

https://dspace.org/

# The role of a training intervention in reducing email overload and improving productivity

**Campbell, Kerry Meghan**

**2017**

https://hdl.handle.net/10539/24447

Campbell, Kerry Meghan (2017) The role of a training intervention in reducing email overload and improving productivity, University of the Witwatersrand, Johannesburg, <https://hdl.handle.net/10539/24447>

Downloaded from a DSpace repository. https://dspace.org/

**Master of Arts Degree in Organisational Psychology**

**University of the Witwatersrand**

**Faculty of Humanities**

**School of Human and Community Development**

**Department of Psychology**

# The Role of a Training Intervention in Reducing Email Overload and Improving Productivity.

**Kerry Meghan Campbell (1199916)**

**Supervisor: Professor Karen Milner**

*A research report submitted to the Faculty of Humanities, School of Human and Community Development, in partial fulfilment of the requirements for the degree of Master of Arts by coursework and research report in the field of in Organisational Psychology*

**University of the Witwatersrand, Johannesburg**

**September 2017**

# DECLARATION

I declare that this research project is my own, unaided work. It has not been submitted before for any other degree or examination at this or another university.

Kerry Meghan Campbell (1199916)

_____

Date

_____

**Word Count: 28 545**

# ABSTRACT

*Emails have become a fundamental computer application and business tool, in organisations across the global. This is because of the accessibility and convenience of emails which have generated an array of benefits to both employees and their organisations. However, this accessibility has led to an over-reliance on emails, which often has the negative consequence of email overload. Email overload continues to be a recurring issues experienced by employees universally, which research has found to have negative implications on employees' wellbeing and productivity. Yet there has been limited research, particularly in South Africa, that aims to reduce email overload among employees. Thus, this research report investigated how the role of providing employees with a job resource (training intervention) could increase perceived productivity and eliminate email overload and change caused by the job demands (emails) on employees .In order to examine this effect, this research utilised a pretest post-test control group design on order to compare the impact of a training intervention in reducing email overload and increasing productivity. The quantitative results revealed that the training intervention contributed to a decrease in feelings of email overload among the participants. Additionally, focus groups were administered to determine participants' experience with emails both prior to the training and after the training, to gain a clearer understanding of the best practices used to eliminate email overload. These findings observed that the participants transferred learnt contents from training into their working lives. Thus research both further contributes to other research currently associated with email and email overload, and also provides a greater understanding of the need to provide employees with job resources much like training intervention in order to counteract those job demands like emails, that are often ignored.*



**Keywords:** *Emails; Email Overload; Productivity; Job Demand Resource Model; Training intervention*

# ACKNOWLEDGEMENTS

I wish to express my gratitude to my supervisor Professor Karen Milner. Without her continual support and encouragement, I would never have been able to generate this research.

I also appreciate the generous help of the two owners who were so willing to allow their organisations and employees to participate in this research.

I would further like to thank the participants, who were also so enthusiastic about participating in all facets of this research's data collection. Without you, this research would not have been possible.

Finally, I would like to thank my family and friends. Their support and encouragement enabled me to persevere during the time of writing this dissertation.

# TABLE OF CONTENTS

DECLARATION PAGE ..... **i**

ABSTRACT ..... **ii**

ACKNOWLEDGEMENTS ..... **iii**

LIST OF TABLES ..... **vi**

LIST OF FIGURES ..... **vii**

**1. INTRODUCTION ..... 1**

**2. LITERATURE REVIEW ..... 2-21**

2.1. Information Overload ..... 2-3

2.2. The Importance of Emails ..... 3-4

2.3. Email overload ..... 4-9

2.4. The Implications of Email Overload ..... 9-14

2.5. The Job Demand Resource Model ..... 14-16

2.6. Approached to Reducing Email Overload ..... 16-18

2.7. A Training Intervention as a Job Resource ..... 18-19

2.8. A Primary Intervention to Address Email Overload ..... 19

2.9. Needs Analysis ..... 20

2.10. Behavioural Modelling ..... 20

2.11. The Foundation of an Email Overload Training Intervention ..... 21

**3. METHODOLOGY ..... 23-35**

3.1 Research Aims ..... 23

3.2 Research Questions ..... 23

3.3 Research Hypothesis ..... 23

3.4 Qualitative Research Questions ..... 23

3.5 Research Design and Methodology ..... 24

3.6 Unit of Analysis and Sampling ..... 24-25

3.7 Data Collection ..... 25-32

3.8 Procedure for Data Analysis ..... 32-34

3.9 Evaluation/Validation Criteria ..... 34-35

3.10 Ethical Considerations ..... 36

**4. QUANTITATIVE RESULTS ..... 36-43**

4.1 Assumptions .....37-39
4.2 Mixed Model ANOVA repeated Measure- Email Overload .....39-42
4.3 Mixed Model ANOVA repeated Measure- Perceived Productivity.....42-43
**5. QUALITATIVE RESULTS.....44-53**
5.1 Theme One: Anxiety .....45-48
5.1.1 Volume of emails received on a daily basis .....46
5.1.2 Other people's email expectations and conduct .....47-48
5.2 Theme Two: Waste of Time.....48-50
5.3 Theme Three: De-cluttering my Inbox .....50-53
5.3.1 Creating email expectations .....50-51
5.3.2 Combating the CC-syndrome.....51-52
5.3.3 Not replying to all .....52-53
5.3.4 Removing formalities .....53
**6. DISCUSSION .....54-57**
6.1 Research Objectives, Hypotheses, Questions.....54
6.2 Discussion of the Results .....54
6.2.1 The Impact of Training on Email Overload.....55-56
6.2.2 The Impact of Training on Perceived Productivity .....56-57
6.3 Research Contributions .....57
**7. LIMITATIONS** .....**58-59**
7.1 Sample Size .....58
7.2 Scale Content and Size .....58-59
7.3 Quasi-experimental research design.....59
**8. CONCLUSION**.....**60-62**
**9. REFERENCES**.....**63-68**
**10. APPENDICES**.....**69-96**

# LIST OF TABLES

Table 1: The assumption table ..... 37
Table 2: Mauchly's Test of Sphericity ..... 38
Table 3: Means and Standard Deviations ..... 38-39
Table 4: Pretest post-test control group design-Email Overload ..... 39
Table 5: Test of Within-Subjects Contrast ..... 40
Table 6: Test of Between-Subjects Effects ..... 41
Table 7: Pretest post-test control group design- Perceived Productivity ..... 42
Table 8: Test of Within-Subjects Contrast ..... 42
Table 9: Test of Between-Subjects Effects ..... 43

