazardous and more prone to hazards. Risk-averse healthcare workers may find it difficult to work during the outbreak of tuberculosis disease and therefore withhold effort while those that find risk as amusing and thrilling may delve into the work despite the challenges and threat to the personal self.

In reality, various jobs come with different and varying levels of risk and the risk cannot be expunged from the daily duty of healthcare workers. As a result, administrators in the healthcare industry must plan for risk-mitigation strategies that can persuade "healthcare workers to accept some risk as part of their job" (Alwidyan, 2017). As a result, the significance of workplace risk to healthcare workers calls for several serious concerns about risk perception, as the risk in the healthcare setting cannot be modulated, and its impact on effort propensity among healthcare workers in the course of carrying out their daily work roles, particularly during infectious disease outbreaks.

Furthermore, the importance of self-belief in one's ability cannot be overruled when it involves working during an outbreak of communicable disease. According to Bandura (1997), "self-efficacy is a person's optimistic conviction in their inherent ability, competence, or likelihood of completing a task and achieving a positive outcome". Self-efficacy is "one's belief in one's ability to succeed in specific situations or accomplish a task" (Kurbanogolu, 2003). This means that to achieve success, individuals must first believe in themselves as capable to accomplish the task, without which, success on the said task cannot be achieved.

"Self-efficacy refers to a person's belief in his or her ability to carry out a given course of action or behaviour" (Bandura, 1997) successfully. Individuals' personal decisions, including the quality of their performance, their resilience, and their level of drive, are influenced by their ideas about personal efficacy, according to Garcia (2015). This means that employee's self-efficacy can determine the healthcare workers that will report to work during crises, the coping mechanism that will be adopted, and most importantly, the level of effort that will be offered which can be motivated by the circumstance such as working in an isolation ward during an outbreak of communicable disease.

High self-efficacy can affect motivation to exert effort to a particular level in both positive and negative ways in cases of a disease outbreak. Overall, employees with strong self-efficacy are more likely to exert sufficient effort that will "complete a task, persist longer in those efforts, and if well-executed, leads to successful outcomes, than those with weak self-efficacy who are likely to cease effort early and fail" (Bandura, 2010). Hence, the higher an employee's self-efficacy, the more active their efforts will be to achieve success or complete a task. To maximize healthcare workers' effort propensity during the outbreak of communicable diseases, it is imperious to understand their self-efficacy.

People generally react to situations differently, especially events that they perceive can cause harm to them and their loved ones. Simply, this means that people differ in their sensitivity to diseases and infections caused by pathogens and other viruses. Vulnerability refers to a set of conditions that renders individuals more susceptible to diseases or virus infections. The dispositional concept of perceived vulnerability also called perceived susceptibility reflects an individual's belief about the likelihood of a health threat's occurrence or the likelihood of developing a health problem. Scotti, Beach, Northrop, Rode & Forsyth (1995) espoused that vulnerability has various categories, which are, biological vulnerability (genetically-based predispositions), historical antecedents and inadequate problem-solving behaviour (Paton, Smith & Violanti, 2000). The expectancy-value hypothesis in psychology is based on human judgments of the possibility of an event occurring and the value placed on this likelihood.

Researchers such as Gibbons, Gerrard, and Lane (2003) posits that perceived vulnerability is an essential factor of the prototype or willingness model. In this model, the perception of vulnerability was explained has been part of a reasoned path to risky behaviour. This reflects the fact that some individuals' engagement in risky actions and behaviours is an acknowledgment of their vulnerability to the negative consequences of their behaviour. The vulnerability may be heightened by situations that limit the opportunity to fulfil role expectations (Paton, Smith & Violanti, 2000).

Regardless of healthcare workers' reasons to withhold effort during a communicable disease outbreak and the factors that predict this behaviour, it is believed that there are some factors possessed by some employees and also present in the workplace that can enhance or reduce withdrawal behaviour at work. One of such is employees' resilience.

Notably, resilience has been identified to be a dynamic quality that healthcare workers must possess (Trifoglio, 2018). According to Kuntz, Naswall and Malinen (2016), “employee resilience is defined as a company's employees' ability to utilise resources supplied by the organisation to cope, adapt, and prosper in the face of changing work conditions.” (Prayag, Spector, Orchiston & Chowdhury, 2020). This means that employee resilience is a factor that must exist in an organisation because it helps employees to survive organisational hazards, bounce back after crises and changes in the organisation.

Rutter (1993) suggested that resilience indicates “a set of talents in the face of considerable stress or hardship and qualities that act together dynamically to allow an employee to bounce back, cope well, and function above the norm”. Also, resilience is associated with high levels of workability and job satisfaction. According to Trifoglio (2018), resilient employees cope better with organisational changes and they are characterized to be dynamic students; they acquire knowledge and aspire to advance, be inventive and resourceful. This means that there is a high possibility for healthcare facilities with resilient healthcare workers to not withhold effort or record a lower rate of effort propensity during disease outbreaks than healthcare facilities with non-resilient healthcare workers.

Against popular belief, resilience does not necessarily forecast positive outcomes, instead, resilience depicts coping with changes irrespective of employees’ perception of changes as either positive or negative (Bardoel, Pettit, De Cieri & McMillan, 2014), this means that resilience fortifies employees to work despite negative organisational changes or modifications in the work setting. Bardoel et al., (2014) asserted that an organisation through its resilient employees becomes in itself a resilient organisation. Fletcher and Sarkar (2013) have also established that traits such as self-assurance are related to resilience. Owing to the extremely arduous work environment of healthcare workers, employee resilience is a dynamic

feature for healthcare workers, principally regarding working during the outbreak of a deadly and transmissible disease such as tuberculosis diseases.

Healthcare workers need the motivation to offer the required level of effort during communicable disease outbreaks because of the eminent risk associated with these diseases. Employee resilience can encourage employees (healthcare workers) to willingly report to work, exert extra effort than required by giving necessary care to infected patients and prevent transmission of the disease that can lead to an epidemic or worst case scenario pandemic, in an event of an outbreak of deadly communicable disease.

Simply, effort propensity during a communicable disease outbreak is the act of holding back effort by offering less than the required level of effort from work activities at the expense of other employees during a communicable disease outbreak. Factors such as employees' perception of organisational support and pay satisfaction, risk perception, perception of vulnerability to disease and self-efficacy can influence the coping ability of such employees to either withhold effort or offer the required level of effort to thrive and succeed on the job during public health emergencies that can quickly lead to a pandemic. Consequently, these factors (perceived organisational support, pay satisfaction, risk perception, perceived vulnerability to disease and self-efficacy) may offer intriguing possibilities in applying resilience to employees and the workplace as researchers have argued that resilience has influence and consequences on employee behaviour and performance, and organisational outputs.

Effort propensity can pose a big problem in any organisation where employees withhold effort and more dangerous in the health industry because of the involvement of human lives. It can only be imagined, the consequences of effort propensity among healthcare workers during a communicable disease outbreak. Even when a few minorities of healthcare workers' withhold effort during communicable disease outbreaks, the impact on incidence rate and other healthcare workers' motivation can be titanic.

1.2 Statement of Problem

Effort propensity, a form of “workplace deviant behaviour is one of the most serious problems facing organisations today” (Fagbohunge, Akinbode & Ayodeji, 2012). Withholding effort in organisations is exhibited in various forms such as social loafing, job neglect, free riding and shirking, which are the background on which all forms of withholding efforts are built. These behaviours by members of organisations violate significant organisational norms, posing a threat to the organisations and/or its members' well-being, or both. Though several studies have substantially explored various withdrawal behaviours at work, such as lateness, absenteeism and turnover, effort propensity as it relates to healthcare workers withholding effort during a communicable disease outbreak in Nigeria is a less explored aspect of withdrawal from work.

Healthcare workers, like any other employees, have motives to put in less effort, particularly during epidemics of communicable diseases. Due to their responsibilities to their children, spouses, family, and in-laws, Nigerian culture may prevent healthcare personnel, particularly females, from reporting to work and withholding effort during communicable diseases outbreaks. Family members may kick against their loved ones in the healthcare profession from working during this moment, as the researcher experienced during the Ebola outbreak. Thus, healthcare personnel may be more likely to withhold effort during communicable disease outbreaks due to stress that emanates from family strife bothering on the dispute of reporting to work despite the danger associated with the communicable disease and work role.

Fear of spreading the disease and infecting family and friends can also motivate people to put out extra effort during a communicable disease outbreak. Because of their employment, healthcare workers are more prone to disease transmission, and there have been numerous

reports of on-the-job infection due to needle-prick infection. Various research studies, in particular, have documented the prevalence of tuberculosis infection among healthcare workers in Nigeria and around the world. According to studies, 10% of tested healthcare employees in Ihiala local government in Anambra state tested positive for tuberculosis disease (Orji, 2015), whereas 15% of healthcare workers in Ibadan tested positive for tuberculosis using acid-fast bacilli and culture (Kehinde, Baba, Bakare, Ige, Gbadeyanka & Adebisi, 2011). Thus, fear of contagion may further exacerbate effort propensity during communicable disease outbreaks.

Monitoring deficiencies and getting benefits for the effort that has not been contributed can also facilitate withholding effort during a communicable disease outbreak. Apart from the fact that these employees enjoy such benefits without contributing a fair share of effort, they also trigger feelings of unfairness in other employees who have contributed fairly to the task leading to counterwork behaviour, low work motivation and lack of commitment for those who fairly fulfil their duties (Geneviciute-Janoniene, 2013). This simply implies that employees who withhold effort get paid for a job they have not effectively done and this leads to loss for the organisations.

Nigerian healthcare workers have been accused of negligence of duty several times and this has been attested to by a former Health Minister, Professor Babatunde Osotimehin, “health staff was mostly to blame for the deaths of patients registered in various health centers around the country in 2009” (Olabimitan & Alausa, 2014). This proves that healthcare workers withhold effort during normal work activities. In essence, when healthcare workers decide to withhold effort during a communicable disease outbreak, primarily because of the nature and severity of the disease, the situation can quickly degenerate into an epidemic and even worse, a pandemic. Against this backdrop of healthcare workers’ habitual job neglect, it is suggested that healthcare workers are inclined to withhold effort.

Qureshi, Gershon, Sherman, Straub, Gebbie, et al., (2005), confirmed that “healthcare workers are the least willing to report to work during communicable disease outbreaks” (Alwidyan, 2017) but more willing in cases of naturally occurring disasters such as fire outbreaks and earthquakes. The determinants of healthcare workers’ response to disease outbreaks include the type of disease, threat perceptions of health care workers, and associated perception of efficacy (Kollie, 2016). Confronted with the predicament of stress, work overload, infection and even death in an event of communicable and endemic disease, such as tuberculosis, healthcare workers may face a professional dilemma of withholding effort during these crises and more hazardous period of their job to protect self and their family’s health or supplying the required level of effort to save their patients’ lives.

The majority of the investigations carried out among healthcare workers on their effort propensity during the outbreak of communicable disease are from the Public Health domain and they reported demographic characteristics such as the number of dependents and job description as predictors of effort propensity during epidemics (Qureshi, Gershon, Sherman, Straub, Gebbie, et al., (2005). Importantly, there are a series of opinions on the true underlying reasons why employees withhold effort during the outbreak of deadly diseases. Devnani (2012) identified factors that determine healthcare workers’ unwillingness to work during epidemics includes “protection of self, a lack of assurance or trust in an employer's reaction to a disease outbreak, uncertainty, and a lack of assurance or faith in an employer's response to a disease outbreak” (Alwidyan, 2017). Healthcare workers’ withdrawal behaviour has been attributed to disagreements and professional rivalry among the various unions.

Presently, there is a paucity of studies on healthcare workers effort propensity towards communicable disease outbreaks, such as tuberculosis in Nigeria and although studies have been carried out on contextual factors, dispositional factors and effort propensity among healthcare workers, however, no identified study has included both contextual and individual

factors in the explanation of the effort propensity of healthcare workers during the outbreak of tuberculosis disease. There is a need, therefore, to have current studies that will examine psychological predictors, as well as, report culturally and traditionally relevant results to this domain of study on healthcare workers.

Furthermore, the estimated increase in the number of tuberculosis patients in 2020 (Agofure, Okandeji-Barry, Musa & Odjimogho, 2018) and outbreaks of other communicable diseases, is an indication that it is very important to investigate the propensity of the healthcare workers in the event of an outbreak of tuberculosis. The preliminary investigation carried out among healthcare workers at the Jericho Chest Hospital, Ibadan to explore the plausible ground for withholding of effort among healthcare workers revealed that factors such as employee resilience, perceived organisational support, pay satisfaction, risk perception, self-efficacy and perceived vulnerability to disease were the themes implicated that may influence effort propensity during the outbreak of communicable disease among healthcare workers. Yet, these factors are not well elucidated in the literature and they need further investigation.

In response to the identified paucity, gaps in knowledge and indecisive research findings in the literature, the following research questions were generated:

1. Will contextual factors (perceived organisational support, and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) predict effort propensity among healthcare workers?
2. Will contextual factors (perceived organisational support, and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) predict resilience among healthcare workers?
3. Will resilience mediate the relationship between contextual factors (perceived organisational support and pay satisfaction) and effort propensity among healthcare workers?

4. Will resilience mediate the relationship between dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) and effort propensity among healthcare workers?

1.3 Purpose of Study

The purpose of the study is to investigate the influence of contextual (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) and the mediating role of resilience on effort propensity during communicable disease outbreaks. The purpose of this study will be guided by five specific objectives.

The specific objectives of the study include the following:

1. Examine the role of contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) in predicting effort propensity among healthcare workers.
2. Examine the role of contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) in predicting resilience among healthcare workers.
3. Investigate the mediatory role of resilience in the relationship between contextual factors (perceived organisational support and pay satisfaction) and effort propensity among healthcare workers.
4. Investigate the mediatory role of resilience in the relationship between dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) and effort propensity among healthcare workers.

1.4 Relevance of Study

The relevance of this study is to contribute to knowledge about factors that predict effort propensity among healthcare workers. Organisations are nothing without a healthy workforce that is ready to put in the required effort to achieve its set goals; therefore there is a need to study the factors that make employees withhold effort and work below expectation.

1. This study will provide information and data on effort propensity among healthcare workers in the event of a communicable disease outbreak in Nigeria.
2. The study will serve as a preparedness guide/manual for healthcare administrators in public health emergencies; it provides empirical knowledge that can be used to generate policies and plans that will endear healthcare workers to give extra effort in saving lives and curbing the spread of diseases during the outbreak of diseases.
3. The research work will expose the reaction of Nigeria's healthcare workers to work during the outbreak of deadly diseases and the area of need for preparedness training for future emergencies.
4. The results of this study will provide useful information for clinical practices, policy decisions, research, education and curriculum development for healthcare workers, particularly for those who major in disaster management.
5. The study will reveal reasons why healthcare workers withhold effort and this information will be useful in the formulation of recommendations and policies to address the impending problem of effort propensity among healthcare workers in Nigeria.

CHAPTER TWO

LITERATURE REVIEW

In this chapter, the theoretical framework and empirical background of the study are presented. The theories to help guide the study include Knoke's Motivation Model and Vroom's Expectancy Theory.

2.1 Theoretical Background

2.1.1 Knoke's Motivation Model/Perspective

Knoke's motivation model (1990) examines how employees are driven to engage in and contribute to collective behavioural organisations as individuals and as members of a group (Kidwell & Bennett, 1993); this means that the focus of the theory is on how employees contribute effort for collective goals of the organisation. It also shows how the motivational process drives employees to provide resources to the organisations, emphasizing the fact that a single motivation cannot effectively explain an employee's effort decisions.

Knoke's motivation model/perspective proposes three reasons that motivate employees working as a group or individual to offer different levels of effort in the organisation and these reasons are referred to as Knoke's perspectives. The perspectives according to Knoke are "rational choice, normative conformity and affective bonding" (Kidwell & Bennett, 1993). The model is applied in this study to describe how contextual components of the workplace can predict the healthcare worker's effort propensity.

Rational Choice

The rational choice perspective focuses on the belief that employees in workgroups are rational beings and therefore take calculated cost-benefit decisions on the level or proportion of effort to offer for work output. This signifies that the level of effort provided by each employee is motivated by the cost of providing the effort and the expected benefit accrued. Employees have a greater tendency to offer a lower level of effort, shirking, according to economic researchers who use a supply and demand method. This is especially true in instances where supervisory and monitoring shortcomings exist.

In the collaborative research on the Provision of Effort in Self-designing Work Groups, Bennet and Kidwell (2001) asserted that "as the size of the group increases thus the input of individual members tends to decrease" because there is an opportunity to "hide in the crowd". This means that the more employees in a workgroup, the more the tendency to supply a lower

level of effort. Bennet and Kidwell (2001) further exposed that there are greater tendencies to withhold effort in service-oriented organisations where tasks are ambiguous and performance are discrete, just like in the healthcare industry.

Normative Conformity

The normative conformity perspective focuses on the assertion that choices on the offering of various levels of effort are predetermined by compliance with principles of acceptable behaviour. Essentially, this gives credence to the fact that employees' tendency to withhold effort in organisations is guided by unwritten rules set by members of the workgroup which guides the proportion of effort expended on task and these rules also define a fair day's work. Bennet & Kidwell, (2001) further explained that the "self-interest of the rational choice perspective is reinforced by the notion of a 'norm of fair dealing' to which employees comply as a matter of reciprocity toward others". This means that the rational choice of employees to determine the level of effort that is deemed normal is motivated by compliance with group standards of what a normal effort should be.

Compliance norms or obedience to group standards of behaviour on effort offering develop within the workgroup, and these important values take on significance as a social contract or psychological contract which might oppose the rational calculation of costs and benefits (Bennet & Kidwell, 2001). Also, the normative conformity consequence on effort withholding might give organisations plunges when employees hold the belief that their colleagues will withhold effort and shift the bulk to them, thereby, they withhold effort at the detriment of the organisation.

Affective Bonding

The affective bonding perspective focuses on the belief that employees working in groups withhold effort based on their emotional attachment to other employees in the same

workgroup (Bennet & Kidwell, 2001). These emotional attachments usually ensue when employees identify with other members of the group and the group as a whole (Bennet & Kidwell, 2001). Knoke (1990) claimed that “a later sense of unity between employees and the group reinforces the employee's intent to bring resources into the organisations”. This means that employees that feel and have a sense of belonging towards the group contribute more of their resources to the group.

The affective bonding perspective also suggest that cooperation within a group is influenced by members’ plans of working together in the future (Bennet & Kidwell, 2001). When employees have the information or knowledge of working together as a group in the future, this knowledge kind of reinforces positive cooperation to perform better within the group, since they try to create a positive image, as against when the employees have the information or feel that they will not be working together as a group in the future. In addition, when group members know that they will work together again in the future, they tend to cooperate and offer a higher level of effort or at least exert the level of effort that can achieve set goals and this can strengthen the emotional attachment between person and group while the identification that group will never work together again can encourage offering a lower level of effort which ultimately lead to a sense of disagreement between groups (Bennet & Kidwell, 2001).

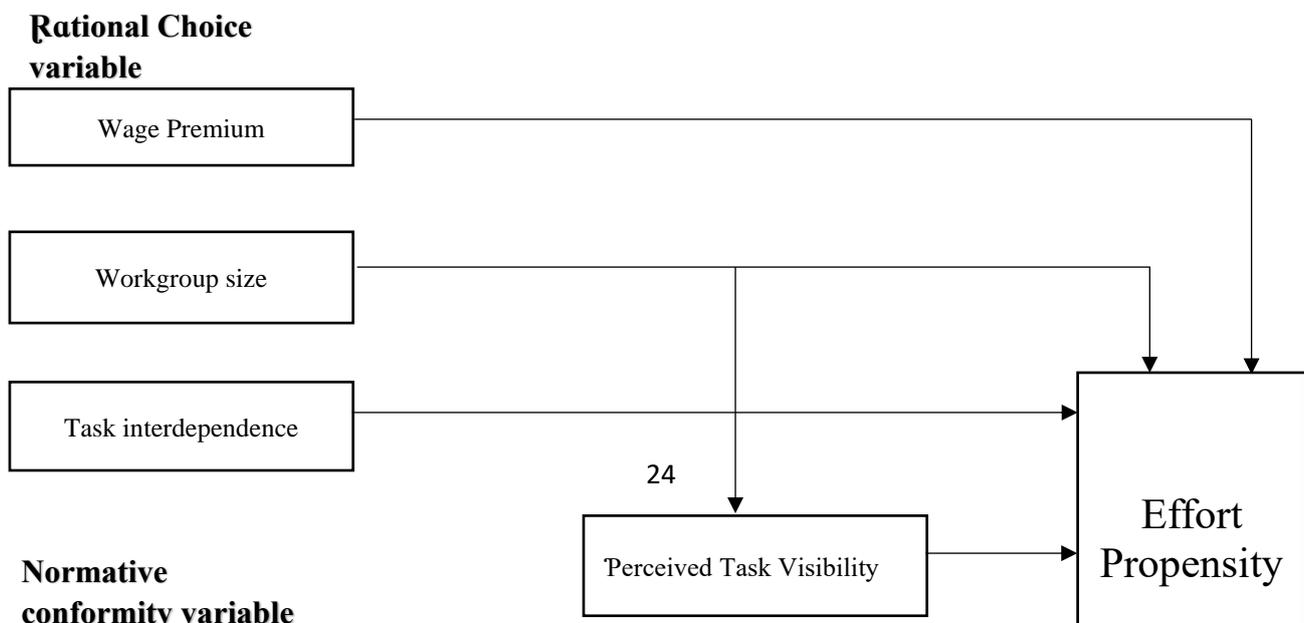


Fig 2.1: Model of Employee Effort Propensity

Source: Kidwell and Bennet (1993). *Employees Effort Propensity Conceptual Model*

Kidwell and Bennet (1993) identified factors such as group structure, group interaction, task characteristics, and reward system as some non-economic and economic variables that affect workers' effort propensity.

Group structure: the organisation of the group in terms of composition can affect the group's work. Factors that make up the group structure include "group size, turnover rate and length of service homogeneity" (Kidwell & Bennet, 1993).

- **Group size:** in contrast to the advantage that more people can perform tasks faster, small groups are better because it is easy to coordinate individual efforts with small groups and monitor behaviour, this means that it is easier to coordinate a small group and supervise for individual effort contribution and behaviour. Large group size encourages withholding of effort because of employees' self-interest in terms of cost/benefit analysis. As group sizes increase, the tendency to withhold efforts increases because of less visibility of each employee's contribution.
- **Turnover rate:** is simply the number of workforces or personnel exiting a workplace at the exact time. Ordinarily, turnover is costly for every organisation and more costly in the healthcare sector when healthcare workers decide to leave in the middle of an epidemic. The relationship in a workgroup is determined by how employees leave the organisation. Organisations that have a low turnover rate are expected to have a lower rate of withholding of effort than organisations with a high rate of turnover.

If healthcare workers turnover is high due to the outbreak of deadly communicable disease and by extension vulnerability, to the disease or perception of risk this will give room for withholding of effort. Therefore, as the turnover rate increases, the tendency to withhold effort increases.
- **Length of service homogeneity:** employees who are employed at almost the same time and have related employment duration usually form a group based on the similarity of their length of service. Members of this group, referred to as "inner circle", develop a sense of belonging with their group, and this sense of belongingness influences offering effort than withholding of effort thereby providing an enabling work environment for the achievement of the organisation's goals. This implies that healthcare workers with the same length of service homogeneity will have a lower tendency of withholding effort than their counterparts with a varied length of service homogeneity during

epidemics because of identification with the group. This helps the homogenous group to refrain from withholding efforts during the epidemic than their colleagues of different ages. (Kidwell& Bennett, 1993). This means that there is a low tendency to withhold effort among the service of a homogenous group.

Group Interaction: the interaction of employees working as a group also determines the penchant to withhold effort among group members. Group interaction is affected by factors such as perceived degree of peer compliance norms, equity perception, and perceived altruism (Kidwell& Bennett, 1993).

- **peer compliance norms:** employees do not want to feel cheated therefore, they observe the compliance of their peers to organisational norms to check and balance their behaviour. Employees like to feel accepted and do not want to go against the norms of the group in order not to be tagged on one hand as a ‘workaholic’ and on the other a ‘loafer’. Hence, they try to perceive the rate at which others offer effort and do likewise. Healthcare workers who perceive that comparison peers comply with withholding effort will also withhold effort while those that perceived comparison peers offer effort instead of withholding effort during an outbreak of a disease such as tuberculosis will also offer a level of effort almost equal to comparison peers.
- **Equity Perceptions:** perception of equity in the level of effort provision for a work task can determine the withholding of effort among employees. Employees are often concerned with and observe the level of effort expended by peers and compare their performance. If they perceive that they are providing more effort than others in the same work team, expectedly, they reduce the effort to the same level as comparison others to get back the feeling of equity and justice.

Humans are social animals and learn from the environment- learning that other employees withhold effort can implore a full-functioning employee to conform to

others and join the bandwagon. No single employee wants to be seen as a pushover, therefore, withholding effort by a single member of a workgroup can have an upward flow effect of withholding effort in the organisation which eventually brings the organisations to its knees.

Employees would restrain effort because they anticipated their colleagues to withhold effort and, thus, limit their efforts to establish equity. Invariably, healthcare workers who perceive the feeling of inequity because they are providing effort during an outbreak of communicable disease while other healthcare workers are withholding effort will ultimately follow suit.

- **Perceived Altruism:** employees often exhibit altruistic behaviours both within and outside the organisations for the development of the organisations. These behaviours go beyond the employment contract but are exhibited by employees nevertheless on grounds of humanity and selflessness for the interest of the organisations. Altruism at work may stem from attachment or give-and-take relations between fellow workers (Schnake, 1991). Altruistic behaviours are assumed to be inspired by adopted ethical values or by compassion and kindness with others (Eisenberg, 1991).

There are two forms of altruistic behaviours, and they are prosocial behaviours and organisational citizenship behaviours (Kidwell & Bennett, 1993). Behaviour exhibited by employees based on the job description to support another employee, group, or organisations, but is not important to the interests of the organisations is called prosocial behaviour and organisational citizenship behaviour is an informal contribution that an organisation prefers and employees determine or withhold regardless of the organisations' approval or incentives. When an employee experiences a high level of altruism in a workgroup, that employee is less likely to interfere with their efforts (Kidwell & Bennett, 1993).

Healthcare workers are often altruistic because they have to care for the injured and sick. Perception of altruistic behaviours by the work team can influence a healthcare worker not to withhold effort despite the perception of risk during an epidemic with chances of getting infected with the disease but when altruistic behaviour is not exhibited by other members of the team, a healthcare worker can be encouraged to withhold effort.

Task characteristics: the nature of the task assigned to employees also determines the tendency to withhold effort among employees. Task characteristics are affected by factors such as task interdependence and task visibility (Kidwell & Bennett, 1993).

- **Task Interdependence:** employees often take advantage of monitoring and supervisory deficiencies in organisations to withhold effort especially in interdependence tasks and jobs. When each employee's distinct performance contribution is not measurable and non-identifiable, there is a higher tendency of withholding effort from group members.

Studies have shown that individual contributions are considered a determining factor of withholding of effort hence, the claim that, the more unclear or vague the assignment, the more the toil in monitoring and evaluating performance. Therefore, it is safe to suggest that increased monitoring problems in an organisation lead to greater withholding of effort once there is greater task interdependence. Therefore, if there is discrete performance identification of task contribution because of low task interdependence among healthcare workers working during an outbreak of a communicable disease such as tuberculosis, supervision of the work process to mitigate the transfer of the disease and offering necessary care to the infected patients will be easier hence recording less tendency to withhold effort by healthcare workers.

- **Perceived Task Visibility:** the degree to which an employee's performance may be watched and evaluated (Kidwell, 1994) and the task's complexity determine the amount of visibility of an employee's task. "Employee beliefs that a superior has trouble monitoring their work results in a propensity for employees to provide less individual effort since their efforts are perceived to be less apparent," Kidwell added.

Individual healthcare workers or healthcare workers working as a group will have a higher tendency to withhold effort if they believe that their superiors have supervisory problems and their task results cannot be evaluated. Hence, they become less motivated to provide effort if they believe they can hide behind others.

Reward System: the adopted reward system used to determine the wages of employees also determines the tendency to withhold effort among employees. The reward system is affected by factors such as wage premiums and moderating effects of the reward system.

- **Wage Premium:** "wages and compensation often predict the tendency to withhold effort" (Kidwell, 1994). Some organisations compensate their employees above minimum wages and in return, the organisation anticipates that employees provide sufficient effort due to fear of disengagement from the job and loss of wage and benefits. Tentatively, when there is less than full employment, the hypothesis indicated a negative link between payment of above-market wages and effort propensity. This explains that when there is less than full employment, payment of above-market wages leads to a low effort propensity while payment of below-market wages leads to a higher effort propensity.

It is difficult for a superior or an employer to categorically measure the amount of effort exhausted by an employee on a given task, especially in service-orientated organisations. Therefore, healthcare workers who offer less than the required level of

effort and get payment of above-market wages are likely to have a lower effort propensity while payment of below-market wages leads to a higher effort propensity.

- **Potential Moderating Effects of Reward System:** organisations aiming for the highest levels of employee effort should alter the effects of rewards in group tasks. According to Kidwell and Bennet (1993), there are two potential reward systems: a group reward system and an individual rewards system. Group reward systems are collective reward system where every member of the group including those that withhold effort get almost the same level of incentive or gain while the individual reward system gives more benefits and incentives to individuals who give the most effort. Employees are still motivated to lower the level of effort since the reward system is based on dependence on collective effort and collaboration.

In a group reward system, healthcare workers can all reduce the level of effort and still get parallel rewards with less effort and they may decide to increase effort and get more rewards which will be similarly centred on the level of collaboration among the members of the group.

For the individual reward system, the most productive healthcare workers in terms of provision of effort receive the highest rewards while the least productive healthcare workers receive the lowest rewards but since the productivity level is determined by co-workers productivity level, peer compliance norms (collaboration) interact with this decision. This gives credence that the level of effort offered by the employees is contingent on the nature of the reward system adopted by the organisations (Kidwell & Bennett, 1993).

In a few words, the Kidwell and Bennet (1993) article on Knobe's synthesized motivation model established that collaboration among employees determines effort propensity, hence, the tendency to withhold effort is lower when the organisations have a small group size and employees' tasks are highly interdependence, there is low turnover and high

perception of altruism and peer compliance norms. On the other hand, the tendency to withhold effort will be higher when the workgroup is large and employees' tasks have low interdependence; there are high turnover and low perception of altruism and peer compliance norms. Expectedly, an individual effort-reward system-based organisation will record a higher tendency to withhold effort due to high collaboration intensities while an organisation practising group effort-reward system will record a higher tendency to withhold effort due to low levels of collaboration intensities.

