Spring 6-1-2022

An Empirical Study on Email Use, Stress, and Employee Job Satisfaction in a COVID-19 Environment

David J. Bouvier

An Empirical Study on Email Use, Stress, and Employee Job Satisfaction in a COVID-19 Environment

DePaul University

By:

David J. Bouvier

dbouvier@depaul.edu

A dissertation proposal submitted for the

degree of Doctor of Business Administration

June 2022

Abstract

April 2020, COVID-19 (COVID) changed the world and how society functions, transforming the means in which we communicate. Face-to-face interactions were abruptly and immediately replaced with technology mediums. The increase in technology use changed our interpersonal communication habits, placing greater reliance on new and existing electronic methods. Although new forms continue to evolve, the predominate electronic communication method utilized is email. This research uses grounded theory on stress and technology acceptance, and further assesses perceived email volume changes to analyze the relationship of these constructs to job satisfaction during COVID. The data was collected from 147 employees of a mid-sized bank. A task force implemented an automated email reduction program over a 12-month period, culminating with a survey of validated measures completed by employees of the lending department. The results indicate that stress has a strong negative correlation, while perceived usefulness resulted in a positive correlation with job satisfaction. The perceived automated email reduction model that isolated the interaction term explained unique variance in the relationship of perceived usefulness and job satisfaction. Additional discussion regarding the implications of the research and future opportunities are recommended.

KEYWORDS: electronic mail; email, email management, job satisfaction; stress, perceived usefulness, perceived ease of use.

Introduction

The ability for businesses to communicate effectively is a valuable resource. April 2020 introduced the COVID lockdown environment changing our communication patterns unlike anything experienced in modern times. The COVID pandemic left both employers and employees unsure of how to manage their responsibilities to the customers, stakeholders, and peers. Not only businesses, but

universities and classrooms across the globe quickly transitioned from in-person meetings to completely online methods. During any transition, it is vital for companies to maintain high levels of job satisfaction. Low job satisfaction can be an important indicator of decrease in employee production and can result in behavior such as absenteeism and turnover intentions (Rekha & Paramanandam, 2017; Dupre & Day, 2007). The importance of job satisfaction is a well-researched topic. This research further investigates the constructs of stress, perceived ease of use (PEOU), perceived usefulness (PUSE), and the moderating effect of perceived automated email reduction (PMail), on job satisfaction during the changes brought about by the COVID environment.

Multiple ways of communication or social interaction during work can be the reason of stress in the organization. Environment of the organization where they are doing their professional work can also affect our mind negatively states (Hassan, Azmat, Sarwar, Adil & Gillani, 2020; Arshadi & Damiri, 2013). COVID caused an abrupt change in how employees communicate in order to achieve their daily job responsibilities. The sudden changes, uncertainty, and transformation in the work environment may create additional stress on employees. Work pressure is delivered when one cannot organize accessible resources and job request with individual capacities (Diab-Bahman & Al-Enzi, 2020). The belief that stresses experienced by individuals can affect important organizational outcomes is shared by numerous researchers (Sullivan & Bhagat, 1992). Prior studies (Kong & Jolly, 2019; Lukango, 2017) have shown that job stress often brings about job dissatisfaction (Jermsittiparsert, Petchchedchoo, Kumsuprom, & Panmanee, 2021).

In order for employees to perform their job responsibilities effectively from remote locations, a tremendous reliance on technology is required. Information technology (IT) departments are forced to simulate office performance standards from remote locations, such as the home office. An individual's comfort with technology is an important variable on transitioning to a technology driven work environment, and COVID forced society to convert to a purely technology-based environment overnight.

The degree to which new technologies are accepted by users that are needed to execute their job responsibilities may affect performance. Those who have a high acceptability of technology are able to adapt easily, but those with low acceptability may struggle. One common tool for assessing and predicting this behavior is the technology acceptance model (TAM). TAM was designed to understand the causal chain linking external variables to its user acceptance and actual use in a workplace (Davis & Venkatesh, 1995). The degree of perceived usefulness as well as perceived ease of use of technology are important variables during the forced technology adaption transition experienced during COVID.

The primary communication medium that dominates above all other technological applications is email. Email has demonstrated unprecedented diffusion in the business world since the internet became ubiquitous. The widespread multifunctional use has created many efficiencies by increasing productivity, resulting in time and cost savings. Email is essentially a communication mechanism originally anticipated to purely speed up communication by replacing the slower traditional paper-based system (Jackson, Dawson & Wilson, 2003). Email creates an immense number of organizational benefits, including the ability to create timely information and information permanency, as well as increasing information accuracy and colleague interaction (O'Kane & Hargie, 2007). Yet, there is also a point where the volume of email reception produces a decreasing rate of return for the user. For example, a recent 2018 study examined the effect of overflow on cognitive performance, cognitive load, and stress, indicating that cognitive overload affects not only the execution of the task at hand, but can also negatively affect performance on subsequent, cognitively challenging activity (Nowak, Krzysztof, Olga, Kuzminska & Kowalczyk, 2018).

Most computer operating systems send out automated emails consisting of data deemed relevant by those responsible for the coding. Once in place, these automated emails are rarely reviewed for relevance, need or accuracy. Systematic review and removal of unnecessary automated emails stemming from pre-programed operating systems may have a substantial effect on email reduction. The

perception of email volume changes may be an excellent construct when assessing the effect of email volume on employees. The perception of automated email volume derived from an individuals' self-assessment may have a greater influence on constructs than the actual number of emails. The objective of this study is to investigate the relationship between validated measures in relation to job satisfaction; specifically, the independent variables of job stress, PUSE, and PEOU, moderated by perceived automated email volume, to provide insight during the transitional period of remote work life resulting from the COVID environment.

Literature Review

JOB SATISTFACTION

Overall job satisfaction is likely to reflect the combination of partial satisfactions related to various features of one's job, such as pay, security, the work itself, working conditions, working hours and the like (Skalli, Theodossiou & Vasileiou, 2008). Job satisfaction is fundamentally the overall feeling one derives from their job. A multitude of variables that comprise the overall satisfaction of a job satisfaction do vary amongst individuals. Job satisfaction is multi-dimensional which is compatible with the view that there are partial satisfactions arising from different aspects of the job that occupy different points on the scale of satisfaction. The overall job satisfaction or utility derived from a job is an aggregation of these partial satisfactions. Different mix of facets of the job may generate the same overall level of job satisfaction (Skalli et al., 2008).

Job satisfaction is an important construct that can affect an employee's ability to perform at their highest level of productivity. The level of job satisfaction can have a profound impact on the effectiveness and efficiency of employees and may have a significant effect on the firm financially. Increasing overall job satisfaction in a company can improve an organizations workforce efficiency creating a competitive advantage. According to the scientists of human resource management, in order to maintain human resources (satisfaction) and also the organization itself (achieving organizational

goals), it is of prime importance to recognize the needs, desires and factors such as job satisfaction, employee's morale as well as to make appropriate policy for the coordination of individual's goals (employee's job satisfaction) and organizational goals as an important step towards efficiency and effectiveness of organizations performance (Masihabadi, Rajaei, Koloukhi & Hossein, 2015).

An employee's level of job satisfaction has been linked to stress. A 2011 study on 210 managers from different private sectors examined the role of stress and focus of control on job satisfaction. The findings revealed overall stress was significantly negatively correlated to job satisfaction (Singh & Dubey, 2011). A 2010 study with a sample of 150 school administrators revealed that about one-fifth of the respondents classified their job as very or extremely stressful. The results also showed those with greater stress levels were least satisfied with their role (Borg & Riding, 1991). A famous researcher Vroom (1964) supported in his research study that the concept of job satisfaction affects the performance of an employee positively, his work was based on the thought the natural product to fulfills the needs of employees is their performance (Hassan et al., 2020).

STRESS

The term 'stress' is basically from physical science, where it means the force placed upon an object to cause damage, bending, or breaking. In the case of human beings, stress is often used to describe the body's responses to demands placed upon it, whether these demands are favorable or unfavorable. Anything that causes stress is called a stressor. (Rekha & Paramanandam, 2017). The pioneering idea about job stress concept came from Seyle (1936). Excess stress for a long time period is not good for employees. Stress has impacted virtually all professions, beginning from a general worker to a doctor, or an engineer to a sales personnel and obviously increased stress directs towards quitting the job (Ahmad & Afgan, 2016). Stress is one of the pervasive problems of an organization. For an institution to prosper, it is prerequisite that its employees work in a stress-free ambiance. It leads to decrease in employees' efficiency, increase in absenteeism and turnover (Ahmed, Warraich, Khoso &

Ahmad, 2014). In the current era, stress has turned out to be a worldwide phenomenon faced by large number of employees around the globe (Ahmad et al., 2016).