# LIST OF FIGURES

Figure 1: The process of Email Overload ..... 9

Figure 2: The two underlying processes that influence the development of strain and motivation ..... 16

Figure 3: The five factors that influenced the construction of the training intervention ..... 19

Figure 4: A graph comparing the levels of email overload across the experimental group and the control group ..... 41

Figure 5: A graph comparing the perceived productivity of participants in the experimental group and the control group ..... 44

# 1. INTRODUCTION

In recent years, emails have shifted from being a form of communication, both in and outside the workplace to being an inherent job demand, whereby emails have become a basic component of most individuals' work (Jackson, Dawson & Wilson, 2002; Seeley & Hargreaves, 2003; Renaud, Ramsay & Hair, 2006; Dabbish & Kraut, 2006; Soucek & Moser, 2010; Jerejian, Reid & Rees, 2013). Because emails often require a large amount of psychological effort, many employees experience email overload which can negatively impact their wellbeing and productivity. This has led to the need to address email overload and improve wellbeing and productivity of employees, through the implementation of interventions such as training. The key objective of this research was to generate a job resource, in this case a training intervention, and to examine the role of the training intervention in reducing psychological strain caused by job demands, specifically email overload. Therefore, this research aimed to conceptualise and develop a training intervention as a job resource in order to buffer the effect of emails as a job demand on job strain (email overload and productivity). The training was developed and conceptualised based on empirical evidence, on the email overload training programme of Soucek and Moser (2010); primary intervention techniques (stress management); and a needs analysis. The incorporation of the above will enable form the foundation of the training intervention, that will actively address issues and consequences of email overload.

This research report is divided into six distinct sections which are: the literature review; methodology; quantitative results; qualitative findings; discussion and contribution and concluding remarks and recommendations. These sections have been covered in order to explore the role a training intervention has in reducing email overload and stress, as well as in promoting productivity.

# 2. LITERATURE REVIEW

This section of the research report focuses on the theoretical framework and relevant empirical evidence that have both influenced this research paper topic and the development of the training intervention. By addressing relevant research and theories situated around email overload and its influence on employee wellbeing and productivity, connections could be formed and positions were taken within the wider scope of research. This ultimately highlighted how previous research has informed the aims of this research paper, and the formulation of the training intervention.

## 2.1. Information Overload

Technological advances and the simultaneous rise of the current 'information society' have elevated people's access to information (Edmunds & Morris, 2000). According to Feather (1998, cited in Edmunds & Morris, 2000, p. 18), "the technological developments of the last 50 years have made more information more available to more people than at any other time in human history". This is because information is made easily available through many different platforms, from advertisements on the television, the internet, films, blogs, newspapers to radio advertisements (Edmunds & Morris, 2000; Strother, Uljin & Fazel, 2012). This has resulted in an information driven society, whereby, profit is often the outcome of one's ability to analyse and effectively and efficiently use the constant stream of information available (Strother et al., 2012). Subsequently, this constant bombardment of information, often leads to negative implications such as loss of control, anxiety and information avoidance (Burger & Rensleigh, 2007; Edmunds & Morris, 2000; Bawdin & Robinson, 2008). Additionally, excessive exposure to information has been shown to place knowledge workers in a situation of mental overload; this has a negative bearing on: individuals' family lives; their productivity and efficiency at work; concentration and comprehensive levels and their ability to be creative and innovative (Strother et al., 2012). Therefore, the information received is actually seen as being more of a hindrance than a benefit (Burger & Rensleigh, 2007; Edmunds & Morris, 2000). This is known as information overload (Burger & Rensleigh, 2007; Bawden & Robinson, 2008).

Even though there are a variety of interpretations of what is considered as information overload, the general consensus is that information overload occurs when an individual's efficiency in completing his/her work is hampered by the amount of relevant information that is available

(Bawden & Robinson, 2008). One of the most notable to sources that provides individuals with large amounts of relevant information is emails (Konstant, 2012).

### 2.2. The Importance of Emails

The technological evolution has led to the creation of one of the most successful computer applications in the world - the email (Whittaker & Sidner, 1996). Email refers to mail or bodies of information that are transmitted electronically via a computer or cell phone device, which transfers mail within seconds or minutes to various senders (Frehner, 2008). Emails are one of the most influential technological inventions in the workplace, as they provide millions of employees worldwide with effective and efficient modes of communication. This has made emails an intrinsic part of employees' working lives (De Jonge et al., 2007; Seeley & Hargreaves, 2003; Whittaker & Sidner, 1996). Although emails were first invented for this form of asynchronous communication (the flexible exchange of messages between individuals), the use of emails goes beyond simply a form of communication (Whittaker & Sidner, 1996). Emails are often used for "document delivery and archiving; work task delegation; and task tracking… storing personal names and addresses, for sending reminders, asking for assistance, scheduling appointments and handling technical support queries" (Whittaker & Sidner, 1996, p. 276). Therefore, it is evident that emails are remarkably versatile and important aspects of peoples working lives, as they play a variety of different roles in the workplace.

As previously mentioned, emails are utilised in all different types and departments of an organisation, because they act as a communicative, social and business tool, constructing a cost-effective and efficient way to connect with others (such as clients, colleagues and managers) all around the world, instantaneously (Jackson et al., 2003; Seeley & Hargreaves, 2003). Whittaker and Sidner (1996), were two of the very first researchers to recognise the rapid increase and speed that individuals were receiving and sending emails. This become particularly apparent when emails became increasingly popular and relied on in the workplace, than face-to-face communication. These authors recognised a gap in research regarding how people deal with the massive influx of emails (Whittaker & Sidner, 1996). One of the first studies that explored emails as well as the concept and experience of email overload was that of Whittaker and Sidner (1996). Whittaker and Sidner (1996) examined the experience of 20 users of 'Notesmail' in a software development firm, in terms of email volume, email strategies and forms of management and email organisational techniques. The study revealed that emails

provided participants with an efficient and effective form of communication with clients and consumers across time zones and distances, which telephones and personal interactions could not provide (Whittaker & Sidner, 1996).This highlights the integral part emails play in the everyday conduct of business, whether in a small local business or a large multinational organisation (Seeley & Hargreaves, 2003; Soucek & Moser, 2010; The Radicati Group, 2015). According to the Radicati Group (2015, p.4), "In 2015, the number of business emails sent and received per user per day totals 122 emails"; and this usage of emails as a key communication tool will continue to expand even further over time. Furthermore, the usage of emails as a key communication tool will continue to grow at a considerable rate. The Radicati Group (2015) predict that by 2019 "over one-third of the worldwide population will be using email" (p.2).