2.1.1a Critique of the Knoke's Motivation Model/Perspectives

The motivation model/perspective of Knoke's (1990) using the Kidwell and Bennet (1993) article on the three perspectives referred to as "three avenues of research" tried to put together the characteristics of various motivational theories to explain the process that motivates employees' effort propensity. Knoke's (1990) model focused on the three motivational perspectives; "rational choice", "normative conformity" and "affective bonding" which can be likened to other human needs identified in other motivational need theories such as Maslow's hierarchy of needs, Herzberg's two-factor model and Alderfer's E-R-G Model. The model ultimately used the identified three perspectives to emphasise its argument that employees are motivated by some contextual factors in the workplace (wage premium, size of the group, independence of task, perceived compliance of colleagues to group norms, equity perceptions, perception of altruism, the turnover rate of the group and the homogeneity of the group in terms of length of service) which hereafter determine their behaviour towards task performance and withholding of effort.

The model was able to explain the various internal process that takes place inside the employees for motivation to perform a simple task, such as, "going to work" and difficult task, such as, "working in a health facility during an outbreak of a deadly communicable disease". The cost/benefit analysis perceived the employee as an individual that is entirely independent

of other employees. In other words, the perspective described employees as selfish beings who are only curiously searching for the answer to the question of “what is in it for me”. Hence, it is important to note that employees do compare the cost of effort against benefits for their behaviour at work. If the expected benefit is not worth the cost, then employees are likely to withhold effort. Therefore managers have to ensure that the rewards are in line with the needs of their employees.

Also, the model emphasized the conformity and comparison nature of employees as social beings and that this nature determines their performance level. Humans are social beings who learn from their surroundings and others in the same situation as them. The workplace is a learning ground for employees and they learn by observing others’ performance levels and rewards in comparison to their performance level and rewards. Disparity or injustice in this observation of performance and rewards can lead to withholding of effort. This perspective is in line with the equity theory of Stacy Adams that postulated that employees judge fairness or equity by comparing the ratio of their outcomes and inputs against the ratio of other people.

The affective bonding perspective which emphasizes basing performance and withholding of effort on a social relationship can be likened to the belongingness and social needs perspective of the model of Maslow’s hierarchy of needs (Maslow, 1943). The perspective focuses on employees has wanting to have a sense of belongingness therefore they form bonds with others based on the homogeneity of their length of service and engage in altruistic behaviour.

The beauty of Knoke’s motivation model is that it recognises that employees are social beings that work in a social system, therefore, they observe everything (others, performance, withholding effort, pay, justice/injustice, defiant and counterproductive behaviour, etc.) in the workplace and this guides their behaviour. The fact that the model does not have any restriction on the perspective or need a level to meet first (no chronological order of need satisfaction)

before employees can be motivated to perform or demotivated to withhold effort, such as Maslow's hierarchy of needs and Alderfer's Existence-Relatedness-Growth needs where once a level of need is satisfied you move up to the next level of needs, is desirable.

The limitation of Knoke's motivation model is that two of the perspectives (normative conformity and affective bonding) rely on each other to function or simply they overlap, hence, they (normative conformity and affective bonding) could have been merged as one perspective. Once employees bond, they will have reasons to conform to group norms to gain acceptance by the group and have a sense of belonging, therefore withholding of effort by an employee can lead to further withholding of effort by others.

2.1.1b Application of the Knoke's Motivation Model/Perspectives

Knoke's motivation model/perspective form a strong theoretical background for the study on effort propensity "among healthcare workers who have to work during an outbreak of communicable disease". The model proposed that healthcare workers, the sampled population for the current study, may withhold effort during an epidemic using a tuberculosis outbreak scenario due to three variables, identified as the Knoke's perspective "rational choice, normative conformity to group norms and affective bonding with co-workers". The rational choice perspective describes that healthcare workers may attempt to weigh maximum personal effectiveness against the personal cost to decide on withholding effort in the event of an outbreak of a deadly communicable disease such as tuberculosis. Benefits such as promotion, increased pay, national recognition, and reputation can outweigh the fear of risk perception and vulnerability to disease.

Clearly, according to Kidwell and Bennet's (1993) assertion that many factors are probable to influence rational choice motives, the researcher believes that healthcare workers may withhold effort as the group increases, as the work becomes more interdependence,

perceives task as invisible and perceive a loss of wage. The rational-choice viewpoint has emphasized that motivation to work is mainly economic but the researcher feels that non-economic variables in the workplace also influence the rational choice perspective of the employee during an epidemic, such as the perception of organisational support which may include provision of personal protective equipment, conducive and safe environment, information on the disease and feedback.

The normative conformity perspective on the other hand describes that healthcare workers may withhold effort by abiding by social norms and values on the acceptable level of effort to offer set by the group. Healthcare workers' perception of their colleagues on withholding effort norms during the outbreak of communicable disease may have an impact on the decision of effort propensity. Healthcare workers' perceptions of equity on the expectation of performance during this difficult period on the job may also determine effort propensity. A healthcare worker may rather withhold effort because other healthcare workers are withholding effort rather than being perceived as a sucker.

The affective bonding viewpoint explains that employees may cultivate bonds or affections with other employees based on identification and internalization of roles (Knoke, 1990). Healthcare workers may develop affections among each other after working together for a while during an epidemic. The bond may be due to the severity of the disease, fear of losing a member of the group to the disease, and the significance of each member's role in combating the disease. The contention under this viewpoint is that because of the affection healthcare workers share, action or withdrawal behaviour such as leaving the organisations by a group member may lead to withholding of effort by others.

Also, it is believed that healthcare workers who have different duration to spend in service, "length of service homogeneity", and perceive that will not likely work together in the

future may withhold effort. Healthcare workers that gain employment at the same time and have similar duration to use in the organisations develop a social relationship and interpersonal attraction that determines their tendency to withhold effort. Furthermore, employees sometimes regard each other base on their demographic similarities such as age, gender, educational status, job status, and personal relationships.

The altruistic nature of healthcare workers is also very important, naturally, healthcare workers are supposed to be caring, loving, and ready to help the weak and injured both insides and outside the four walls of healthcare facilities where they work. Studies have postulated that altruism is an antecedent of employee effort (Kidwell & Bennet, 1993). Hence, healthcare workers' altruistic behaviours and belief in self as capable to handle the task (self-efficacy) may determine their effort propensity. When healthcare workers believe so much in the organisations and themselves, they may tend to go against the norms of groups and not withhold effort for the benefit of the health facility and obligation to the calling of their profession. Knoke's perspective formed the basis for the participant's demographic consideration in this study on the withholding of effort as influenced by factors "such as age, gender, marital status, primary job, employment status", years in service, and having children, parents, and in-laws.

Because it is true that understanding employees' needs is the foundation for motivation, health-care administrators should try to get to the root of healthcare workers' needs and drive to understand the perspective that will motivate them and explore the perspective(s) to avoid withholding effort during a deadly communicable disease outbreak.

2.1.2 Vroom's Expectancy Theory

The expectancy theory/model (Vroom, 1964) has been widely accepted in organisational behaviour which lays down a general framework for employee motivation for inquiring about a variety of work behaviours including effort propensity. The major focus of

the theory revolves around the expectation of employees as a driving force to put in more effort. Because of the expectations about potential benefits, employees exert their efforts at workplaces and therefore, a high level of expected satisfaction motivates an employee to exert work efforts. The Expectancy model by Vroom (1964) involves three major components that motivate an employee to exert effort which are valence, expectancy and instrumentality. The relationship between these three components is stated in the formula in the diagram below:

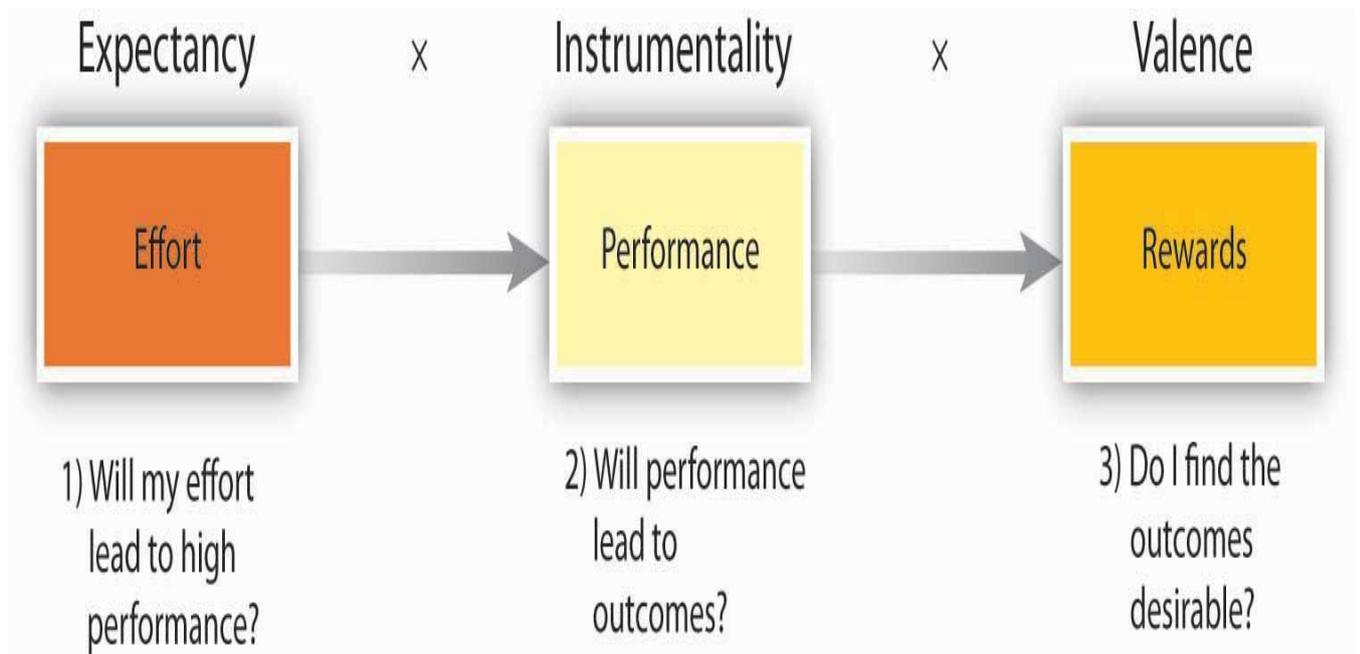


Fig. 2.2: *Model of Vroom's Expectancy Model*

Source: Adapted from Vroom's Expectancy Model (1964)

Expectancy: is the factor for determining employee motivation which is defined as the probability that a particular action will lead to an outcome. It is the strength of belief that one's

work-related effort will result in the completion of a task. It relates effort to first-level outcomes. Therefore, expectancy is the likelihood that a certain action will lead to a particular first-level outcome, knowing that expectancies are stated as probabilities – the employee's assessment of the degree to which performance will be determined by the amount of effort expended (Newstrom, 2011).

Since expectancy is the probability of a connection between effort and performance, its value ranges from 0 to 1. If a healthcare worker realises that effort will not lead to the desired performance, the expectancy of such a healthcare worker is 0. At the other end of the continuum, if the healthcare worker is fully convinced that the task can be completed, the expectancy of such a healthcare worker is 1. Nevertheless, according to the theory, employee expectancy lies between the two ends of a continuum "0 to 1".

The total of the products of the values for the outcomes concerning expectancies, as well as the conviction that employees know that a task can be performed based on effort-performance expectancies, will determine the degree of motivation to perform a specific act. Employees with high levels of self-efficacy are thus expected to put out the effort that will result in satisfactory performance.

Instrumentality: denotes the employee's expectation of receiving a reward after the assignment is completed. Employees make a subjective assessment of the likelihood that the organisation will value the employee's success and provide contingent benefits (Newstrom, 2011). Instrumentality has a value that runs from 0 to 1. If a healthcare worker sees that recognition for a breakthrough in the treatment of a deadly virus is based on justifiable and satisfactory performance ratings, instrumentality will be rated high, however, if organisational injustice or favouritism is felt in performance ratings, low instrumentality estimate will be

made. The strength of motivation is based on the perception of organisational support and reward.

Valence: is the strength of one's preference for receiving a reward" (Newstrom, 2011) or an individual's preference for a second-level outcome. "It is a measure of a person's ambition to achieve a goal" (Newstrom, 2011). A healthcare worker that prefers "recognition" to "increase pay" perceives "recognition" has high valence. It is crucial to remember that the valence for an employee is unique to each employee. Therefore, an employee's valence for a reward is influenced by personal and work experiences and changes from time to time.

An employee's valence can be positive or negative depending on the outcome. Valence in form of knowledge gained can be negative when a healthcare worker report unwillingly to work during an epidemic and when a healthcare worker is indifferent to increase pay or bonus set as a reward for effort propensity during a disease outbreak, the valence of zero. The total range of valence is from -1 to +1 (Newstrom, 2011).

2.1.2a Critique of the Expectancy Theory

The expectancy theory helps us to understand the underlining thought processes and action considerations that individual employees consider to reach a choice decision on performance in organisations and by so doing it conceptualized employees as humans rather than as just means to an end for the organisation's benefit. The theory explains that employees' performance decision is often influenced by beliefs, perceptions, and probability estimates rather than unmet needs and punishments. The theory also borrowed from the concept of self-efficacy and perceived organisational support in trying to motivate employees to perform.

The belief that one's work-related effort will result in the completion of a task (expectancy) cannot be fulfilled without the belief in one's capacity to achieve success on a

task (self-efficacy). Therefore, employees' self-efficacy drives the expectancy perspective of Vroom's theory without which motivation to perform cannot be achieved. Also, the employee's belief that a reward will be received once the task is accomplished (instrumentality) cannot be fulfilled without the belief that the organisation cares about one's wellbeing and that task accomplishment will be reciprocated by the organisation.

Though employee perceptions are very important, the role of the managers or leaders to identify the valence that employees will perceive as worthwhile is of more importance. Investigating the valence that employees will value at different times can be difficult and seems unrealistic since human needs are dynamic and different in several ways. What motivates a nurse may not motivate a doctor and nurse A's valence may be different from nurse B's valence, how then do managers keep up with clarification of each employee's valence even though many employees make up organisations with their differences.

2.1.2b Application of the Expectancy Theory

The expectancy theory laid a strong theoretical background for the study on withholding effort during an outbreak of tuberculosis disease among health workers in Nigeria. The theory proposed that the determinant of effort propensity during an outbreak of communicable disease is strongly conditional on the "perceived probability that effort will lead to good performance" (reporting to work despite epidemics and attending to patients) and "that good performance will lead to the desired outcomes" (treatment regime will work, the disease will stop spreading, and mortality rate will drop dramatically), and that the outcomes will be commensurate with the value of expected outcomes to the individual (promotion, training, salary increase, and recognition). Thus, confirming that motivation is the product of expectancy, instrumentality, and valence.

The multiplicative blend that will produce the sturdy motivation to withhold effort for healthcare workers will be a combination of low expectancy, low instrumentality, and low negative or zero valences. Also, the strongest motivation not to withhold effort for healthcare workers will be a combination of high expectancy, high instrumentality and high positive valence. If a healthcare worker's valence (salary increment) is high but expectancy and instrumentality are low, motivation will be weak. Thus, when the value of the reward is not satisfactory to the healthcare workers, they may tend to be motivated to withhold effort or not report to work at all during an outbreak of deadly disease.

Dissatisfaction with the valence after the epidemic or pandemic, such as default on pay increment, bad or low quality personal protective equipment, no feedback mechanism determine withholding of effort among healthcare workers in future epidemic or pandemic.

2.2 LITERATURE REVIEW

Based on the knowledge that healthcare workers provide care for the masses during public health emergencies despite the impending risk, it is important to initially review related studies on healthcare workers perception of working during communicable disease outbreaks and thereafter, review the related studies in line with the research questions of this study.

2.2.1 Perceptions of working during communicable disease outbreaks

The desire of healthcare staff to report to work after catastrophes have been researched in line with their perceptions of willingness and ability. "Willingness to report to work" refers to healthcare personnel's personal decision to report to work while "ability to report to work" refers to the capability of healthcare personnel to report to work (Qureshi et al., 2005), as it relates to working during disease outbreaks. Therefore, healthcare workers may be unable to report to work, due to transportation problems, but be willing to report for work, due to their work obligation, during a communicable disease outbreak. On the other hand, healthcare workers may be unwilling to report but have the "ability to report to work". Therefore, the

focus of the review will be on the personal decision to report to work, that is, willingness to report.

In a research conducted by Barnett, Levine, Thompson, Wijetunge, Oliver, et al. (2010) the readiness to respond to pandemic influenza among crisis health staff, they reported that 52% of the emergency medical services officers attested that they will be unwilling to report to work if disease transmission is probable to their families while 12% of the emergency medical services officers attested that they would not of their own free will, report for duty during an influenza pandemic (Barnett et al., 2010). They further reported that 96% of the officers reported a high probability of reporting to work if guaranteed a vaccine against the influenza pandemic vaccine. Devnani (2012) reported a similar conclusion from an integrative review, stating that providing immunizations resulted in the greatest increase in “turning up for work”.

Risk perception toward self and loved ones, as well as perceived organisational support in terms of vaccine and personnel protective gears provided by the organisation, were found to influence “willingness to report to work during disease outbreaks” in studies by Barnett et al. (2010) and Devnani, (2012). Similarly, researchers such as Mackler, Wilkerson, and Cinti (2007) found in their study of paramedics that over 80% of those questioned would not “stay on duty to care” for possibly infected persons with smallpox if the vaccine and protective gear were not provided.

Stergachis, Garberson, Lien, D’Ambrosio, Sangare and Dold (2011) investigated the strategies that could help public healthcare workers report to work during public health emergencies. Using an influenza pandemic scenario, they reported that 89% of healthcare workers reported their willingness to report for work as usual. Though the majority of healthcare professionals in the survey were prepared to report, they also mentioned the availability of vaccination as the most favoured method for “healthcare workers reporting to

work during an influenza pandemic”, comparable to Barnett et al. (2010). However, the findings of Stergachis et al. (2011) contradict those of Qureshi et al. (2005), who found that health care workers are the least willing to work during a public health emergency such as a SARS outbreak (48%) or a radiological or chemical event (57%).

In a study carried out in Calabar, Nigeria to investigate the preparedness of healthcare providers for the Influenza pandemic, Etokidem, Ogaji, Nsan, Ikpeme, Oyo-Ita, et al. (2012) affirmed that two hundred and sixty-one (75%) healthcare providers will be unwilling to work in Influenza patients units peradventure influenza breaks out in the state. The percentage recorded in the Nigerian study is quite higher than that reported by Qureshi et al. (2005) and 55% was recorded in a study carried out by Gershon, Magda, Qureshi et al. (2010) among essential workers.

Consistent with this result is a cross-sectional online survey conducted in Germany which reported that “20% of the public service workers were unwilling to come to work during an influenza pandemic” (von Gottberg, Krumm, Porzolt & Kilian, 2016). Similarly, the report of an H1N1 pandemic hypothetical scenario reported that 29 healthcare providers (15%) out of 254 responders indicated their unwillingness to report, and some confirmed, not even for increased salary (Khan & Johani, 2014). These studies result, in terms of the unwillingness response rate, are far below the rates Barnett, et al. (2010) and Qureshi, et al. (2005) reported, where over half of the emergency health officers were “unwilling to report during an influenza pandemic”.

Consistent with the report of Khan and Johani (2014) similar result was also reported by Irvin, Cindrich, Patterson and Southall (2008) in a survey among hospital workers in California. The researchers reported that about half of the hospital workers were not willing to work during an avian flu outbreak and some of these hospital workers were still not willing to report to work even if a financial incentive, up to triple the normal wage, was offered (Irvin

et al., 2008). This result further confirmed the assertion that healthcare workers' tendency to withhold effort may often be related to their job as healthcare workers than their perception of pay.

According to the literature, healthcare workers tend to be unwilling to go to work during a pandemic such as influenza and other communicable disease outbreaks (Qureshi et al., 2005; Mackler, Wilkerson & Cinti, 2007; Khan & Johani, 2014). The review also shows that the provision of vaccine and personnel protective equipment by the organisations or administration of the health facilities for the healthcare workers can improve their willingness to work during pandemics (Devani, 2012). Factors like pay (Khan & Johani, 2014; Irvin, Cindrich, Patterson & Southall, 2008) and risk perception (Barnett et al., 2010; Devani, 2012) could further facilitate the willingness of healthcare workers.

Not all healthcare staff is enthusiastic to report to work in the course of pandemics, according to the above review. For this personnel, the nature of the condition and the role that the organisation is willing to play are critical. As a result, it's safe to assume that due to the nature and severity of communicable illness epidemics, whether biological or synthetic, healthcare staff may tend to put in less effort. The relationship between the factors or techniques described in the previous review, such as organisational support, incentives, risk perception, and others, will be examined in light of the research objectives.

2.2.2 Perceived organisational support (POS) and effort propensity

Organisations show that they care for the well-being of their staff in various ways. Some organisations have imbibed the culture of supporting their staff through training, planned vacation, childcare centres, medical aid, loan facilities, and much more, with the belief that a satisfied staff is an effective company or organisation.

Due to the nature of the health industry, the provision of standard and up-to-date equipment and high-quality personal protective gear, and training leads the chart when exploring support that can be provided by the organisations for employees in this industry. Normally, it is expected that employees that are satisfied with the support they garnered from the organisations will show citizenship behaviour and meritoriously work assiduously towards achieving the organisations' goals and vice versa. The review of these relationships will show and affirm the direction and stand of researchers on this subject matter.

In a study conducted in Oahu, Hawaii among workers employed in six public service work sectors; road maintenance, waste disposal, emergency services, ocean safety, and other critical sectors, during a large scale influenza pandemic, findings indicated that “willingness of public service workers to report to work during an epidemic” was influenced by previous disaster response experience, confidence in the effectiveness of the protective equipment (perceived organisational support) and the degree of personal concern for one's safety, that is perceived risk (Qureshi, Gershon, Yamada & Li, 2013).

The findings from this study suggest that bio event preparedness planning that includes the provision of high-quality protective equipment and training on its use, effective communication and honest information, flexibility with work schedule assignment, and prioritization of essential workers for vaccination enhanced employee compliance with infection control protocol and willingness to work during these events (Qureshi, Gershon, Yamada & Li, 2013).

The result of this study is consistent with that of Devani (2012) and Barnett et al., (2010). The essential factors in the study are factors that healthcare workers expect the organisations to make available for them as a means of showing that the organisations care about their safety and well-being, and support them. This indicates that perception of support

through the provision of communication and honest feedback may influence healthcare workers not to withhold effort.

Recently, Rutkow, Paul, Taylor and Barnett (2017) revealed from their research that some specific factors of perceived organisational support such as “vaccines and personal protective equipment are readily available, as are flexible work schedules, childcare arrangements, information sharing via local health department training, and perceived commitment to one's job and community, all of which aid willingness to respond to an infectious disease emergency.” (Rutkow, Paul, Taylor & Barnett, 2017). These factors are in line with the report of Stergachis et al., (2011); Barnett et al., (2010) that the availability of vaccines will encourage healthcare workers’ willingness. This study implies that a high perception of organisational support, through the provision of vaccines personal protective equipment, flexible work schedule, childcare arrangements, information sharing via local health departments may result in low effort propensity among healthcare workers during a communicable disease outbreak.

Similar results to that of Qureshi, et al. (2013); Rutkow, et al. (2017) were also reported in an investigation on the “influence of perceived organisational support and self-efficacy on burnout” conducted by Eze (2014) at the Federal Medical Centre, Umuahia, Abia State, Nigeria. According to the findings, “nurses who perceived poor organisational support had more burnout than nurses who perceived favourable organisational support” experienced less burnout. In other words, perceived organisational support significantly influenced burnout among these nurses and this indicates that perceived organisational support may also influence effort propensity among nurses. Nurses who perceive negative organisational support will likely have a higher tendency of withholding effort than their counterparts who perceive positive organisational support.

The result is in line with that reported by Joy and Chiramel (2016) in their study on the significance of perceived organisational support in controlling employee withdrawal behaviour. They reported that among 350 employees working in 25 industrial technology companies, a strong negative influence of perception of organisational support on employee withdrawal behaviours was found. It was further reported that the work dimension of employee withdrawal behaviours is more affected by perceived organisational support compared to that of the job dimension.

Arshadi (2011) discovered the mediating function of felt duty in the relationship between organisational commitment, in-role performance, turnover intention, and perceived organisational support by using a mediation model. A sample of 325 full-time employees from an Iranian industrial organisation was used to test the relationships. Employees' sense of obligation was positively associated with their perception of organisational support, according to the findings. Similarly, organisational commitment and in-role performance were positively connected to perceived organisational support, while the turnover intention was adversely related.

The findings of Arshadi (2011) are consistent with that of Malik, Kami and Nadeem (2016) who reported a significant affirmative connection among perceived organisational support, affective and normative dimensions of organisational commitment. They also reported a significant affirmative connection amongst various antecedents of perceived organisational support and organisational commitment". More so, this relationship was confirmed in a study conducted by Hussain and Asif, (2012) that suggested that perceived organisational support had a significant negative impact on the employees' turnover intent.

Chirdan, Akosu, Ejembi, Bassi, and Zoakah (2009) assessed "employees' perspectives on their work circumstances in North-Eastern Nigeria", including factors related to the "amount

of work, pay satisfaction, quality of management, staff welfare, career development, and so on, among health care workers in state-owned facilities”. Perceived organisational support elements, or nonmonetary aspects, were found to be important influences of health workers' job satisfaction. Interpersonal interactions, supervisory quality, tool and equipment availability, as well as managerial justice, support for employee welfare, and training are all factors to consider, were among the nonmonetary characteristics found.

Studies conducted in Ghana and Mali (Dieleman, Toonen, Tour é, & Martineau, 2006; Agyepong, Anafi, Asiamah, et al., 2004) support the findings of Chirdan et al., (2009). Non-monetary elements have an impact on employee motivation and job satisfaction. In other African countries, according to other studies. This means that low perceived support from the organisations, rather than pay-related reasons, is more likely to lead healthcare employees to withhold effort. This is based on the findings of Chirdan et al. (2009), who discovered that healthcare employees value organisational support more than monetary incentives. In contrast, the media and the information industry, at least in Nigeria, tend to depict monetary incentives as the most significant component in employee motivation and retention. This is the most crucial result of the two-factor theory, which stated directly that income is not a motivator and that its absence only causes employees to become dissatisfied.

Caudil and Patrick (1992) investigated turnover among nursing assistants by answering the question “why nurses leave and why they stay?” their investigation revealed that turnover intention was influenced by the perception of low organisational support in terms of non-involvement of nursing assistants in planning care programs and conferences of the organisations. Importantly, the nursing assistants who had high turnover intention attended to “more patients per shift” than the nursing assistants that had a low turnover intention. In this study, the healthcare workers that had a higher turnover intention indicated negative perceived organisational support (in-service programs, planning of care and conferences on care) but they

put more effort into their work while on the job than the employees who have no plans of leaving the job.

Oueghlissi reported a similar negative connection (2013). The study's findings are split into two phases: nursing assistants who reported low organisational support were more likely to quit but also put in more effort, whereas nursing assistants who experienced good organisational support were less likely to leave but put in less effort. This suggests a positive association between perceived organisational support and effort propensity among nursing assistants, implying that low perceived organisational support may affect low effort propensity while high perceived organisational support may affect high effort propensity, this can be attributed to perceptual differences or bias.

Similar to the significant affirmative connection found between perceived organisational support and turnover reported by Caudil and Patrick (1992), Oueghlissi (2013) reported that employees “working in a good work environment provide less productive effort than those working in a bad work environment”. Interestingly, the study further reported that 12% of employees in companies with bad work environments were ranked at a "very high" level of effort against 10% in those with a good work environment (Oueghlissi, 2013). The findings found that "workers working in a favourable work environment" put in less effort, whereas "employees working in a negative work environment" put in more. This implies that the more conducive the work environment provided by the organisations as a support to its employees, the higher the tendency to withhold effort. The result of Oueghlissi, (2013) implies a positive relationship between the quality of a working environment; a form of perceived organisational support and effort propensity.

In conclusion, the majority of the reviewed studies on perceived organisational support and related concepts with effort propensities such as turnover and withdrawal revealed a

negative relationship between the two variables (high perceived organisational support, low turnover, low withdrawal tendencies), but a few studies, such as those of Caudil and Patrick (1992); Oueghlissi (2013), reported the opposite opinion, that high perceived organisational support leads to the provision of less productive services and effort. As a result, the purpose of this study is to look into this perplexing relationship and see “if there is a link between perceived organisational support and effort tendency among healthcare employees”.

2.2.3 Pay satisfaction and effort propensity

There are a lot of debates surrounding the concept and belief that high pay leads to high satisfaction. According to the Herzberg two factor theory, pay is a hygiene factor that surrounds the job and is not present in the actual job, the absence of which can cause displeasure and lead to employee reducing effort or effort withdrawal. Importantly, most studies on the influence of pay satisfaction among nurses and other related health workers have been studied with employees’ job satisfaction and the result of these studies vary due to factors such as the population of the study, setting, and circumstances surrounding data collection or events taking place such as working during communicable disease outbreaks.

Among healthcare workers in Nigeria, consistent results were reported on employees’ perception of satisfaction with pay among healthcare workers in government-owned health facilities. In particular, nurses were “reported to be reasonably satisfied with their job but least satisfied with their salaries” in a study among nurses in government-owned hospitals in Calabar (Edoho, Bamidele, Neji & Frank, 2015). Similarly, a little below half of the nurses (49%) in selected units “in the University of Port-Harcourt Teaching Hospital, Niger Delta, reported that they were dissatisfied with their job which was caused by low salary and bad working conditions” (Asuquo, Imaledo, Thomp-Onyekwelu, Abara & Agugua, 2017).

In an exploratory study among primary health care nurses in Ekiti State, Ayanmolowo, Irinoye and Oladoyin (2013) reported a positive relationship between the nurses' work environment and job satisfaction. Specifically, nurses indicated factors such as salary raise and early payment of salary and availability of valid and latest equipment as motivating factors in the work environment that can increase job satisfaction. This means that when the salary of healthcare workers is increased and paid as at when due, the workers will be satisfied and therefore have a lower intention to leave the organisation.

Likewise, Ada-Ogoh (2010) confirmed that more than half of the surveyed healthcare workers in some selected primary health centres in Abuja reported being dissatisfied with their job and therefore have a high intention of leaving. Dissatisfaction with the job was triggered by dissatisfaction with the benefits of the employees, inclusive of salaries and wages.