The relationship to between stress and email has provided a strong correlation in studies. The majority of email stress literature to date is concentrated within the business and information technology domains (Schuldt & Totten, 2008). Pignata's (2015) study had a population of academic and professional staff, it assessed the stress level created by email volume and response time expectations theorizing the creation of a common framework for employee email use will clarify expectations and increase efficiency. Communication and interpersonal relationships increased team cohesion when use of email communication was decreased and simplified. Ramsey's (2012) qualitative interview study reinforced stress feelings over email volume decreased productivity. Jerejian (2013) evaluated an academic population and emphasized stress and worry associated with high email volume resulted in lower employee efficiency. Early studies such as Whittaker and Sider's (1996) study examined a "one touch model" on white-collar workers which hypothesized that all email would be read, filed then deleted, and result in reduced stress. Jerejian, Reid and Rees (2013) examined the relationship between worry and email stress. The study showed individuals who had a higher degree of stress in their job, or life, had higher level of anxiety when email volume increased as opposed to those who are less stressed. Stress created by email use is pervasive throughout varying business and academic users.

COVID ENVIRONMENT

April of 2020 brought about unprecedented changes in everyone's lives. The COVID pandemic enacted "stay at home" orders, changing how we function and upending general life patterns. Many businesses were forced to cease operations, such as restaurants, manufacturing, and retail stores; while others, such as banking, were forced to provide limited public services and move most operations to remote environments. At the height of restrictions in late March and early April 2020, approximately 310 million Americans were under constraints which ranged from "shelter in place" to "stay at

home." The coronavirus created an environment totally dependent on remote work and learning. The transition to remote work placed a heavy reliance on technology forcing IT to produce a remote workforce platform by providing the equipment and software to ensure continued acceptable productivity without sacrificing any degree of client and information security. Many of these platforms, such as Microsoft Teams and Zoom, were utilized to replace face to face meetings. These platforms had limited use prior to COVID, but are now commonplace.

Working remotely from home blurred the lines between work and home life. Prior to COVID, pressure was already being applied for employees to answer emails at odd hours, such examples are commonly seen in academics. This is partly due to the increasing expectation that teaching staff be permanently contactable, and partly because academics regularly work with researchers around the globe, which require they be available to communicate outside of working hours (Schuldt & Totten, 2008). The significant finding was somewhat higher stress among faculty who teach online, as it related to making their work less enjoyable because they interacted with their students from home (Schuldt et al., 2008). Expectations in business is similar, as remote work allows us access to our home office at any time of day, especially during the initial shutdown, when leaving the home was rare. Working hours are commonly associated with the time individuals spend in the office, which are typically nine to five. As the propensity for society to work from home increase's, greater structure for what is deemed an acceptable usage of personal, verses work time allocation, is necessary and this pressure on availability expectations may cause additional stress.

The overall COVID environment created a new society overnight. How we interact with one another transformed from physical interaction to new technology-based communication methods. These changes transitioned over a very short period of time and created many uncertainties in our current and future work lives. The uncertainty, abrupt change, and reliance on technology combined

with the isolation created many stressors effecting our cognitive competences and abilities to navigate the COVID induced work environment.

TECHNOLOGY ACCEPTANCE

The technology acceptance model (TAM) examines the causal relationship between behavioral intention to use technology and actual use. The TAM model further breaks down two important components of primary relevance, perceived usefulness and perceived ease of use. PUSE is the perception of an individual that using technology will improve job performance. PEOU is an individual's degree of ease in using technology. Yi & Hwang (2003) found a direct and significant influence of behavioral intention to use on actual system usage log data ($P<.05$) in the Web-based IS environment (Hwang, 2005).

Individuals who lack confidence in electronic communication also showed significantly lower performance and higher stress (Tassabehji, 2005). The amount of email volume may have a moderating effect on the differing levels of technology acceptance in relation to job satisfaction. In technology adoption context, the key behavior of interest is use of the system; therefore, attitude toward behavior is a potential users' affective evaluation of the costs and benefits of using the new technology (Morris & Venkatesh, 2000). The importance of computer use and associated applications was apparent during COVID as our reliance increased dramatically. An employee's comfort in computer applications may have an increased effect on their ability to perform job responsibilities from remote locations.

EMAIL VOLUME PERCEPTION

Email was invented by Ray Tomlinson, which first entered limited use in the 1960s, by the mid-1970s electronic mail delivery developed into the form we now recognize as email. Usage was originally limited to low volume until legislation passed in 1995 which gave allowance to commerce. Email's ease of information sharing, and simple document transfer capabilities created many efficiencies and are adopted throughout business, academia, and personal use. Email's pervasiveness as a form of

organizational communication can be attributed to its advantages such as asynchrony and flexibility, which facilitate rapid and widespread information sharing among employees (Barley, Meyerson & Grodal, 2011; Byron, 2008). Email is an essential tool in business and academic environments. The complexity of tasks that may be accomplished with its use has created enormous opportunities for sharing information, communicating, and linking individuals and groups.

Research on email conducted in the past two decades discussed many aspects of its multipurpose usage. For example, a study of 875 individuals reported on average 29% of the email received were of no value to them (Jackson, 2006). This study found that 41% percent of emails were for informational purposes and only 46% of emails received stated what action is expected. The data exemplifies employee dissatisfaction with the use of email within their workplace and estimated expense of these inefficiencies' costs companies in excess of 8%. The numbers from the Jackson 2006 study represent an email volume that is drastically lower than the current levels experienced in academic and company environments, thus the 8% inefficiency estimate may be understated.

Academia research proposes two main veins of email research. One vein of research examines the availability and accessibility of email on our electronic devices causing work to carry over into personal and family time. The ability to view email from our home computer or smart phones, combined with the expectations of a response to the sender, infringes on personal time and space. These studies rest on variants of the argument that email, and other communication technologies produce stress by enabling work to leak into other domains of life, thereby extending work hours and making it more difficult to disengage from work and fulfill family obligations (Barley et al., 2011; Major, 2002; Bosweel & Olson-Buchanan, 2007).

Email overload is the second vein of research. Barleys 2011 research states there are four main occurrences that creates additional work from email resulting in feelings of stress. First, since email is

simple and easier to send than letters and memos, more time must be spent on sorting and filing the message. Second, the low costs and time needed to make email requests from the sender diverts time from the receiver to take care of current tasks. Third, email interruption causes inefficiencies in concentration on tasks at hand. Fourth, email is used for tasks that it was not designed to handle. The common dominator that cuts across the two foregoing bodies of research is that email and other communication technologies induce stress by extending the time that people work, but the explanation differ (Barley et al., 2011). Email overload arises so that rather than be beneficial, email may be detrimental to the productivity of both individuals and organizations (Sumecki, Chipulu & Ojaiko, 2011). On average 29% of emails that an employee receives is of no value to them (Jackson, Burgess & Edwards, 2006). Individuals in both industry and academia allot an immense quantity of time to managing their email box. Email absorbs a high percentage of our productive time further emphasizing the necessity of assuring efficient use of this important tool. The high volume has huge cost implications, both organizationally and personally. To support the volume of email, organizations spend up to $17 billion annually (Radicati Group, 2007).

Even though the principle of email management has been the cause for concern since email was created, the effect of email on human behavior has only recently been recognized as an urgent call for concern (Maruland-Carter & Jackson, 2012). The previous statement was written ten years prior, yet we fail to recognize the need for optimization of our emails systems and habits today. Findings from business surveys suggest that email traffic is consuming an increasing proportion of the working day which has been associated with over-monitoring, workflow disruption, work-life conflict and addiction to email – all of which in turn are associated with higher levels of work-related stress (Barley et al., 2011; Cooper, 2005; Dabbish & Kraut, 2006; Hair, Renaud, & Ramsay, 2007; Hill, Hawkins, Ferris, & Weitzman, 2001). Work-life habits have continued to shift, and the COVID environment has enabled many employees to work entirely from home, further blurring the line between work and home life. Email

volume continues to plague employees and is an area of great concern. An employee's perception of email volume may be just as important than the actual email volume due to the psychological effects of the perception.