In light of the tremendous increase in, and dependence on, emails worldwide, international research has shown the degree to which the use of emails has given rise to issues concerning not only employee wellbeing (email overload and stress) but also organisational productivity (Zijlsta, Roe, Leonora & Krediet, 1999; Renaud et al., 2006; Jerejian et al., 2013). This immense reliance on emails as an effective and efficient business tool has resulted in emails becoming a source of stress, otherwise known as email overload.

### 2.3. Email Overload

The term email overload can be conceptualised in a variety of different ways, and is often used as synonymous with information overload (Grevet, Choi, Kumar & Gilbert, 2014). However, for the purposes of this research project, information overload is regarded as being a symptom of emails. Whittaker and Sidner (1996, p.278), who first conceived the term email overload, refer to email overload as "overload which is related to an inbox that contains messages of different status types, such as to do's, to reads, undetermined status and on-going correspondence". Emails that are seen as 'do's', require some form of action which may take a number of days to complete fully (Whittaker & Sidner, 1996). Tasks that are associated with 'to do' emails, could be activities such as preparing for a client presentation or reading and correcting a business proposal, which are activities that take longer than a few minutes to complete. 'To read' emails are emails that contain important information, but do not necessarily require a response (Whittaker & Sidner, 1996). 'Messages of undetermined statuses' refer to emails where the individual is unable to determine the importance of the email and therefore, it is left until its importance is made clear (Whittaker & Sidner, 1996). 'On-going correspondence' emails merely refer to conversations between individuals that have not been

completed due to time constraints on one of those individuals (Whittaker & Sidner, 1996). More often than not, individuals receive a combination of these types of emails every day, resulting in email overload.

Other definitions refer to email overload as the number of emails that employees receive on a daily basis. Where these have the potential to be harmful to employees they are associated with stress and loss of productivity (Barley et al., 2011; Dabbish & Kraut, 2006). Another interpretation is that email overload is experienced subjectively, as it is dependent on the individual's ability to process information and his/her ability to tolerate unprocessed information (such as unread emails in an individual's inbox) (Hole, 2008; Soucek & Moser, 2010). Soucek and Moser (2010, p. 1459) state that "information overload results from a discrepancy between the amount of information people receive and (the limits of) their information processing capacity".

Based on the previous discussion, for the purposes of this research, email overload will be defined as: a) an experience and feeling, based on an individual's perceptions; b) the number of emails received on a daily basis; and c) the presence of different types of emails (Agema, 2015). This definition highlights how emails have the potential to expose employees to email overload, which has numerous implications for employees, but often is a result of five distinct sources of email overload namely: volume-related factors; content-related factors; organisational-related factors; technology-related factors; and individual-related factors (Agema, 2015), discussed below?.

Volume-related factor that is believed to cause email overload, refers to the increased number of emails employees receive and send constantly throughout the day that results in a seemingly endless inbox (Dabbish & Kraut, 2006; Jerejian et al., 2013; Span, 2007). This influx of emails is believed to be a result of "bad practices that occur in email management" (Agema, 2015, p.2). This includes, but is not limited to, the constant use of, the 'CC' button, and the overuse of the forward function (Agema, 2015; Span, 2007). The 'CC syndrome', as referred to by Span (2007), is a major contributor to feelings of email overload by employees. According to Span (2007), while the carbon copy application enables individuals to send the same message to a variety of different people, it was originally invented to keep people up-to-date. However, "the addressees in the CC bar were not required to respond to the message" (Span, 2007, p. 2). This email formality has been forgotten and more often than not individuals struggle with

decisions as to whether they should reply or not, or what to do with the email at all; otherwise known as email triage (Neustaedter et al., 2005; Span, 2007; Agema, 2015).

The process of email triaging is important in the workplace, specifically for individuals who receive a large number of emails daily, because of two factors. The first factor is that when an individual receives a vast number of emails a day, the amount of time required to establish the priority of emails is considerable (Neustaedter et al., 2005). This can impact the productivity of the employees. The second factor is when the inability to triage their emails successfully is leads to feelings of information and email overload (Neustaedter et al., 2005). Therefore, one can see how great an impact email volume has on not only the productivity of employees but also on their wellbeing. Another factor related to the volume of emails, is the email backlog (Span, 2007). This occurs when an individual has not attended to his/her email for a period of time; therefore, his/her email inbox is filled with unread and unanswered emails (Span, 2007). This would happen for example, if a person went on holiday and did not have or did not want to have access to his/her email (Span, 2007). This can cause large levels of email overload, as the person is unable to keep up with all the emails received (Span, 2007).

The content of emails also has the ability to elicit feelings of overload (Agema, 2015). The language, importance and purpose of an email can raise issues of understanding and miscommunication which may lead to employees spending more time cognitively processing the email than they have available, causing feelings of being overwhelmed and loss of control (Agema, 2015; Burgess, Jackson & Edwards, 2004). Span (2007), further argues that poorly chosen subject titles are also a contributor to feelings of email overload. This could be related to the content of an email, as unclear subject titles may cause feelings of overload because the receiver has to scan through an email which represents an unnecessary waste of time, if the subject title clearly had indicated the content of the email (Span, 2007). An unclear subject title also may create issues for individuals, in terms of filing and prioritising important emails; an unclear email may create difficulties when attempting to find those emails at a later stage (Span, 2007).

Additionally, email overload may also be increased due to the number of attachments included in an email (Vacek, 2014). The study conducted by Vacek (2014), intended to highlight the causes of email overload in order to suggest ways in which to remove those causes and thus the implications. Email attachments were one of Vacek's key focuses, as he hypothesised that

most attachments if not all attachments, including Microsoft Word, Microsoft Excel and PDF files, cause email overload because individuals are required to be deal with the attachments, as opposed to ignore them (Vacek, 2014).The study revealed that 1) "Internal forwarded emails with attachments sent to many recipients", and 2) all types of emails with attachments cause email overload (Vacek, 2014, p.175). This is because additional information send in a PDF or Word documents is often sent to everyone in the list, regardless of its relevance to that person. This creates feelings of overload as attachments require more time to be dealt with than just what is stated in the email itself (Vacek, 2014). In the case of the number of attachments – it is presumed that the number of attachments also increases the time users spend in dealing with emails. This assumption is based on the fact that 55% of all attachments in the Faculty of Informatics and Management sample were meant to be read and interpreted (Vacek, 2014).