In a recent investigation on influences of job satisfaction among healthcare workers in a faith-based district hospital in Plateau State, healthcare workers reported dissatisfaction with issues related to salary and benefits (Gyang, Dankyau, Gidado, Gyang, & Madaki, 2018), and this result is supported by similar report among healthcare workers who specialises in oral care (dentist and dental auxiliaries) from selected University Teaching Hospitals in Southern Nigeria, where 70% of them reported that their salary was not sufficient and could not take care of their needs (Ezeja, Azodo, Ehizele, Ehigiator & Oboro, 2010). These studies reveal the influence of dissatisfaction with pay on performance, which is mostly negative and results in high turnover and possibly withholding of effort.

Lasebikan, Ede, Lasebikan, Anyaehie, Oguzie and Chukwujindu (2020), examined the level of job satisfaction among health professionals of the National Orthopaedic Hospital Enugu. They reported that healthcare professionals perceived a low level of job satisfaction facilitated by low financial remuneration, poor working conditions, poor welfare packages, and

other factors in the workplace, but importantly, the healthcare professionals were satisfied with the performance appraisal systems as related to their promotion exercise (Lasebikan et al., 2020). This study shows that though employees agree with the organisations' performance appraisal protocol, the salary and benefits the organisations pay are not enough, which thereby triggers dissatisfaction with the job and possibly intention to turnover and tendency to withhold effort.

Healthcare workers reported a similar result, that is, perception of low pay, in a study among 170 healthcare workers in Ondo and Nasarawa States (Akwataghibe, Samaranayake, Lemiere & Dieleman, 2013). Hence, the healthcare workers had to look for other sources of income. Inconsistent with the popular report by the majority of the reviewed studies, Kolo (2018) reported that healthcare workers in Kano reported high job satisfaction which was derived from the service to care for the people, and satisfaction with wages received from the job (Kolo, 2018).

In keeping with common results in the association between pay satisfaction, work satisfaction, and turnover intent among healthcare employees, Singh and Loncar (2010) explored the relationship between "pay satisfaction, job satisfaction, and turnover intent among unionized nurses in Canada." They observed a link between the four dimensions of pay satisfaction and the likelihood of leaving. Most importantly, job satisfaction had a stronger influence on the satisfaction-turnover relationship (Singh & Loncar, 2010). This finding upholds the assertion that the job is more important to nurses and by extension, other employees in the healthcare industry, than the pay (Cindrich, Patterson & Southall, 2008).

Singh and Loncar's (2010) study shows that, though pay and job satisfaction are predictors of turnover intention, job satisfaction influenced nurses' intention to leave than pay satisfaction. This implies that healthcare workers are more interested in the satisfaction the job

offers than the pay they receive; inclusive of pay level, pay structure, pay raises, and benefits, because they value their work more than the pay they receive. As a result, the desire to withhold effort may be influenced by one's perception of “pay satisfaction”.

Consistent with the results of Singh and Loncar, (2010); Khan and Johani, (2014), healthcare workers in Zambia were reported to be motivated by financial incentives in a study investigated by Shen et al., (2017). According to the design of the study, the control group (enhanced financing) reported higher overall job satisfaction, facilitated by better working conditions and effective supervision, than the intervention group (performance-based financing). Because of the higher remuneration and autonomy that was part of the intervention, the intervention group (PBF) reported higher satisfaction with compensation than both control groups. As a result, performance-based financing schemes reduced turnover intentions among Zambian healthcare employees but had no significant impact on motivation, and improved health financing increased job satisfaction. (Shen et al., 2017). The implication of this study to the withholding effort study is that attrition like withholding effort weakens the organisations, the introduction of performance-based financing can decrease withholding effort among healthcare workers during a communicable disease outbreak.

In a study among nurses in Turkey, Masum et al. (2016) reported that though the nurses reported being satisfied with the environment of their workplace and the support they received from supervisors and fellow workers, yet, more than half of the nurses intended to quit their job. It was further revealed that the nurses were not satisfied with the reward, fringe benefits, and payments received from the organisations (Masum et al., 2016). This invariably shows that pay satisfaction influenced higher intention to quit among these nurses. This result is consistent with that of Currall, Towler, Judge and Kohn (2005) who reported that high pay satisfaction influenced high performance and low turnover intention and vice versa. Similarly, Jung and Yoon (2015) reported among 314 employees working in deluxe hotels in South Korea that pay

satisfaction dimensions; pay structure, pay level, pay raise, and benefits influenced employees' withdrawal from the job (Jung & Joon, 2015).

Studies carried out outside the health industry also have a consistent result that low pay satisfaction influenced a higher propensity to leave and withdrawal behaviour. Consistent with the outcome of Singh and Loncar's (2010) study's that pay satisfaction influenced turnover intention among nurses, A'yuninnisa and Saptoto (2015) reported that pay satisfaction predicted turnover intention among workers in an automotive organisation in Indonesia. The connection between pay satisfaction and turnover intention was reported to be negative, which implies that, a low perception of pay satisfaction led to high turnover intention among the automotive workers. A similar result was also reported among school teachers in the United States by Currall, Towler, Judge and Kohn (2005), who confirmed the assertion of a negative relationship concerning pay satisfaction and intention to quit the job, that is, high pay satisfaction influenced low intention to quit the job but positively influenced performance. The reviewed study implies that high pay satisfaction may effectively lead to a low effort propensity because of the similarity between turnover intention and the tendency to withhold effort.

Supporting the standpoint of Herzberg two factor theory that pay is not a motivator but a hygiene factor, in a hypothetical scenario during the occurrence of the H1N1 pandemic, Khan and Johani (2014) reported that positive reinforcement of salary raise offer and negative reinforcement of dismissal from duty did not change the minds of some healthcare providers who have indicated their intention of not reporting for duty during the H1N1 pandemic. The results suggested that increased pay and punishment could not motivate the minority of the healthcare personnel who had a negative attitude towards working during the Influenza. Therefore pay did not influence nor did it motivate willingness to report to work for healthcare personnel that is unwilling to report to work during an influenza epidemic. A similar result was reported by (Irvin, Cindrich Patterson & Southall, 2008) in California during an avian flu

outbreak. This implies that perception of pay satisfaction/dissatisfaction may not necessarily motivate withholding effort among healthcare workers because this group of workers is believed to value the “call to serve” than pay as a motivator as claimed by Singh and Loncar (2010).

Asekun (2015) confirmed the existence of a positive relationship between salary and job happiness and went on to argue that pay and job satisfaction may be used to forecast employee turnover. Asekun's (2015) findings are backed up by Ali and Qun's (2019) findings, which found a favourable association between income, job performance, and job satisfaction among nurses. The findings show that more remuneration can help nurses perform better on the job (Ali & Qun, 2019).

From the reviewed studies, a triad relationship was discovered among pay satisfaction, job satisfaction and turnover. Mostly, pay satisfaction did not directly influence turnover, rather, most of the employees felt dissatisfaction with their job which consequently resulted in turnover or intent to turnover. These findings imply that, if employees’ subjective perception towards their pay could influence dissatisfaction with their job and eventual turnover and withdrawal behaviour, it is practical to expect that these same beliefs and perceptions will exert significant influence on their tendencies to withhold effort. On the other hand, it is important to note that, in Nigeria, due to the unavailability of employment and problems of underemployment, employees are not readily ready to leave their jobs because of pay dissatisfaction, bad working conditions, and other fundamental issues in the workplace, rather, they complain, go on strike and withhold effort. Besides, studies have revealed that pay satisfaction does not have the power to influence healthcare workers’ behaviour to work during epidemics or pandemics rather, they are motivated to work due to their duty to care.

In summary, virtually all the reviewed studies above show that pay satisfaction influences job dissatisfaction which then predicts factors related to withholding efforts such as

withdrawal and turnover intention. These findings imply that the negative relationship between pay satisfaction and turnover/withdrawal behaviours can predict employees' effort propensity, that is, the higher the perception of satisfaction with pay the lower the tendency to withhold effort by healthcare workers in the event of an outbreak of a deadly communicable disease.

2.2.4 Risk perception and effort propensity

The nature and severity of the disease are key factors that may influence an employee's risk perception concerning withholding effort during a communicable disease outbreak. It is expected that as humans, healthcare workers should be terrified during high pathogenic and virulent (Alwidyan, 2017) communicable disease outbreaks and may withhold effort based on their perception of risk to care for the infected. This assertion was confirmed by Sokol (2006) who reported that many healthcare personnel blatantly declined to provide care for infected HIV/AIDS patients during the HIV/AIDS epidemic in the United States in the eighties (the 1980s) and during the SARS outbreaks in Toronto in 2003 due to the risk involved. Also, Qureshi et al. (2005) found out that the ability and willingness of healthcare workers to work during disease outbreaks are lowest in events with the highest perceived risk.

Reviewing a study conducted by Algarni, Almalki and Al-Raddadi (2017) on healthcare workers' preparedness for epidemic and pandemic events in the Ministry of Health hospitals in Jeddah, they reported that the majority of the healthcare workers sampled reported that their profession exposes them to the risk of infection. While more than 60% of the healthcare workers accepted occupational exposure to infection as part of professional duty, the minority of the healthcare workers terminate their contract to care for their patients and think to quit their work during epidemic and pandemic events (Algarni, Almalki & Al-Raddadi, 2017).

A study conducted by Qureshi, Gershon, Yamada and Li (2013) presented that risk perception in terms of the degree of personal concern for one's safety influenced healthcare

workers' willingness to report to work during the influenza pandemic in Hawaii. This indicates that the perception of risk is associated with the work environment and organisational support, which implies that healthcare workers may withhold effort during an epidemic due to risk perception. Similarly, Weng, Bhembe, Chiou, Yang and Chiu (2016) researched on "perceived risk of tuberculosis infection among healthcare workers in Swaziland", they reported healthcare personnel in various fields of medicine perceived the risk of tuberculosis infection as high, but the study did not report the effect of healthcare personnel perception of risk on performance levels or withdrawal behaviours.

Similar to the findings of Weng et al (2016), Dionne, Desjardins, Lebeau, Messier and Dascal, (2018) reported a significant relationship between risk perception and personal/work activities in intended presence at work during an influenza pandemic. Though it was reported that the risk perception score of overestimating the risk of an influenza pandemic was not significant yet participants overestimated the risk of personal and work activities, this means that, study participants who overrated the personal activity risk perception and work activity risk perception have a lower probability of being present at work while participants who underrated the work activity risk perception and personal activity risk perception were more likely to be present at work (Dionne et al., 2018). The result further give details that the main significant variables that explain the individual risk perception probabilities are knowledge of the disease and deaths, having children, workplace, profession, the main task at work, full-time work, years of experience in health care, and personal health, availability of vaccine (Dionne et al., 2018). The study implies that healthcare workers' overestimation of the risk of personal and work activities could influence withholding of effort during an epidemic.

A study conducted by Gee and Skovdal, (2017) reported that the risk perception of becoming infected with the Ebola virus was significantly modified by the health personnel's self-efficacy and confidence (Gee & Skovdal, 2017). The result also exposed numerous other

contributing factors that influence the risk level of the healthcare workers such as previous fieldwork in infectious diseases, skill and knowledge of the disease (Gee & Skovdal, 2017). Besides, messages from the media, which are often inaccurate and sometimes escalated, and fears of friends and family were also expected to influence feelings of risk but surprisingly the participants were not impacted negatively. This study exposes that perceived risk could influence employees' behaviour such as withholding effort, implying that healthcare perception of risk as high can be doused by self-efficacy and curiosity.

Similar to the findings of Dionne, et al (2018), Aluko, Adebayo, Adebisi, Ewegbemi, Abidoeye and Popoola, (2016) reported that 96.2 % of their participants believed they were at risk of occupational hazards while about two-thirds perceived the risk as high. The potential outcomes of occupational hazards were risk of infection (e.g. from needle prick injury), musculoskeletal problems (e.g. low back pain), and stress-related conditions arising from intense job demands, consequent of inadequate staffing (Aluko, et al, 2016). Healthcare workers' perception of risk was identified as very high and the majority of the participants (278 out of 290 participants) felt they were at risk of occupational hazards and this could have an impending effect on withholding effort behaviour in the face of a deadly epidemic.

Besides, just like tuberculosis, methicillin-resistant staphylococcus aureus poses a public health menace for healthcare workers at their various health facilities of the work environment. Because of this perceived threat, Kouabenan, Dubois, Gaudemaris, Scarnato and Mallaret (2007), studied the "risk perception of contamination by methicillin-resistant staphylococcus aureus (MRSA) among healthcare personnel in a French university hospital". The results revealed that the risk of Methicillin-resistant staphylococcus aureus contamination was well perceived as a whole by healthcare personnel, however, certain factors like proximity to patients and length of service tended to be accompanied by an underestimation of the risk, while other factors like little education, working part-time, and a lack of experience tended to

cause overestimation (Kouabenan, e al, 2007). This study vehemently supports that healthcare workers do believe and perceive they are at risk of getting infected at work but the support from the organisations and experience on the job can reduce the perceived risk as reported by Kouabenan et al. (2007). The study, therefore, implies that risk perception, which can be a function of employee's experience and information about the disease, can influence healthcare workers' to offer effort propensity during communicable disease outbreak while on the other hand lack of experience can lead to overestimation of risk and lead to higher tendency to withhold effort.

In summary, the studies on healthcare workers' risk perception reported optimistic results that though healthcare workers perceive risk on the job, due to the nature (hazard) of their work, curiosity and experience (length of service) can moderate this perception of risk be underestimated as low.

2.2.5 Self-efficacy and effort propensity

Self-efficacy is a significantly more consistent predictor of behaviour and behavioural change than any of the other closely related expectation variables, according to Graham and Weiner (1995). Reviewing the work of Eze and Ikebuaku (2018) on “occupational self-efficacy as antecedents of organisational commitment among Ajaokuta steel company workers in Ajaokuta, Kogi State”, regression analysis findings indicated that occupational self-efficacy is a significant determinant of organisational commitment. The study proves that high self-efficacy influences a high level of commitment towards the organisations (Eze & Ikebuaku, 2018). Invariably, the low self-efficacy of healthcare workers may influence a high tendency to withhold effort since commitment and withholding of effort can be said to be at the two ends of a performance continuum.

Similar to the result of Eze and Ikebuaku (2018), an earlier study carried out among healthcare workers by Garcia (2015) pointed out a statistically significant direct relationship between self-efficacy levels and commitment levels among certified clinical perfusionists. From the study, participants with higher self-efficacy scores had higher corresponding commitment scores. After controlling for the effects of age and the number of years practicing perfusion, the relationship between self-efficacy and commitment remains statistically significant (Garcia, 2015). This finding suggests that self-efficacy can influence healthcare workers' effort propensity during a communicable disease outbreak, it is thus expected that healthcare workers that have high self-efficacy will have a lower tendency to withhold effort.

Among Nigeria industrial employees, Olusola (2011) investigated the predictors of job performance where factors such as self-efficacy, intrinsic motivation, and job satisfaction together were indicted capable of significantly predicting the job performance of industrial workers. Specifically, self-efficacy pointedly predicted the job performance of industrial workers (Olusola, 2011), therefore confirming Bandura's 1987 and 1988 research findings that self-efficacy can produce the designated level of performance (Olusola, 2011). Also, research studies have demonstrated that self-efficacy affects the level of motivation, learning, and achievement (Pajares, 2002; Schunk & Pajares, 2002). Since self-efficacy can predict behavioural changes in the workplace, the researcher believes that self-efficacy will be able to predict effort propensity intentions among healthcare workers during changes in the work environment due to the outbreak of communicable diseases.

Self-efficacy has also been studied among healthcare workers specialising in diabetics' patient care. The relationship surrounding self-efficacy, professional commitment, and job satisfaction of diabetic medical care personnel was probed by Wu, Lee, Liang, Chuang, Lu and Wu (2012). Two hundred and two participants specialising in diabetics' patient care were

recruited for the research. A positive relationship was reported (Wu et al., 2012). The study shows that knowledge of the self-efficacy and professional commitment of medical and nursing personnel can help increase job satisfaction and probably reduce the effort propensity of medical and nursing care personnel.

The effect of self-efficacy on the performance and attitudes of telecommunications field service technicians whose jobs had undergone a major technological change was scrutinized by studying the effect of self-efficacy on the performance and attitudes of the technicians due to technological change and development in the world specifically in the workplace. McDonald and Siegall (2012) solicited the cooperation of 205 technicians to complete a survey that assessed TSE as well as job attitudes, behaviours, and performance. McDonald and Siegall (2012) found that technical self-efficacy was positively connected with satisfaction, commitment, effort quality, and high quantity, comparable to Wu et al., (2012).

Examining the study of Park and Kim (2013) on dental hygienists' self-efficacy and intention to leave the organisation, two hundred and six dental hygienists were selected as participants for the study through convenience sampling technique from various dental care organisations in Cheonbuk Province. It was reported that self-efficiency was influenced by dental hygienists' demographic characteristics such as age, education, length of service and income level, marital status, and job satisfaction (Park & Kim, 2013). It was revealed that dental hygienist self-efficacy had a significant influence on intention to turnover and the most powerful factor was dental hygienist sense of competence, that is, the higher the dental hygienist self-efficiency, the lower the turnover intention. The findings of Park and Kim (2013) conforms with the findings that the positive effect of self-efficacy on job performance impacts job satisfaction among automobile salespersons of Taipei, Taiwan (Lai & Chen, 2012).

In the same disposition, Waeyenberg, Decramer and Anseel (2015), examined the effect of quality and frequency of supervisory feedback on home nurses' turnover intentions. With a convenience sample of three hundred and twelve home nurses selected from health care organisations in Flanders, Belgium, the collected data revealed that low quality of feedback results in lower levels of turnover intentions (Waeyenberg, Decramer & Anseel, 2015). The reported influence of quality of feedback on turnover intentions was fully mediated by home nurses' self-efficacy. Notably, regular positive feedback was directly related to lower turnover intentions while the relationship between regular negative feedback and turnover intentions was conditional on home nurses' level of self-efficacy (Waeyenberg, Decramer & Anseel, 2015).

In summary, the reviewed studies above confirmed that employees' self-efficacy predicts their performance at work. The belief that humans have in their ability to complete a task successfully usually sustains them in completing a difficult task even at work. Based on this backdrop, the researcher feels that self-efficacy can predict the effort propensity among healthcare workers during organisational change such as during an outbreak of deadly communicable diseases.

2.2.6 Perceived Vulnerability to disease and effort propensity

Belief in one's vulnerability to disease can make one averse to the cause of the vulnerability, be it human or animal. It is expected that persons who feel vulnerable to a disease respond more sensitively to disease threats (Miller & Maner, 2012) and avoid contact with anyone they perceive to be a threat to their health, well-being and life. Reviewing a study conducted by Okpala, Uwak, Nwaneri, et al (2017), on nurses' knowledge and attitude to the care of HIV/AIDS patients in South East, Nigeria among 240 nurses, the result revealed that fear of contagion, social stigma and culture negatively influenced nurses' attitude in caring for people living with HIV/AIDS. This study shows that healthcare workers' subjective perception

of vulnerability to diseases (fear of contagion) can influence negative behaviour (e.g. withholding effort) towards their patients or the organisations.

Similarly, in a study conducted by Goh (2020) on how the perception of vulnerability to diseases predicts support for the restrictive policy in response to the Covid-19 outbreak among 214 participants, using a descriptive scenario of the pandemic, the result revealed that perceived vulnerability to disease predicted support for restrictive policy on China because of the belief that the disease originated from Wuhan, China. The support for banning any person who has been in China in recent times to avoid disease transmission into another country simply corroborates Miller and Maner, (2012) assertion that humans will try to avoid threats or pathogens. This study implies that healthcare workers may decide not to report for work or close their health facilities against anybody perceived to be a carrier of such a virus.

Prokop and Kubiato (2014) in their study on predictors of environmental attitudes, hypothesized that individuals who perceive themselves as vulnerable to disease might protect themselves by increasing pro-environmental efforts. Using the disease-threat model, they reported that individuals that perceived vulnerability engaged more in pro-environmental behaviours when compared against the individuals that perceived themselves as less vulnerable to disease. This means that a high perception of vulnerability to disease influenced the consciousness of avoiding actions that can degrade the environment and cause disease, meaning that, high perception of vulnerability to disease can influence healthcare workers to avoid persons believed to be infected by diseases, thereby withholding effort.

In another study on the perception of the vulnerability of healthcare workers, Chen and Han (2010) believed that nurses are to take care of all patients (Brown, 2004) regardless of their ailment. To test this opinion, the nurses' perception of vulnerability to HIV disease was assessed and the result revealed that lower-ranked nurses had higher perceived vulnerability to

HIV disease compared to high ranked nurses. Also, freshly graduated nurses reported a perceived lower vulnerability to HIV infection (Chen & Han, 2010). From this study, it was discovered that nurses' knowledge of HIV impacted their perception of vulnerability, that is, nurses with good knowledge of HIV exhibited lower perceived vulnerability of contracting HIV. The study confirmed that nurses who perceived high vulnerability to diseases such as HIV/AIDs exhibited negative behaviour towards people living with HIV/AIDS (Chen & Han, 2010). The negative or prejudicial behaviour maybe towards the patients or health institutions and it may include withdrawal behaviour. This study strongly implies that rank and knowledge of the disease influence healthcare workers' perception of vulnerability. Healthcare workers who perceive high vulnerability to disease may probably withhold effort than their colleagues who perceive low vulnerability to disease such as tuberculosis, though, this was not stated in the study.

Similar to the investigation of Chen and Han (2010), Stahl and Metzger (2013) investigated the issue of perceived vulnerability to disease among undergraduate students. Their result revealed that students who perceived themselves as more vulnerable to disease and have little knowledge about the aging progression reported negative ageist behaviour. This means that knowledge about a subject matter and one's susceptibility level to disease is very important in influencing positive or negative behaviour. This implies that healthcare workers' perception of vulnerability to disease and knowledge they have about a communicable disease can influence positive behaviour such as giving extra effort or negative behaviour such as withholding effort.

In summary, the reviewed studies above confirmed that individuals' perceived vulnerability to disease influences their behaviour towards others, particularly, people suspected to be infected with transmittable diseases. In the bid to protect themselves, healthcare

workers may withhold effort. Based on this backdrop, the researcher feels that perceived vulnerability to disease can predict healthcare workers' effort propensity during an outbreak of deadly communicable diseases.

2.2.7 Perceived organisational support and employee resilience

Due to the proposed relationship between perceived organisational support and employee resilience, a comparative study was carried out on “organisational support as increment and predictor of employee resilience” (Haider & Abid, 2017). The study is aimed at studying how well the organisations support employees' wellbeing, growth, and goals. One hundred and twenty-nine employees were selected through purposive sampling from private and public sectors. Haider and Abid (2017) reported that there was a positive correlation between organisational support and employee resilience; this means that employees' perception of high organisational support was associated with a higher level of resilience (Haider & Abid, 2017). Furthermore, the result revealed that private-sector employees were found to have a higher level of organisational support than public sector employees (Haider & Abid, 2017). This study is supported by Tonkin (2016) who reported a significant positive relationship between employee resilience, trait resilience, adaptive capacity and perceived organisational support.

Reviewing the work of Lee, Forbes, Lukasiewicz, Williams, Sheets, Fischer and Niedner (2015) on promoting staff resilience in paediatric intensive care units, 20 paediatric team leads, and 1066 staff members were surveyed. In line with Haider and Abid (2017) result, Lee et al., (2015) reported that factors relating to the perception of organisational support such as taking a break from stressful patients, compulsory leave after patients death, provision of palliative care for staff and planned social activities promoted and had an impact on staff resilience. Though, the impact was different for various professional groups and units with high/low teamwork environments. A similar result was reported by Khalid, Khalid, Qabajah,

Barnard and Qushmaq, (2016) among healthcare workers in Saudi Arabia. This implies that perception of organisational support can promote healthcare workers' tendency to withhold effort or not during an outbreak of deadly diseases.

During the respiratory syndrome coronavirus (MERS-CoV) outbreak in Saudi Arabia, Khalid, Khalid, Qabajah, Barnard and Qushmaq (2016) surveyed 150 healthcare workers who operated in great danger areas from April to May 2014. The results revealed that the central opinions were centred upon perceived risk factors; fear of personal safety and well-being of colleagues and family (Khalid, Khalid, Qabajah, Barnard & Qushmaq, 2016). The result revealed that positive attitudes in the workplace such as appreciation and recognition of efforts by hospital management, provision of infection control guidance and equipment would entice healthcare workers to work during future epidemics.

In summary, the reviewed study shows that perceived organisational support influences employees' resilience in an organisation. Because the studies reveal a favourable association between high perceived organisational support and high resilience, the researcher will test this hypothesis.

2.2.8 Pay satisfaction and employee resilience

Reviewing the work of Shatté, Perlman, Smith and Lynch (2017), they reported that people surveyed in their study who had high levels of education and income scored low on resilience (Shatté, Perlman, Smith & Lynch, 2017). Their report explains that employees' high pay can lead to burnout and loss of productivity (Shatté, Perlman, Smith & Lynch, 2017). This ultimately means that making a high wage does not necessarily make a person more resilient than her co-worker earning a lesser wage. The study shows that resilience is a unique attribute that is independent of employees' income or education.

Similar to the result of Shatte et al., (2017), a study carried out by Kim, Oh and Park (2011) on nurses' resilience, occupational stress and satisfaction among 433 nurses working at a university hospital in Jin-ju, Korea reported that nurses with lower annual income reported higher levels of resilience than their counterpart who earned higher annual income. In addition, Kim, Oh, and Park (2011) found that resilience had a negative relationship with occupational stress and a positive relationship with occupational satisfaction. A similar result was also reported by Pepe (2011) this means that employees who have a high level of resilience will perceive high job satisfaction.

Reviewing the study of Pepe (2011) on the relationship of principal resiliency to job satisfaction and work commitment among 627 principals in Florida, Pepe (2011) found a relationship between job satisfaction and principal resilience, work commitment and principal resilience but no relationship was found between principal salary and principal resilience. The study reported that job context factors such as years of experience, school location, school poverty rate, school level, principal salary and student enrolment did not influence the resilience of principals, rather, the job content factors such as job satisfaction and commitment promoted resilience of principals. This study confirms that income does not promote resilience.

A study on predictors of post-disaster psychological resilience found that resilience prevalence was associated with participants' gender, age, ethnicity, education and predicted traumatic stress. It is determined by degree, changes in income, social support, the incidence of chronic illness, and stressors of past and past life. Most importantly, they reported that income was an important predictor of mental resilience. Those who experienced a loss of income as a result of the 9.11 attack were less than half as likely to experience psychological resilience as those who had no income loss (Bonanno, Galea, Bucciarelli & Vlahov, 2007).

The result indicated that prevalence of resilience was uniquely predicted by participant gender, age, race/ethnicity, education, level of trauma exposure, income change, social support,

frequency of chronic disease, and recent and past life stressors. Most importantly, they reported that income was a significant predictor of psychological resilience; compared with participants with no income loss, those who experienced income decline as a result of the September 11 attack were less than half as likely to be psychologically resilient

The reviewed studies support the assertion of Singh and Loncar (2010) that healthcare workers are motivated by job satisfaction and not their paychecks. The result of the reviewed study implies that healthcare workers' positive perception of pay satisfaction may not necessarily make them resilient to work during a communicable disease outbreak such as tuberculosis, as they may be motivated to save lives. In summary, the relationship between pay satisfaction and employee resilience was confirmed through income but the true direction of this relationship in terms of inverse/direct relationship has to be ascertained. This study will therefore confirm this relationship; that is if a higher level of pay satisfaction will make healthcare workers more resilient or less resilient during a communicable disease outbreak.

2.2.9 Risk perception and employee resilience

The study of Yildirim, Arslan & Ozaslan (2020) on coronavirus 2019 revealed that perceived risk predicted depression and stress but did not predict the resilience of healthcare professionals directly caring for COVID-19 patients. A similar result was reported in a correlational study that concluded that risk propensity is not a consequence of the person's resilience but of the person's mood, positive and negative affect during adversity in the workplace (Yanez, 2019).

According to Malik, Shahzad, and Raziq's (2020) research on the perceived danger of terrorism among frontline healthcare workers in Pakistan's polio eradication campaign, perceived risk of violence increases fear of violence while decreasing work engagement. Importantly, the data showed that perceived terrorist risk and trait resilience acted together to

predict job commitment, with higher trait resilience among healthcare professionals lowering the detrimental impact of perceived terrorism on work engagement. This simply means that trait resilience mitigated the detrimental effects of terrorism's perceived threat and dread on workplace engagement (Malik, Shahzad & Raziq, 2020). This means that the resilience of healthcare personnel can minimize their perceived risk of working during a communicable outbreak and encourage them to keep working.

Simione & Gnagnarella (2020) investigated the risk perception, behaviour, and psychological distress during the COVID-19 outbreak in Italy, the result revealed that health personnel's reported higher risk perception and a higher level of worry related to the COVID-19 infection compared to the general population and this impacted the healthcare workers' well-being. Finell and Vainio (2020) also reported that healthcare workers reported a high perception of risk during an epidemic or pandemic.

2.2.10 Self-efficacy and employee resilience

In investigating the role of employee resilience among healthcare workers, Wang, Tao, Bowers, Brown and Zhang (2018) reported that the relationship between co-worker support on nurse resilience was fully mediated by self-efficacy. Friend support had a significant positive direct effect on self-efficacy and an indirect effect on nurse resilience (Wang, Tao, Bowers, Brown & Zhang, 2018). The result of Wang, Tao, Bowers, Brown and Zhang, (2018) study explains the importance of administrators/managers understanding how to promote co-worker support, increase self-efficacy, foster a positive work climate, and develop effective mentorship programs to improve healthcare workers resilience and mitigate factors leading to turnover (Wang, Tao, Bowers, Brown & Zhang, 2018).

In an investigative study on resilience in Guangzhou, researchers identified that building resilience in nurses is recognized as an important factor that helps maintain their health

and stay in their profession (Ren, Zhou, Wang, Luo, Huang & Zeng, 2017). Using a cross-sectional survey, 1356 nurses from 11 general hospitals in Guangzhou, China were assessed. The regression analysis affirmed that the factors which influence the resilience of nurses include self-efficacy, coping style, job stress, and education level (Ren, Zhou, Wang, Luo, Huang & Zeng, 2017). According to their study, a positive relationship exists between nurses' self-efficacy and resilience, this means, nurses' low self-efficacy influences low resilience. Also, the study validated that nurses in China have low self-efficacy and high job stress but this may be attributed to the social attitude in China that encourages the public to respect doctors but despise nurses (Ren, Zhou, Wang, Luo, Huang & Zeng, 2017) Consequently, nurses lack sufficient self-esteem and self-confidence in China (Ren, Zhou, Wang, Luo, Huang & Zeng, 2017). A similar result was reported by Guo, Cross, Plummer, Lam, Luo and Zhang (2017) among nurses in the mainland, China.