Hypothesis Development

To date, during COVID, no study has looked specifically at stress, PUSE and PEOU, combined with a newly introduced automated email reduction program and the effect on job satisfaction. A core element for employee productivity is job satisfaction. The relationship is established in research correlating job satisfaction to many facets of the work environment. If employees in the company are not satisfied with his job then they are unable to do their job as per their estimated norms and expectations (Hassan, Azmat, Sarwar, Adil & Gillani, 2019; Adebimpe, 2013). During COVID, the economy was forced to change its core functionality abruptly. The imposed shut down may have created new stressors on our population.

The "stay at home" mandate that thrust the labor force into a remote work life placed unprecedented levels of dependance on electronic communication. IT departments were asked to create a work environment that simulated day to day office operations. Many industries had little exposure to remote work. All companies, industries, and establishments retooled their operations to accommodate the new societal norm. Technology is the key component utilized to accommodate this transition. The comfort of an individual's ease of use of technology, as well as the perceived usefulness can affect the success of an employee's transition. The reliance on technology did introduce new mediums into the mainstream work process. For example, local employees who previously met in office conference rooms, were now meeting remotely through online mediums, such as Zoom. Transitioning to unfamiliar technology was imperative and immediate, forcing all users to shift to a total reliance on the new mediums. During this transition in COVID, users' abilities and attitudes were critical to their ability

to perform their job responsibilities. The TAM constructs, PUSE and PEOU measure this aptitude and are an important relationship to job satisfaction.

The reliance on technology also placed greater emphasis on existing applications. Email usage continues to grow along with new mediums that further place demands on users. Email was originally designed as a communication application, but is now being used for additional functions that it is not designed for, such as task management (Whittaker & Sidner, 1996). The pandemic may lead to an increase in email volume, which is already a burden. To reduce the effects resulting from the pressure of remote work and electronic communication, this research has implemented a program to create a systematic reduction of automated emails, accomplished with minimal cost or disruption of daily responsibilities. Successful implementation may create a competitive advantage to firms applying this tool effectively.

The purpose of this research is to examine how the transition to remote work life effects the level of job satisfaction resulting from COVID. The changing environment may create additional stressors in employees as they move to remote based locations. The transition utilized technology-based methods to communicate and perform job responsibilities, the degree to which employee's embrace the technology use is considered. For most work communication, the primary tool used is email. The perception of the degree in which email volume changes is of importance. Given the information described above, the purpose of this research is to examine the relationship between job satisfaction, stress, PUSE, PEOU and perceived automated email volume during the COVID environment.

Hypothesis 1 – stress has a negative effect on job satisfaction.

Hypothesis 2 – PUSE has a positive effect on job satisfaction.

Hypothesis 3 – PEOU has a positive effect on job satisfaction.

Hypothesis 4 – perceived automated email reduction will have a moderating effect on the

relationship between job stress and job satisfaction.

Hypothesis 5 – perceived automated email reduction will have a moderating effect on the relationship between PUSE and job satisfaction.

Hypothesis 6 – perceived automated email reduction will have a moderating effect on the relationship between PEOU and job satisfaction.

Methods

The method is a quantitative design using validated survey measures to assess the correlation effects on job satisfaction (DV) due to stress (IV) and technology acceptance (IV), moderated by perceived automated email reduction program. A task force was assembled to analyze and reduce the number of automated emails sent out to employees from the loan operating system. Emails were assessed for necessity, recipient list, and content. Employees were given notification of the program which took place over 12 months. Upon completion of the program, an anonymous survey was provided for analysis. The validated survey measures were statistically analyzed using SPSS, and reliability is assessed with Cronbach's alpha reliability. The descriptive statistics including mean, standard deviation, reliability, and correlations are displayed in Table 1. Tables 2, 3 and 4 display the ANOVA factor analysis results for the interactions. The experiment intention is to establish covariation of cause on job satisfaction from stress, PUSE, and PEOU while moderated by perceived email volume reduction. Plausible alternative explanations for significance in the relationship are considered in the limitations analysis section. The correlation study establishes the groundwork for action research using modest employee interference through the simple reduction of automated emails to moderate the effect of stress and technology acceptance on job satisfaction.

Sample

The sample consists of 147 bank employees at a publicly traded mid-sized southern regional bank with approximately 1,800 employees. The sample population is comprised of employees in the

lending division that rely on technology as a vital tool to complete their responsibilities throughout the workday. Most of the employees in the survey previously worked in an office setting and are now currently working remote due to COVID. The sample group uses technology, including email, throughout the day and typically have easy accessibility to all work-related information through both company and personal devices. Examples of the population that may represent the generalizability of these samples are institutions such as banks, universities, insurance, technology, consulting, and accounting.

Procedure

A task force was created within the bank to examine automated emails produced through the loan operating system. The task force consisted of nine individuals representing different divisions as well as two senior officers. The responsibilities of the task force are to examine all automated emails for necessity, relevance, and content. The four stated goals are; (1) email overall necessity, (2) check for redundancy or duplicate emails, (3) verify email going to correct recipients, and (4) check to assure the email communication is clear for its intended purpose. Task members were assigned emails to review with the intended recipients, recipients' managers, and department managers to evaluate in regards to the task force objectives. The task member then discusses all recommendations with the department manager. Once the department manager and task member come to an agreement on the recommended changes, it is presented to the task force to finalize approval. Upon approval by the task force, final "signed" authorization is provided by the task force senior manager. The emails are either removed, left as is, or the recipients and verbiage is updated, then provided to IT for implementation.

The task force evaluated 372 automated emails from the loan operating system. The emails were divided in 13 sprints, each contained 28-30 emails for evaluation. The task force met every 2 to 4 weeks to assess current progress and approval of recommended email changes. Upon completion of all emails in a sprint, a new sprint would be assigned to members according to their department for the

email target participants. An audit trail was used to keep track of all changes in the email recipients as well as any verbiage changes. The entire process took place over a 12-month period. Of the 372 emails, 31 were retired and deemed completely unnecessary. Recipients were changed on 46 emails, and verbiage was revised on 51 emails.

After the task force email changes were complete, an anonymous survey was sent to employees through email. Of the 387 employees that received the survey link, 147 completed the survey in its entirety. Employees were aware of the ongoing email reduction program throughout the year. When the program began, most employees of the loan department were already working remotely due to the COVID environment. As of January 2022, over 40% of the workforce that had previously worked in the office were now predominantly working remotely.

Measures

The dependent variable is job satisfaction, the independent variables are stress, PUSE, and PEOU moderated by PMail with the control constructs of age, gender, and job type. The survey was provided through an internal email containing brief instructions to the anonymous survey link. The link provides a secure connection to the confidential Qualtrics survey platform, upon link establishment, detailed instructions for completion were provided. The survey utilizes the five-point Likert scale (1 = never, 5 = often, for performance questions, 1 = strongly disagree, 5 = strongly agree for remaining questions). All scores are averaged to create a composite score to better comprehend the degree of the underlying constructs. The survey begins with age, gender, and job type, then proceeds to PUSE, PEOU, job satisfaction, and concludes with stress questions. Validation questions are administered throughout of the survey. Table 1 presents the collective profile of the control construct data. The survey questions were researched and selected from validated measures detailed below and found in Table 2.

Age

Scale from 18-100

Gender

Male – 1, Female – 2

Job Type

Executive, Management, Loan Officer, Loan officer support, Processor, Assistant, Loan Operations, Compliance, Post Closing, Technology, Secondary/Finance

Stress

Stress is measured with the Perceived Stress Scale (PSS), validated shorter version of the 14-item scale (Cohen & Williamson, 1988). Items are rated on a 5-point scale (1 = never, 5 = often). The higher the composite score the greater the perceived stress the individual is experiencing. Scale items include: In the last month how often have you felt you were on top of things? In the last month, how often have you been angered because of things were outside of your control? In the last month, how often have you felt you could not cope with all the things that you had to do? In the last month, how often have you felt that things were going your way? In the last month, how often have you been able to control irritations in your job?