Another contributor to email overload can be attributed to the importance and weighting of emails by an individual which is heavily shaped by the organisation's culture, norms, values and the type of business of the organisation (Agema, 2015). This is because the organisational culture has a role in shaping and dictating how employees behave and act, and address to this email etiquette/expectations and reply-time is also influenced by organisational culture. Furthermore, according to Vacek (2014, p. 174), emails are often used for "internal communication within one company and often within the same building" as opposed to external communication. This results in emails being used as a form of communication between colleagues and supervisors, where direct, face-to-face communication or phone calls would be more efficient and appropriate (Vacek, 2014). This can cause an unnecessary build-up of emails, which may result in email overload. In some instances, colleagues and supervisors have certain expectations concerning response rates and this can lead to time pressures which are associated with feelings of overload and stress (Barley et al., 2011). Importantly, Reinke and Chamorro-Premuzic (2014) note that organisational norms and expectations may predict email overload in employees. This is intensified even more with the advances in cell phone technology which have enabled continuous interaction with emails, wherever one goes. The constant access to one's email has raised the issue of formalities and rules within an organisation, whether it is lack of email formalities (causing confusion regarding response rates), or clearly constructed formalities, which add to the time pressures on individuals (Agema, 2015). This can further result in feelings of overload and stress, as communication tools cross the boundary between work and home life. This is particularly relevant in multinational organisations, where clients and colleagues operate in different time zones;

creating irregular working hours (Agema, 2015). This has resulted in a negative work-to-family and vice versa spillover effect in individuals' lives (Chesley, 2005).

Technology-related factors are also a contributor to feelings of email overload. Technological features such as email notifications and limited storage may influence email overload (Agema, 2015). For example, constant notification (sound or pop-up notification) becomes distracting (Burgess et al, 2004). Furthermore, according to Neustaedter et al., (2005) many email systems such as Google or Yahoo, "provide only a limited set of tools to help people efficiently triage their email using information such as who it is from, when it was received, and the subject" ( p. 1). This limited technological function provided by email suppliers or systems, creates the challenge of managing growing email volumes, specifically with regard to increasing spam emails (Neustaedter et al., 2005). This may also exacerbate the feelings of email and information overload. Additionally, the evolution of emails from a communication platform to a multi-functional tool that can act as both a time and task manager, can also cause feelings of email overload (Agema, 2015). According to Agema (2015, p. 5), this can cause email overload because it can "contribute to the perception of overload through a lack of system capabilities". Another factor closely related to the evolution of emails is that of appointment invitations and reminders that are a result of the task and time management function of emails (Agema, 2015). This can cause email overload and stress because employees receive additional emails and nonfictions that may distract them and cause feeling of being overwhelmed.

Individual perception also plays a role in producing feelings of email overload (individual factor). Individuals' characteristics and employee status and role have an impact on how employees view a large number of emails (Dabbish & Kraut, 2006). According to Renaud, Ramsay and Hair (2006, p.3), "Personality factors are likely to play a part in determining the relationship between email usage and stress". Renaud et al., (2006) examined the relationship between personality traits, specifically self-esteem and locus of control and email overload. The results indicated that low self-esteem was related to the feeling of not being in control of one's emails, which ultimately determined how individuals perceived emails (Renaud et al., 2006). This corresponds with the research of Sevinc and D'Ambra (2010, as cited in Reinke & Chamorro-Premuzic, 2014), that revealed that individuals with high self-esteem were less likely to experience feelings of email overload. One can see that individual characteristics such as self-esteem and locus of control are associated with an individual's ability to have control

over emails, and therefore, influence his/her perception of email overload (Agema, 2015; Reinke & Chamorro-Premuzic, 2014; Renaud et al., 2006).

Volume-related factors, content-related factors, organisational-related factors, and technology-related factors are sources of email overload that can be directly modified through a primary intervention such as a training intervention, which will be discussed in detail on page 28

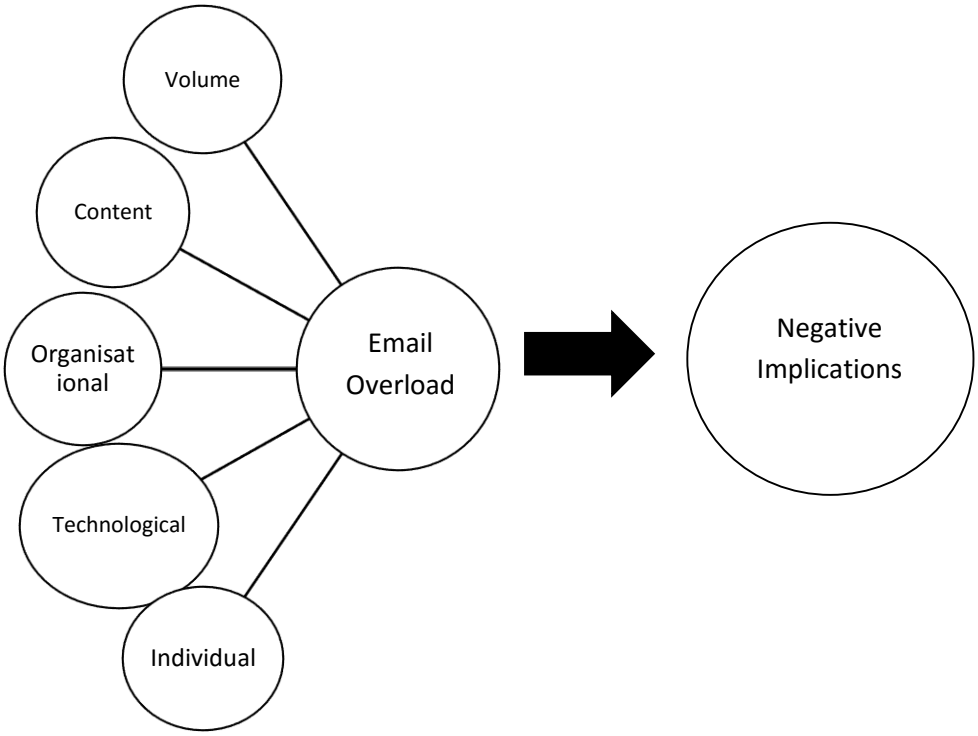



*Figure 1:* The above figure captures the process of email overload- from the causes to the implication.

### 2.4. Implications of email overload

The system of emails evidently has its advantages and disadvantages. The advantages of emails are apparent, as emails allow for the effective and cost effective communication across space and time and also are useful beyond the communication advantage as discussed earlier (Jackson, Dawson & Wilson, 2002; Seeley & Hargreaves, 2003; Whitaker & Sidner, 1998; Renaud, Ramsay & Hair, 2006; Dabbish & Kraut, 2006; Soucek & Moser, 2010; Jerejian, Reid & Rees, 2013). However, the easy accessibility of emails in the workplace and the increased volume of email received on a daily basis, have both had a negative impact, as this has

ultimately decreased productivity, increased distraction, blurred work and family life and has had implications for employees' wellbeing, all of which has detrimental implications on both the individuals involved and the organisation (McMurty, 2014; Jackson et al., 2003; Metern & Gloor, 2010). The implications of email overload on employee productivity and wellbeing will be explored in more detail below.