Among nurses in mainland China, Guo, Cross, Plummer, Lam, Luo and Zhang (2017), explored predictors of resilience. They considered resilience as an important ability to influence the prevention of job dissatisfaction and burnout. Data was collected from 1061 nurses from hospitals in Hunan. They reported that nurses experienced moderate levels of resilience and self-efficacy and tended to use a positive coping style (Guo, Cross, Plummer, Lam, Luo & Zhang, 2017). The multiple linear regression showed that a high level of self-efficacy and education, having a positive coping style rather than a negative coping style, exercising regularly, and not using cigarettes predicted a high level of resilience among the nurses (Guo, Cross, Plummer, Lam, Luo & Zhang, 2017).

In summary, the reviewed studies exposed that a relationship does exist between self-efficacy and employee resilience, this means that employees' level of self-efficacy can predict employees' resilience level. A positive relationship is therefore postulated that; healthcare workers who have high self-efficacy will have a higher level of employee resilience during a

communicable disease outbreak to work despite challenges posed to their work and life during such epidemics and vice versa.

2.2.11 Perceived vulnerability to disease and employee resilience

In the examination of patient care and the healthcare profession, the words “vulnerability” and resilience are quite common. Resilience and vulnerability are reported to have a co-dependent relationship as resilience interacts with vulnerability and they are both multifaceted, founded on factors such as individual circumstances, supports, and resources. Reviewing the work of Bozdag and Ergun (2020) on the psychological resilience of healthcare professionals during the COVID-19 pandemic, it was found that worry about becoming infected by the virus (perceived vulnerability to disease), occupation among other factors significantly predicted healthcare workers’ psychological resilience. Specifically, heightened worry about being vulnerable to the virus and being a physician lowered psychological resilience level.

Focusing on the well-being of healthcare workers during the COVID-19 outbreak, Lam et al., (2020) investigated among healthcare workers predictors of depressive symptoms in China and Hong Kong. Similar to Bozdag and Ergun’s (2020) findings, Lam et al., (2020) found that vulnerability to contracting COVID-19 was strongly associated with depression. This means that healthcare workers who felt highly vulnerable to the disease will not be able to cope or thrive (resilience) during the pandemic, rather they will fall into depression.

Contrary to the findings of Bozdag and Ergun (2020); Lam et al. (2020), in a study among frontline nurses in Hail, Pasay-an (2020) investigated the impact of nurses’ vulnerability to COVID-19 on their perceived stress. Using the snowball sampling technique, 176 frontline nurses participated in the study and the result revealed that frontline nurses reported that they felt highly vulnerable to contract COVID-19. Also, it was found that there was no significant relationship between perceived vulnerability to disease and perceived stress of frontline nurses.

This means that a high or low perception of vulnerability to disease does not result in high or low stress. Since resilience is coping under stressful conditions, this study has implications on the resilience of the nurses as it can be deduced that perception of vulnerability may not influence the nurses' resilience.

In line with Pasay-an's (2020) findings of high perception of the vulnerability of disease (COVID-19) among nurses, Puci et al. (2020) investigated among healthcare workers their worries, risk perception, and psychological effects of COVID-19 in Italy. It was reported that the perception of vulnerability or of getting infected was higher among physicians and nurses than in administrative staff. Similarly, Wei et al (2020) reported that healthcare workers were more vulnerable to COVID-19 because of working in hospitals than non-healthcare workers. It is important to note that these three studies (Pasay-an, 2020; Puci et al., 2020; Wei et al., 2020) reported the high vulnerability to disease, specifically COVID-19, among healthcare workers, but none related their perception to resilience or work outcomes.

Manomenidis, Panagppoulou and Montgomery (2019) examined the impact of personal characteristics and coping strategies on nurses' resilience among nurses in Greece. They reported that nurses educational level, anxiety, and use of mental preparation strategies predicted nurses' resilience. This means that nurses who use mental preparation strategies before their work and have a higher educational level with lower anxiety were reported to have a higher level of resilience than their counterparts who do not use mental preparation strategies and have a lower level of education and higher anxiety. A similar result in terms of a high level of anxiety resulted in a lower level of resilience was reported by Setiawati et al (2020) among healthcare workers in Indonesia.

Reviewing the work of Velikonja et al. (2021) on the association between the use of preventive measures and anxiety levels in Slovenia at the beginning of the COVID-19 pandemic. Data was collected from 7,764 participants via an online survey using snowball

sampling and the result revealed a very strong association between the efficacy of preventive behaviours (quarantine, washing of hands, disinfection of surfaces and wearing a mask) and levels of anxiety, perceived infectability and germ aversion. This means that participants that reported a high level of anxiety and high perception of vulnerability to disease (infectability and germ aversion) engage more in preventive behaviour. Since resilience is the ability to cope and thrive during difficult times, this implies that healthcare workers who perceive themselves as more vulnerable to disease may tend to develop a higher level of resilience in terms of engaging in preventive behaviours during a communicable disease outbreak. A similar result that is high anxiety (perceived vulnerability) results in higher preventive behaviour (resilience) was reported in Taiwan (Wong, Hung, Alias & Lee, 2020).

In summary, individuals reported a high perception of vulnerability to disease due to disease outbreaks and this was confirmed to be higher among healthcare workers in studies that compared between healthcare workers and the general population. Also, while some studies reported a relationship between perceived vulnerability to disease and resilience (Bozdag & Ergun, 2020; Lam et al., 2020) in terms of anxiety and protective behaviours (Velikonja et al., 2021; Hung, Alias & Lee, 2020) others found no relationship between the two variables (Pasayan, 2020; Puci et al., 2020; Wei et al., 2020).

2.2.12 Employee resilience and effort propensity

Employee resilience has been implicated to influence higher performance in changing times in organisations, hence the need to review studies conducted in this area. Reviewing the work of Trifoglio (2018), the study used a positive psychology framework to define resilience as an individual's developable ability to "bounce back" from adversity. During the spring of 2016, data was collected from 396 hospital nurses at a Finnish university hospital. The findings revealed that elderly nurses were relatively resilient, with a high perception of their workability

and job satisfaction. Furthermore, the results of this study revealed several significant connections between resilience, work-related characteristics, and organizational practices. Workability and job satisfaction were found to be positively connected to resilience.

Similarly, Maidanuic-Chirila (2015) reported that resilience partially mediated the affiliation in the middle of office harassment and physical strain among employees. This means that employees who have high resilience have lower physical strain due to workplace bullying. Also, Malik and Garg (2017) reported related results in their study on the mediating role of employee resilience.

Caverly (2005) investigated the major occupational resiliency and coping traits that influence employees' health and productivity in the public sector. Employees who were resilient in this study had high self-esteem, were adaptable to change, optimistic, and had an internal health locus of control, according to the findings. In handling and resolving crises, resilient employees usually used a combination of problem-solving, self-control, accepting responsibility, empathy, and distancing coping methods. High perceived health ratings, increased duration and frequency of physical activity, decreased visits to a physician, low burnout rates, low absenteeism rates, and decreased consumption of alcoholic beverages and prescription medication appeared to be associated with these characteristics and behaviours.

2.2.13 Summary of the reviewed studies

The summary of the reviewed studies shows that little effort has been invested in studies on effort propensity as it relates to working during disease outbreaks, hence, related terms to withholding effort in the workplace were reviewed and their implication on the research interest was clarified. In essence, the studies reviewed focused on willingness to work during disease outbreaks, natural disasters and epidemics, organisational commitment, withdrawal, turnover

intention, burnout, and other related organisation withdrawal behaviour. Overall, the review of related studies exposed the relationship between the suggested predictors of withholding effort (perceived organisational support, pay satisfaction, risk perception, self-efficacy and perceived vulnerability to disease) and factors related to the effort propensity such as unwillingness to work during disease outbreaks, organisational commitment, withdrawal, turnover intention, burnout and other related organisation withdrawal behaviour.

In specifics, reviewed studies examined perceived organisational support with the provision of personnel protective equipment such as face/nose mask, gloves and vaccine against the disease, provision of information on the disease, feedback, transportation; which were reported to predict willingness to report during disease outbreaks and epidemics among healthcare personnel (Qureshi et al., 2013; Devani, 2010; Barnett et al., 2010; Rutkow et al., 2017; Stergachis et al., 2011). Precisely, the reviewed studies reported that negative perception of organisational support influenced: high level of burnout (Eze, 2014), withdrawal behaviour (Joy & Chiramel, 2016), employee intention to turnover (Arshasi, 2011; Hussain & Asif, 2012) while the positive perception of organisational support influenced: in-role performance (Asuquo, 2011) and commitment (Arshadi, 2011; Malik, Kami & Nadeem, 2016). However, contrary findings, low perception of organisational support influenced a higher level of effort was reported by Caudil and Patrick (1992); Oueghlissi, 2013). Hence, it is safe to hypothesize a relationship between perceived organisational support and effort propensity to ascertain the direction of this relationship.

The reviewed studies revealed that healthcare workers in Nigeria specifically reported dissatisfaction with salary and benefits (Edoho, Bamidele, Neji & Frank, 2015; Gyang, Dankyau, Gidado, Gyang, & Madaki, 2018; Asekun, 2015) which led to job dissatisfaction. Studies from outside Nigeria also confirmed that low pay leads to high turnover and effort withdrawal actions (Masum et al., 2016; Currall, Towler, Judge & Kohn, 2005; Jung & Joon,

2015; A'yuninnisa & Saptoto, 2015) but that dissatisfaction with the job propels withdrawal and turnover (Singh & Loncar, 2010; Cindrich, Patterson & Southall, 2008) and low commitment (Lum et al., 1998) more than dissatisfaction with pay while performance-based financing reduced turnover intention (Shen et al., 2017). Notably, the incentive of salary increase did not motivate unwilling healthcare workers to report to work during disease outbreaks (Khan & Johani, 2014; Irvin, Cindrich Patterson & Southall, 2008). It is important to note that most of the studies on pay satisfaction focused on the relationship between pay satisfaction and job satisfaction and failed to relate pay satisfaction consequences directly with withdrawal behaviour in the workplace.

Risk perception appears to be an important factor in understanding attitudes towards accident prevention and self-protective behaviours. Humanly speaking, people including healthcare workers will generally evaluate and consider the effect of helping others on their wellbeing before engaging in any action, this simply means that evaluation of risk involved in an activity determines and influences the propensity to engage in such actions (Kouabenan, et al, 2007; Qureshi, et al, 2013; Aluko, et al, 2016; Dionne, et al, 2018). Risk perception and estimation of a disease outbreak as high (Aluko, et al, 2016; Qureshi et al., 2005, Qureshi et al., 2013; Weng et al, 2016) is expected to influence higher withdrawal as healthcare workers are least willing and blatantly decline to work when they perceive risk as high (Qureshi et al., 2005; Sokol, 2006) and this estimation of the risk as high or low influences the commitment or withdrawal of effort among healthcare workers (Chang, Du & Huang, 2006). Estimation of risk as either high or low is also influenced by self-efficacy (Gee & Skodval, 2017) and media (Dionne, et al, 2018; Gee & Skodval, 2017). However, factors such as education, experience, long duration of employment, availability of a vaccine, work meaningfulness promote underestimation of risk while lack of education, less experience and short experience of service

promotes overestimation of risk (Kouabenan, et al, 2007, Dionne, et al, 2016) and in turn influence withdrawal and turnover tendencies.

The belief in self as a capable being that can complete a task despite the difficulty involved usually motivates actualization and completion of the task. Self-efficacy has been proved to positively influence a high level of commitment (Eze & Ikebuaku, 2018; Garcia, 2011; Wu et al., 2012; McDonald & Siegall, 2012). Besides, employees high self-efficacy influences high job performance (Olusola, 2011), sense of competence (Park & Kim, 2013), job satisfaction (Lai & Chen, 2012; Wu et al., 2012) and low turnover (Park & Kim, 2013; Waeyenberg, Decramer & Anseel, 2015).

Individuals vary in their perceptions including their perception towards their vulnerability to being infected by a disease. It is the instinct of every human to avoid anything that can cause harm to them, including disease or pathogen (Miller & Maner, 2012; Okpala, Uwak, Nwaneri, et al., 2017). Interestingly, having adequate information/knowledge and educational attainment about a disease reduces the perception of vulnerability towards the disease (Stahl & Metzger, 2013; Chen & Han, 2010; De Coninck, d'Haenens & Matthijs, 2020). Though reviewed studies did not directly link perception of vulnerability to disease to withholding of effort or any component of withdrawal behaviour from work, it can be deduced that effort will be withheld since some of the health workers were reported to be concerned about stigmatization and contacting the disease from their patients (Okpala, Uwak, Nwaneri, et al., 2017). Besides, the general public that had no direct contact with patients as against the healthcare workers, reported a high vulnerability to diseases and supported travel ban on nations that were believed to be the originator of communicable diseases e.g. COVID-19 (Goh, 2020). Conclusively, it was confirmed that a high perception of vulnerability to disease influences negative behaviour (Stahl & Metzger, 2013).

In addition, employees' resilience, that is, the ability to use resources to cope, adapt and thrive in changing environments such as working during a communicable disease outbreak is of great importance to organisations to achieve their goal. Organisations, especially the healthcare sector have to be sure that healthcare workers will adapt to the changes imposed by communicable diseases in the organisations (e.g. health facilities) and how work will have to be done (e.g. use of personal protective equipment and overtime). It is therefore important to know factors that can promote resilience among healthcare workers. The reviewed studies exposed that perception of organisational support promoted resilience among employees including paediatric intensive care staff (Hancock, 2017; Lee et al., 2015; Tonkin, 2016; Khalid et al., 2016; Haider & Abid, 2017). Specifically, a positive relationship was reported between the perception of organisational support and resilience, this means that employees' positive feeling about the organisations in terms of their care and wellbeing promotes their coping, thriving and adaptive behaviour (resilience) at work.

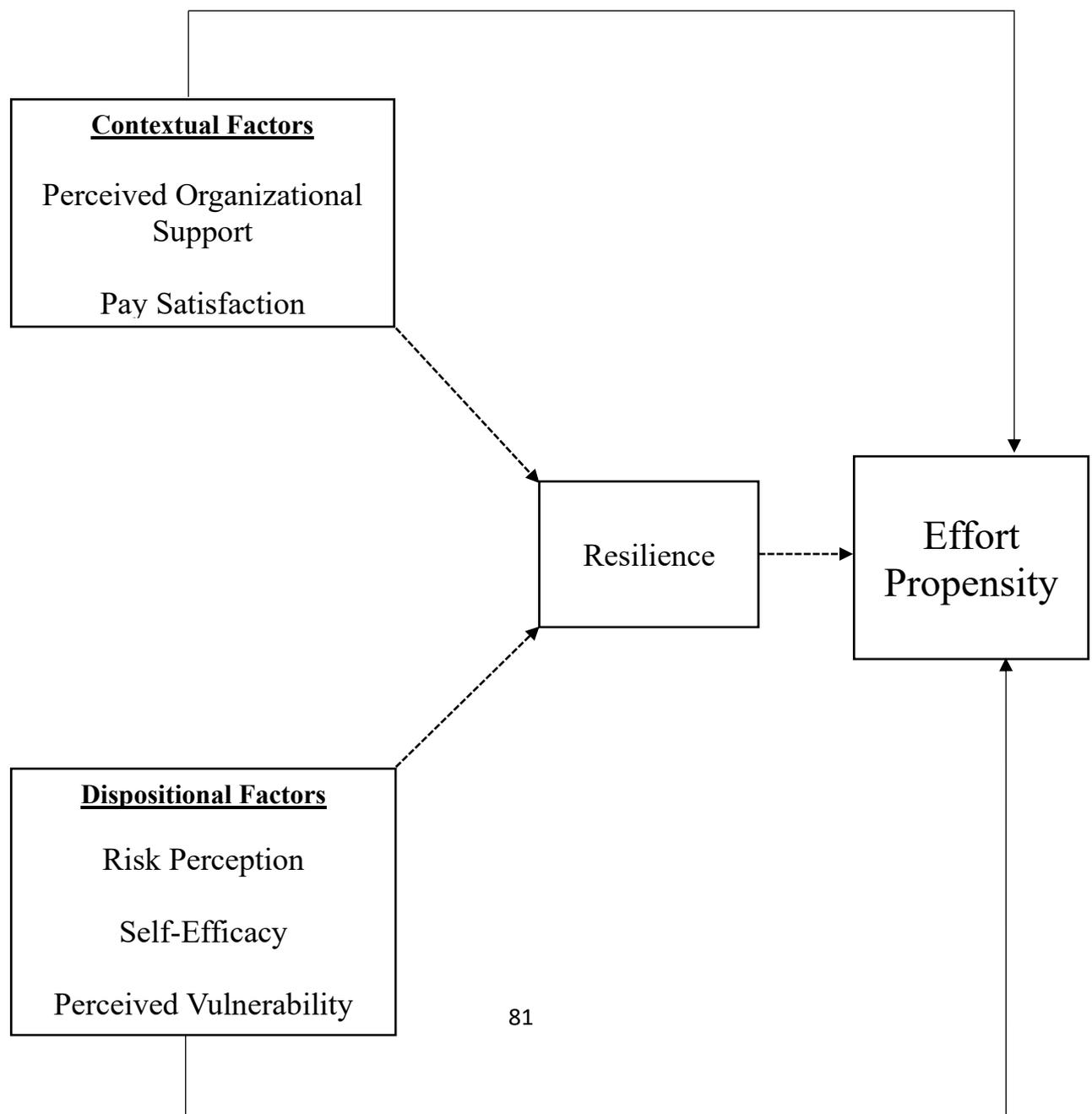
Diverse views were reported in the relationship between pay satisfaction and resilience. Just like in the case of effort propensity, it was noticed that pay satisfaction often directly influenced job satisfaction which in turn influenced resilience. While most studies reported that income predicted resilience (Shatté, Perlman, Smith & Lynch, 2017; Kim, Oh & Park, 2011; Bonanno, Galea, Bucciarelli & Vlahov, 2007) few studies reported no relationship between the two variables (Pepe, 2011). Also, the studies that reported that income predicted resilience reported an inverse relationship, that is, high income influenced low resilience at work (Shatté, Perlman, Smith & Lynch, 2017; Kim, Oh & Park, 2011) while Bonanno, Galea, Bucciarelli and Vlahov (2007) reported a positive relationship between income decline and psychological resilience.

Contrary opinions were recorded in the relationship between risk perception and employees' resilience. While some researchers (Yanez, 2019; Yildirim, Arslan & Ozaslan,

2020) reported that risk perception is not related to resilience, other researchers proved that risk perception predicted employees' resilience (Malik, Shahzad and Raziq, 2020), worry (Simione & Gnagnarella, 2020). Importantly, most studies reported that healthcare workers reported a high level of perceived risk (Finell & Vainio, 2020) and did not examine its influence on employees' resilience or organisational outcomes such as effort propensity. Whereas, the review of related studies exposed a positive relationship between self-efficacy and employees' resilience.

The perception of vulnerability to disease, which is the probability of being infected by a rampaging disease was examined in most studies with worry and anxiety, also, resilience was examined from the protective behaviour angle. Generally, a high level of anxiety and high perception of vulnerability to disease (infectability and germ aversion) influenced engagement in more preventive behaviour (Wong, Hung, Alias & Lee, 2020; Velikonja et al., 2021). Specifically, among healthcare workers, the excessive worry of being vulnerable (Bozdag & Ergun, 2020) and depression (Lam et al., 2020) influenced lower resilience while some researchers (Pasay-an, 2020; Puci et al., 2020; Wei et al., 2020) though found high perception of high vulnerability to disease among healthcare workers did not examine this important perception among these group of workers to their level of resilience or any organisational work outcome.

2.3 Conceptual Framework



Indirect Effect
Direct Effect

Fig: 2.3: *Conceptual framework for the study*

2.4 Hypotheses

The study hypotheses for this study, set in line with the research questions, include:

1. Contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) will jointly predict effort propensity among healthcare workers.
2. Contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) will jointly predict employee resilience among healthcare workers.
3. Employee resilience will significantly mediate the relationship between contextual factors (perceived organisational support and pay satisfaction) and effort propensity among healthcare workers.
4. Employee resilience will significantly mediate the relationship between dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) and effort propensity among healthcare workers.

2.5 Operational Definition of used Terms

1. **Contextual factors** are characteristics unique to a particular group, community, society and individual. In this study, contextual factors are perceived organisational support and pay satisfaction.
 - a) **Perceived organisational support** is the degree to which employees believe their company values their efforts and is concerned about their well-being and workplace safety was measured using the Survey Perceived Organisational Support scale (SPOS) developed by Eisenberger, Huntingdon, Hutchinson and Sowa (1986). The authors reported that a high score above the mean indicates a high level of organisational support and vice-versa. The reported norm for the current study was (\bar{x} =25.94) and (SD=3.63).
 - b) **Pay satisfaction** is the view of an employee's overall good affect (or feelings) toward their salary with that of others. It was measured using the Pay Satisfaction Questionnaire scale developed by Heneman and Schwab (1985). The authors reported that a high score indicates a higher level of pay satisfaction and vice versa. The reported norm for the current study was (\bar{x} =65.10) and (SD=7.80).
2. **Dispositional factors** are individual characteristics that influence behaviour and actions in a person. In this study, the dispositional factors include:
 - a) **Risk perception** is the subjective judgment that people make about the characteristics and severity of a risk and the likelihood of negative occurrences such as injury, illness, disease and death. It was measured with the Risk Perception Scale as adopted from the work of Imai, Takahashi, Hoshuyama, Hasegawa, Lim and Koh (2005). They reported that a high score indicates a higher level of risk perception and vice versa. The reported norm for the current study was (\bar{x} =14.01) and (SD=2.39).
 - b) **Self-efficacy** is defined as one's belief in one's ability to succeed in specific situations or accomplish a task. General Self-Efficacy Scale (GSE) was developed by Jerusalem

and Schwartz (1989). The authors reported scores below 26 will be regarded as those with low self-efficacy while those who score from 26 and above will be regarded as those with high self-efficacy. The reported norm for the current study was (\bar{x} =28.72) and (SD=4.02).

c) **Perceived vulnerability to disease** reflects an individual's belief about the likelihood of a health threat's occurrence or the likelihood of developing a health problem. It was measured with the Perceived Vulnerability to Disease Scale (PVD) developed by Duncan, Schaller and Park (2009). The authors reported that higher scores indicate greater perceived vulnerability to disease and vice versa. The reported norm for the current study was (\bar{x} =41.70) and (SD=6.16).

3. **Effort propensity** reflects the tendency of employees to give less than the required level of effort for the job-related task. It was measured with the Healthcare Workers Effort Propensity Scale developed by the researcher for this study. A high score on the scale reflects a higher tendency to withhold effort by healthcare workers while a low score on the scale reflects a lower tendency of healthcare workers to withhold effort. The reported norm for the current study was (\bar{x} =35.79) and (SD=5.28).

4. **Employee resilience** is the ability of employees to use resources to positively survive, adapt, and prosper in changing environments, encouraged and supported by the enterprise. The authors reported that higher scores indicate higher resilience and vice versa. It was measured with the Employee Resilience Scale (EmpRes) developed by Näswall, Kuntz and Malinen, (2015). The reported norm for the current study was (\bar{x} =25.52) and (SD=3.91).

5. **Socio-demographic characteristics** are characteristics that distinguish a group from another in a population. In this study, socio-demographic characteristics include:

a) Age refers to years of existence since the birth of a human.

- b) Gender: biological identity as male or female.
 - c) Marital status: state of being married, separated, or divorced.
 - d) Primary job category: state of being categorised based on profession and work duty as a doctor, nurse, laboratory technician and pharmacist.
 - e) The number of dependents: state of having others one is in the care of, such as children, parents and parents-in-law.
 - f) Employment status: state of being employed as full-time staff or part-time staff of the hospital.
 - g) Employment duration: refers to the number of years/months an employee has been in the service of an organisation.
6. **A disease outbreak** is the sudden occurrence of several cases of a disease in a community.
7. **Healthcare workers** include medical personnel such as a doctor, nurse, laboratory technician and pharmacist that have contact with patients based on treatment.
8. **Communicable disease**: a disease that is spread from one person to another through a variety of ways that include: contact with blood and bodily fluids; breathing in an airborne virus; or being bitten by an insect.

CHAPTER THREE

METHODOLOGY

The study is in two phases; phase one account for the pilot study which required qualitative research and this informed the independent variables of the study including the development of the healthcare workers effort propensity scale while the second phase is a survey that answers the research questions of this study through quantitative research method.

3.1 PHASE ONE: PILOT STUDY

3.1.1 Research Design

In the first phase, exploratory inquisition on healthcare workers withholding effort tendencies during disease outbreaks was carried out to gather information, establish priorities and acquire new insight about the circumstances surrounding effort propensity during disease outbreaks among healthcare workers. The inquisition was done with the aid of focus group discussion and in-depth interview to identify factors that can predict effort propensity among healthcare workers, and also, to generate items for the healthcare workers effort propensity scale.

3.1.2 Sample and sampling procedure

To get in-depth information and understand the subject matter, a mix of purposive sampling and respondent-driven sampling were used in the qualitative study. These samplings were used because; purposive sampling allows the researcher to select the participants of the study based on set inclusion criteria while the respondent-driven sampling allows the selected respondents or participants to introduce other respondents or participants who meet the inclusion criteria for the study.

In specifics, purposive sampling also called the judgemental sampling technique is an information collection or selection tool in research that involves the deliberate choice of an informant about a topic in a study due to qualities the informant hold while respondent-driven sampling is a chain sampling method that involves respondents referring other respondents they know. The technique is an advancement of the snowball technique that allows the respondents (seeds) to identify at least four other respondents each who fit the criteria of inclusion for the study, these respondents are called weeds, and the weeds get another four participants. Once the seed introduces at least four respondents, they are dropped and the weeds change to seeds once they produce their weed and the circle or chain keeps going till the researcher satisfy the number of respondents needed. The name “respondent-driven sampling” was derived from the technique since the respondent identifies other respondents for the researcher. The sampling method was used because the researcher was interested in interviewing specific healthcare workers who have recently worked in infectious disease units or treated patients with communicable diseases in recent times.

3.1.3 Participants

Twenty-four healthcare workers were engaged in this phase of the study based on the inclusion criteria that they were healthcare workers who have recently experienced and treated patients with infectious diseases such as tuberculosis, HIV/AIDs and Lassa fever.

Specifically, twenty participants were engaged in the focus group discussion while four participants were engaged for the interview.

3.1.4 Eligibility Criteria

- Participants must be healthcare workers.
- Participants must have treated patients with communicable diseases in the last six months.
- Participants must be willing to participate

3.1.5 Procedure

The explorative process started with a semi-structured face-to-face in-depth interview of two medical doctors who are also medical directors of different infectious diseases centres. These participants were purposively selected because of their medical knowledge and administrative background and knowledge. Before the date of the interviews, letters of introduction to the organisations were obtained from the supervisor of the researcher and submitted at the offices of the respondent. The letters were received and confirmation to conduct the focus group discussion was received and dates were scheduled.

The researcher prepared open-ended questions before the interview such as: “what is it like to work in a hospital during a disease outbreak?”, “what motivates healthcare workers to work despite the challenges attached to the health profession?”. These open-ended questions were used to give room for the opportunity for the interviewees to express their thoughts and open grounds for further discussion. The questions for the interview were structured to draw out answers to the issues surrounding working during communicable disease outbreaks and factors that can influence healthcare workers to withhold effort during communicable disease outbreaks. Few structured questions were asked because the researcher adopted the semi-structured interview format and other questions were generated from the discussion and disclosure by the interviewees. The semi-structured interview was used because it generates comprehensive information due to its characteristics of giving room for probing than the structured interview (Berg & Lune, 2012). The responses from these initial in-depth interviews prepared the researcher for the focus group discussion.

The focus group discussion was used to generate more in-depth knowledge on healthcare workers' attitudes and perception to work during disease outbreaks and develop items for the healthcare workers' effort propensity scale and since this is qualitative research, meaning, and understanding of the subject matter was of paramount interest. The conversation of the focus group discussions was centred on issues and discussion that arose from the interviews, such as; factors influencing tendencies to withhold effort during communicable disease outbreaks, motivating factors that propel working with full commitment during the outbreak of communicable disease, the role played during a disease outbreak, differences in a normal work situation and during hospital surge due to an outbreak, ethical issues relating to working during a disease outbreak.

The focus group discussion participants were healthcare workers, majorly purposively selected and referred by the doctors that were interviewed before the focus group discussion. The healthcare workers were nurses and doctors from the Damien Foundation tuberculosis centres at Jericho Chest Hospital and the University College Hospital Ibadan. There were three focus group meetings and twenty participants in all. Since the ideal number of participants for a focus group discussion is between six and eight (Krueger & Casey, 2000), specifically, the first group meeting had six participants in attendance, the second group meeting had six participants in attendance while the last meeting had eight participants in attendance. The discussions were conducted at the nurses' station in the tuberculosis clinic at UCH and the Damien Foundation Hall at Jericho Chest hospital and information collection were through audio recording and note-taking. To avoid fatigue, the meetings lasted from one hour to one hour ten minutes.

3.1.6 Analysis of discussion

After the three meetings, that is focus group discussion, transcribing of the recorded discussion and notes started with the initial coding of the themes generated from the discussion.

The recommendation of Morgan (1988) to use content analysis to analyse information from focus group discussion was followed since it allows having mixed content, that is, qualitative and quantitative results. For the qualitative aspect, the content of the discussions was analysed and coded to get the initial coding (Charmaz, 2006). The “initial coding” involves the development of several categories from the discussion based on a point raised by the participants, thus identifying keywords, emerging ideas, and drawing relationships on respondents’ perceptions (Nyumba, Wilson, Derrick & Mukherjee, 2018). Thereafter, the categories were thoroughly analysed to eliminate some categories that seem untuneful or too subjective and combine the categories that seem similar, following a particular trend to one another, and break down those that seem similar but different in terms of terminology. Attention was particularly placed on the reoccurring themes from all the meetings and interviews. The reoccurring themes of the discussion included: needed support from the organisations, family, and friends’ support, reinforcement in form of money, increase workload, increase stress, belief in self-ability through knowledge and experience, perception of risk involved, vulnerability to sickness, and differences in individual coping ability.

The reoccurring themes were further subjected to respondent validation by nineteen out of the twenty participants of the focus group discussion to confirm the credibility of the coding and content analysis process. Also, a literature search and two phone interviews were conducted, where two medical doctors were engaged to confirm the themes and check for more information on the subject matter. The response content analysis of the focus group discussion used to determine the content loading on a scale of 100% (*see Appendix II*), revealed factors such as level of support from the organisations, salary satisfaction, self-efficacy, perception of risk involved, vulnerability to sickness and workers resilience are consistent themes among the discussion groups and participants. Hence, these factors were dubbed as the predictors of healthcare worker effort propensity during a communicable disease outbreak for this study.