Technology Acceptance (PUSE & PEOU)

TAM has proven to be among the most effective models in the information systems literature for predicting user acceptance and usage behavior . The original instrument for measuring these beliefs was developed and validated by Davis (1986; 1989; 1993), and Davis et al., (1989), and replicated by Adams, Nelson and Todd (1992), Mathieson (1991), Hendrickson, Massey, and Cronan (1993), and Segars and Grover (1993). The instrument has also been used extensively by researchers investigating a

range of issues in the area of user acceptance (Moore & Benbasat , 1991; Olfman & Bostrom, 1991; Trevino & Webster, 1992; Chin & Gopal, 1993; Sjazna, 1994; Venkatesh & Davis, 1994; Davis & Venkatesh, 1995; Taylor & Todd, 1995). The Items are rated on a 5-point scale (1 = never, 5 = often). PUSE scale items include: I find computers easy to use. I find it easy to get computers to do what I want it to. My interaction with computers is clear and understandable. Using computers improves my work. Using computers enhances my effectiveness. PEOU scale items include: Using computers increases my productivity. I have trouble finding the information I need in work-related emails, text, etc. I have difficulty dealing with the amount of work-related electronic communications I receive. I sometimes miss information or important work-related electronic communications messages. Dealing with my work-related electronic communications disrupts my ongoing work.

Job Satisfaction (DV)

To consider the job satisfaction construct, we employ the "Affective Responses to the Job" questions of the validated survey "Development of the Job Diagnostics Survey" (Hackman & Oldham, 1975) – This is Task & work Design for JOB sat. Items are rated on a 5-point scale (1 = never, 5 = often). The higher the composite score the greater the job satisfaction the individual is experiencing. Scale items include: Generally speaking, I am very satisfied with my job. I usually know whether my work is satisfactory on this job. I feel unhappy when I feel I have performed poorly on this job. The work on do on this job is very meaningful. My opinion of myself goes up when I do this job well. Sometimes I think of quitting this job.

Automated email volume perception

Survey postulating questions on perceived email volume during the COVID environment. The information is a self-reported measure derived from the survey questions.

Data Analysis and Results

Quantitative data analysis utilized SPSS Statistics 28.0 software. Moderation analysis utilized unstandardized centered variables and interaction effects using hierarchical regression. The correlation matrix (Table 3) provides summary of the survey results. Job satisfaction resulted with a mean of 4.41 and a standard deviation of .55, representing a high level of job satisfaction in the company. The reliability coefficient of .57 is concerning due to the proven abbreviated scale applied. Reliability performed through SPSS using deleted item analysis failed to increase reliability. The conditions of the sample work environment may be of consideration in the low reliability of this measure. The department consists of the lending division of a bank that had experienced two years of record loan production volume. The immense loan volume caused employees to work overtime and experience workloads that far exceeded normal business operations for an extended period of time. The effects of this work environment may have compromised the accuracy of the validated scale.

PUSE mean proved to be high at 4.56 with a standard deviation of .8 and reliability of .9. PUSE has a positive significant correlation with job satisfaction ($r = .28$, $p < .01$). PEOU is considerably lower with a mean of 2.79, standard deviation of .07 and alpha reliability of .86. PEOU has a significant negative relationship with job satisfaction ($r = -.17$, $p < .05$). Job stress has a mean of 3.86 with a standard deviation of .83 and alpha reliability of .82. Job stress has a significant negative relationship with job satisfaction ($r = -.32$, $p < .01$). The COVID perceived email change construct had a mean of 3.94, standard deviation of .97 with alpha reliability of .56. The scale is limited, and no further analysis changed the reliability. The positive relationship is not significant. Of the control variables, age has a significant negative correlation with job satisfaction ($r = -.19$, $p < .01$). The negative correlation of age and job satisfaction is contrary to most findings. The COVID induced reliance on technology may have caused the negative relationship since studies find older employees having less acceptability and ease of use than younger individuals. The abrupt dependence on technology may have caused this anomaly.

HYPOTHESIS 1 – stress has a negative effect on job satisfaction.

Hypothesis 1 states stress has a negative effect on job satisfaction. This hypothesis is supported. Stress has a negative relationship with job satisfaction (B=-.27, $p < .01$), after controlling for job type (B=.02, $p > .05$), gender (B=-.19, $p < .05$), and age (B=-.01, $p < .05$). Overall, job stress explains 15% of variance in job satisfaction ($r^2 = .15$) and overall model was significant ($F(4,142) = 6.4$, $p < .01$). The findings are similar to prior research, COVID may have increased the relationship (Table 4, Model 1).

HYPOTHESIS 2 – PUSE has a positive effect on job satisfaction.

Hypothesis 2 states PUSE has a positive effect on job satisfaction. The hypothesis is supported. PUSE has a positive effect on job satisfaction (B=.22, $p < .01$), after controlling for job type (B=.03, $p > .05$), gender (B=-.12, $p > .05$), and age (B=-.01, $p > .05$), which are not related to job satisfaction. Overall, PUSE explains 11.4% of variance in job satisfaction ($r^2 = .114$) and overall model was significant ($F(4,142) = 4.58$, $p < .01$). The findings extend research, COVID may have strengthened the relationship due to the increase reliance on technology (Table 4, Model 2).

HYPOTHESIS 3 – PEOU has a positive effect on job satisfaction.

Hypothesis 3 states PEOU has a positive effect on job satisfaction. An employees' perceived ease of use did not have a significant relationship to job satisfaction. Employees did not have a choice in the new technology adaption which may have influenced the relationship. The hypothesis is not supported, regression results are not significant (B=-.06, $p > .05$). The overall model results are ($F(4,142) = 2.90$, $p < .05$). (Table 4, Model 3)

HYPOTHESIS 4 – perceived automated email reduction will have a moderating effect on the relationship between job stress and job satisfaction.

Studies have shown the relationship between job stress and job satisfaction to have a negative correlation. Singh and Dubey 2011 study revealed stress is significantly negatively correlated to job satisfaction. Research has supported the inverse relationship between these constructs. Studies on email volume has found the relationship between email volume and stress. Barley et al., 2011 study associated higher levels of stress with higher levels of email volume. The perception of higher email volume may moderate the relationship between stress and job satisfaction. The study did not find survey data to link the moderating effect of lower perceived email. The hypothesis is not supported, regression results are not significant, change in ($F(1,140) = .67$, $p > .05$). Due to the COVID environment, additional constructs not considered could have a moderating effect. The changing work environment may produce new variables to the job that effect the relationship between job stress and job satisfaction (Table 5).

HYPOTHESIS 5 - perceived automated email reduction will have a moderating effect on the relationship between PUSE and job satisfaction.

This hypothesis is supported. The interaction of lower perceived email was significant after controlling for job type, gender, and age. The sample with lower perceived email has a more strongly positive relationship between PUSE and job satisfaction (gradient of the slope = .3, $p < .01$) than those with higher perceived email (gradient of slope = -.12, $p > .05$). Employees with lower expectations of perceived email volume moderated the relationship between PUSE and job satisfaction. An employee who has a positive opinion on the usefulness to complete their job may also see benefit from lower email volume (Figure 1). Employees with high perception of email may not cause any relationship change in the usefulness of technology since the level of email volume does not affect their opinion of the usefulness of technology. Overall, the model including the IV, moderator and control variable, explains significant variance in job satisfaction ($F(6,140) = 4.26$, $p < .01$; $r^2 = .15$). Further, the model that isolated the interaction term explained 2.7% of unique variance in job satisfaction (change in $r^2 = .027$,

change in $F(1,140) = 4.47$, $p < .05$). The amount of variance of 2.7% is positive but relatively small percentage of variance (Table 6).

HYPOTHESIS 6 – perceived automated email reduction will have a moderating effect on the relationship between PEOU and job satisfaction.

PEOU measures the degree an employee's use of technology will be free of effort. The combination of the new technology with increased use of existing tools, primarily email, may moderate the relationship between PEOU and job satisfaction. The findings did not prove to be highly correlated. The hypothesis is not supported, regression results are not significant ($F(1,140) = .09$, $p > .05$). COVID forced an immediate technological immersion for job communications. Usage of new technology was immediate, with little to no training. Employees must use these new mediums without prior knowledge and training which may have affected the results. (Table 7).