*Productivity*

As previously mentioned, technological advances have changed society. People now have the ability to check their emails constantly, by means of computers, tablets and even through mobile devices (Karr-Wisniewsk & Lu, 2010).This has resulted in employees becoming less productive at work (Karr-Wisniewsk & Lu, 2010) Research has supported the claims that email and email overload can negatively impact employees' productivity, in four distinct ways: 1) the interruption effect; 2) information deficiency; 3) message mismatch; and 4) processing and filing of emails. (Jackson et al., 2003; Van Solingen, Berghout van Latum 1998; D'Ambra, Van Toorn & Dang, 2007; Zijlstra et al., 1999; Mano & Mesch, 2012).

Emails can cause an interruption effect (that has the potential to reduce productivity) because, constant and "excessive interruptions affect human behaviour by negatively impacting recall, accuracy, efficiency, stress level, and ultimate performance" (Karr-Wisniewsk & Lu, 2010, p 3). The reason for this is that an interruption is "any distraction that makes a developer stop his/her planned activity to respond to the interrupt's initiator" (Jackson et al., 2003, p. 6). Because employees may adopt an ad-hoc approach to dealing with their emails, the impact of an email interruption on productivity may be more severe than adopting a structured approach to dealing or checking emails (Jackson et al., 2003; D'Ambra, 2007). Consequently, an unexpected email (for an employee who applies an ad-hoc approach) that has no association with an employee's current task that he/she is currently performing, may reduce his/her productivity as he/she shifts between two or more focuses and thus not focusing on the task at hand (Jackson et al, 2003; Van Solingen, Berghout & Latum, 1998). A study conducted by Cutrell, Czerwinksi and Horvitz (2001), reinforces the above statements, as their study revealed that interruptions (i.e. an email) that occur in the early stages of completing a task caused participants to forget their current task more rapidly than if the interruption occurred in the later stages of a task. Therefore, emails as a communicative tool have the potential to decrease productivity as they distract employees from their current work-related tasks as well as takes away time and effort from those work-related tasks.

Similarly, communication interruptions, much like emails, have been shown to take 15-20 percent of employee's time and effort to deal with those emails (Jackson et al., 2003).This diverts the employee's attention and effort that they are directing on their current work task to direct it to reading, replying or understanding a newly received email. A study by Jackson et al., (2003) examined the email behaviour of 15 participants of a large United Kingdom organisation, over 28 working days. The participants' email behaviour was recorded via videotapes, and each activity after the interruption (any form of email distraction that diverted participants' attention from their work activity) was analysed (Jackson et al., 2003). The results revealed that participants responded to a new email within the first six seconds of arrival, 70% of the time (Jackson et al., 2003). Interestingly, the study also revealed that it took participants 64 seconds to recover from an email interruption (Jackson et al., 2003). The potential effect of email interruptions experienced by workers may result in a spillover effect on employee performance and productivity. This supports the research of Van Solingen et al., (1998) who studied interruptions in two different organisations: a Medical and Safety Technology Company and an oil retail company. Their study aimed to better understand the impact of interruptions experienced by the two organisations. These researchers found that certain interruptions have the potential to take 15 to 20 minutes each to deal with (Van Solingen et al., 1998). Van Solingen et al., (1998), further elaborated that when combined, interruptions can result in employees spending up to an hour to an hour and a half of their working day dealing with interruptions (Van Solingen et al., 1998). Therefore, this emphasises how detrimental email interruptions can be on the employee's productivity.

Emails can also reduce productivity among employees- because of the information or lack thereof conveyed in an email (D'Ambra et al., 2007). A study conducted by Frazee (1996 as cited in D'Ambra et al., 2007), showed that the quality of the information described in an email can hinder the productivity of the recipient of that email. This could be because the email does not provide the receiver with the correct information and/or has ambiguous information and therefore, the receivers are unable to act on the task required of them (Frazee, 1996; as cited in D'Ambra et al., 2007). Thus, lack of clarity, poor grammar and miscommunication included in an email can have a significant impact on the employees' productivity. This emphasises the extent to which information deficiency can cause issues of reduced productivity.

Another source of email and email overload that can hinder employee productivity is that of message mismatch (D'Ambra et al., 2007). Message mismatch refers to the misuse and abuse of carbon-copy (CC) and blind carbon-copy (BCC) function as well as the use of emails as the only form of communication (D'Ambra et al., 2007). The unnecessary build-up and volume of unrelated emails (as a result of inappropriate 'CCing' and 'BCCing') that have no applicable association with the receiver, can put strain on the employees' productivity. Often, the recipient's attempts to understand processes and the emails, to realise that the email has no relevance, thus, distracting employees from work tasks (D'Ambra et al., 2007). Likewise, people often use emails as the first port of call when communicating information (D'Ambra et al., 2007). However, the excessive build-up of emails can cause email overload and distract and prevent employees from performing to their best ability.

Lastly, email overload has the potential to effect employee productivity because of the time-consuming element of processing and understanding the large number of emails that employees receive on a daily basis. This is because emails need to be read, processed, replied to, forwarded, archived or deleted (D'Ambra et al., 2007). These time-consuming tasks become problematic to employee productivity because employees' spend unnecessary time on tasks such as categorising emails, where as their time could have be spent on other more essential work-related tasks. Moreover, research by Ducheneaut and Watts (2005), revealed that when an employees do not attempt to file emails, his/her email inboxes remain overloaded. This can be destructive to their productivity, because often the employee will struggle to recall where an email is, what the subject line was and even possibly who sent the email, which takes time away from other work-related activities (Ducheneaut & Watts, 2005).Thus, an employee may spend precious time digging through his/her email inboxes, as opposed to completing work-related activities.

*Productivity and Wellbeing*

Furthermore, a study conducted by Belkin (2016), revealed that emails have the potential to affect the productivity as well as the health and wellbeing of employees' negatively, specifically when emails are sent after standard working hours. This is the result of an organisation's email response expectation (the expectation that colleagues will respond to an email in a certain amount of time, every time), (Belkin, 2016). The results of Belkin's study are based on 297 participants, which revealed that expectations created by the organisation leads to burnout and blurred work-family lines. This has huge implications not only on the

productivity of the employees' but also on their health and wellbeing (Belkin, 2016). Therefore, the following paragraph will further examine how email overload does not only have a harmful impact on employees' productivity but can affect employees' wellbeing.