3.1.7 Scale development

The purpose of developing a new scale for effort propensity is to get the appropriate (valid) measuring tool to measure the degree of integrative effort of the health workers during a disease outbreak. Though there is an existing scale that measures general employees' effort propensity, the scale-effort propensity questionnaire (Kidwell & Robie, 2005) does not adequately apply to healthcare workers' effort propensity during a communicable disease outbreak such as tuberculosis, influenza, Ebola virus, and coronavirus. The dimensionality of the scale looks more like an accumulation of related criterion variables on a continuum. The researcher feels that the scale developer did not reveal the dimension with the most causal impact. Against the above backdrop, the researcher developed a scale to measure healthcare workers' tendency to withhold effort for the study following three basic steps which are item generation, content analysis, and psychometric analysis.

3.1.8 Item Generation

The combination of the inductive and deductive methods of question development (Raykov & Marcoulides, 2011) was used for the item generation for the Healthcare Workers' Effort Propensity Scale. For the deductive method, items were drawn and modified from the literature review and existing scales (e.g. the Disaster Survey: Qureshi & Gershon, 2005; Effort Propensity Questionnaire: Kidwell & Robie, 2003), while items that were drawn by the researcher through the in-depth interview and focus group discussion informed the inductive method.

During the initial coding of the recordings of the focus discussion groups and in-depth interviews, statements that were generated from the two face to face interviews, three meetings of the focus group discussion, and two online interviews of healthcare workers who have recently worked in infectious disease unit and treated patients with infectious diseases recently

were rephrased into questions to form part of the pool of items for the healthcare workers' effort propensity scale.

3.1.9 **Content validity**

For the reason that this method of item generation may perhaps lead to item-overlap and to ensure that items adequately measure the effort propensity of healthcare workers during a disease outbreak, target population judges and expert judges were used to evaluate the items one by one to determine the content validity. Target population judges (healthcare workers - 4 medical doctors and one nurse) were used because they are very much experienced and have worked with tuberculosis patients and Multi-drug Resistance tuberculosis (MDR-TB) patients and because the target population judges form the potential participants that will be needed to fill the questionnaire and expert judges were also used because of their knowledge and experience of items that should measure a particular construct. These judges were of course not inclusive of those who developed the item pool from the focus group discussion meetings and in-depth interviews.

Five target population judges or subject matter experts and two expert judges checked the items to determine its item content validity index, that is, the index confirmed whether each item measured effort propensity during communicable disease outbreaks among healthcare workers. Twenty-eight items were subjected to the content item validation using a 4-point scale to avoid indecisive response (1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = highly relevant). The response of the judges was later dichotomised into "relevant" (3 and 4) and "not relevant" (1 and 2) such that any item rated as "quite relevant" or "highly relevant" by six out of seven judges would have an item content validity index of .86.

Twenty items from the initial twenty-eight items from the item pool passed the expert and target population judges nomination with item content validation ranging from 86% to 100%, this means that at least six judges rated twenty items as “quite relevant” or “highly relevant”. The selected twenty items, therefore, reflect the concept of healthcare workers’ effort propensity during communicable disease outbreaks as adjudged by the experts (*see Appendix III*). The remaining eight items rated as “not relevant” and “somewhat relevant” by the judges had an item content validation index of less than .86 and were dropped following the item content validation index criteria item acceptability of Lynn (1986).

3.1.10 Psychometric analysis and procedure (Item reduction and reliability assessment)

The 20 items were put together into a five-point Likert form scale and administered to the healthcare workers. Nine items out of the twenty items had very low inter-item correlations ($<.30$) and were deleted from the tentative scale, leaving 11 statements for further analysis. The remaining 11 items, after removing the nine items with low inter-item correlations, reported overall acceptable reliability $\alpha = .71$. Since the reliability value is within the acceptable range of 0.70, this indicates that the scale is very reliable. Thus, the alpha coefficient for the new Healthcare Workers’ Effort Propensity Scale (HEPS) is 0.71, suggesting high internal consistency and therefore reliable as a test for effort propensity among health workers.

To study the underlying structure of the scale and examine its internal reliability, that is, investigate the theoretical constructs that the items that make up the scale represent, the scale was analysed using the exploratory factor analysis. The exploratory factor analysis yielded two factors, that is, the scale produced two dimensions of the healthcare workers’ effort propensity. The dimensions were labelled and loaded as component 1 “items 2, 3, 4, 5, 8, 9, and 10” and while “items 1, 6, 7, and 11” loaded on component 2.

Furthermore, the health workers' effort propensity scale was correlated with three existing scales: the propensity to withhold effort scale, presence of meaning in life scale, and search for meaning in life scale to establish convergent and discriminant validity respectively. On one hand, the health workers' effort propensity scale significantly and positively correlated with the general propensity to withhold effort scale ($r = .67, p < .01$), this means that, the convergent validity of the healthcare workers' effort propensity scale (HEPS) was therefore established. On the other hand, there was no significant relationship between the healthcare workers' effort propensity scale (HEPS) and presence of meaning in life scale ($r = .07, p > .05$) and search for meaning in life scale ($r = .09, p > .05$), suggesting the discriminant-validity of healthcare workers' effort propensity scale (HEPS) among health workers. In conclusion, this shows that the newly developed health workers' effort propensity scale significantly converges and discriminates with the existing standardized scales, hence, establishing the suitability of the new scale in assessing effort propensity during communicable disease outbreaks among healthcare workers.

3.2 PHASE TWO: SURVEY PHASE (MAIN STUDY)

3.2.1 Study Design

A cross-sectional survey design was used and this is because the variables of interest were not subject to any direct manipulation by the researcher. The researcher is mainly interested in determining the predictors of effort propensity among healthcare workers during communicable disease outbreaks and the influence of employee resilience in the relationship between the predictor variables and the criterion variable.

The predicting factors or variables are the perception of organisational support, pay satisfaction, risk perception, self-efficacy, and perceived vulnerability to disease. The dependent and mediating variables are effort propensity and employee resilience respectively.

Age, gender, marital status, level of education, job position, having dependents such as children, parents, and parents-in-law, job experience in years, and employment status are among the socioeconomic and demographic variables examined in this study.

3.2.2 Settings

The setting for the study is Ondo State, a state in Nigeria which according to the National Population Commission of Nigeria has a population distribution of over 3 million and have recorded high cases of tuberculosis and multi-drug tuberculosis according to the 2014 Annual Report of the National Tuberculosis and Leprosy Control Programme and in 2018 and 2019 only, the state recorded 1606 new cases.

Ondo state has 18 local government areas which are further divided into three Senatorial districts/zones; which include Ondo North, Ondo South and Ondo Central. The Ondo North senatorial district and Ondo South senatorial districts have one state specialist hospital each while the Ondo Central because of its high population and since it houses the state capital has two state specialist hospitals, this means that there are four state specialist hospitals in the state. Though there are four state specialist hospitals in the state, data were collected in only three of the specialist hospitals to represent each of the senatorial districts.

The study settings were purposively selected because the chest clinics are situated inside state specialist hospital premises where tuberculosis cases and other infectious diseases are treated. Also, since the study is based on a scenario of a tuberculosis outbreak and not an actual outbreak, hospitals where infectious diseases are managed in the state such as the state specialist hospitals were deemed fit for the study. Hence, the data for this study was obtained from three (3) state specialist hospitals in Ondo state; Ilepa Ikare State Specialist Hospital, Akure State Specialist Hospital, and Okitipupa State Specialist Hospital. The settings of this

study represent each of the zones and they all have chest clinics where tuberculosis patients are cared for.

3.2.3 Participants

The target population for this study is healthcare workers in state specialist health facilities; therefore the study was conducted among four hundred and seventy-seven (477) healthcare workers of three state specialist hospitals in Ondo State. The study participants are descriptively analysed and the analyses revealed the frequency analysis and mean distributions of the socio-demographic variables on the study dependent variable.

The age group of the participants for this study was between 19 and 66 years of age and this amounted to a mean age of 31 years ($SD = 10.4$). It was also indicated that participants of the study have served between 1 and 34 years on the job as healthcare workers (employment duration as healthcare workers), indicating a mean of 7 years employment duration ($SD = 7.1$) as at the time of collecting data for this study. Out of the total sample of the study, 274 (57.40%) of the participants were female however 203 (42.60%) of the participants were males. This made the females the most represented participants of the study.

Moreover, married participants were the most represented with 322 (67.50%) participants of the total sample, even though 136 (28.50%) participants were single health workers, 11 (2.3%) participants of the study sample were separated, while 08 (1.7%) of the participants were divorced. Additionally, nurses were the most represented with 289 (60.60%) nurses representing the total sample, followed by 102 (21.40%) doctors of the sampled population, 44 (9.20%) of the respondents were laboratory technicians while 42 (8.80%) of the respondents were pharmacists, of the total sample.

Concerning whether having children, parents and parents-in-law could affect effort propensity, respondents who were responsible for child/children were 357 (74.80%) while those with no responsibility to child/children were 120 (25.20%). Similarly, respondents who

were responsible for their parents were 421 (88.0%) while respondents who were not responsible for their parents were 56 (11.70%). Also, respondents who were responsible for their parents-in-law were 328 (68.80%) whereas respondents who were not responsible to their in-laws were 149 (31.20%).

Lastly, participants who were employed as full-time healthcare workers were the most represented with 449 (94.10%) individuals of the total sample even though 28 (5.90%) of the participants were employed as part-time healthcare workers of the total sample.

3.2.4 Eligibility Criteria

Eligibility criteria are characteristics that the prospective participants must have to be considered as suitable participants for the study.

- Participants must be healthcare workers.
- Participants must have direct care responsibility to patients.
- Participants must be willing to participate.

3.2.5 Sampling Technique

A selective sampling technique otherwise known as purposive or judgemental sampling procedure was utilised in selecting participants based on the inclusion criteria for this study. This sampling technique was used because it allowed selecting the participants to participate in this study to suit the design and objective of the study.

3.2.6 Ethical Considerations

Human beings are the participants for this study; therefore, ethical consideration to carry out the study was sought and obtained from the Social Sciences and Humanities Research Ethics Committee (SSHREC). The research proposal and protocol were submitted to the Social Sciences and Humanities Research Ethics Committee (SSHREC), and based on the submitted documents the Committee reviewed and gave its full approval for the research with UI/Social Sciences Ethics Committee assigned number: UI/SSHREC/2021/003. Also, to make the data

collection process easy and official, approval to collect data for the study was gained from the hospitals' management while each participant was presented with written informed consent as approved by the Social Sciences and Humanities Research Ethics Committee (SSHREC).

3.2.7 Instruments

The data for this study was gathered with the aid of a structured questionnaire. The questionnaire was made-up of standardized instruments with acceptable psychometric properties. The questionnaire was made up of eight sections. Below are the components of the questionnaire.

Section A: Socio-demographics characteristics

This section measured the socio-demographic characteristics of the participants. The socio-demographic factor focused on in this study includes; age, gender, marital status, primary job category, participants having dependents that they are in the care of such as children, parents, and parents-in-law, employment status and employment duration (years).

Section B – Survey Perceived Organisational Support scale (SPOS)

Survey Perceived Organisational Support scale (SPOS) is an 8-item measuring tool conceptualized by Eisenberger, Huntingdon, Hutchinson and Sowa (1986). The scale was developed to measure employee-organisational relationships and has 3 versions; the 8-item version, the 16-items version and the 36-items version. The 8 and 16 items type can be used alternatively and in addition, the two versions were used to produce the 36-items version. (Worley, Fuqua & Hellman, 2009). There is a strong positive correlation among the 36-items version, the 8-items ($r = 0.94$) and the 16-items version ($r = 0.97$), conclusively, the 8-items version though shorter is as well operational as the 36-item version. Hence the decision to use the 8-item version. The SPOS is a one-dimensional self-report 5-point rating scale. Cronbach's alpha reliability of the scale is 0.93 with item-total correlations ranging from 0.70 to 0.84. The

mean and median item-total correlations were 0.75 and 0.73 respectively. Validation analysis reported by Worley et al., (2009) of the convergent validity was also good. Higher scores indicate a higher perception of organisational support. Sequel to the pilot analysis, the Survey Perceived Organisational Support Scale reported a reliability value of Cronbach alpha at 0.81 ($\alpha = 0.81$).

Section C – Pay Satisfaction Questionnaire (PSQ)

Heneman and Schwab created the Pay Satisfaction Questionnaire (PSQ), an 18-item scale (1985). The scale is the most widely used instrument for assessing the multidimensional pay satisfaction variable. The four components of pay satisfaction are: pay level satisfaction (four items; $=.96$); raise satisfaction (four items; $=.79$); benefit satisfaction (four items; $=.88$); and structure/administration satisfaction (four items; $=.88$). (six items). Due to some debate over poor loadings within the structure/administration sub-scale (Heneman & Judge, 2000), two items from Blau (1994) were included in the hopes of improving the measure's dependability. The eight items were utilized to gauge structure/administration satisfaction after further study. Sequel to the pilot analysis, the Pay Satisfaction Questionnaire reported a reliability value of Cronbach alpha at 0.94 ($\alpha = 0.94$).

Section D – Risk Perception Scale (RPS)

The risk perception scale was adjusted from the work of Imai, Takahashi, Hoshuyama, Hasegawa, Lim and Koh (2005). It was used to measure risk perceptions among healthcare workers in Japan, during the outbreak of severe acute respiratory syndrome (SARS). According to Imai, et al., (2005), statements regarding the change in work, control, risk acceptance and patient avoidance were used to indicate risk perception in the scale. The PRS was validated among health workers in Japan, acceptable and reliable Cronbach's alpha of .76 ($\alpha = 0.76$) was reported. Sequel to the pilot analysis, the risk perception scale reported a reliability value of Cronbach alpha at 0.78 ($\alpha = 0.78$).

Section E- General Self-Efficacy Scale

The belief in self to complete a task (self-efficacy) was measured with the General Self-Efficacy Scale (GSE), which is a 10-item scale with a four-point response format. Developed by Jerusalem and Schwartz (1989), the scale assesses positive self-beliefs to manage and thrive over challenging situations. The Cronbach's alpha of the scale was found to range from .70 to .90 by the authors. Overall score on the scale ranges from 10-25 as low self-efficacy and 26-40 as high self-efficacy. Therefore, participants who score below 26 will be regarded as those with low self-efficacy while those who score from 26 and above will be regarded as possessing high self-efficacy. Simply, a high score on the scale indicates high self-efficacy. Sequel to the pilot analysis, the scale reported a reliability value of Cronbach alpha at ($\alpha = 0.88$).

Section F- Perceived Vulnerability to Disease Scale (PVD)

Perceived Vulnerability to Disease Scale (PVD) is a 15-item self-report conceptualized by Duncan, Schaller and Park (2009). There are two dimensions of the perception of vulnerability to disease scale, which are, the germ aversion dimension and the perceived infect-ability dimension. The germ aversion dimension (Cronbach's $\alpha = .61$) assess the degree of anguish experienced by individuals due to the likelihood of disease transmission and the perceived infect-ability dimension (Cronbach's $\alpha = .85$) assess the degree of subjective personal belief that individuals hold about being susceptible to contracting infectious diseases (e.g., "I am more likely than the people around me to catch an infectious disease"). Sequel to the pilot analysis, the perceived vulnerability to disease scale reported a reliability value Cronbach alpha at 0.90 ($\alpha = 0.90$).

Section G– Healthcare Workers' Effort Propensity Scale (HEPS)

Healthcare Workers' Effort Propensity Scale (HEPS) is an 11-item self-report scale in a five-point response format developed by the researcher. The scale assesses the perceived degree of integrative effort of healthcare workers during an outbreak of any communicable

disease. The Cronbach's alpha reliability of the scale is 0.71. The statement, such as "I will consider quitting my job if there is an outbreak of communicable disease" made up the scale. Validation analysis reported that the HEPS significantly and positively correlated (converge) with the general propensity to withhold effort scale ($r = .67, p < .01$), and was not significantly associated (diverge) with the presence of meaning in life scale ($r = .07, p > .05$) and search for meaning in life scale ($r = .09, p > .05$). Sequel to the pilot analysis, the Healthcare Workers' Effort Propensity Scale (HEPS) reported a reliability value of Cronbach alpha at 0.71 ($\alpha = 0.71$).

Section H - Employee Resilience Scale (EmpRes)

Employee resilience of healthcare workers was assessed with a 9-item Employee Resilience Scale (EmpRes) conceptualized by Näswall, Kuntz, and Malinen, (2015). The scale requires respondents to answer each question by indicating 1 = almost never 2 = never, 3 = neutral, 4 = always, and 5 = almost always. Some studies recorded Cronbach's alpha of $\alpha = .86$ while Tonkin (2016) reported $\alpha = .82$. Sequel to the pilot analysis, the Employee Resilience Scale reported a reliability value of Cronbach alpha at 0.91 ($\alpha = 0.91$).

3.2.8 Procedure

The researcher submitted the research proposal, protocol and informed consent form for the study to the ethical committee for approval and also collected a formal introductory letter from the supervisor of this research work that was presented at the research settings. The researcher had to seek permission to collect data from healthcare workers from the administrative heads of each of the specialist hospitals visited using the formal introductory letter and student's identification card as a gateway to gain access to the healthcare workers. Six hundred sets of questionnaires were printed for the data collection exercise based on the sample size of the study and Akure state specialist hospital was the first point of call for the

data collection, as it was the nearest to the researcher and services majority of the people in the state.

Following the health facility's approval to survey in their facility, the researcher used the purposive/selective sampling technique to approach healthcare workers in their offices and wards, inform them about the study's purpose and objectives, and then ask questions to ensure that they met the preliminary inclusion criteria. The researcher used the purposive sampling method to choose study participants based on the study's established inclusion criteria.

Participants were also told of their voluntariness and anonymity and were invited to read and sign the informed consent form that was attached to the questionnaire carefully. Thereafter, instructions on how to fill the questionnaire were expressly discussed and each participant was given a questionnaire that took approximately 15 to 20 minutes to fill. Some healthcare workers/participants who could not fill out the questionnaire immediately because they were busy or needed to step out for a reason or the other requested the researcher to pick up the questionnaire at a later date and time, this request was granted but some of the questionnaires could not be retrieved as some participants later denied collecting the questionnaire while some claimed it got lost and mixed up with other official documents in their care.

The same procedure was also used at the Ikare and Okitipupa specialist hospitals. Healthcare workers were purposively sampled and questionnaires were distributed to healthcare workers who met with the inclusion criteria and were willing to participate in the research. Instructions on how to fill the questionnaire were expressly discussed and each participant was given a questionnaire that took approximately 15 to 20 minutes to fill. Those who could not fill and submit immediately were also granted to submit to a contact person in the health facility from whom the researcher later retrieved the submitted questionnaires. As

experienced in the Akure specialist hospital, some healthcare workers misplaced the forms and could not submit them, therefore reducing the return rate of the questionnaire.

The data collection spanned between five months to six months due to the continuous visit of the researcher to the 3 hospitals to retrieve as many as possible of the questionnaires from the field. In all, a total of 600 questionnaires were distributed among the healthcare workers in three state specialist hospitals in Ondo State but only 524 questionnaires were retrieved, which amounts to a total of 87% return rate. Furthermore, out of the 524 retrieved questionnaires, only 477 questionnaires were appropriately filled and these were the questionnaires used for the data analyses, and, this amount to a total of 91% response rate.

3.2.9 Statistical Analyses

Statistical Package for Social Science (SPSS) 21.0 version software was used to analyse the study's data. For this study, descriptive and inferential statistics were utilized to analyse the data. Descriptive statistics such as percentages were used for the analysis of socio-demographic variables while inferential statistics were utilized to test the hypotheses. Specifically, hypotheses 1 and 2 were tested with hierarchical multiple regression analysis while hypotheses 3 and 4 were tested with linear regression.

The choice for the hierarchical multiple regression also called the sequential or block type of multiple regression was borne out of the fact that it allows the predictor variables to be entered as a block (e.g. demographic variables, contextual variables, dispositional variables) and exposes the effect of each block (the group of variables) on the other blocks based on the importance of the independent variable on the dependent variable. Against the backdrop of the theoretical framework of this study, the order of importance of the independent variables and how they will be loaded for the analysis include demographic variables (age, gender, marital status, level of education, job position, having dependents such as children, parents, and

parents-in-law, job experience in years, and employment status), contextual (perceived organizational support and pay satisfaction) and dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease).

Besides, the linear regression was used for the mediation analysis while bootstrapping and Sobel test was used to test the statistical significance of the mediation effects.

To test the mediation hypotheses, Baron and Kenny (1986) four steps of establishing mediation was adopted and the revision of this work by Kenny, Kashy and Bolger (1998) was taking into consideration, the steps include:

Step 1: Show that the predictor variables (perceived organisational support, pay satisfaction, risk perception, perceived vulnerability to disease and self-efficacy) are correlated with the outcome (effort propensity).

Step 2: Show that the predictor variables (perceived organisational support, pay satisfaction, risk perception, perceived vulnerability to disease and self-efficacy) are correlated with the mediator (employee resilience).

Step 3: Show that the mediator (employee resilience) affects the outcome variable (effort propensity).

Step 4: To establish that the mediator (employee resilience) completely mediates the relationship between the predictors (perceived organisational support, pay satisfaction, risk perception, perceived vulnerability to disease and self-efficacy) and outcome variables (effort propensity), the effect of the predictors on the criterion variable controlling for the mediating variable should be zero.

CHAPTER FOUR

RESULTS

This chapter presents the results and interpretation of data collected on the mediating role of employees' resilience in the predictive influence of contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease, and self-efficacy) on effort propensity among healthcare workers in Ondo State, Nigeria.

4.1 Analysis of Zero-Order Correlation

Table 4.1 reveals the zero-order correlation coefficients of the binary relationship that exists among the variables under investigation, that is, contextual factors (perceived organisational support and pay satisfaction), dispositional factors (perceived risk, self-efficacy and perceived vulnerability to disease), employee resilience, and effort propensity during a communicable disease outbreak.

Table 4.1: Summary of Correlation Matrix Table showing the Binary Relationship that exists between the study variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Age	-											
2 Gender	-.02	-										
3 Marital Status	.35**	-.01	-									
4 Employment Status	-.21**	-.02	-.29**	-								
5 Employment Duration	.89**	-.02	.18**	-.15**	-							
6 Perceived Org. Support	.24**	.01	.33**	-.16**	.12*	-						
7 Pay Satisfaction	.25**	-.07	.33**	-.12*	.17**	.44**	-					
8 Risk perception	-.11*	-.02	.11*	-.00	-.17**	.08	-.13**	-				
9 Self-Efficacy	-.13**	.03	.06	-.00	-.18**	.12**	-.15**	.64**	-			
10 Perceived Vul. To Disease	-.25**	-.01	-.08	-.01	-.26**	.03	-.24**	.45**	.45**	-		
11 Effort Propensity	.19**	-.01	.00	-.00	.24**	-.02	.31**	-.58**	-.65**	-.59**	-	
12 Employee Resilience	-.23**	.01	-.03	.09	-.24**	.11*	-.11*	.52**	.57**	.48**	-.46**	-
Mean	31.38	1.57	.66	1.06	7.18	25.94	65.10	14.01	28.72	41.70	35.79	25.52
Std. Dev.	10.43	0.50	0.47	0.43	7.10	3.63	7.80	2.38	4.02	6.16	5.28	3.91

N= 477

*p< .05; **p< .01

Note: Perceived Vul. To Disease= Perceived Vulnerability to Disease,

Table 4.1 shows the means, standard deviations and correlations of the variables in the study. The contextual factors, dispositional factors and effort propensity measures were expected to be correlated. The table reveals that healthcare workers' age ($r = .19$; $p < .01$) and employment duration ($r = .24$; $p < .01$) have a significant positive relationship with effort propensity respectively, hence, the need for both demographic variables to be statistically controlled for in the further analysis. Specifically, the dispositional factors, risk perception ($r = -.58$; $p < .05$), self-efficacy ($r = -.65$; $p < .05$) and perceived vulnerability to disease ($r = -.59$; $p < .01$), had significant negative relationship with effort propensity, while only pay satisfaction ($r = .31$; $p < .05$) had positive relationship with effort propensity.

Furthermore, resilience had significant positive relationship with perceived organisational support ($r = .11$; $p < .05$), risk perception ($r = .52$; $p < .01$), self-efficacy ($r = .57$; $p < .01$) and perceived vulnerability to disease ($r = .48$; $p < .01$) and a significant negative correlation with pay satisfaction ($r = -.11$; $p < .05$). Overall, employee resilience ($r = -.46$; $p < .01$) had a significant negative relationship with effort propensity. As shown by the zero order correlation, employee resilience (mediator) had significant relationship with both the independent variables and the dependent variable, hence, satisfying the conditions for Baron and Kenny (1986) causal steps approach to testing intervening variable effects.

The table further revealed significant relationships between the contextual factors and dispositional factors. Precisely, perceived organisational support had significant positive relationship with pay ($r = .44$, $p < .01$), self-efficacy ($r = .12$, $p < .01$) while pay satisfaction had significant negative relationship with risk perception ($r = -.13$, $p < .01$), self-efficacy ($r = -.15$, $p < .01$) and perceived vulnerability to disease ($r = -.24$, $p < .01$). In addition, risk perception had significant positive relationship with self-efficacy ($r = .64$, $p < .01$) and perceived vulnerability to disease ($r = .45$, $p < .01$) while self-efficacy had significant positive relationship with perceived vulnerability to disease ($r = .45$, $p < .01$).

4.2 Hypothesis One

Hypothesis 1 which stated that contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) would jointly predict effort propensity among healthcare workers was tested using hierarchical regression. The result is presented in Table 4.2.

Table 4.2: Summary of Hierarchical Multiple Regression Analysis Showing Contextual and Dispositional Factors as Predictors of Effort Propensity

Steps	Predictive Variables	Model 1	Model 2	Model 3
1	Age	-.09	-.16	-.09
	Employment duration	.32*	.34*	.11
2	Perceived org. support		-.19**	-.02
	Pay satisfaction		.39**	.17**
3	Risk perception			-.18**
	Self-Efficacy			-.37**
	Perceived Vulnerability to Disease			-.29**
	R²	.06**	.17**	.59**
	Change in R²	.06**	.11**	.42**
	F	14.46**	24.22**	94.63**
*p< .05; **p< .01		Control- Age and employee duration		

Results in Table 4.2 reveal a three-model hierarchical multiple regression analysis conducted to examine factors that predicts effort propensity while controlling for the effects of age and employment duration. Effort propensity was regressed on demographic factors; age and employment duration (step 1), contextual factors; perceived organisational support and pay satisfaction (step 2) and dispositional factors; risk perception, self-efficacy and perceived vulnerability to disease (step 3). The demographic factors (age and employment duration) were controlled for in the analyses because they were significant covariates of effort propensity.

In step 1, the demographic factors (age and employment duration) were significant covariates of effort propensity ($F_{(2,474)}=14.46$; $R^2=.06$; $p<.01$) and jointly accounted for 6% variance observed in effort propensity. Independently, between the two control variables, only employment duration ($\beta=.32$; $t = 3.16$, $p<.05$) significantly accounted for 32% variation in effort propensity.

In step 2, the contextual factors (perceived organisation support and pay satisfaction) jointly contributed to the prediction of effort propensity among healthcare workers ($F_{(2,472)} = 24.22$; $\Delta R^2 = .11$; $p<.01$) and these factors (perceived organisational support and pay satisfaction) accounted for additional 11% variance observed in effort propensity. The result further suggests that even after controlling for demographic factors (age and employment duration) the contextual factors; perceived organisational support ($\beta= -.19$, $p<.01$), pay ($\beta=.39$, $p<.01$) independently were a significant predictor of effort propensity and accounted for 19% and 39% variation respectively in effort propensity among healthcare workers.

In step 3, the dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) jointly contributed to the prediction of effort propensity among healthcare workers ($F_{(3,469)}= 94.63$; $\Delta R^2 =.42$; $p<.01$) and added 42% significant marginal increase to the variance observed in effort propensity. The result of the independent influence of the dispositional factors on effort propensity revealed that risk perception ($\beta= -.18$, $p<.01$),

self-efficacy ($\beta = -.37$, $p < .01$) and perceived vulnerability to disease ($\beta = -.29$, $p < .01$) were significant predictors of effort propensity among healthcare workers.

Consequently, step 3 in Table 4.2 show that contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) jointly predicted effort propensity among healthcare workers ($F_{(3,469)} = 94.63$; $R^2 = .59$; $p < .01$) and all the predictor variables jointly accounted for 59% of the variance observed in effort propensity. Importantly, pay satisfaction, risk perception, self-efficacy and perceived vulnerability to disease significantly accounted for 17%, 18%, 37% and 29% variation respectively in effort propensity among healthcare workers while perceived organisational support did not contribute significantly to the prediction of effort propensity.

Thus, hypothesis one which stated that contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) would jointly predict effort propensity among healthcare workers was confirmed.

4.3 Hypothesis Two

Hypothesis two which stated that contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) would jointly predict employees' resilience among healthcare workers was tested using hierarchical regression. The result is presented in Table 4.3.

Table 4.3: Summary of Hierarchical Regression Analysis showing Contextual and Dispositional Factors as predictors of Employees' Resilience

Steps	Predictive Variables	Model 1	Model 2	Model 3
1	Age	-.04	-.11	-.19*
	Employment duration	-.21*	-.14	.07
2	Perceived org. support		.22**	.08
	Pay satisfaction		-.16*	.02
3	Risk perception			.20**
	Self-Efficacy			.32**
	Perceived Vulnerability to Disease			.22**
	R²	.06**	.10**	.42**
	Change in R²	.06**	.04**	.32**
	F	14.86**	13.42**	49.28**

*p< .05; **p< .01

Results in Table 4.3 show a three-model hierarchical multiple regression analysis conducted to examine factors that predict employee resilience while controlling for the effects of age and

employment duration. Employee resilience was regressed on demographic factors; age and employment duration (step 1), contextual factors; perceived organisational support and pay satisfaction (step 2) and dispositional factors; risk perception, self-efficacy and perceived vulnerability to disease (step 3). Again, the demographic factors (age and employment duration) were controlled for in the analyses because they were significant covariates of employee resilience.

In step 1, demographic factors (age and employment duration) were significant covariates of employees' resilience jointly ($F_{(2,474)}=14.90$, $\Delta R^2 = .06$; $p<.01$), consequently they were controlled for jointly accounted for 6% variance observed in employee resilience. Importantly, only employment duration independently and significantly ($\beta=-.21$; $p<.05$) accounted for 21% variation in employee resilience.