Academic and Practical Implications

Significant relationships between several constructs add to the research literature. Most notably, the strong negative relationship between stress and job satisfaction. The additional stress that may result from changes brought about by COVID may have increased this relationship ($B = -.27$, $p < .001$). Although some stress is needed for job performance, excessive stress results in a strong negative correlation with job satisfaction. The study found stress attributed to 15% variance in job satisfaction. Opportunities to reduce stress can have a profound positive effect on job satisfaction. Because of its impact on important organizational outcomes, the management of workplace stress has become a management imperative (Zeffane & McLoughlin, 2006). Locating stressors and finding techniques in which to reduce employee stress continues to be a high priority in any organization. Assessing methods to aid in the reduction may constitute substantial resources to accommodate implementation.

Findings from business surveys suggest that email traffic is consuming a proportion of the working day which has been associated with over-monitoring, workflow disruption, work-life conflict and addiction to email – all which in turn are associated with higher levels of work-related stress (Pignata, Lushington, Sloan & Buchanan, 2015; Barley, Meyerson & Grodal, 2011; Cooper, 2005; Dabbish & Kraut, 2006; Hair, Renaud & Ramsay, 2007; Hill, Hawkins, Ferris & Weitzman, 2001). A 2011 study by Barley, Meyerson and Grodel found employees blamed email as a source of stress in their job, causing them to work longer hours. We should question, review, and examine the optimal use of email to minimize individual stress and increase job satisfaction encouraging maximize employee performance, thus creating plausible competitive advantages for businesses and universities. The introduction of COVID into our lives has increased the necessity for communication methods beyond face-to-face interactional collaboration. Prior to COVID, the utilization of videoconference discussions primarily occurred in instances where face to face was difficult or expensive to accommodate, such as cross-continent corporate meetings. During COVID, these videoconference channels have become the common communication preference between individuals that had previously met in a close personal office setting. COVID entrenched all employees into technology usage for many job duties that were previously performed without technology.

PUSE is the perception of an individual that use of technology will improve job performance. PUSE has a strong positive relationship with job satisfaction ($B = .17$, $p < .05$). In the sample, PUSE explains 11% of the variance in job satisfaction providing additional support of the importance of user perception of acceptability in technology use and its contribution to job satisfaction. Perception of email volume further moderated the effect of PUSE on job satisfaction. Employees with lower perceived email volume have a more strongly positive relationship between PUSE and job satisfaction as opposed to those with higher perceived email volume. The model that isolated the interaction term explained 2.7% of unique variance in job satisfaction by perceived email volume.

A significant relationship between PEOU and job satisfaction was not found in the research. Although the relationship between stress and job performance has a significant negative relationship, PMail's moderating effect between the relationship is not significant. Strategies aimed at simply reducing email volume and changing individual behaviors may not be enough. (Sumecki et al., 2011). Several factors may have contributed to the insignificant effect. The number of employees that perceived an email reduction was 13.6% of the sample even though they were aware of the reduction program. The majority of respondents felt email volume continued to increase during the reduction program with 54% answering the survey with a perceived increase in email volume. The increase in technology use in the remote work environment may have muted the effect of the automated email reduction program.

As society transitions through post COVID protocols, many individuals may continue to work remotely instead of returning to the office. A change in the acceptability of working out of the office is developing as individuals prove they can be effective and efficient without traveling to an office. Independent conversations that commonly occurred during daily interaction between individuals located in an office setting has been commonly replaced by electronic means. Teleconference mediums such as Zoom, Face time and Microsoft instant messaging systems produce additional outlets for communication, but email is still relied on to communicate essential individual and group information. We must continue to explore our electronic communications methods, systems, and procedures. The need for proper use and efficient consistent processes should be evaluated, measured, and developed to convalesce our electronic communication mediums.

Limitations and Implications for Future Research

The changing conditions provoked during COVID may create additional constructs not considered. Some limitations on the generalization of the data and its findings due to the small sample

size from a bank lending department may be an external validity concern. The measurement of perceived email volume may not fully capture the effectiveness of the reduction program since the direct link between email volume and individual data was not captured for analysis. The pairing of an email reduction program within the COVID time period provides additional challenges due to the fact that the use of technology was increasing during the email reduction program. Email use may have been increasing at the lessor degree due to the reduction protocol, but the perception may not be realized due to a plausible overall increase in email volume. Correlation of actual volume to individual sample data may provide improved relationship analysis. Reliability coefficient for job satisfaction of .57 is less than desired and may be explained by the job characteristics of the sample, the sample ranged from task-oriented employees to high stress commissioned employees. The sample consisted of employees who work in the lending that had experienced two years of record loan production volume. The immense loan volume created workloads that far exceeded normal business operations. Overtime work hours and increased responsibilities for an extended period of time may have affected the survey results.

Further studies using data for direct analysis pre-test, stimulus, then post-test may prove more reliable and significant. Future research should consider additional email reduction programs as well as other electronic means currently supplementing some of the responsibilities that formerly utilized face to face exchanges for the communication. The challenge on email reduction begins with the realization that its use may be excessive and hindering or decreasing productivity. 71% (104) of survey respondents perceived email volume to increase post COVID. Email volume and its effect on productivity is subject area in which management may need to provide greater attention.

Conclusions

The objective of this study is to examine the relationship between job satisfaction, stress, PUSE, PEOU and perceived automated email volume in a COVID environment. The sample consisted of 147 employees in a bank lending department who were employed during the 12-month email reduction program. The survey questions originated from prior validated surveys. The data was analyzed with mean, standard deviation, correlation, regression, and ANOVA tests. Stress was found to have a negative effect on job satisfaction, contributing to 15% variance in our sample. PUSE had a positive effect on job satisfaction, accounting for 11.4% of the variance job satisfaction. PMail had a significant moderating effect on PUSE, accounting for 2.7% variance in our sample.

The result's further research findings. The increased use of technology in our communication and the importance of our attitude toward technology in conjunction with understanding and controlling usage is imperative. COVID has changed the workforce through the transition from an office-based environment, to a remote, home-based work environment. Many employees did not return to the office and continue work from remote locations with no intention of returning to office life. The higher levels of remote work may continue to pressure employee's use of electronic mediums. Further complications arise with the combination and integration of remote based mediums simultaneously in conjuncture with office based. Now, meetings and conferences often combine remote and office based employees, creating new experiences and challenges in understanding how to effectively communicate. COVID has enacted a new reliance on technology and its acceptance in our changing work behaviors creating robust new challenges and stressors correlating to job satisfaction.

REFERENCES

Adi Permana, I. B. G., & Setianto, D. P. (2019). The Impact of Task Technology Fit, System Quality and Information Quality to User Performance: Perceived Ease Usefullness and Perceived Ease of Use as Mediation. *International Journal of Organizational Innovation*, *12*(2), 335–340.

Ahmad, A., & Afgan, S. (2016). The Relationship of Job Stress and Turnover Intention in Commercial Banks of Pakistan by Assessing the Mediating Role of Burnout. *Journal of Business Strategies; Karachi*, *10*(1), 1–23.

Ahmed, R. R., Warraich, U. A., Khoso, I., & Ahmad, N. (2014). Impact of Stress on Job Performance: An Empirical study of the Employees of Private Sector Universities of Karachi. *Global Management Journal for Academic & Corporate Studies; Karachi*, *4*(2), 104–108.

Anand, S., Vidyarthi, P., Singh, S., & Ryu, S. (2015). Family interference and employee dissatisfaction: Do agreeable employees better cope with stress? *Human Relations*, *68*(5), 691–708. https://doi.org/10.1177/0018726714539714

Antoniou, A.-S. G., Davidson, M. J., & Cooper, C. L. (2003). Occupational stress, job satisfaction and health state in male and female junior hospital doctors in Greece. *Journal of Managerial Psychology; Bradford*, *18*(6), 592–621. http://dx.doi.org.ezproxy.depaul.edu/10.1108/02683940310494403

Barley, S. R., Meyerson, D. E., & Grodal, S. (2011). E-mail as a Source and Symbol of Stress. *Organization Science*, *22*(4), 887–906.