*Wellbeing*

Previous research on email overload has focused on the negative impact that email overload has on employees. Research has shown that email overload has an effect on employees' wellbeing (Kushlev & Dunn, 2014; Jerejian et al., 2013; Barley et al., 2011; Van Solingen et al., 1998). The general reasoning behind why emails and email overload negatively impact individual's wellbeing is because emails encroach on people's lives, and thus often people feel as if they cannot escape from the pressures and stresses of work or cannot adequately control those pressures (Kushlev & Dunn, 2014; Jerejian et al., 2013; Barley et al., 2011; Van Solingen et al., 1998).

The study of Barley et al., (2011) in which 40 participants were interviewed, revealed that email overload is directly related to stress, irrespective of the time people work and how long they work. Furthermore, 45% of participants experienced feelings of loss of control (falling behind or missing out on important information) due to the volume of email they received on a daily basis (Barely et al., 2011). A study conducted by Merten and Gloor (2010), supported the assumptions of previous literature that email overload decreases job satisfaction. The results revealed a negative correlation between the numbers of emails received and sent and the job satisfaction of employees, and suggests that when emails increase, job satisfaction decreases. Jerejian et al's., (2013), study examined the impact of email volume, management and worry in predicting stress in 114 academic staff from Curtin University. The study revealed that both email volume and worry significantly contributed to email stress in the participants (Jerejian et al., 2013), which suggest that the volume of emails received by participants (a factor contributing to email overload) does in fact have negative implications for the wellbeing employees.

It is suggested that technology and specifically email overload, can create feelings of stress in two distinct ways (Barley, Meyerson & Grodal, 2011).Work-life literature has proposed that communication technologies such as email can cause stress because these technologies create a spillover effect into home and family time (Barley et al., 2011), producing blurred lines between family and work life. This is seen in a study conducted by Chesley (2005), which

revealed that excessive use of communication tools such as the computer significantly increases distress and has resulted in a negative work-to-family and vice versa spillover effect in individuals' lives. Mark, Voida and Cardello (2016) and Dabbish and Kraut (2006), state that there is a positive correlation between time spent on email, the number of emails received and stress. This emphasises the fact that emails have the potential to have a negative effect on the wellbeing of employees. This is supported by the researcher of Mark et al., (2012) who conducted an experiment in which participants participated in three day baseline collection phase and a five day experiment, to determine the role of emails in eliciting stress. The five day experiment condition restricted participants from having access to their emails at all. The data was collected through a combination of ethnographic methods, automatic logs and a heart rate monitor (Mark et al., 2012). The results showed that emails negatively correlated to stress and the heart rate monitor (sensor-based device) and revealed that the participants' heart rate variability (HRV) signals were significantly less than that of their previous baseline message (Mark et al., 2012),thus, indicating the effect emails and email overload has on the wellbeing on employees'. The second way that technology and email overload is believed to cause stress, is because emails "increase the total amount of work that people must handle" and thus, people are spending more and more time working (Barley, Meyerson & Grodal, 2011, p.888). This is because of emails are easier to send, thus, individuals are working when at home (outside standard working hours).Although, the impact of email overload on wellbeing is not directly measured within this study, it is a fundamental concern that has informed this paper's rationale behind examine email overload.

The majority of the literature and empirical evidence around email overload has focused predominantly on the negative implications of email overload, as previously discussed. Consequently, there is a need to place email overload within a theoretical framework, with the aim of identifying and developing effective interventions that target and reduce these previously mentioned causes and symptoms of email overload. This is particularly important, because of how detrimental these negative implications of email overload can be on employees and the organisation as a whole. This will best be achieved by placing the concept of email overload into the theoretical framework of the Job Demand Resource model (JD-R model), devised by Bakker and Demerouti (2001). This will be examined, explained and conceptualised in the following paragraphs.

### 2.5. The Job Demand Resource Model

The JD-R model of Bakker and Demerouti (2001) is one of the most common and well established theoretical frameworks used in predicting employee burnout, engagement and organisational performance. The basic premise of the model is that every occupation has the potential to elicit job-related stress, based on two factors: job demands and job resources (Bakker & Demerouti, 2007). The assumption of this model is that job resources and job demands can predict employee burnout, engagement and organisational performance, in any occupation, regardless of what resources and demands are involved in that occupation (Bakker & Demerouti, 2007). Thus, job demands "refer to those physical, psychological, social, or organisational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills", which may affect employees' psychological wellbeing when demands are high and no course of action is implemented to reduce/assist them (Bakker & Demerouti, 2007, p 312).

Job resources on the other hand, have the potential to reduce job demands and job strains. This is because job resources are the physical, social and/or organisational factors of the jobs that are needed: (a) to achieve work-related goals; (b) to reduce job demands and the potential effect job demands may have on the psychological wellbeing of employees; and (c) encourage growth and development (Bakker & Demerouti, 2007). Job resources may resemble a variety of different things, dependent on the organisation (Bakker & Demerouti, 2001). Job resources may be introduced at various levels such as at: the organisational level (pay, job security or career opportunity); the interpersonal level (supervisor or co-worker support); the work level (participation in decisions or role clarity); and the task level (autonomy or performance feedback) (Bakker & Demerouti, 2001). Thus, it is clear that the component of job resources in the JD-R model emphasises the importance of effective organisational factors in reducing high job demands and protecting other valuable resources (such as employees), and that job resources are also important in their own right (Bakker & Demerouti, 2007).

According to Bakker and Demerouti (2007, p. 313), the second assumption of the JD-R model is that "two different underlying psychological processes play a role in the development of job strain and motivation." As seen in the figure below, job demands (such as work overload or emotional demands) have the potential to wear out employees in terms of their mental and physical resources, which may lead to exhaustion and health problems (Bakker & Demerouti, 2007). However, the job resources are motivational in nature, and balance out any strain caused by the job demands. Job resources are essential in encouraging employee growth, learning and development and also in helping encourage the achievement of work or organisational goals,

as seen in figure 2 (Bakker & Demerouti, 2007). In order to fully comprehend the impact of the training intervention on email overload and its various impacts, a full conceptualisation of email as a job demand and the training intervention as a job resource needs to be described.