In step 2 Table 4.3, contextual factors (perceived organisational support and pay satisfaction) jointly predicted employee resilience ($F_{(2,472)} = 13.42$, $\Delta R^2 = .04$; $p<.01$). This implies that contextual factors accounted for an additional 4% of the variance observed in employees' resilience among healthcare workers. Independently, perceived organisational support ($\beta= .22$; $p<.01$) and pay satisfaction ($\beta= -.16$; $p<.05$) were significant predictors of employee resilience. This implies that perceived organisational support and pay satisfaction accounted for 22% and 16% variation respectively in employee resilience among healthcare workers.

In step 3 Table 4.3, the dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) jointly added a 32% significant marginal increase to the variance observed in employee resilience ($F_{(3,469)} = 49.28$, $\Delta R^2 = .32$; $p<.01$). The result of the independent influence of the dispositional factors on employee resilience revealed that risk perception ($\beta= .20$; $P<.01$), self-efficacy ($\beta= .32$; $P<.01$) and perceived vulnerability to disease ($\beta=.22$; $P<.01$) were significant predictors of effort propensity among healthcare workers.

Consequently, step 3 in Table 4.3 show that contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) jointly predicted employee resilience among healthcare workers ($F_{(3,469)} = 49.28$, $R^2 = .42$; $p < .01$) and all the predictor variables jointly accounted for 42% of the variance observed in employee resilience. Importantly, risk perception, self-efficacy and perceived vulnerability to disease significantly accounted for 20%, 32% and 22% variation respectively in employee resilience among healthcare workers while the contextual factors; perceived organisational support and pay satisfaction did not contribute significantly to the prediction of employee resilience.

Thus, hypothesis two which stated that contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) would jointly predict employee resilience among healthcare workers was confirmed.

4.4 Hypothesis Three

Hypothesis 3 which stated that employee resilience will significantly mediate the relationship between contextual factors (perceived organisational support and pay satisfaction)

and effort propensity among healthcare workers was tested using linear regression. The result is presented in Table 4.4a and Table 4.4b.

Table 4.4a: Summary of Regression Analysis Showing the Mediating Role of Employee Resilience in the Relationship between Perceived Organisational Support and Effort Propensity

Path	Unstandardized Coefficients (B)	SE	t	95% CI		Sig.
				LL	UL	
a- POS-ER	.17	.0502	3.44	.0742	.2714	.000*
b- ER-EP	-.58	.0571	-10.17	-.6922	-.4680	.000*
c- POS-EP (total effect)	-.06	.0687	-.8514	-.1934	-.0765	.395
c' - POS-EP (direct effect)	-.04	.0630	-.6620	-.0821	.1656	.508
Indirect effect a*b	-.10	.0306		-.1610	-.0403	

*p< .05; **p< .01; POS: Perceived Organisational Support, ER: Employee Resilience, EP: Effort Propensity, SE: Standard Error, CI: Confidence Interval.

The regression result in Table 4.4a shows the mediation outcome of resilience on the link amid perceived organisational support and effort propensity. The required three steps for probing the assumptions of Kenny and Baron (1986) were performed. The total effect (path c),

that is, the significance of the link between the predictor (POS) and the criterion variable (effort propensity) was not significant ($c = -.06; p = .395$). Step 2- path a, that is, the significance of the relationship between the predictor (perceived organisational support) and mediation (employees' resilience) was significant ($a = .17; p < .01$). Step 3- path b, that is, the significance of the relationship between the mediator (employees' resilience) and a criterion variable (effort propensity) was significant ($b = -.58; p < .01$). The result demonstrated that not all the first three assumptions were fulfilled.

The first step in Baron and Kenny's (1986) causal steps approach to testing intervening variable effects mandates the establishment of an effect that may be mediated, which is the total effect, without which mediation cannot be observed. However, it is important to note that this assumption has been revised and Kenny, Kashy & Bolger (1998) have since admitted that the first of the conditions could be overlooked (Pardo & Roman, 2013, p.616). Against this backdrop, since the estimated direct effect of perceived organisational support on effort propensity controlling for employee resilience was not significant and almost zero ($c' = -.04; p > .01$), therefore the result suggests a full mediation. This means that the bond between POS and effort propensity completely disappears when employee resilience was controlled for.

To confirm the validity of this result, the Sobel test and bootstrapping were used to check the impact of the indirect effects (ab). The test confirms that the indirect effect was statistically significant ($z = -3.21; p < .01$). Also the bootstrapping (Preacher & Hayes, 2008) CI did not include zero, the results suggested that the indirect effect was significant ($B = -.10, SE = .0306, 95\% CI = -.1610; -.0403$). Comparison of the coefficients of the direct path as against indirect path ($c' = -.04; ab = -.10$) suggests that relatively all part of the direct effect of perceived organisational support on effort propensity is mediated by employee resilience. This implies that there are no other mediating variables through which perceived organisational support might influence effort propensity.

Table 4.4b: Summary of Regression Analysis Showing the Mediating Role of Resilience in the Relationship between Pay Satisfaction and Effort Propensity

Path		SE	t	95% CI	Sig.
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	Unstandardized Coefficient (B)			LL	UL	
a- PSAT-ER	-.04	.0233	-1.60	-.0831	.0085	.110
b- ER-EP	-.55	.0539	-10.14	-.6532	-.4412	.000**
c- PSAT-EP (Total Effect)	.21	.0301	6.87	-.1478	.2662	.000**
c' - PSAT-EP (Direct)	.19	.0274	6.81	.1328	.2404	.000**
Indirect effect a*b	.02	.0149		-.0070	.0513	

*p< .05; **p< .01; PSAT: Pay Satisfaction, ER: Employee Resilience, EP: Effort Propensity
SE: Standard Error, CI: Confidence Interval.

The regression result in Table 4.4b shows the mediation effect of employees' resilience on the relationship between pay satisfaction and effort propensity. The required three steps for probing the assumptions of Kenny and Baron (1986) were performed. The total effect (path c),

or the strength of the association between the predictor (pay satisfaction) and the criterion variable (effort propensity), was significant ($c = .21$; $p.01$). Step 2- path a, the link between the predictor (pay satisfaction) and the mediator (workers' resilience) was not significant ($a = -.04$; $p=.110$). The significance of the association between the mediator (workers' resilience) and the criterion variable (effort propensity) was significant ($b = -.55$; $p.01$) in step 3 path b. The outcome revealed that the first three assumptions were not all met. Baron and Kenny (1986) established that once either of the indirect effects is not significant, then mediation cannot be supported. Following this assumption, the result shows that mediation cannot be established.

4.5 Hypothesis Four

Hypothesis 4 which stated that employee resilience will significantly mediate the relationship between dispositional factors (risk perception, perceived vulnerability to disease

and self-efficacy) and effort propensity among healthcare workers was tested using linear regression. The result is presented in Table 4.5a, Table 4.5b and Table 4.5c.

Table 4.5a: Summary of Regression Analysis Showing the Mediating Role of Resilience in the Relationship between Risk perception and Effort Propensity

Path	Unstandardized Coefficient (B)	SE	t	95% CI		p
				LL	UL	
a - RP-ER	.82	.0648	12.59	.6882	.9428	.000**
b - ER-EP	-.26	.0582	-4.40	-.3709	-.1420	.000**
c - RP-EP (Total Effect)	-1.24	.0836	-14.84	-1.4058	-1.0771	.000**
c'- RP-EP (Direct)	-1.03	.0948	-10.89	-1.2186	-.8460	.000**
Indirect effect a*b	-.21	.0566		-.3194	-.0983	

*p< .05; **p< .01; RP: Risk Perception, ER: Employee Resilience, EP: Effort Propensity SE: Standard Error, CI: Confidence Interval.

The regression result in Table 4.5a shows the mediation effect of employees' resilience on the relationship between risk perception and effort propensity. The required three steps for probing the assumptions of Kenny and Baron (1986) were performed. The total effect (path c),

that is, the significance of the relationship between the predictor (risk perception) and the criterion variable (effort propensity) was significant ($c = -1.24; p < .01$). Step 2- path a, that is, the significance of the relationship between the predictor (risk perception) and mediation (employees' resilience) was significant ($a = .82; p < .01$). Step 3- path b, that is, the significance of the relationship between the mediator (employees' resilience) and a criterion variable (effort propensity) was significant ($b = -.26; p < .01$). These findings satisfy the first three conditions of Baron and Kenny's (1986) causal steps approach to testing intervening variable effects.

The result in Table 4.5a further shows that the estimated direct effect of risk perception on effort propensity controlling for employee resilience was significant ($c' = -1.03; p < .01$), therefore, the relationship strength of risk perception and effort propensity weakened or reduced ($c = -1.24; c' = -1.03$) when employees' resilience – mediator was controlled. Since the relationship between risk perception and effort propensity was still significant and greater than zero, this means that employees' resilience partially mediated the relationship between risk perception and effort propensity.

To confirm the validity of this result, the Sobel test and bootstrapping were used to check the impact of the indirect effects (ab). The test confirms that the indirect effect was statistically significant ($z = -4.13; p < .01$). Also the bootstrapping (Preacher & Hayes, 2008) CI did not include zero, the results suggested that the indirect effect was significant ($B = -.21, SE = .056, 95\% CI = -.3194; -.0983$). Comparison of the coefficients of the direct path as against indirect path ($c' = -1.03; ab = -.21$) suggests that a relatively small part of the direct effect of risk perception on effort propensity is mediated by employees' resilience. This implies that there are other mediating variables through which risk perception might influence effort propensity.

Table 4.5b: Summary of Regression Analysis Showing the Mediating Role of Employee Resilience in the Relationship between Self-efficacy and Effort Propensity

Path	Unstandardized Coefficient (B)	SE	t	95% CI		p
				LL	UL	
a- SE-ER	.53	.0369	14.28	.4549	.6001	.000**
b- ER-EP	-.14	.0570	-2.51	-2550	-.0312	.012*
c- SE-EP (Total Effect)	-.83	.0460	-18.05	-.9206	-.7398	.000**
c'- SE-EP (Direct Effect)	-.75	.0547	-13.79	-.8622	-.6471	.000**
Indirect effect a*b	-.07	.0374		-.1519	-.0055	

*p< .05; **p< .01; SE: Self-Efficacy, ER: Employee Resilience, EP: Effort Propensity, SE: Standard Error, CI: Confidence Interval.

The regression result in Table 4.5b shows the mediation effect of employees' resilience on the relationship between self-efficacy and effort propensity. The required three steps for probing the assumptions of Kenny and Baron (1986) were performed. The total effect (path c), the significance of the association between the predictor (self-efficacy) and the criterion

variable (effort propensity) was significant ($c = -.83; p < .01$). Step 2- path a, the significance of the association between the predictor (self-efficacy) and mediation (employees' resilience) was significant ($a = .53; p < .01$). Step 3- path b, that is, the significance of the relationship between the mediator (employees' resilience) and a criterion variable (effort propensity) was significant ($b = -.14; p < .05$). The result demonstrated that all the first three assumptions were fulfilled.

The result in Table 4.5b further shows that the estimated direct effect of self-efficacy on effort propensity controlling for employee resilience was significant ($c' = -.75; p < .01$), hence, the relationship strength of self-efficacy and effort propensity weakened or reduced ($c = -.83; c' = -.76$) when employees' resilience – mediator was controlled. Since the relationship between self-efficacy and effort propensity was still significant and greater than zero, this means that employees' resilience partially mediated the relationship between self-efficacy and effort propensity.

To confirm the validity of this result, the Sobel test and bootstrapping were used to check the impact of the indirect effects (ab). The test confirms that the indirect effect was statistically significant ($z = -2.30; p < .05$). Also the bootstrapping (Preacher & Hayes, 2008) CI did not include zero, the results suggested that the indirect effect was significant ($B = -.07, SE = .037, 95\% CI = -.1519; -.0055$). Comparison of the coefficients of the direct path as against indirect path ($c' = -.75; ab = -.07$) suggests that a relatively small part of the direct effect of self-efficacy on effort propensity is mediated by employees' resilience. This implies that there are other mediating variables through which self-efficacy might influence effort propensity.

Table 4.5c: Summary of Regression Analysis Showing the Mediating Role of Resilience in the Relationship between Perceived Vulnerability to Disease and Effort Propensity

Path	Unstandardized Coefficient (B)	SE	t	95% CI		p
				LL	UL	
a- PVD-ER	.29	.0262	10.87	.2336	.3366	.000**
b- ER-EP	-.29	.0558	-5.18	-.3982	-.1791	.000**
c- PVD-EP (Total Effect)	-.49	.0327	-14.99	-.5535	-.4252	.000**
c'- PVD-EP (Direct)	-.41	.0356	-11.45	-.4769	-.3372	.000**
Indirect effect a*b	-.08	.0189		-.1209	-.0472	

* $p < .05$; ** $p < .01$; PVD= Perceived Vulnerability to Disease, ER= Employee Resilience, EP= Effort Propensity, SE: Standard Error, CI: Confidence Interval.

The regression result in Table 4.5c shows the mediation effect of employees' resilience on the relationship between perceived vulnerability to disease and effort propensity. The required three steps for probing the assumptions of Kenny and Baron (1986) were performed. The total effect (path c), that is, the significance of the relationship between the predictor (perceived vulnerability to disease) and the criterion variable (effort propensity) was significant ($c = -.49$; $p < .01$). Step 2- path a, that is, the significance of the relationship between the

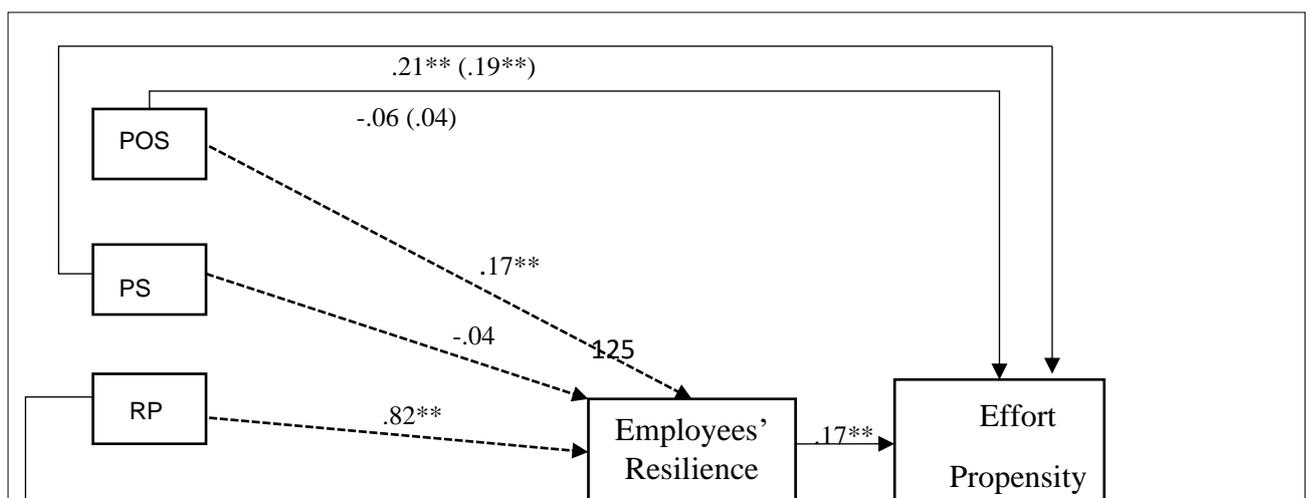
predictor (perceived vulnerability to disease) and mediation (employees' resilience) was significant ($a=.29$; $p < .01$). Step 3- path b, that is, the significance of the relationship between the mediator (employees' resilience) and a criterion variable (effort propensity) was significant ($b=-.29$; $p < .01$). The result demonstrated that all the first three assumptions were fulfilled.

The result in Table 4.5c further shows that the estimated direct effect of perceived vulnerability to the disease on effort propensity controlling for employee resilience was significant ($c' = -.41$; $p < .01$), thereby, the relationship strength of perceived vulnerability to disease and effort propensity weakened or reduced ($c = -.49$; $c' = -.41$) when employees' resilience (mediator) was controlled. Since the relationship between perceived vulnerability to disease and effort propensity was still significant and greater than zero, this means that employees' resilience partially mediated the relationship between perceived vulnerability to disease and effort propensity.

To confirm the validity of this result, the Sobel test and bootstrapping were used to check the impact of the indirect effects (ab). The test confirms that the indirect effect was statistically significant ($z=-4.02$; $p < .01$). Also the bootstrapping (Preacher & Hayes, 2008) CI did not include zero, the results suggested that the indirect effect was significant ($B=-.08$, $SE=.019$, 95% $CI = -.1209$; $-.0472$). Comparison of the coefficients of the direct path as against indirect path ($c' = -.41$; $ab = -.08$) suggests that a relatively small part of the direct effect of perceived vulnerability to the disease on effort propensity is mediated by employee resilience. This implies that there are other mediating variables through which perceived vulnerability to disease might influence effort propensity.

All presented effects are unstandardized; a is the effect of perceived vulnerability to the disease on effort propensity; b is the effect of employee resilience on effort propensity; c' is

the direct effect of perceived vulnerability to the disease on effort propensity; c is the total effect of perceived vulnerability to the disease on effort propensity.



*p< .05; **p< .01

*Note: POS=Perceived Organisational Support PS= Pay Satisfaction RP=Risk Perception
SE=Self-Efficacy PVD= Perceived Vulnerability to Disease*

Fig. 4.1 *Path diagram showing mediation effect of employees' resilience in the relationship between contextual factors and dispositional factors on effort propensity*

Conclusively, Fig. 4.1 shows the mediating role of employees' resilience in the connection in the middle of contextual factors (POS and pay satisfaction) and dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) and effort propensity. The result shows that employees' resilience completely arbitrated the association in the middle of supposed administrative support and effort propensity, that is, the relationship between perceived organisational support and effort propensity completely disappeared after

partially out the effect of employees' resilience while mediation could not be established in the relationship between pay satisfaction and effort propensity because the data violates the Baron and Kenny's (1986) causal steps approach to testing intervening variable effect. Therefore, the hypothesis that employees' resilience will significantly mediate the relationship between contextual factors and effort propensity was partially supported.

In addition, Fig. 4.1 the predictor variables - dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) significantly predicted the criterion variable- effort propensity and all the predictor variables (risk perception, self-efficacy and perceived vulnerability to disease) significantly correlated with the mediator variable – employee resilience. Also, employees' resilience predicted the criterion variable (effort propensity) and though the relationship between the predictor variables and criterion variable were all still significant in the presence of the mediator, the relationship was weakened. Hence the conclusion that employees' resilience partially mediated the relationship between dispositional factors and effort propensity. Therefore, employees' resilience significantly mediates the relationship between dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) and effort propensity during communicable outbreaks among healthcare workers. Thus, the hypothesis was supported.

CHAPTER FIVE

DISCUSSION

This chapter presents the discussion of research findings, conclusion, limitations, and recommendations for organisation planning, policy, and research purpose. The study investigated the contextual and dispositional factors as predictors of effort propensity and the mediatory effect of employee resilience among healthcare workers in Ondo State. Five factors

made up of two contextual factors (perceived organisational support and pay satisfaction) and three dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) were tested by four hypotheses.

The first hypothesis which states that contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) will jointly predict effort propensity among healthcare workers was confirmed. This implies that the tendency to withhold effort among healthcare workers is jointly significantly determined by the age of the healthcare workers, the years they have spent on the job, their perception of support from the organisation, how satisfied they are with their pay, their level of perceived risk, their belief in themselves as capable healthcare workers who can handle the disease outbreak and the level of their susceptibility to the disease. Explicitly, though the result was confirmed, self-efficacy (37%) contributed most significantly to the variance observed in effort propensity, followed by the likes of perceived vulnerability to disease (30%), risk perception (18%), and pay satisfaction (17%) respectively while perceived organisational support did not independently predict effort propensity. This implies that the best fit predictors of effort propensity will be the combination of self-efficacy, perceived vulnerability to disease, risk perception and pay satisfaction.

Pay satisfaction, a contextual factor predicted effort propensity among healthcare workers. The result of this study is in line with other studies (e.g. Lum et al., 1998; Currall, Towler, Judge & Kohn, 2005; Singh & Loncar, 2010; Jung & Joon, 2015; Asekun, 2015; A'yuninnisa & Saptoto, 2015; Masum et al., 2016) that reported a relationship between pay satisfaction and turnover/withdrawal behaviours but the direction of the relationship found in this study was quite different from what was reported in most literature.

Contrary to the expectation of the researcher, the result of this study revealed a positive relationship between pay satisfaction and withholding effort. This result implies that healthcare

workers who perceive high overall pay satisfaction will withhold effort more than their colleagues who perceive low overall pay satisfaction. This is in line with the findings of Asekun (2015) though most of the studies on pay satisfaction and turnover reported a negative relationship and they were mostly investigated alongside job satisfaction (Singh & Loncar, 2010; Ayanmolowo, Irinoye & Oladoyin, 2013; Lasebikan et al., 2020) meaning that, increase in pay and pay satisfaction increase job satisfaction and decreases turnover/intent to turnover. This is evident in the works of Currall, Towler, Judge et al. (2005), where they reported that pay satisfaction was positively related to school district-level academic performance and negatively related to average teacher intention to quit, also, negative correlations were found between the dimensions of pay satisfaction and the components of turnover intention (A'yuninnisa & Saptoto, 2015).

The reported positive relationship between pay satisfaction and effort propensity found its foothold in the assertion that there are reasons to expect different outcomes in occupations, such as nursing and social work, where intrinsic job satisfaction, versus pay, may be of equal, if not greater importance (Boughn & Lentini, 1999; Curtis, 2007; Green, 1988; Long, 2005). As reported in the literature, Dochery and Barns (2005) found that nurses (including other healthcare workers) were intrinsically driven to join the profession; they liked the idea of working with and helping people and they valued work for its inherent interest and importance, and not so much for its pay and this assertion is supported by Singh and Loncar (2010), who reported that employees in the health sector are driven more by job satisfaction rather than their pay checks and they found out that nurses may be more motivated by their jobs rather than their pay. Also, in Nigeria, Asekun (2015), reported a positive relationship between pay satisfaction and job satisfaction among various business organisations in Lagos. These assertions in the literature explain the reason why pay satisfaction had a positive relationship with withholding effort among healthcare workers.

Besides, working during epidemics and pandemics can be difficult especially for healthcare workers who have to have direct contact with infected persons. Therefore, allowances and increase in pay to work during this hazardous period may not motivate willingness to work and effort propensity as was found by Cindrich, Patterson and Southall (2008) that healthcare workers would still not report to work even if a financial incentive up to triple the normal wage was offered. Also, Khan and Johani (2014) confirmed that healthcare workers will not change their minds to work during an influenza pandemic for salary increases. Therefore, pay satisfaction does not readily translate to low turnover as reported by most studies; factors such as situation and nature of the employees (e.g. healthcare workers propensity to work during a pandemic) could affect this relationship as seen in this study and supported by the works of Cindrich, Patterson and Southall (2008); Khan and Johani (2014).

Though, Masterson (2001) averred that “when employees believe they are being adequately compensated for their efforts, they feel more dedicated to their firm,”, this assertion is not true as confirmed by this study. Fair compensation does not readily translate into a higher level of commitment, it can be misinterpreted as a right and therefore have no significant influence on commitment and performance in the organisations. Also, this study found support in the assertion of the expectancy theory that the valence (reward for effort: e.g. increase salary, monetary incentive, and bonus) must be desirable to motivate positive behaviour, rather, high pay satisfaction influenced a higher tendency to withhold effort (negative behaviour). Therefore, pay satisfaction (a contextual factor) predicted effort propensity among healthcare workers.

Focusing on the dispositional factors, this study revealed that the dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) predicted effort propensity among healthcare workers. In specifics, the result revealed a relationship between risk perception and effort propensity and this outcome is in line with the findings of Qureshi et

al. (2005); Chang, Du and Huang (2006); Kouabenan, et al, (2007); Dionne et al. (2018); Qureshi, Gershon, Yamada and Li (2013). Besides, a negative correlation was found between risk perception and effort propensity, that is, high-risk perception influenced lower effort propensity. This means that healthcare workers' high perception of the risk of a communicable disease influences a lower tendency to withhold effort. This outcome does not concur with previous studies linking risk perception to effort propensity and/or other related withdrawal behaviours at work that reported a positive relationship between risk perception and effort propensity (Qureshi et al., 2005; Sokol, 2006; Algarni, Almalki & Al-Raddadi, 2017), that is, perception of risk as high influenced higher effort propensity.

Fundamentally, humans have variant beliefs and perceptions on the level of risk of various diseases, but this is often guided by the information and the sources of the information, which have a resultant effect on perceived risk. Some individuals might even find risk and taking risky decisions thrilling therefore intentionally making biased perceptions by underestimating a risky behaviour. Literature asserts that those who overestimate the risk of personal and work activities have a lower probability of being present at work while those who underestimate the risk of work activities and personal activities are more likely to be present at work during an influenza pandemic (Dionne, Desjardins, Lebeau, et al. 2018; Gee & Skovdal, 2017).

Interestingly, the result found support in the study of Gee and Skovdal (2017) who reported that the international healthcare workers who worked during the Ebola virus outbreak through 2014-2016 were willing to work despite the risk the disease posed. Health workers' curiosity to explore the new disease made them resilient to work on the Ebola virus epidemic for almost two years. Disease outbreaks may sometimes be thrilling and serve as an opportunity to learn new things for healthcare workers and therefore blinds a healthcare worker from judging a disease outbreak as high risk (perceptual bias).

This result (high-risk perception influenced low effort propensity) stance is perplexing because humans are supposed to avoid anything that can cause harm to them (e.g. disease contagion) but has shown by this result, healthcare workers had the lower intention of withholding effort despite the high risk attached to working during the communicable disease outbreak. This work, therefore, supports the notion that healthcare workers are motivated by their duty to care, in addition to the fact that, some factors in the workplace may influence this negative relationship between risk perception and effort propensity, much of which could be employees' resilience.

Similarly, the study shows a negative relationship between self-efficacy and effort propensity. This implies that employees who believe in their ability to succeed in specific situations (e.g. working during communicable disease) or accomplish a task (avoid the disease transmission to become an epidemic and pandemic) had a lower tendency to withhold effort while those that do not believe in their ability to accomplish a task such as working during an epidemic had a higher tendency of withholding effort. The negative bond between self-efficacy and turnover including other withdrawal behaviour in the organisation (McDonald & Siegall, 2012; Park & Kim, 2013; Waeyenberg, Decramer & Anseel, 2015) and averred a positive relationship between self-efficacy and commitment (Olusola, 2011; McDonald & Siegall, 2012, Garcia, 2015; Eze & Ikebuaku, 2018) and job performance (Lai & c, 2012).

Unquestionably, the result supports the stand of Bandura's 1987 and 1988 research findings that self-efficacy can produce a designated level of performance. The importance of self-efficacy in performance and working under pressure during deadly disease outbreaks such as tuberculosis cannot be over-emphasized. The belief that an individual has towards self-ability (to start and complete a task) is important in epidemics operation and control. Only healthcare workers with high self-efficacy can persevere and be resilient enough not to withhold effort during a disease outbreak with $\geq 2-5\%$ mortality rate.

Healthcare workers who have high self-efficacy, therefore, believe in themselves as capable to handle the disease outbreak and this spurs them to not withhold effort. This means that the belief in self as a capable being that can complete a task despite the difficulty involved usually motivates actualization and completion of the task. Self-efficacy has been proved to positively influence a high level of commitment (Eze & Ikebuaku, 2018; Garcia, 2011; Wu et al., 2012; McDonald & Siegall, 2012). Besides, employees high self-efficacy influences high job performance (Olusola, 2011), sense of competence (Park & Kim, 2013), job satisfaction (Lai & Chen, 2012; Wu et al., 2012), and low turnover (Park & Kim, 2013; Waeyenberg, Decramer & Anseel, 2015).

The result further revealed a negative correlation between perceived vulnerability to disease and effort propensity. This means that low perceived vulnerability to disease influences a high propensity to withhold, on the other hand, high perceived vulnerability to disease influences a lower effort propensity. Therefore healthcare workers who perceived vulnerability to disease as high had a lower tendency to withhold effort while those that perceived vulnerability to disease as low had a higher tendency to withhold effort. Contrary to this finding, Chen and Han (2013) reported that nurses who had higher perceived vulnerability of HIV infection at work were more prejudicial towards people living with HIV/AIDS and will prefer those that have had previous contact with HIV patients to take an HIV test before been admitted to the hospital. Though Chen and Han (2013) did not investigate further, it is logical to think that those nurses will withhold effort.

For healthcare workers to feel highly vulnerable to disease and still not withhold effort, it shows that they have accepted the perceived risk of getting infected and the occupational exposure to infection as part of their professional duty to care (Algarni, Almalki & Al-Raddadi, 2017). This means that their profession as healthcare workers who provide care to others overrides their concern for personal safety and vulnerability towards the disease despite the

high perception of vulnerability towards the disease. This also proves that there are other factors such as resilience within the individual or organisation influencing this result as it is illogical and inhuman-like to feel very vulnerable towards disease and still display positive behaviour by helping others who are infected with the disease.

Therefore, health organisations that do not want their healthcare workers to withhold effort during a communicable disease outbreak have to engage more younger healthcare workers who have spent quite some years on the job with high educational attainment and provide them with detailed information about the disease as this has been confirmed to influence the perception of vulnerability (De Coninck, d'Haenens & Matthijs, 2020). Contrary to the assertion of Stahl and Metzger (2013) that a high perception of vulnerability to disease influences negative behaviour, this result confirms that a high perception of vulnerability influenced a positive behaviour (low tendency to withhold effort) for this study.

Also, there are individual differences in employee perception and perceptual bias including that of perceived vulnerability to disease and risk perception. This is because perception is based on an individual's own belief; about the likelihood of a health threat's occurrence (perceived vulnerability) and severity of a risk and the likelihood of negative occurrences (risk perception) and employees often come up with perceptual bias to suit their purpose. We can therefore conclude that motivation to have a lower tendency to withhold effort is the combination of the person and the environment. The person is the healthcare worker's duty or obligation to save lives while the environment is the health facilities that are full of infected patients. The thought of the diseases (e.g. tuberculosis) spreading and becoming an epidemic or pandemic can propel the healthcare workers to work despite the high perception of vulnerability towards the disease and high-risk perception.

In line with Knobe's motivational model and Vroom's expectancy theory (1990), the study results indicate that healthcare workers will have a lower tendency of withholding effort despite high vulnerability to disease and high-risk perception due to their choice to save lives and avoid further disease transmission, conformity to acceptable behaviour, maintain a relationship with other members of the group and if they do find the outcomes of their performance desirable.