Bellotti, V., Ducheneaut, N., Howard, M., Smith, I., & Grinter, R. E. (2005). Quality Versus Quantity: E-Mail-Centric Task Management and Its Relation With Overload. *Human-Computer Interaction*, *20*(1/2), 89–138. https://doi.org/10.1207/s15327051hci2001&2_4

Borg, M. G., & Riding, R. J. (1991). Occupational stress and satisfaction in teaching. *British educational research journal*, *17*(3), 263-281.

Bresciani, S., & Eppler, M. (2015). *Extending Tam to Information Visualization: A Framework for Evaluation*. *18*(1), 14.

Burgess, A., Jackson, T., & Edwards, J. (2005). Email training significantly reduces email defects. *International Journal of Information Management*, *25*(1), 71–83. https://doi.org/10.1016/j.ijinfomgt.2004.10.004

Camargo, M. R. (2008). A Grounded Theory Study of the Relationship between E-Mail and Burnout. *Information Research: An International Electronic Journal*, *13*(4), 15.

Cohen, S. and Williamson, G. (1988), "Perceived stress in a probability sample of the USA", in Spacapan, S. and Oskamp, S. (Eds), The Social Psychology of Health, Sage, Newbury Park, California, CA, pp. 31-68.

Davis, F. D. (1986). *A Technology Acceptance Model for Testing New End-User Information Systems: Theory and Results.* [Ph.D., Massachusetts Institute of Technology]. http://search.proquest.com/docview/303543930/4A1ADC9F96654489PQ/4

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319–340. https://doi.org/10.2307/249008

Davis, F. D., & Venkatesh, V. (1996). A critical assessment of potential measurement biases in the technology acceptance model: Three experiments. *International Journal of Human-Computer Studies*, *45*(1), 19–45. https://doi.org/10.1006/ijhc.1996.0040

Detienne, K. B., Agle, B. R., Phillips, J. C., & Ingerson, M. (2012). The Impact of Moral Stress Compared to Other Stressors on Employee Fatigue, Job Satisfaction, and Turnover: An Empirical Investigation. *Journal of Business Ethics: JBE; Dordrecht*, *110*(3), 377–391. http://dx.doi.org.ezproxy.depaul.edu/10.1007/s10551-011-1197-y

Diab-Bahman, R., Link to external site, this link will open in a new window, & Al-Enzi, A. (2020). The impact of COVID-19 pandemic on conventional work settings. *The International Journal of*

Sociology and Social Policy, *40*(9/10), 909–927. https://doi-org.ezproxy.depaul.edu/10.1108/IJSSP-07-2020-0262

E, K. K., Barling, J., & Shah, A. (1993). Industrial relations stress and job satisfaction: Concurrent effects and mediation: Summary. *Journal of Organizational Behavior (1986-1998)*, *14*(5), 447.

Fried, Y., Shirom, A., Gilboa, S., & Cooper, C. L. (2008). The mediating effects of job satisfaction and propensity to leave on role stress-job performance relationships: Combining meta-analysis and structural equation modeling. *International Journal of Stress Management*, *15*(4), 305–328. https://doi.org/10.1037/a0013932

Gupta, A., Sharda, R., & Greve, R. A. (2011). You've got email! Does it really matter to process emails now or later? *Information Systems Frontiers; New York*, *13*(5), 637–653. http://dx.doi.org.ezproxy.depaul.edu/10.1007/s10796-010-9242-4

Hackman, J. R., Oldham, G. R., Hackman, J. R., & Oldham, G. R. (1975). Job Diagnostic Survey. *Development of the Job Diagnostic Survey*, *60*(2), 159–170.

Hassan, M., Azmat, U., Sarwar, S., Adil, I. H., & Gillani, S. H. M. (2020). Impact of Job Satisfaction, Job Stress and Motivation on Job Performance: A Case from Private Universities of Karachi. *Kuwait Chapter of the Arabian Journal of Business and Management Review*, *9*(2), 31–41.

Huang, E. Y., & Lin, S. W. (2009). Do Knowledge Workers Use E-Mail Wisely? *The Journal of Computer Information Systems; Stillwater*, *50*(1), 65–73.

Huang, E. Y., Lin, S. W., & Lin, S.-C. (2011). A quasi-experiment approach to study the effect of e-mail management training. *Computers in Human Behavior*, *27*(1), 522–531. https://doi.org/10.1016/j.chb.2010.09.021

Hwang, Y. (2005). Investigating enterprise systems adoption: Uncertainty avoidance, intrinsic motivation, and the technology acceptance model. *European Journal of Information Systems*, *14*(2), 150–161. http://dx.doi.org.ezproxy.depaul.edu/10.1057/palgrave.ejis.3000532

Hwang, Y. (2011). Predicting Attitudes Toward Knowledge Sharing by E-Mail: An Empirical Study. *International Journal of Human-Computer Interaction*, *27*(12), 1161–1176. https://doi.org/10.1080/10447318.2011.565706

Hwang, Y., Kettinger, W. J., & Yi, M. Y. (2015). Personal information management effectiveness of knowledge workers: Conceptual development and empirical validation. *European Journal of Information Systems*, *24*(6), 588–606. https://doi.org/10.1057/ejis.2014.24

Jackson, A. T., & Frame, M. C. (2018). Stress, health, and job performance: What do we know? *Journal of Applied Biobehavioral Research*, *23*(4), 1–14. https://doi.org/10.1111/jabr.12147

Jackson, T., Dawson, R., & Wilson, D. (2003a). Reducing the effect of email interruptions on employees. *International Journal of Information Management*, *23*(1), 55–65. https://doi.org/10.1016/S0268-4012(02)00068-3

Jackson, T., Dawson, R., & Wilson, D. (2003b). Reducing the effect of email interruptions on employees. *International Journal of Information Management*, *23*(1), 55–65. https://doi.org/10.1016/S0268-4012(02)00068-3

Jackson, T. W., Burgess, A., & Edwards, J. (2006). A simple approach to improving email communication. *Association for Computing Machinery. Communications of the ACM; New York*, *49*(6), 107–109. http://dx.doi.org.ezproxy.depaul.edu/10.1145/1132469.1132493

Jackson, T. W., Dawson, R., & Wilson, D. (2003). Understanding Email Interaction Increases Organizational Productivity. *Communications of the ACM*, *46*(8), 80–84. https://doi.org/10.1145/859670.859673

Jackson, T. W., & Lichtenstein, S. (2011). Optimising e-mail communication: The impact of seminar- and computer-based training. *International Journal of Internet and Enterprise Management; Olney*, *7*(2), 197.

Jamal, M. (1997). Job stress, satisfaction, and mental health: An empirical examination of self-employed and non-self-employed Canadians. *Journal of Small Business Management; Milwaukee*, *35*(4), 48–57.

Jermsittiparsert, K., Petchchedchoo, P., Kumsuprom, S., & Panmanee, P. (2021). THE IMPACT OF THE WORKLOAD ON THE JOB SATISFACTION: DOES THE JOB STRESS MATTER? *Academy of Strategic Management Journal, 20*, 1-13. https://ezproxy.depaul.edu/login?url=https://www-proquest-com.ezproxy.depaul.edu/scholarly-journals/impact-workload-on-job-satisfaction-does-stress/docview/2568313264/se-2?accountid=10477

Jerejian, A. C. M., Reid, C., & Rees, C. S. (2013). The contribution of email volume, email management strategies and propensity to worry in predicting email stress among academics. *Computers in Human Behavior*, *29*(3), 991–996. https://doi.org/10.1016/j.chb.2012.12.037

Johnson, S., Cooper, C., Cartwright, S., Donald, I., & al, et. (2005). The experience of work-related stress across occupations. *Journal of Managerial Psychology; Bradford*, *20*(1/2), 178–187. http://dx.doi.org.ezproxy.depaul.edu/10.1108/02683940510579803

Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, *127*(3), 376–407. https://doi.org/10.1037/0033-2909.127.3.376

Kashif, M., Braganca, E., Awang, Z., & Cyril De Run, E. (2017). You abuse but I will stay: The combined effects of job stress, customer abuse, and emotional intelligence on employee turnover. *The Journal of Management Development; Bradford*, *36*(7), 899–914. http://dx.doi.org.ezproxy.depaul.edu/10.1108/JMD-06-2016-0095

Ko, E.-J., Kim, A.-H., & Kim, S.-S. (2021). Toward the understanding of the appropriation of ICT-based Smart-work and its impact on performance in organizations. *Technological Forecasting and Social Change*, *171*, 120994. https://doi.org/10.1016/j.techfore.2021.120994