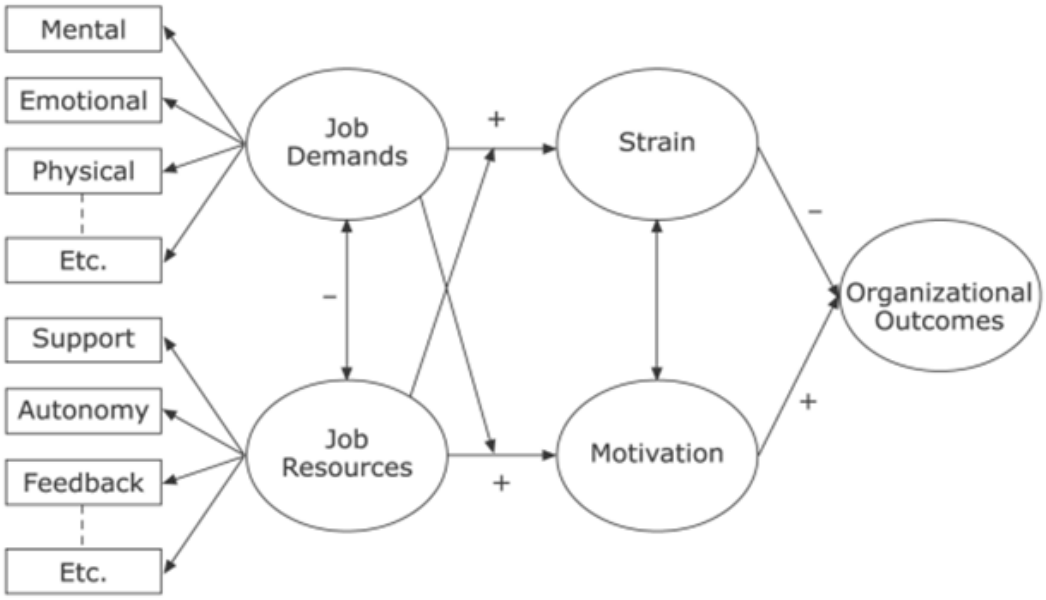



*Figure 2:* The two underlying processes that influence the development of strain and motivation. Adapted from "The job demands-resources model: State of the Art", by A.B.Bakker and E.Demerouti, 2007, *Journal of Managerial Psychology*, 22(3), p.313.

It is apparent that emails have become an intrinsic element of employees' job demands, as it requires cognitive effort to read, comprehend and respond to a vast number of emails received on a daily basis (Soucek & Moser, 2010; Dabbish & Kraut, 2006). This number of emails requires high levels of effort and this has been proven to cause overload and stress in employees (Agema, 2015; Kushlev & Dunn, 2015; Dabbish & Kraut, 2006; Barely et al., 2011). Consequently, email overload becomes an inherent job demand that impacts employees' wellbeing, as the quantity, type and perception of emails among employees, all have the potential to stimulate stress, exhaustion, job dissatisfaction and potential burnout (Reinke & Chamorro-Premuzic, 2014; Merten & Gloor, 2010). Therefore, it becomes necessary to address and treat emails as a job demand, specifically when emails have the potential to cause issues affecting the employees' wellbeing.

## 2.6. Approaches to reducing email overload

Approaches to reducing email overload have predominately been focused on limiting email access, technological assistance, and training and education. These approaches will be described briefly in the section below.

One approach to reducing the feeling of email overload is to restrict or reduce employees' access to emails (Kushlev & Dunn, 2015; Mark et al., 2012). Kushlev and Dunn (2015) conducted a studyin which 124 randomly designated participants were assigned to an unlimited email condition for one week and a limited email condition for another week. The study suggested that limited access to emails resulted in less tension and thus diminished daily stress (Kushlev & Dunn, 2015). During the unlimited email condition, participants were able to check their emails as often as they wanted. They were required to keep their email tab open all day, and they were required to switch on all notification devices (Kushlev & Dunn, 2015). Participants were sent three different surveys to complete every day of the week during both conditions. The three surveys were aimed to assess the individual's wellbeing. The results indicated that participants felt less stress during the limited email condition, compared to the unlimited email condition (Kushlev & Dun, 2015). This consequently had a positive effect on employee wellbeing, self-perceived productivity and sleep quality (Kushlev & Dunn, 2015), and suggested that limiting employees' constant access to email assists in reducing feelings of email-related stress. This overlaps with the work of Mark et al., (2012), which examined what effect cutting off employees' email access, would have on employees stress levels. The results revealed that stress was significantly lower among employees who were cut off from using their emails than among those who were not cut off (Mark et al., 2012).

An alternative approach is to introduce a type of software known as RADAR that acts as a personal assistant in reducing email overload (Freed et al., 2008). RADAR is a "software-based personal assistant intended to help users cope with email overload as effectively as a human assistant" (Freed et al., 2008, p. 15). The three main functions of RADAR are: to analyse email messages; to filter relevant information received by the user via email; and to create a connection between task representation and the text of the email itself (Freed et al., 2008, p. 15). Essentially it is designed to assist email users in managing and performing email tasks effectively and efficiently (Freed et al., 2008). The study conducted by Freed et al., (2008), revealed that the ability of RADAR to reduce email overload was successful. However, the

ability of a program such as this to be accessed and implemented for this current study is limited, due to constraints on resources, time and knowledge.

The predominant approach in reducing email overload and its role in causing stress and impacting productivity is to train and educate employees about effective and efficient ways in dealing with their emails (Van Solingen et al., 1998; Soucek & Moser 2010; Burgess et al., 2004; Spoelstra, 2007). This is because a common belief is that email overload is often a lack of protocol, awareness and training. The creation and development of training programme that addresses the root causes of email overload (the five previously mentioned causes of email overload) may help individuals to be able to combat feelings of overload and may increase their productivity.

### 2.7. Training Intervention as a Job Resource

International studies have emphasised the use of education and training to reduce the role of email overload and email stress in the workplace (Solingen et al., 1998; Jackson et al., 2003; Burgess et al., 2004; Soucek & Moser, 2010). According to Solingen, Berghout and van Latum (1998), a proactive initiative to reduce the influence of interruptions takes the form of communication and education, achieved by informing employers about the potential impact interruptions can have on the productivity of employees (Solingen et al., 1998). This concept about the implications of interruptions on productivity can be further emphasised by constant reminders of the role played by interruptions via presentations, posters and online resources (Solingen et al., 1998). The study of Soucek and Moser (2010) aimed to evaluate the role that a training intervention has on email overload in employees. This study examined 162 employees, where only the results of 90 participants results were used (Soucek & Moser, 2010). The training that was introduced to the participants was cognitive behavioural training, which has been successful in stress management interventions (Soucek & Moser, 2010). This training technique was divided into three sections, specifically: “improving media competencies, improving workflow, and enhancing email literacy” (Soucek & Moser, 2010, p.1460). Improving media competencies involved providing participants with relevant instruction about the functions and feature of the computer program specifically developed to assist with email overload (Soucek & Moser, 2010). Training aimed at enhancing email literacy was administered by highlighting the most appropriate ways to communicate via email (Soucek & Moser, 2010). This assisted participants in altering their inappropriate email behaviour, such as ill-executed and inappropriate emails (Soucek & Moser, 2010). The study revealed that