The second hypothesis which states that contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) will jointly predict employee resilience among healthcare workers was supported. This indicates that employee resilience among healthcare workers is jointly predicted by the age of the healthcare workers, the years they have spent on the job, their perception of support from the organisations, how satisfied they are with their pay, their level of perceived risk, the healthcare workers' belief in themselves and the level of their susceptibility to the disease. Importantly, though the result was confirmed, the result further showed that self-efficacy (32%) contributed most significantly to the variance observed in employee resilience, perceived vulnerability to disease (22%), risk perception (20%), and age (19%) respectively while the contextual factors (perceived organisation and pay satisfaction) did not independently contribute significantly to employee resilience. This implies that the best fit predictors of employee resilience will be the combination of self-efficacy, perceived vulnerability to disease and risk perception.

The result further revealed that the dispositional factors (self-efficacy, perceived vulnerability to disease and risk perception) had a positive significant relationship with employee resilience. High employee resilience among healthcare workers was significantly predicted by high-risk perception, high self-efficacy, and high perceived vulnerability to disease and vice versa. This uniquely implies that healthcare workers who perceive the risk of

a disease outbreak as high will exhibit a higher level of employee resilience to cope, with, and work despite the changes in the organisations than their colleagues who perceive the risk of a disease outbreak as low. Correspondingly, healthcare workers who had high self-efficacy demonstrated a higher level of employee resilience than those who had low self-efficacy. Also, healthcare workers who perceived vulnerability to disease as high exhibited a higher level of employee resilience than their counterparts who perceive vulnerability to disease as low.

Findings from this study that risk perception predicts employees' resilience among healthcare workers during communicable disease outbreaks find support in the work of Malik, Shahzad and Raziq (2020). In their study among healthcare workers in Pakistan during polio eradication, they found that trait resilience influenced perceived risk among healthcare workers. Employees, especially healthcare workers accept engaging in risky behaviour to save lives, thereby proving the assertion of Schmidt (2004) that employees engage in risks perceived to have clear benefits than risks perceived to have little or no benefit. Clear benefits in this study are avoiding the spread of the disease (e.g. tuberculosis) from spreading to become an epidemic or global pandemic such as the COVID-19.

The perception of risk associated with working during any communicable disease outbreak, epidemic, or pandemic is dependent on the healthcare workers' ability to cope, thrive and survive (resilience). That is why despite the high risk involved in working during a communicable disease outbreak; high-risk perception influenced higher resilience while low-risk perception influenced the lower level of resilience. For example, in the 2014-2016 Ebola Virus outbreak in Nigeria; the healthcare workers were aware of the high risk attached to the disease and were informed of the mortality rate recorded from other African countries, yet, they were resilient enough to put in the extra effort until Nigeria was pronounced EVD free.

However, this study's finding that high-risk perception predicted a higher level of resilience contradicts the findings of Yildirim, Arslan & Ozaslan (2020); Yanez (2019), that

reported that risk perception does not predict resilience, nor does risk perception have any consequences on individual's resilience. According to Yanez (2019), risk perception does not have any relationship with resilience but rather, the individual's mood, positive and negative affect during adversity in the workplace. Though Yanez's (2019) claim about the mood and emotions as determinants of employees' resilience cannot be discarded, the role of resilience as a personality trait or organisational tool to help employees cope and bounce back during difficult periods cannot be overlooked. Employees with higher resilience make up resilient organisations.

Our study also found support in the expectancy theory that avers that employees will engage in performance or exert effort once the valence is desirable. Working during a communicable disease outbreak can be challenging but it is also an opportunity to learn if the disease is novel (e.g. COVID-19, Ebola virus), some healthcare workers may even find it thrilling to work under such conditions and gain recognition and promotion. The outcome of Khalid, Khalid, Qabajah et al. (2016) proved that appreciation and recognition of healthcare workers' efforts by hospital management during the MERS-CoV and expectation of similar acknowledgment, infection control guidance, and equipment made them resilient and these would entice healthcare workers to work during future epidemics. Though the risk perception of the healthcare workers in their study was centred on fear of personal safety and the well-being of colleagues and family, positive attitudes in the workplace, clinical improvement of infected colleagues, and stoppage of disease transmission among HCWs after adopting strict protective measures eased workers' fear and drove them through the epidemic.

The result further confirms the importance of healthcare workers' self-efficacy in the ability to work during epidemics among healthcare workers by proving that employees with high self-efficacy have a higher level of employee resilience thus supporting the assertion of Bandura (1977) that self-efficacy makes a huge difference in how the employee's at the

workplace think, feel, behave and motivate themselves. The result further finds support in the work of Alarape and Afolabi (2001) who identified that people with low self-efficacy are more likely to lessen their effort or give up altogether, while those with high self-efficacy will try harder to master challenges. This finding illustrates that the higher an individual's self-efficacy, the more confidence he/she has in his/her ability to succeed in a task. Similar findings were also reported by Guo, Cross, Plummer, et al. (2017) that a high level of resilience among nurses was predicted by a high level of self-efficacy and the findings of Ren, Zhou, Wang et. al. (2017) showed that low resilience was predicted by low self-efficacy among the Chinese nurses, which was attributed to high stress and despise of nurses in China.

Furthermore, individuals who lack confidence in skills they possess are less likely to engage in tasks in which those skills are required, and they will more quickly give up in the face of difficulty (Hackett, 1995; Lent & Hackett 1987). Dabas and Pandey (2015) reported that regarding thoughts, a high level of self-efficacy facilitates performance and cognitive processes including problem-solving and decision making, and regarding behaviour, self-efficacy influences employees' choice of activities. A high level of self-efficacy can increase motivation. Employees with a high level of self-efficacy accept challenging tasks without avoiding them. "People's self-efficacy beliefs determine their level of motivation, as reflected in how much effort they will exert in an endeavour and how long they will persevere" (Bandura, 1989, p. 1176). The findings of this study further agree with Hinz, Schumacher, Albani, et al.'s (2006) empirical findings that general self-efficacy correlates moderately to highly with other components of resilience. Also, according to Wang et al. (2018), Ren et al. (2017), and Gillespie et al. (2007), research studies have demonstrated that self-efficacy predicts resilience. It cannot be disputed that self-efficacy has been a much more consistent predictor of behaviour and behaviour change than has any of the other closely related expectancy variables (Graham & Weiner, 1995).

In addition, the result of this study revealed that perceived vulnerability to disease predicted resilience among healthcare workers; however, the direction of the result is contrary to the findings of other studies (Bozdag & Ergun, 2020; Lam et al., 2020) that reported a relationship between the two variables. This means that, while this study finds that healthcare workers' high perception of vulnerability to disease influenced a higher level of resilience to work in the event of a communicable disease outbreak, Bozdag and Ergun, 2020; Lam et al., 2020 reported that high perception of vulnerability influenced lower resilience among healthcare professionals.

This study's findings exposed that, the feeling or perception of contracting a disease from a patient can be worrisome and lead to high perception of vulnerability to disease but healthcare workers developed resilience and coped with the situation despite their vulnerability to the disease (tuberculosis). This shows that healthcare workers should be resilient to perform optimally, effectively and efficiently in the event of disease outbreaks. However, effectiveness and efficiency can only be achieved among resilient healthcare workers.

Interestingly, Mallak (1998) assertion that employee resilience can help employees meet customer needs on the spot, capture opportunities that may otherwise be lost, and avert catastrophes by acting quickly and effectively in crises situations was confirmed by this study and evident in the attitude of healthcare workers in Lagos State, Nigeria, during the 2014-2016 Ebola virus outbreak in Lagos. Though the perceived vulnerability to disease of healthcare workers that worked during that crisis is unknown, the researcher assumes it would have been high, and if this is so, this means that the result of this study conforms to the outcome of the healthcare workers' behaviour. The Ebola disease outbreak proves that the higher the perceived vulnerability to disease, the higher the resilience of healthcare workers to try and discover the treatment regimen for the disease, stop the spread/transmission and cure the infected.

Moreover, by establishing that high-risk perception and high perceived vulnerability to disease predict high-level employee resilience, the study result confirms the affective bonding perspective of Knoke's Theoretical Perspective (1990). According to the "affective bonding" perspective, altruistic behaviours are assumed to be motivated by internalized moral principles or by empathy and sympathy with others. The results prove that despite the high perception of risk and high perception of vulnerability to the disease, healthcare workers are still altruistic to perform duty in the face of threat and develop organisational citizenship behaviours, that is, informal contributions favoured by the organisations, which employees choose to give or withhold without regard to formal sanctions or incentives (Kidwell & Bennet, 1993). Also, the length of service in the perspective confirms the significance of employment duration in predicting effort propensity. The perspective believes that a workgroup with a homogeneous length-of-service distribution is defined as a unit composed primarily of people who have similar tenures in the group and, thus, form a cohort. Under certain conditions, individuals are likely to identify with their groups, and this identification encourages them to cooperate and to comply with group obligations.

Furthermore, the path analysis provides support for the mediatory role of employees' resilience in this study. In line with the proposed conceptual framework and hypothesis, the study result revealed that employees' resilience significantly arbitrated the association in the middle of supposed administrative support and effort propensity among healthcare workers and did not significantly mediate the relationship between pay satisfaction and effort propensity among healthcare workers. This suggests that while the direct influence of perceived organisational support on effort propensity was not substantiated, the relationship between perceived organisational support and effort propensity was mediated by employees' resilience. Simply put, employees' resilience fully mediated the association between perceived organisational support and effort propensity.

This result explains that though the perception and belief that employees have that their organisations care about their well-being and safety is important to them, it does not influence their tendency to withhold effort in the event of an outbreak of communicable diseases. Therefore, employees' perception of organisational support has no direct effect on effort propensity. This means that for the perception of organisational support to have a positive effect on withdrawal behaviour such as effort propensity in crises, employees' coping and thriving capabilities must be present. Thus, it was confirmed that employees' resilience fully arbitrated the association in the middle of supposed administrative support. This means that a high perception of organisational support influenced a higher level of employees' resilience and, a high level of employees' resilience reduced the tendency to withhold effort. In line with our result on the mediating role of employees' resilience, Maidanuic-Chirila (2015) reported that resilience mediated the relationship between workplace bullying and physical strain among employees.

Results indicated that employee resilience positively correlated with perceived organisational support and negatively correlated with effort propensity. Thus, healthcare workers who perceive high organisational support exhibited a higher level of employee resilience and, therefore, have a lower tendency of withholding effort. This finding corroborates previous studies regarding the role of resilience in withholding effort behaviours (Maidaniuc-Chirilă, 2015, Pau, Barnet & Garg, 2016) by suggesting that organisations facilitate their employees to be more resilient by fashioning a supportive organisational environment which results in efficiency in organisational output in terms of reduced tendency to withhold effort. Support from the organisations makes employees engage in resilient behaviours which translate into giving an extra level of effort into work activities despite the threat to life and fear of contracting the disease. As levels of resilience increase, employees

develop a coping mechanism that facilitates them to face challenging conditions without much pressure.

Organisations perform a significant role in the way and manner their employees adjust and perform during changing work circumstances such as an outbreak of deadly diseases. Organisational initiatives such as positive coping, adaptation, and survival in response to disaster management and preparedness facilitate employee resilience. Organisational environment influences the level of employee resilience through the provision of enabling factors; open, supportive, collaborative, and learning-oriented work environment which fosters employee resilience (Naswall, Kuntz, Hodliffe & Malinen, 2013). This opinion is supported by Bernabe and Botia (2016) who confirmed that emotional social support from one's supervisor and co-workers was indirectly related to employee health, favouring resilience. Thus, employee resilience is essential in healthcare workers' perception of organisational support that affects their tendency to withhold effort in a tuberculosis disease outbreak.

Lastly, the fourth hypothesis that predicted that employee resilience would significantly mediate the relationship between dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) and effort propensity among healthcare workers was supported. This implies that employee resilience significantly mediated the relationship between risk perception and effort propensity, self-efficacy and effort propensity, and, perceived vulnerability to disease and effort propensity among healthcare workers.

The mediation is partial which means that dispositional factors influence effort propensity directly, as well as, indirectly through employee resilience. The result implies that dispositional factors help healthcare workers working during high-risk infectious disease outbreaks, such as tuberculosis, build resilience to cope, adapt and thrive in response to changing work circumstances.

The power of resilience (abilities and characteristics) allow an individual to bounce back, cope successfully, and function above the norm despite significant stress or adversity results in performance consequences in the organisations in form of effort propensity. Working during a disease outbreak is dreary and stressful due to the extra workload and demand, extra carefulness, fear of contagion, confusion of treatment plan, lack of feedback, and the likes that occur during emergency treatment. In such circumstances, the belief in oneself to carry out a task successfully and the perception of risk and how vulnerable one is to the disease determines the level of effort that an individual can put into the work.

The results of this study showed that employees' resilience helps healthcare workers to have a positive disposition to work during disease outbreaks by reducing/lowering their tendency to withhold effort. It also uncovers that employees' resilience helps healthcare workers to channel their perception of risk and vulnerability to disease to lower the tendency to withhold effort; this means that healthcare workers who have higher employee resilience have a lower tendency of withholding effort when they have higher self-efficacy, higher levels of perception of risk and higher levels of vulnerability to disease.

The result of this study that found a significant mediation role of employee resilience between organisational variables is in line with findings of studies by (Maidaniuc-Chirilă, 2015; Mealer, Jones, Newman, et al., 2012). This relationship is explained by the fact that higher levels of resilience in employees lead to lower levels of withholding effort when employees are satisfied with the support of the organisations. The result also conform with the report of Ceschi, Fraccaroli, Costantini and Sartori (2017).

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary

The goal of this study was to figure out what motivates healthcare workers' effort propensity, particularly during a disease outbreak. This was accomplished by looking into the effects of contextual (perceived organisational support and pay satisfaction) and dispositional (risk perception, self-efficacy, and perceived disease vulnerability) factors, as well as the mediating role of resilience, on effort propensity among healthcare workers in Ondo State during communicable disease outbreaks.

477 healthcare personnel were purposively recruited and drawn from three specialized hospitals in each senatorial district of Ondo State using a cross-sectional survey design. The selected healthcare employees were given a questionnaire that examined perceived organizational support, pay sat, risk perception, self-efficacy, perceived illness vulnerability,

effort propensity, and resilience. At a significance level of 0.05, data were analysed using Hierarchical Multiple Regression and Linear Regression.

Importantly, contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, perceived vulnerability to disease and self-efficacy) were found to predict healthcare workers' effort propensity and employee resilience. In addition, employee resilience fully mediated the relationship between perceived organizational support and effort propensity, as well as partially mediating the relationship between the dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) and effort propensity.

6.2 Conclusion

Effort propensity during any communicable disease outbreak among healthcare workers cannot be ruled out. Most importantly, it is concluded that contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) jointly predicted effort propensity among healthcare workers. Likewise, this study further concludes that contextual factors (perceived organisational support and pay satisfaction) and dispositional factors (risk perception, self-efficacy and perceived vulnerability to disease) jointly predicted employees' resilience among healthcare workers.

This study further concludes that employee resilience is a necessary motivator facilitated and supported by the organisations during disease outbreaks because it reduces the tendency to withhold effort. Perception of organisational support, self-efficacy, risk perception, and perception of vulnerability to disease make healthcare workers be better resilient workers and in turn, lessens their tendency to withhold effort. Most importantly, non-monetary motivators such as perceived organisational support factors which may include the provision

of vaccines, transportation and feedback are more important to healthcare workers than monetary incentives and salary increases during communicable disease outbreaks.

6.3 Implication of the study

The study established that healthcare workers have tendencies to withhold effort during a communicable disease outbreak and successfully added to the body of knowledge by developing a statistical tool (Healthcare Workers' Effort Propensity Scale, HEPS) that is specifically useful for measuring effort propensity among healthcare workers during disease outbreaks and provided data for assessing effort propensity among healthcare workers during a communicable disease outbreak in Nigeria for future and further studies.

Concerning preparedness training and formulation of policies for impending disease outbreak or epidemics, the focus should be on addressing the study's highlighted contextual (perceived organisational support) and dispositional factors (risk perception, self-efficacy and perceived vulnerability to diseases) that predicts tendencies to withhold effort during communicable disease outbreak among healthcare workers. Based on the aforementioned, healthcare workers and their management should be educated on the antecedents and consequences of effort propensity and its effect on the healthcare management system.

Most importantly, the conclusion that employees' resilience has a mediating effect in the relationship between contextual (perceived organisational support), dispositional factors (risk perception, self-efficacy and perceived vulnerability to diseases), and effort propensity provide grounds for healthcare workers' training in resilience to boost their adaptability to the necessary changes that are unique to deadly disease outbreaks, against this backdrop, healthcare workers should be trained ahead of disease outbreaks.

Furthermore, the study implicated factors that have cultural and traditional analytical consequences, such as age, employment duration, perceived organisational support, risk perception, self-efficacy and perceived vulnerability to the disease on effort propensity among

the Nigerian healthcare workers and confirmed the essence of organisational support as a unique factor that must be well-grounded and indoctrinated into the healthcare facilities to improve on the work behaviour of healthcare workers for a future outbreak of communicable disease.

6.4 Recommendations

Based on the outcome of this study, the following recommendations were reached:

The administrators of healthcare facilities should improve on their organisational support towards their employees (healthcare workers) because the perception of the support as negative or positive by the healthcare workers has an impending influence on the level of effort that will be offered during a communicable disease outbreak. Positive organisational support can enhance the provision of required level effort in cases of communicable outbreaks can be in various forms such as the provision of effective and standard personal protective equipment (gloves, nose mask, ward gowns, face shield), provision of transportation from the facility to home, provision of nursing centres for nursing healthcare workers, the promise of vaccination against the disease when it is available for a novel disease.

Importantly, pay and its related monetary incentives should not be viewed as the main motivator/reinforcement for performance, rather, health institutions and their management should endeavour to provide a conducive work environment where positive organisational support will be perceived by healthcare workers. Thus, the positive organisational support will be reciprocated with positive behaviour such as providing beyond the necessary effort needed to curb the hospital surge during communicable disease outbreaks.

Besides, the reality of the communicable disease in terms of its nature and severity should be effectively communicated directly to healthcare workers for them to weigh the effect and consequences of the communicable disease. By doing this, the healthcare workers will be equipped to not overestimate or underestimate the danger of the disease and will have the right

risk perception and vulnerability to the disease that will influence the provision of the required level of effort.

Also, regular training and preparedness for communicable disease outbreaks are hereby encouraged to boost the confidence of the healthcare workers to effective work and provide the required level of effort during a communicable disease outbreak. Training on self-efficacy that can help healthcare workers believe in self-competencies, goal attainment and achievement and, self-worth must be adapted into the training plans of health institutions to foster healthcare workers' self-efficacy.

Healthcare administrators and managers are advised to routinely observe healthcare workers' tendency to withhold effort through workplace safety drills on disease outbreaks this will allow the management of health institutions to assess the area of needs for preparedness towards the eventual occurrence of communicable disease outbreaks and reduce effort propensity among the healthcare workers.

Employees' resilience has the potential of reducing effort propensity among healthcare workers. Hence, training on the development of employee resilience can be designed and organized for healthcare workers to help develop coping skills, thriving skills, and survival skills that will help the healthcare workers provide the necessary effort during a disease outbreak. Even more, employee resilience courses should be added to the curriculum of healthcare worker trainees and students to prepare them for future work hazards.

6.5 Limitations

Regardless of the informed significance of this study, it is pertinent to point out that some limitations can guide future research in this area.

The dominant limitation in this study is the use of hypothetical scenario to elicit a response from healthcare workers on their tendency to withhold effort during a communicable

disease outbreak, such as tuberculosis outbreak; this could have reduced or enhanced respondents' responses to the questionnaire used to elicit a response for the study as the scenarios determine the responses of the study participants. Though the use of hypothetical scenarios produces important and great information, Trainor and Barsky (2011, p.4) suggested that the use of hypothetical scenarios referred to as the perception studies may not predict the real event due to the overly artificial construction of the scenarios.

Also, a longitudinal and a comparison study of an actual disease outbreak may have elicited a more reliable result for healthcare workers' tendency to withhold effort rather than self-report (paper-pencil) tests that are plagued with response bias. Response bias has been found to appear in many fields of behavioural and healthcare studies where self-reported data are used. This is due to individual or participant's defective perception to look good in the survey, even when the survey is anonymous.

Since the study concluded on a partial mediation between dispositional factors and effort propensity, this means that other factors that mediate this relationship aside from employee resilience, such as coping styles and felt obligation, may be investigated that can fully mediate this relationship.

The limitations of this study point to some impending research directions that can help advance the phenomenon of interest and overcome the limitations of this current study.

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APPENDIX I

Dear Respondent,

This questionnaire is solely for research purposes; please answer honestly by ticking the box that best expresses your viewpoint. Your response will be kept in strictest confidence.

SECTION A: SOCIO DEMOGRAPHIC DATA

Age Gender:

Relationship Status: Single () Married () Separated () Divorce ()

Primary job category - Doctor () Nurse () Lab Technician ()

Technical Support Services () Administration ()

Do you have any youngsters to look after? Yes () No ()

Do you have any parents for whom you are responsible? Yes () No ()

Do you have any in-laws to look after? Yes () No ()

What is your current position at this hospital? Working full-time () a part-time job ()

How long have you been working in this health facility? Number of years
Months.....

SECTION B

For each of the following statements, indicate the extent to which you agree or disagree by ticking {√} the appropriate box. **Strongly Agree=5, Agree=4, Undecided=3, Disagree=2 while Strongly Disagree=1.**

S/N	ITEMS	5	4	3	2	1
1	My contribution to the health facility's well-being is valued.					
2	Any extra effort from me is not appreciated by the health facility.					
3	Any complaint I made to the health facility would be ignored.					
4	The medical center is genuinely concerned about my wellbeing.					
5	Even if I did my absolute best, the health facility would be unconcerned.					
6	The health facility is concerned about my overall job happiness.					
7	The medical center is unconcerned about my well-being.					
8	The health center is proud of my achievements at work.					

SECTION C

Please read each item carefully and select the proper response by ticking {√} to show how you feel about it.

Very Dissatisfied=1, Dissatisfied=2, Neutral=3, Satisfied=4 while Very Satisfied=5.

S/N	ITEMS	1	2	3	4	5
1	My monthly wage.					
2	My current pay.					
3	My overall remuneration.					

4	My current salary's size.					
5	My compensation package					
6	The amount that my employer contributes to my perks.					
7	My perks are worth a lot of money.					
8	The number of advantages that I am entitled to.					
9	This is my most recent raise.					
10	My boss has a lot of power over my compensation.					
11	The raises I've usually gotten in the past.					
12	What factors go into determining my raises.					
13	The compensation structure of the company.					
14	The company provides me with information about pay concerns that I am concerned about.					
15	Other employment in the company pay more.					
16	The company's wage rules are consistent.					
17	Pay disparities between jobs within the firm.					
18	The way the company handles pay.					
19	The company's pay criteria or job evaluation criteria.					
20	My most recent performance evaluation was accurate.					

SECTION D

Please provide the appropriate response that best reflect how you work by ticking.

SA=Strongly Agree, A=Agree, U=Undecided, D=Disagree while SD=Strongly Disagree.

S/N	ITEMS	SA	A	U	D	SD
1	I will avoid patients during outbreak of communicable disease					
2	I will accept risk as part of my job during outbreak of communicable disease					
3	I feel that I have little personal control during outbreak of communicable disease					
4	I am afraid to work in the case outbreak of communicable disease					
5	I would definitely change job in case of outbreak of communicable disease					

SECTION E

Please provide the appropriate response that best reflect how you work by ticking.

Not At All True =1, Hardly True =2, Moderately True =3, Exactly True =4

S/N	ITEMS	1	2	3	4
1	If I work hard enough, I can always tackle challenging difficulties.				
2	Even if someone stands in my way, I can find a way to get what I want.				
3	It is simple for me to stick to my objectives and achieve my objectives.				
4	I am confident in my ability to deal well with unforeseen circumstances.				
5	I know how to deal with unforeseen events thanks to my resourcefulness.				
6	If I put forth the necessary effort, I can solve most challenges.				
7	When faced with adversity, I can maintain my composure by relying on my coping skills.				
8	When I'm faced with a dilemma, I usually come up with numerous options.				
9	When I'm in difficulties, I usually come up with a solution.				

10	I'm typically capable of dealing with whatever that comes my way.				
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SECTION F

Please read each item carefully and select the proper response by ticking {√} to show how you feel about it.

1=StrongLy Disagree, 2=Disagree, 3=Undecided, =Agree while 5=Strongly Agree.

S/N	ITEMS	1	2	3	4	5
1	It annoys me considerably when individuals sneeze without covering their lips.					
2	I will catch whatever disease is circulating.					
3	I have no difficulty sharing a water bottle with a pal.					
4	I don't enjoy writing with a pencil that has been chewed on by someone else.					
5	My past experiences lead me to believe that I will not become ill, even if my friends do.					
6	I have a history of infectious illness vulnerability.					
7	After shaking someone's hand, I prefer to wash my hands as soon as possible.					
8	I'm prone to colds, the flu, and other infectious ailments in general.					
9	I loathe wearing secondhand clothing because you never know what the previous owner was like.					
10	I I have a higher risk of contracting an infectious disease than those around me.					
11	After touching money, my hands do not feel unclean.					
12	I'm not likely to get a cold, the flu, or any other sickness.					
13	Being around sick individuals does not make me nervous.					
14	My immune system shields me from the majority of ailments that affect others.					
15	I fear using public phones because I'm afraid I'll pick up something from the previous caller.					

SECTION G

Please use the scenario below to answer the questions below.

“OUTBREAK OF 15 CASES OF MULTIDRUG RESISTANCE TUBERCULOSIS DISEASE IN THE HOSPITAL IN WHICH YOU WORK, WITH A FEARED FATAL EPIDEMIC OF 2-5% MORTALITY RATE”.

Please provide the appropriate response that best reflect how you work by ticking.

Strongly Disagree = SD, Disagree = D, Undecided=U, Agree=A, , Strongly Agree=SA

S/N	ITEMS	SD	D	N	A	SA
1	I will consider quitting my job if there is an outbreak of communicable disease.					
2	I will avoid to work if there is an outbreak of communicable disease.					
3	I will work very hard during an outbreak of communicable disease.					

4	I do not mind working beyond my shift during outbreak of communicable disease.					
5	Outbreak of communicable diseases cannot stop me in fulfilling my work obligation.					
6	Most often, I don't like to report to work during disease outbreaks, especially when I am involved					
7	If there were cases of disease outbreaks, I would prefer to submit a leave letter or letter of absence to the management					
8	I will be completely committed to my job during outbreak of communicable disease if personal protective gears are provided.					
9	In situations of disease outbreaks in my health centre, I will prefer to loaf amidst other health worker					
10	I can't risk my life by participating in the treatment during disease outbreaks					
11	In case of disease outbreaks in my health facility, I will do everything humanly possible to end disease outbreaks					

SECTION H

The following statements aim to assess the behaviours that best characterize you at work. Please note that the extent to which you engage in these behaviours depends largely on the resources available in your organisations, not just your choice to enact them.

1=Almost Never, 2=Never 3=Undecided, 4=Always while 5=Almost Always.

S/N	ITEMS	1	2	3	4	5
1	When it comes to dealing with issues at work, I work well with others.					
2	For long periods of time, I have effectively managed a large workload.					
3	At work, I am capable at resolving crises.					
4	At work, I am able to properly respond to all types of feedback, even criticism.					
5	I review my performance on a regular basis and strive to enhance my work methods.					
6	When I require assistance from a management, I approach them.					
7	I learn from my failures at work and strive to better my performance.					
8	Change is an opportunity for me to grow at work.					
9	When I require certain resources, I seek assistance at work.					

APPENDIX II

Summary of Response Content Analysis (RCA)

Factors responsible for effort propensity during communicable disease outbreaks among healthcare workers

NO.	Level of Support from organization	Level of family support	Salary Satisfaction	Work-load	Stress	Self-efficacy	Perception of Risk involved	Vulnerability to Sickness	Workers' Resilience
	A	B	C	D	E	F	G	H	I
P.1	√	√	√	×	√	√	√	√	√
P.2	√	×	√	×	√	√	√	√	√
P.3	√	×	√	×	√	√	√	√	√
P.4	√	×	×	√	×	√	√	√	×
P.5	√	×	√	√	×	√	√	√	√
P.6	√	×	√	√	×	×	√	√	√
P.7	√	√	√	√	×	√	√	√	√
P.8	√	×	√	×	√	×	√	√	√
P.9	√	√	√	×	√	×	√	√	√
P.10	√	×	√	×	×	√	√	√	√
P.11	√	√	√	×	√	√	√	√	√
P.12	√	√	√	×	√	√	√	√	√
P.13	√	×	√	×	√	√	√	√	√
P.14	√	×	√	×	√	√	√	√	√
P.15	√	×	×	√	×	√	√	√	×
P.16	√	×	√	√	√	√	√	√	√
P.17	√	×	√	√	√	×	√	√	√
P.18	√	√	√	√	×	√	√	√	√
P.19	√	√	√	√	×	√	√	√	√

RCA (%)	100.0%	36.8%	89.5%	47.4%	57.9%	78.9%	100.0%	100%	89.5%
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APPENDIX III

ITEM-LEVEL CONTENT VALIDITY INDEX FOR HEALTHCARE WORKERS EFFORT PROPENSITY SCALE (HEPS)										
ITEMS	RATER 1	RATER 2	RATER 3	RATER 4	RATER 5	RATER 6	RATER 7	All items rated 1 or 2	All item rated 3 or 4	
ITEM 1	3	3	3	3	3	3	2	1	6	0.86
ITEM 2	1	1	2	1	2	2	2	7	0	0
ITEM 3	2	3	3	3	3	3	3	0	6	0.86
ITEM 4	2	2	2	2	2	1	2	7	0	0
ITEM 5	3	2	3	3	3	3	3	0	7	0.86
ITEM 6	4	4	3	4	4	4	4	0	7	1
ITEM 7	4	4	3	4	4	4	4	0	7	1
ITEM 8	1	1	1	2	1	1	1	7	0	0
ITEM 9	4	4	4	4	4	4	4	0	7	1
ITEM 10	4	4	3	4	3	4	4	0	7	1
ITEM 11	4	3	4	4	4	4	4	0	7	1
ITEM 12	4	4	4	4	3	4	3	0	7	1
ITEM 13	3	2	3	2	3	2	2	4	3	0.43
ITEM 14	3	2	2	3	3	3	3	2	5	0.71
ITEM 15	4	4	4	4	3	4	4	0	7	1
ITEM 16	4	3	3	4	4	4	3	0	7	1
ITEM 17	4	4	4	4	4	4	4	0	7	1
ITEM 18	1	2	2	2	1	1	2	7	0	0

ITEM 19	3	3	4	4	4	4	4	0	7	1
ITEM 20	3	4	3	3	4	4	4	0	7	1
ITEM 21	2	3	3	3	3	3	3	1	6	0.86
ITEM 22	2	3	3	3	3	3	3	1	6	0.86
ITEM 23	3	3	2	3	3	3	3	1	6	0.86
ITEM 24	3	3	2	2	3	3	3	2	5	0.71
ITEM 25	3	3	3	3	3	3	2	1	6	0.86
ITEM 26	2	2	3	3	3	2	3	3	4	0.57
ITEM 27	3	3	3	2	3	3	3	1	6	0.86
ITEM 28	3	3	3	2	3	3	3	1	6	0.86

I-CVI=ALL ITMEMS RANGING BETWEEN 0.86 AND 1

S-CVI= (0.86*9 +11)/20ITEMS=.94

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Healthcare Propensity withholding effort	477	25.00	46.00	35.7945	5.28432
Valid N (listwise)	477				

Frequencies

Statistics

Effort_propensity

N	Valid	477
	Missing	0

Effort_propensity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low effort propensity	226	47.4	47.4	47.4
	High effort propensity	251	52.6	52.6	100.0
	Total	477	100.0	100.0	

gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	203	42.6	42.6	42.6
female	274	57.4	57.4	100.0
Total	477	100.0	100.0	

marital status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Others	161	33.8	33.8	33.8
Married	316	66.2	66.2	100.0
Total	477	100.0	100.0	

job_category

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid doctor	102	21.4	21.4	21.4
nurse	289	60.6	60.6	82.0
lab technician	44	9.2	9.2	91.2
pharmacist	42	8.8	8.8	100.0
Total	477	100.0	100.0	

responsible_children

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	357	74.8	74.8	74.8
no	120	25.2	25.2	100.0
Total	477	100.0	100.0	

responsible_parents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	421	88.3	88.3	88.3
no	56	11.7	11.7	100.0
Total	477	100.0	100.0	

responsible_inlaws

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	328	68.8	68.8	68.8
no	149	31.2	31.2	100.0
Total	477	100.0	100.0	

employmt_stat.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid full-time	449	94.1	94.1	94.1
part-time	28	5.9	5.9	100.0
Total	477	100.0	100.0	

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	477	19	66	31.38	10.427
employmt_duration	477	1	34	7.18	7.100
Valid N (listwise)	477				

Correlations

Descri. Stat.