Kohler, M. (2010). *Exploring the Relationships among Work-Related Stress, Quality of Life, Job Satisfaction, and Anticipated Turnover on Nursing Units with Clinical Nurse Leaders* [Ph.D., University of South Florida]. http://search.proquest.com/docview/823697942/abstract/961B227DC24A4EDCPQ/1

Lambert, E. G., Qureshi, H., Frank, J., Klahm, C., & Smith, B. (2018). Job Stress, Job Involvement, Job Satisfaction, and Organizational Commitment and Their Associations with Job Burnout Among Indian Police Officers: A Research Note. *Journal of Police and Criminal Psychology*, *33*(2), 85–99. http://dx.doi.org.ezproxy.depaul.edu/10.1007/s11896-017-9236-y

Mariani, M. G., Curcuruto, M., & Gaetani, I. (2013). Training opportunities, technology acceptance and job satisfaction: A study of Italian organizations. *Journal of Workplace Learning*, *25*(7), 455–475. https://doi-org.ezproxy.depaul.edu/10.1108/JWL-12-2011-0071

Marulanda-Carter, L., & Jackson, T. W. (2012). Effects of E-Mail Addiction and Interruptions on Employees. *Journal of Systems and Information Technology*, *14*(1), 82–94.

Masihabadi, A., Rajaei, A., Koloukhi, A. S., & Parsian, H. (2015). Effects of stress on auditors' organizational commitment, job satisfaction, and job performance. *International Journal of Organizational Leadership*, *4*(3), 303–314. http://dx.doi.org.ezproxy.depaul.edu/10.19236/IJOL.2015.03.07

Mazzola, J. J., & Disselhorst, R. (2019). Should we be "challenging" employees?: A critical review and meta-analysis of the challenge-hindrance model of stress. *Journal of Organizational Behavior*, *40*(8), 949–961. https://doi.org/10.1002/job.2412

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information systems research*, *2*(3), 192-222.

Morris, M. G., & Venkatesh, V. (2000). Age differences in technology adoption decisions: Implications for a changing work force. *Personnel Psychology; Durham*, *53*(2), 375–403.

Nixon, A. E., Mazzola, J. J., Bauer, J., Krueger, J. R., & Spector, P. E. (2011). Can work make you sick? A meta-analysis of the relationships between job stressors and physical symptoms. *Work & Stress*, *25*(1), 1–22. https://doi.org/10.1080/02678373.2011.569175

Nowak, K., Kuzminska, A. O., & Kowalczyk, K. K. (2018). The Effect of Overflow at Workplace on Employees Productivity and Well Being. *Economic and Social Development: Book of Proceedings; Varazdin*, 322–331. http://search.proquest.com/abicomplete/docview/2131160596/abstract/E12661E72CDB4B4CPQ/141

O'Kane, P., Palmer, M., & Hargie, O. (2007). Workplace interactions and the polymorphic role of e-mail. *Leadership & Organization Development Journal; Bradford*, *28*(4), 308–324. http://dx.doi.org.ezproxy.depaul.edu/10.1108/01437730710752193

Okolo, D., Kamarudin, S., & Ahmad, U. N. (2018). An Exploration of the Relationship between Technostress, Employee Engagement and Job Design from the Nigerian Banking Employee's Perspective. *Management Dynamics in the Knowledge Economy; Bucharest*, *6*(4), 511–530. http://dx.doi.org.ezproxy.depaul.edu/10.25019/MDKE/6.4.01

Pignata, S., Lushington, K., Sloan, J., & Buchanan, F. (2015). Employees' perceptions of email communication, volume and management strategies in an Australian university. *Journal of Higher Education Policy & Management*, *37*(2), 159–171. https://doi.org/10.1080/1360080X.2015.1019121

Pillet, J.-C., & Carillo, K. D. A. (2016). Email-free collaboration: An exploratory study on the formation of new work habits among knowledge workers. *International Journal of Information Management*, *36*(1), 113–125. https://doi.org/10.1016/j.ijinfomgt.2015.11.001

Radicati Group (2007), Addressing Information Overload in Corporate E-mail: the Economics of User Attention, White Paper, April, available at: www.radicati.co

Ramsay, J., & Renaud, K. (2012). Using insights from email users to inform organisational email management policy. *Behaviour & Information Technology*, *31*(6), 587–603. https://doi.org/10.1080/0144929X.2010.517271

Rekha, B., & Paramanandam, P. (2017). Job Stress and Job Satisfaction Among the Managerial Personnel of Textile Industry. *Sumedha Journal of Management; Hyderabad*, *6*(3), 65–74.

Ridzuan, A. A., Zainol, N. A. M., Liaw, J. O. H., Yaacob, S., & Ismail, A. (2017). The Effects of Stress Factor on Job Performance. *Journal of Economic & Management Perspectives; Mersin*, *11*(4), 1235–1243.

Roberti, J. W., Harrington, L. N., & Storch, E. A. (2006). Further Psychometric Support for the 10-Item Version of the Perceived Stress Scale. *Journal of College Counseling; Alexandria*, *9*(2), 135–147.

Robertson, I. T., Baron, H., Gibbons, P., MacIver, R., & Nyfield, G. (2000). Conscientiousness and managerial performance. *Journal of Occupational and Organizational Psychology*, *73*, 171–180.

Rosen, C. C., Simon, L. S., Gajendran, R. S., Johnson, R. E., Lee, H. W., & Lin, S.-H. (Joanna). (2019). Boxed in by your inbox: Implications of daily e-mail demands for managers' leadership behaviors. *Journal of Applied Psychology*, *104*(1), 19–33. https://doi.org/10.1037/apl0000343

Schuldt, B. A., & Totten, J. W. (2008). Technological Factors & Business Faculty Stress. *Allied Academies International Conference. Academy of Information and Management Sciences. Proceedings; Arden*, *12*(1), 13–18.

Siders, M. A., George, G., & Dharwadkar, R. (2001). The Relationship of Internal and External Commitment Foci to Objective Job Performance Measures. *Academy of Management Journal*, *44*(3), 570–579. https://doi.org/10.5465/3069371

Singh, A. P., & Kumar, Dubey, A. (2011). Role of Stress and Locus of Control in Job Satisfaction Among Middle Managers. *IUP Journal of Organizational Behavior*, *10*(1).

Skalli, A., Theodossiou, I., & Vasileiou, E. (2008). Jobs as Lancaster goods: Facets of job satisfaction and overall job satisfaction. *The Journal of Socio-Economics*, *37*(5), 1906–1920. https://doi.org/10.1016/j.socec.2008.04.003

Springer, G. J. (2011). A Study of Job Motivation, Satisfaction, and Performance among Bank Employees. *Journal of Global Business Issues*, *5*(1), 29–42.

Sullivan, S., Bhagat, R. (1992). Organizational Stress, Job Satisfaction and Job Performance: Where Do We Go From Here? *Journal of Management,* 18(2), 353-374.

Sumecki, D., Chipulu, M., & Ojiako, U. (2011). Email overload: Exploring the moderating role of the perception of email as a 'business critical' tool. *International Journal of Information Management*, *31*(5), 407–414. https://doi.org/10.1016/j.ijinfomgt.2010.12.008

Tassabehji, R., & Vakola, M. (2005). Business Email: The Killer Impact. *Communications of the ACM*, *48*(11), 64–70. https://doi.org/10.1145/1096000.1096006

Varvogli, L., & Darviri, C. (2011). Stress Management Techniques: Evidence-based procedures that reduce stress and promote health. *Health Science Journal; Egaleo*, *5*(2), 74–89.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, *27*(3), 425–478. https://doi.org/10.2307/30036540

Vidgen, R., Sims, J., & Powell, P. (2011). Understanding e-mail overload. *Journal of Communication Management; London*, *15*(1), 84–98. http://dx.doi.org.ezproxy.depaul.edu/10.1108/13632541111105277

Yi, M. Y., & Hwang, Y. (2003). Predicting the use of web-based information systems: Self-efficacy, enjoyment, learning goal orientation, and the technology acceptance model. *International Journal of Human-Computer Studies*, *59*(4), 431–449. https://doi.org/10.1016/S1071-5819(03)00114-9

Zeffane, R., & McLoughlin, D. (2006). Cooperation and stress: Exploring the differential impact of job satisfaction, communication and culture. *Management research news*.