	Mean	Std. Deviation	N
Age	31.38	10.427	477
gender	1.57	.495	477
marital status	.6625	.47336	477
responsble_children	1.25	.434	477
responsible_parents	1.12	.322	477
responsible_inlaws	1.31	.464	477
employmt_status	1.06	.235	477
employmt_duration	7.18	7.100	477
Perceived Social Support	25.9392	3.63203	477
Pay satisfaction	65.1048	7.80039	477
Perceived Risk	14.0063	2.37855	477
Self-Efficacy	28.7275	4.02476	477
Perceived Vulnerability Disease	41.7002	6.16341	477
Healthcare Propensity withholding effort	35.7945	5.28432	477
Employee Resilience	25.5157	3.90946	477

Correlations

		Age	gender	marital status	responsible_children	responsible_parents	responsible_inlaws	employment_status	employment_duration	POS	Pay satisfaction	Perceived Risk	Self-Efficacy	PVD	PWE	Employee Resilience
Age	Pearson Correlation	1	-.021	.346*	-.506**	-.324**	-.324**	-.210**	.898**	.239**	.254**	-.109*	-.129**	-.248**	.194**	-.226**
	Sig. (2-tailed)		.651	.000	.000	.000	.000	.000	.000	.000	.000	.018	.005	.000	.000	.000
	N	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
gender	Pearson Correlation	-.021	1	-.005	-.019	-.029	-.005	-.020	-.015	.012	-.069	-.021	.028	-.008	-.009	.009
	Sig. (2-tailed)	.651		.919	.681	.534	.907	.670	.739	.786	.133	.649	.540	.859	.851	.837
	N	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
marital status	Pearson Correlation	.346*	-.005	1	-.812**	-.511**	-.944**	-.293**	.181**	.334**	.332**	.114*	.056	-.075	.001	-.032
	Sig. (2-tailed)	.000	.919		.000	.000	.000	.000	.000	.000	.000	.013	.219	.101	.987	.489
	N	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
responsible_children	Pearson Correlation	-.506*	-.019	-.812**	1	.464**	.860**	.205**	-.380**	-.301**	-.342**	-.054	-.029	.096*	-.031	.021
	Sig. (2-tailed)	.000	.681	.000		.000	.000	.000	.000	.000	.000	.236	.525	.037	.506	.645
	N	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
responsible_parents	Pearson Correlation	-.324**	-.029	-.511**	.464**	1	.387**	.214**	-.243**	-.159**	-.216**	-.034	.018	.024	-.057	.042
	Sig. (2-tailed)	.000	.534	.000	.000		.000	.000	.000	.000	.000	.461	.691	.599	.211	.361
	N	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

resp onsi ble_ inla ws	Pearson Correlatio n Sig. (2- tailed) N	- .324* .000 477	- .005 .907 477	- .944* .000 477	.860** .000 477	.387** .000 477	1 .217** .000 477	-.166** .000 477	-.323** .000 477	-.317** .000 477	-.108* .018 477	-.070 .126 477	.056 .219 477	.026 .568 477	.005 .916 477
emp loy mt_ tatus	Pearson Correlatio n Sig. (2- tailed) N	- .210* .000 477	- .020 .670 477	- .293* .000 477	.205** .000 477	.214** .000 477	.217** .000 477	1 -.150** .001 477	-.156** .001 477	-.116* .012 477	-.001 .989 477	-.003 .947 477	-.008 .860 477	-.002 .963 477	.088 .055 477
emp loy mt_ dura tion	Pearson Correlatio n Sig. (2- tailed) N	.898* .000 477	-.015 .739 477	.181* .000 477	-.380** .000 477	-.243** .000 477	-.166** .000 477	-.150** .001 477	1 .117* .011 477	.168** .000 477	-.172** .000 477	-.182** .000 477	-.260** .000 477	.236** .000 477	-.243** .000 477
Perc eive d Soci al Sup port	Pearson Correlatio n Sig. (2- tailed) N	.239* .000 477	.012 .786 477	.334* .000 477	-.301** .000 477	-.159** .000 477	-.323** .000 477	-.156** .001 477	.117* .011 477	1 .444** .000 477	.083 .069 477	.123** .007 477	.026 .574 477	-.021 .649 477	.110* .017 477
Pay satis facti on	Pearson Correlatio n Sig. (2- tailed) N	.254* .000 477	-.069 .133 477	.332* .000 477	-.342** .000 477	-.216** .000 477	-.317** .000 477	-.116* .012 477	.168** .000 477	.444** .000 477	1 -.130** .005 477	-.149** .001 477	-.238** .000 477	.310** .000 477	-.113* .013 477
Perc eive d Risk	Pearson Correlatio n Sig. (2- tailed)	-.109* .018	-.021 .649	.114* .013	-.054 .236	-.034 .461	-.108* .018	-.001 .989	-.172** .000	.083 .069	-.130** .005	1 .639** .000	.446** .000	-.581** .000	.516** .000

N	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
Self-Efficacy	Pearson Correlation	-.129*	.028	.056	-.029	.018	-.070	-.003	-.182**	.123**	-.149**	.639**	1	.445**	-.654**	.565**
	Sig. (2-tailed)	.005	.540	.219	.525	.691	.126	.947	.000	.007	.001	.000	.000	.000	.000	.000
	N	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
Perceived Vulnerability	Pearson Correlation	-.248*	-.008	-.075	.096*	.024	.056	-.008	-.260**	.026	-.238**	.446**	.445**	1	-.592**	.482**
	Sig. (2-tailed)	.000	.859	.101	.037	.599	.219	.860	.000	.574	.000	.000	.000	.000	.000	.000
	N	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
Healthcare Provider	Pearson Correlation	.194*	-.009	.001	-.031	-.057	.026	-.002	.236**	-.021	.310**	-.581**	-.654**	-.592**	1	-.456**
	Sig. (2-tailed)	.000	.851	.987	.506	.211	.568	.963	.000	.649	.000	.000	.000	.000	.000	.000
	N	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477
Employee Resilience	Pearson Correlation	-.226*	.009	-.032	.021	.042	.005	.088	-.243**	.110*	-.113*	.516**	.565**	.482**	-.456**	1
	Sig. (2-tailed)	.000	.837	.489	.645	.361	.916	.055	.000	.017	.013	.000	.000	.000	.000	.000
	N	477	477	477	477	477	477	477	477	477	477	477	477	477	477	477

**

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	employmt_duration, Age ^b	.	Enter
2	Pay satisfaction, Perceived Social Support ^b	.	Enter
3	Perceived Risk, Perceived Vulnerability Disease, Self-Efficacy ^b	.	Enter

a. Dependent Variable: Propensity to withhold effort

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.240 _a	.057	.054	5.14097	.057	14.459	2	474	.000
2	.413 _b	.170	.163	4.83379	.113	32.079	2	472	.000
3	.765 _c	.585	.579	3.42752	.415	156.588	3	469	.000

a. employmt_duration, Age

b. employmt_duration, Age, Pay satisfaction, Perceived Social Support

c. employmt_duration, Age, Pay satisfaction, Perceived Social Support, Perceived Risk, Perceived Vulnerability Disease, Self-Efficacy

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
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1	Regression	764.267	2	382.134	14.459	.000 ^b
	Residual	12527.598	474	26.430		
	Total	13291.866	476			
2	Regression	2263.359	4	565.840	24.217	.000 ^c
	Residual	11028.507	472	23.365		
	Total	13291.866	476			
3	Regression	7782.101	7	1111.729	94.632	.000 ^d
	Residual	5509.765	469	11.748		
	Total	13291.866	476			

a. Dependent Variable: Propensity to withhold effort

b. employmt_duration, Age

c. employmt_duration, Age, Pay satisfaction, Perceived Social Support

d. employmt_duration, Age, Pay satisfaction, Perceived Social Support, Perceived Risk, Perceived Vulnerability Disease, Self-Efficacy

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	35.569	1.175		30.280	.000
	Age	-.047	.051	-.093	-.922	.357
	employmt_duration	.238	.075	.320	3.157	.002
2	(Constant)	27.035	2.100		12.872	.000
	Age	-.083	.051	-.164	-1.625	.105
	employmt_duration	.255	.073	.342	3.487	.001
	Perceived Social Support	-.276	.070	-.189	-3.933	.000
	Pay satisfaction	.256	.032	.378	7.959	.000
3	(Constant)	59.879	2.158		27.751	.000
	Age	-.044	.037	-.086	-1.193	.233
	employmt_duration	.083	.053	.112	1.584	.114
	Perceived Social Support	-.033	.051	-.022	-.640	.522
	Pay satisfaction	.118	.024	.174	4.953	.000
	Perceived Risk	-.394	.089	-.177	-4.436	.000
	Self-Efficacy	-.486	.053	-.370	-9.199	.000
	Perceived Vulnerability Disease	-.256	.030	-.298	-8.412	.000

a. Dependent Variable: Propensity to withhold effort

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Perceived Social Support	-.040 ^b	-.851	.395	-.039	.893
	Pay satisfaction	.306 ^b	6.873	.000	.301	.916
	Perceived Risk	-.559 ^b	-14.845	.000	-.564	.959
	Self-Efficacy	-.632 ^b	-18.045	.000	-.639	.961
	Perceived Vulnerability Disease	-.571 ^b	-14.985	.000	-.567	.931
2	Perceived Risk	-.515 ^c	-14.028	.000	-.543	.923
	Self-Efficacy	-.592 ^c	-16.993	.000	-.616	.901
	Perceived Vulnerability Disease	-.516 ^c	-13.504	.000	-.528	.868

a. Dependent Variable: Propensity to withhold effort

b. employmt_duration, Age

c. employmt_duration, Age, Pay satisfaction, Perceived Social Support

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	employmt_duration, Age ^b		Enter
2	Pay satisfaction, Perceived Social Support ^b		Enter
3	Perceived Risk, Perceived Vulnerability Disease, Self-Efficacy ^b		Enter

a. Dependent Variable: Employee Resilience

b. All requested variables entered.

Model Summary

R				Change Statistics
---	--	--	--	-------------------

Model	R	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.243 ^a	.059	3.80011	.059	14.895	2	474	.000
2	.320 ^b	.102	3.72009	.043	11.306	2	472	.000
3	.651 ^c	.424	2.98958	.322	87.282	3	469	.000

a. employmt_duration, Age

b. employmt_duration, Age, Pay satisfaction, Perceived Social Support

c. employmt_duration, Age, Pay satisfaction, Perceived Social Support, Perceived Risk, Perceived Vulnerability Disease, Self-Efficacy

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	430.183	2	215.092	14.895	.000 ^b
	Residual	6844.949	474	14.441		
	Total	7275.132	476			
2	Regression	743.105	4	185.776	13.424	.000 ^c
	Residual	6532.027	472	13.839		
	Total	7275.132	476			
3	Regression	3083.392	7	440.485	49.284	.000 ^d
	Residual	4191.740	469	8.938		
	Total	7275.132	476			

a. Dependent Variable: Employee Resilience

b. employmt_duration, Age

c. employmt_duration, Age, Pay satisfaction, Perceived Social Support

d. employmt_duration, Age, Pay satisfaction, Perceived Social Support, Perceived Risk, Perceived Vulnerability Disease, Self-Efficacy

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.805	.868		30.871	.000
	Age	-.015	.038	-.040	-.397	.692
	employmt_duration	-.114	.056	-.206	-2.037	.042
2	(Constant)	26.362	1.616		16.309	.000
	Age	-.041	.039	-.110	-1.047	.296
	employmt_duration	-.079	.056	-.143	-1.399	.162
	Perceived Social Support	.241	.054	.224	4.466	.000

	Pay satisfaction	-.080	.025	-.160	-3.244	.001
3	(Constant)	5.397	1.882		2.868	.004
	Age	-.071	.032	-.190	-2.231	.026
	employmt_duration	.037	.046	.066	.797	.426
	Perceived Social Support	.085	.044	.079	1.906	.057
	Pay satisfaction	.008	.021	.016	.378	.705
	Perceived Risk	.327	.077	.199	4.226	.000
	Self-Efficacy	.309	.046	.318	6.707	.000
	Perceived Vulnerability Disease	.142	.027	.224	5.355	.000

a. Dependent Variable: Employee Resilience

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Perceived Social Support	.160 ^b	3.443	.001	.156	.893
	Pay satisfaction	-.074 ^b	-1.602	.110	-.073	.916
	Perceived Risk	.496 ^b	12.590	.000	.501	.959
	Self-Efficacy	.543 ^b	14.282	.000	.549	.961
	Perceived Vulnerability Disease	.449 ^b	10.873	.000	.447	.931
2	Perceived Risk	.476 ^c	11.977	.000	.483	.923
	Self-Efficacy	.525 ^c	13.417	.000	.526	.901
	Perceived Vulnerability Disease	.431 ^c	10.144	.000	.423	.868

a. Dependent Variable: Employee Resilience

b. employmt_duration, Age

c. employmt_duration, Age, Pay satisfaction, Perceived Social Support

Matrix

*

Model : 4
 Y : HPW
 χ : PSS
 M : ER

Covariates:
Age employmt

Sample
Size: 477

*

OUTCOME VARIABLE:
ER

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2866	.0821	14.1176	14.1080	3.0000	473.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	23.3147	1.3285	17.5494	.0000	20.7042	25.9253
PSS	.1728	.0502	3.4428	.0006	.0742	.2714
Age	-.0569	.0395	-1.4414	.1501	-.1345	.0207
employmt	-.0688	.0567	-1.2131	.2257	-.1802	.0426

	constant	PSS	Age	employmt
constant	1.7650	-.0509	-.0186	.0233
PSS	-.0509	.0025	-.0006	.0007
Age	-.0186	-.0006	.0016	-.0020
employmt	.0233	.0007	-.0020	.0032

*

OUTCOME VARIABLE:
HPW

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4775	.2280	21.7404	34.8476	4.0000	472.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	50.2747	2.1184	23.7322	.0000	46.1120	54.4373
PSS	.0417	.0630	.6620	.5083	-.0821	.1656
ER	-.5801	.0571	-10.1663	.0000	-.6922	-.4680
Age	-.0662	.0491	-1.3485	.1782	-.1627	.0303
employmt	.1832	.0705	2.6003	.0096	.0448	.3217

	constant	PSS	ER	Age	employmt
constant	4.4877	-.0652	-.0759	-.0329	.0307
PSS	-.0652	.0040	-.0006	-.0010	.0010
ER	-.0759	-.0006	.0033	.0002	.0002
Age	-.0329	-.0010	.0002	.0024	-.0031
employmt	.0307	.0010	.0002	-.0031	.0050

TOTAL EFFECT MODEL

OUTCOME VARIABLE:

HPW

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2428	.0589	26.4449	9.8751	3.0000	473.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	36.7503	1.8183	20.2117	.0000	33.1774	40.3232
PSS	-.0585	.0687	-.8514	.3950	-.1934	.0765
Age	-.0332	.0540	-.6144	.5392	-.1394	.0730
employmt	.2231	.0776	2.8755	.0042	.0706	.3756

	constant	PSS	Age	employmt
constant	3.3061	-.0953	-.0348	.0437
PSS	-.0953	.0047	-.0011	.0012
Age	-.0348	-.0011	.0029	-.0038
employmt	.0437	.0012	-.0038	.0060

TOTAL,DIRECT,AND,INDIRECTEFFECTS OF X ON Y

Total:

Effect	se	t	P	LLCI	ULCI	c_ps	c_cs
-.0585	.0687	-.8514	.3950	-.1934	.0765	-.0111	-.0402

Direct:

Effect	se	t	P	LLCI	ULCI	c'_ps	c'_cs
.0417	.0630	.6620	.5083	-.0821	.1656	.0079	.0287

Indirect:

Effect	BootSE	BootLLCI	BootULCI	
ER	-.1002	.0306	-.1610	-.0403

Partially:

Effect	BootSE	BootLLCI	BootULCI	
ER	-.0190	.0057	-.0303	-.0077

Completely:

Effect	BootSE	BootLLCI	BootULCI	
ER	-.0689	.0211	-.1115	-.0270

ANALYSIS NOTES AND ERRORS

Matrix

*

Model : 4
Y : HPW
X : PSat
M : ER

Covariates:
Age employmt

Sample
Size: 477

*

OUTCOME VARIABLE:
ER

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2534	.0642	14.3933	10.8178	3.0000	473.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	28.8572	1.5468	18.6560	.0000	25.8177	31.8967
PSat	-.0373	.0233	-1.6018	.1099	-.0831	.0085
Age	-.0001	.0391	-.0037	.9970	-.0769	.0766
employmt	-.1265	.0563	-2.2472	.0251	-.2370	-.0159

	constant	PSat	Age	employmt
constant	2.3926	-.0298	-.0196	.0270
PSat	-.0298	.0005	-.0002	.0002
Age	-.0196	-.0002	.0015	-.0020
employmt	.0270	.0002	-.0020	.0032

*

OUTCOME VARIABLE:
HPW

Model Summary

R-sq	MSE	F	df1	df2	p	
.5445	.2964	19.8127	49.7188	4.0000	472.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	39.9697	2.3910	16.7166	.0000	35.2713	44.6680
PSat	.1866	.0274	6.8120	.0000	.1328	.2404
ER	-.5472	.0539	-10.1431	.0000	-.6532	-.4412
Age	-.1303	.0458	-2.8429	.0047	-.2203	-.0402
employmt	.2402	.0664	3.6180	.0003	.1097	.3706

	constant	PSat	ER	Age	employmt
--	----------	------	----	-----	----------

constant	5.7169	-.0442	-.0840	-.0270	.0266
PSat	-.0442	.0008	.0001	-.0003	.0003
ER	-.0840	.0001	.0029	.0000	.0004
Age	-.0270	-.0003	.0000	.0021	-.0027
employmt	.0266	.0003	.0004	-.0027	.0044

TOTAL EFFECT MODEL
OUTCOME VARIABLE:
HPW

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3783	.1431	24.0803	26.3270	3.0000	473.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	24.1796	2.0007	12.0854	.0000	20.2481	28.1110
PSat	.2070	.0301	6.8733	.0000	.1478	.2662
Age	-.1302	.0505	-2.5771	.0103	-.2295	-.0309
employmt	.3094	.0728	4.2499	.0000	.1663	.4524

	constant	PSat	Age	employmt
constant	4.0029	-.0499	-.0328	.0452
PSat	-.0499	.0009	-.0004	.0003
Age	-.0328	-.0004	.0026	-.0033
employmt	.0452	.0003	-.0033	.0053

TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y

Total

Effect	se	t	P	LLCI	ULCI	c_ps	c_cs
.2070	.0301	6.8733	.0000	.1478	.2662	.0392	.3056

Direct

Effect	se	t	P	LLCI	ULCI	c'_ps	c'_cs
.1866	.0274	6.8120	.0000	.1328	.2404	.0353	.2755

Indirect

Effect	BootSE	BootLLCI	BootULCI
ER	.0204	.0149	-.0070 .0513

Partially

Effect	BootSE	BootLLCI	BootULCI
ER	.0039	.0028	-.0013 .0098

Completely

Effect	BootSE	BootLLCI	BootULCI
ER	.0301	.0214	-.0106 .0737

ANALYSIS NOTES AND ERRORS

Matrix

*

Model : 4
 Y : HPW
 X : PRS
 M : ER

Covariates:
 Age employmt

Sample
 Size: 477

*

OUTCOME VARIABLE:
 ER

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5434	.2953	10.8390	66.0661	3.0000	473.0000	.0000

Model	coeff	se	t	P	LLCI	ULCI
constant	16.0183	1.1402	14.0492	.0000	13.7779	18.2587
PRS	.8155	.0648	12.5901	.0000	.6882	.9428
Age	-.0595	.0331	-1.7975	.0729	-.1246	.0055
employmt	-.0080	.0491	-.1629	.8707	-.1044	.0884

	constant	PRS	Age	employmt
constant	1.3000	-.0555	-.0207	.0209
PRS	-.0555	.0042	-.0002	.0005
Age	-.0207	-.0002	.0011	-.0015
employmt	.0209	.0005	-.0015	.0024

*

OUTCOME VARIABLE:
 HPW

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6184	.3824	17.3919	73.0638	4.0000	472.0000	.0000

Model	coeff	se	t	P	LLCI	ULCI
constant	56.0975	1.7194	32.6265	.0000	52.7189	59.4760

PRS	-1.0323	.0948	-10.8886	.0000	-1.2186	-.8460
ER	-.2564	.0582	-4.4029	.0000	-.3709	-.1420
Age	.0050	.0421	.1194	.9050	-.0777	.0877
employmt	.0754	.0622	1.2130	.2257	-.0467	.1975

	constant	PRS	ER	Age	employmt
constant	2.9563	-.0447	-.0543	-.0365	.0331
PRS	-.0447	.0090	-.0028	-.0005	.0009
ER	-.0543	-.0028	.0034	.0002	.0000
Age	-.0365	-.0005	.0002	.0018	-.0023
employmt	.0331	.0009	.0000	-.0023	.0039

TOTAL EFFECT MODEL

OUTCOME VARIABLE:
HPW

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.5975	.3570	18.0680	87.5532	3.0000	473.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	51.9897	1.4721	35.3178	.0000	49.0971	54.8822
PRS	-1.2414	.0836	-14.8445	.0000	-1.4058	-1.0771
Age	.0203	.0427	.4745	.6353	-.0637	.1043
employmt	.0774	.0633	1.2225	.2221	-.0470	.2019

	constant	PRS	Age	employmt
constant	2.1669	-.0925	-.0345	.0348
PRS	-.0925	.0070	-.0004	.0009
Age	-.0345	-.0004	.0018	-.0024
employmt	.0348	.0009	-.0024	.0040

TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y

Total

Effect	se	t	P	LLCI	ULCI	c_ps	c_cs
-1.2414	.0836	-14.8445	.0000	-1.4058	-1.0771	-.2349	-.5588

Direct

Effect	se	t	P	LLCI	ULCI	c'_ps	c'_cs
-1.0323	.0948	-10.8886	.0000	-1.2186	-.8460	-.1954	-.4647

Indirect

Effect	BootSE	BootLLCI	BootULCI
ER	-.2091	.0566	-.3194

Partially

Effect	BootSE	BootLLCI	BootULCI	
ER	-.0396	.0107	-.0605	-.0185

Completely

Effect	BootSE	BootLLCI	BootULCI	
ER	-.0941	.0255	-.1437	-.0438

ANALYSIS NOTES AND ERRORS

Matrix

*

Model : 4
 Y : HPW
 X : Self
 M : ER

Covariates:
 Age employmt

Sample
 Size: 477

*

OUTCOME VARIABLE:
 ER

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5853	.3426	10.1113	82.1693	3.0000	473.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	12.0395	1.2637	9.5275	.0000	9.5564	14.5226
Self	.5275	.0369	14.2816	.0000	.4549	.6001
Age	-.0506	.0319	-1.5871	.1132	-.1133	.0121
employmt	-.0125	.0472	-.2647	.7913	-.1053	.0803

	constant	Self	Age	employmt
constant	1.5968	-.0382	-.0196	.0189
Self	-.0382	.0014	-.0001	.0003
Age	-.0196	-.0001	.0010	-.0014
employmt	.0189	.0003	-.0014	.0022

*

OUTCOME VARIABLE:
HPW

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6702	.4492	15.5121	96.2179	4.0000	472.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	60.5300	1.7088	35.4231	.0000	57.1722	63.8877
Self	-.7547	.0547	-13.7887	.0000	-.8622	-.6471
ER	-.1431	.0570	-2.5132	.0123	-.2550	-.0312
Age	.0013	.0396	.0335	.9733	-.0765	.0791
employmt	.0773	.0585	1.3216	.1869	-.0376	.1923

	constant	Self	ER	Age	employmt
constant	2.9199	-.0380	-.0390	-.0320	.0284
Self	-.0380	.0030	-.0017	-.0002	.0004
ER	-.0390	-.0017	.0032	.0002	.0000
Age	-.0320	-.0002	.0002	.0016	-.0021
employmt	.0284	.0004	.0000	-.0021	.0034

TOTAL EFFECT MODEL

OUTCOME VARIABLE:
HPW

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6647	.4418	15.6864	124.7825	3.0000	473.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	58.8067	1.5739	37.3626	.0000	55.7139	61.8995
Self	-.8302	.0460	-18.0451	.0000	-.9206	-.7398
Age	.0086	.0397	.2157	.8293	-.0695	.0866
employmt	.0791	.0588	1.3448	.1793	-.0365	.1947

	constant	Self	Age	employmt
constant	2.4773	-.0592	-.0304	.0292
Self	-.0592	.0021	-.0001	.0004
Age	-.0304	-.0001	.0016	-.0021
employmt	.0292	.0004	-.0021	.0035

TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y

Total

Effect	se	t	P	LLCI	ULCI	c_ps	c_cs
-0.8302	.0460	-18.0451	.0000	-.9206	-.7398	-.1571	-.6323

Direct

Effect	se	t	P	LLCI	ULCI	c'_ps	c'_cs
-0.7547	.0547	-13.7887	.0000	-.8622	-.6471	-.1428	-.5748

Indirect

Effect	BootSE	BootLLCI	BootULCI
ER	-.0755	.0374	-.1519

Partially

Effect	BootSE	BootLLCI	BootULCI
ER	-.0143	.0071	-.0289

Completely

Effect	BootSE	BootLLCI	BootULCI
ER	-.0575	.0286	-.1165

ANALYSIS NOTES AND ERRORS

Matrix

*

Model : 4
 Y : HPW
 X : PVD
 M : ER

Covariates:
 Age employmt

Sample
 Size: 477

*

OUTcOME VARIABLE:
 ER

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4973	.2473	11.5775	51.7959	3.0000	473.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	14.1814	1.3972	10.1495	.0000	11.4358	16.9270

PVD	.2851	.0262	10.8734	.0000	.2336	.3366
Age	-.0026	.0340	-.0753	.9400	-.0695	.0643
employmt	-.0659	.0502	-1.3132	.1897	-.1644	.0327

	constant	PVD	Age	employmt
constant	1.9523	-.0304	-.0267	.0249
PVD	-.0304	.0007	.0000	.0001
Age	-.0267	.0000	.0012	-.0015
employmt	.0249	.0001	-.0015	.0025

*

OUTCOME VARIABLE:
HPW

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6287	.3952	17.0305	77.1185	4.0000	472.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	61.3307	1.8701	32.7953	.0000	57.6559	65.0055
PVD	-.4071	.0356	-11.4496	.0000	-.4769	-.3372
ER	-.2886	.0558	-5.1758	.0000	-.3982	-.1791
Age	-.0696	.0413	-1.6851	.0926	-.1507	.0116
employmt	.1372	.0609	2.2522	.0248	.0175	.2570

	constant	PVD	ER	Age	employmt
constant	3.4973	-.0322	-.0441	-.0394	.0337
PVD	-.0322	.0013	-.0009	.0000	.0001
ER	-.0441	-.0009	.0031	.0000	.0002
Age	-.0394	.0000	.0000	.0017	-.0022
employmt	.0337	.0001	.0002	-.0022	.0037

TOTAL EFFECT MODEL

OUTCOME VARIABLE:
HPW

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6008	.3609	17.9591	89.0402	3.0000	473.0000	.0000

Model

	coeff	se	t	P	LLCI	ULCI
constant	57.2374	1.7402	32.8905	.0000	53.8178	60.6569
PVD	-.4893	.0327	-14.9855	.0000	-.5535	-.4252
Age	-.0688	.0424	-1.6235	.1051	-.1521	.0145
employmt	.1563	.0625	2.5015	.0127	.0335	.2790

	constant	PVD	Age	employmt
constant	3.0284	-.0472	-.0414	.0386
PVD	-.0472	.0011	.0000	.0002
Age	-.0414	.0000	.0018	-.0024
employmt	.0386	.0002	-.0024	.0039

TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y

Total

Effect	se	t	P	LLCI	ULCI	c_ps	c_cs
-4.893	.0327	-14.9855	.0000	-.5535	-.4252	-.0926	-.5707

Direct

Effect	se	t	P	LLCI	ULCI	c'_ps	c'_cs
-.4071	.0356	-11.4496	.0000	-.4769	-.3372	-.0770	-.4748

Indirect

Effect	BootSE	BootLLCI	BootULCI	
ER	-.0823	.0189	-.1209	-.0472

Partially

Effect	BootSE	BootLLCI	BootULCI	
ER	-.0156	.0036	-.0229	-.0089

Completely

Effect	BootSE	BootLLCI	BootULCI	
ER	-.0960	.0218	-.1399	-.0550

ANALYSIS NOTES AND ERRORS