Appendix

TABLE 1

Collective data of control constructs

Construct		Number	Percentage
Gender	Male	104	70.75%
	Female	43	29.25%
Age	18-29	16	10.88%
	30-39	32	21.77%
	40-49	34	23.13%
	50-59	38	25.85%
	60+	27	18.37%
Job Type	Assistant	21	14.29%
	Executive	3	2.04%
	Manager	20	13.61%
	Loan Officer	45	30.61%
	Processor	20	13.61%
	Operations	32	21.77%
	Compliance	2	1.36%
	Post Closing	3	2.04%
	Finance	1	0.68%

TABLE 2

Survey Items

Likert scale from 1 - 5

Construct	Scale Items	Adapted From
Satisfaction	Generally speaking I am very satisfied with this job	Hackman et al., 1975
	I usually know whether or not my work is satisfactory on this job	
	I feel unhappy when I discover that I have performed poorly on this job	
	The work I do on this job is very meaningful	
	My opinion of myself goes up when I do this job well	
	I sometimes think of quitting this job	
Stress	In the last month how often have you felt you were on top of things?	Cohen et al., 1989
	In the last month, how often have you been angered because of things were outside of your control?	
	In the last month, how often have you felt you could not cope with all the things that you had to do?	
	In the last month, how often have you felt that things were going your way?	
	In the last month, how often have you been able to control irritations in your job?	
PUSE	I find computers easy to use	Davis, 1989
	I find it easy to get computers to do what I want it to	
	My interaction with computers is clear and understandable	
	Using computers improves my work	
	Using computers enhances my effectiveness	
PEOU	Using computers increases my productivity	Davis, 1989
	I have trouble finding the information I need in work-related emails, text, etc.	
	I have difficulty dealing with the amount of work-related electronic communications I receive.	
	I sometimes miss information or important work-related electronic communications messages.	
	Dealing with my work-related electronic communications disrupts my ongoing work.	

TABLE 3

Means, Standard Deviations, Reliabilities, and Correlation Matrix

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Job Satisfaction	4.41	.55	*. 57*							
2. PUSE	4.56	.80	.28**	*.90*						
3. PEOU	2.79	.07	-.17*	-.21**	*.86*					
4. Job Stress	3.86	.83	-.32**	.16*	-.41**	*.82*				
5. COVID email	3.94	.97	.14	.11	.98	-.11	*.56*			
6. Job type	4.15	1.84	.07	-.10	-.01	.06	-.07	-		
7. Gender	1.29	.46	-.12	-.13	.11	.07	.07	.05	-	
8. Age	48.14	12.55	-.19*	-.30**	-.21**	-.09	-.12	-.01	.12	-

Note. N = 147

[1] Alpha reliability appears in the diagonal

* $p < .05$

** $p < .01$

TABLE 4

Model 1	β	Standard Error	*t*
Constant	5.47	.26	21.06
JOB	0.02	.02	1.02
M-F	-.19*	.09	-1.98
AGE	-.01*	.00	2.16
Jstress	-.27**	.07	-3.91
N= 147		F(4,142) = 6.4, p < .01	
* $p < .05$	R^2 =	0.15	
** $p < .01$			

Model 2	β	Standard Error	*t*
Constant	3.68	.48	7.73
JOB	.03	.02	1.43
M-F	-0.12	.09	-1.28
AGE	-0.01	.00	-1.55
PUSE	.22**	.07	2.90
N= 147		F(4,142) = 4.58, p < .01	
* $p < .05$	R^2 =	0.11	
** $p < .01$			

Model 3	β	Standard Error	*t*
Constant	4.99	.57	4.38
JOB	.30	.02	1.32
M-F	-.15	.09	-1.89
AGE	-.01*	.00	-1.29
PEOU	-.06	.08	2.23
N= 147		F(4,142) = 2.90, p < .05	
* $p < .05$	R^2 =	0.08	
** $p < .01$			

TABLE 5

Model 1	β	Standard Error	*t*
Constant	4.41**	0.05	99.00
JOB	0.03	.02	1.24
M-F	-0.16	.09	-1.65
AGE	-.01*	.00	-2.44
N= 147		F(3,143) = 3.125, p < .05	
* $p < .05$	R^2 =	0.06	
** $p < .01$			

Model 2	β	Standard Error	*t*
Constant	4.41**	0.04	105.42
JOB	0.03*	0.02	1.16
M-F	-0.20	0.09	-2.20
AGE	-0.01	0.00	-1.88
COVID center	0.1*	0.04	2.31
Stress center	0.29**	0.07	4.24
N= 147		F(5,141) = 6.35, p < .01	
* $p < .05$	R^2 =	0.12	
** $p < .01$		*Change in R^2 = .12*	
		Change in F(2,141) = 10.55, p < .01	

Model 3	β	Standard Error	*t*
Constant	4.41**	0.04	104.82
JOB	0.03	0.02	1.11
M-F	-0.21*	0.09	-2.29
AGE	-0.01	0.00	-1.88
COVID center	0.1*	0.05	2.22
Stress center	0.29**	0.07	4.26
COVID Stress Int	0.05	0.06	0.82
N= 147		F(6,140) = 5.39, p < .01	
* $p < .05$	R^2 =	0.14	
** $p < .01$		*Change in R^2 = .004*	
		Change in F(1,140) = 4.47, p > .05	

TABLE 6

Model 1	β	Standard Error	*t*
Constant	4.41**	0.05	99.00
JOB	0.03	.02	1.32
M-F	-0.16	.09	-1.89
AGE	-.01*	.00	-1.29
N= 147		F(3,143) = 3.125, p < .05	
* $p < .05$	R^2 =	0.06	
** $p < .01$			

Model 2	β	Standard Error	*t*
Constant	4.41**	0.04	101.90
JOB	0.03	0.02	1.52
M-F	-0.14	0.09	-1.41
AGE	-0.01	0.00	-1.43
COVID center	0.07	0.05	1.44
PUSE center	0.21**	0.08	2.78
N= 147		F(5,141) = 4.11, p < .01	
* $p < .05$	R^2 =	0.13	
** $p < .01$		*Change in R^2 = .07*	
		Change in F(2,141) = 5.31, p < .01	

Model 3	β	Standard Error	*t*
Constant	4.41**	0.04	102.73
JOB	0.03	0.02	1.34
M-F	-0.12	0.09	1.27
AGE	-0.01	0.00	-1.91
COVID center	0.07	0.05	1.49
PUSE center	0.09	0.09	0.911
COVID PUSE Int	-0.15*	0.07	-2.12
N= 147		F(6,140) = 4.26, p < .01	
* $p < .05$	R^2 =	0.15	
** $p < .01$		*Change in R^2 = .027*	
		Change in F(1,140) = 4.47, p < .05	

TABLE 7

Model 1	β	Standard Error	*t*
Constant	4.41**	0.05	99.00
JOB	0.03	.02	1.24
M-F	-0.16	.09	-1.65
AGE	-.01*	.00	-2.44
N= 147		F(3,143) = 3.125, p < .05	
* $p < .05$	R^2 =	0.06	
** $p < .01$			

Model 2	β	Standard Error	*t*
Constant	4.41**	0.04	100.06
JOB	0.03	0.02	1.28
M-F	-0.16	0.09	-1.60
AGE	-0.01	0.00	-1.87
COVID center	0.08	0.04	1.7
PEOU center	-.06	0.04	-1.51
N= 147		F(5,141) = 2.93, p < .05	
* $p < .05$	R^2 =	0.09	
** $p < .01$		*Change in R^2 = .033*	
		Change in F(2,141) = 2.54, p > .05	

Model 3	β	Standard Error	*t*
Constant	4.41**	0.04	99.74
JOB	0.03	0.02	1.26
M-F	-0.21	0.09	-1.61
AGE	-0.01	0.00	-1.83
COVID center	0.1	0.05	1.68
PEOU center	0.29	0.07	-1.52
COVID PEOU Int	0.05	0.06	-0.3
N= 147		F(6,140) = 2.44, p < .05	
* $p < .05$	R^2 =	0.1	
** $p < .01$		*Change in R^2 = .001*	

FIGURE 1

PUSE moderation of Job Satisfaction