training techniques of this nature were actually successful in that they assisted in improving participants' knowledge of the functions of emails and provided a pathway to transfer training to a work context (Soucek & Moser, 2010). This ultimately reduced overload as participants were equipped with the various ways of approaching the large number of emails they receive a day. Burgess, Jackson and Edwards (2004), suggest that the most effective method of reducing email interruptions is that which is achieved through training. The training technique employed by Burgess, Jackson and Edwards (2004) was specifically based on an assessment criterion. The training implemented by these researchers attempted to reduce email defects, with the idea that reducing email defects would ultimately increase productivity (Burgess, Jackson & Edwards, 2004). This was achieved, as the results revealed that less time spent on actually reading and understanding an email, allowed employees to spend more time on other work-related activities (Burgess, Jackson & Edwards, 2004).

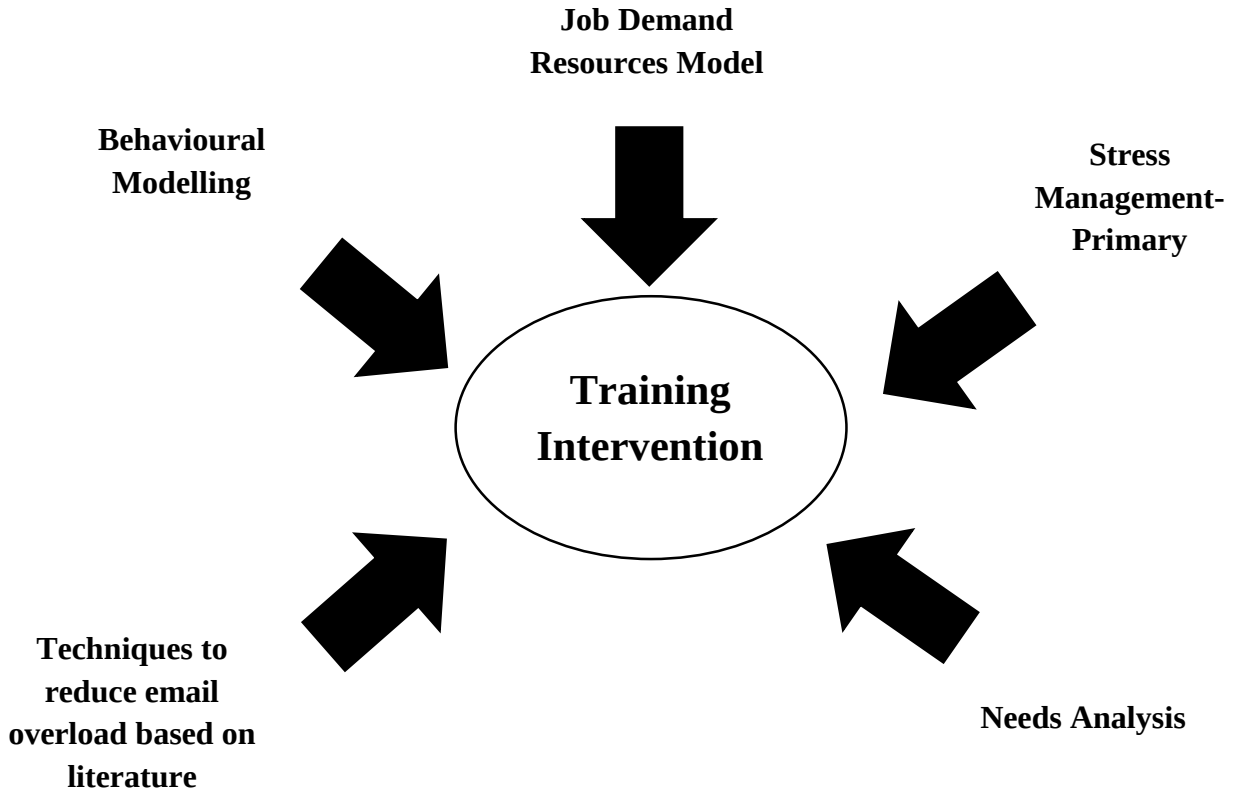



*Figure 3***:** The five factors that influenced the construction of the training intervention as a primary intervention.

The above research highlights the importance of providing employees with effective job resources, much like training in order to successfully combat email overload and increase productivity. The reason being that training can reduce direct sources of feeling of email overload and employee distraction (i.e. unnecessary email notifications), ensure employees are more aware of causes of email overload and sources that can impact their productivity and provide employees with tools to combat the sources.

### 2.8. A Primary Intervention to address Email Overload

As discussed previously, there are five sources that cause email overload, which can have serious effects on employee's wellbeing and productivity. Research has examined a variety of different approaches in targeting these sources. According to Cooper and Cartwright (1997), there are three levels of workplace stress interventions, namely, primary, secondary and tertiary, each with a different approach to dealing with stress. A primary intervention directly aims to target/combat the source of stress that is apparent in an individual's working environment and thus, reduce the impact it has on the individual (Cooper & Cartwright, 1997). A secondary prevention technique to stress in the workplace, focuses on "developing self-awareness and providing individuals with a number of basic relaxation techniques" (Cooper & Cartwright, 1997, p.9). Subsequently, a secondary approach provides individual with strategies to more effectively manage their workplace demands. A tertiary approach aims to treat individuals who are currently experiencing health issues due to prolonged stress (Cooper & Cartwright, 1997).

Based on the combination of the above descriptions of stress management interventions in the work and Spoelstra (2007, p.2) concern that a major contributor to email overload is "the lack of training and guidelines for handling email effectively", this research will aim to develop and test a training intervention that will act as a primary intervention technique of stress managements which will utilise behavioural modelling to target the source(s) of email overload directly in order to reduce and eliminate email overload consequences (Cooper & Cartwright, 1997). While there are three levels of interventions, namely, primary, secondary and tertiary, a primary intervention and possibly a secondary intervention may be more useful and practical approaches to deal with email overload. A primary intervention approach because its objective is to target the sources and a secondary because it may provide individuals with strategies to more effectively manage the demand of emails. These two approaches are better suited than

directly treating the implications caused by email overload, to which a tertiary intervention would provide (Cooper & Cartwright, 1997).

A primary intervention approach that targets email overload may be beneficial in addressing the negative outcomes of email overload, because it directly attacks the cause, in this case: 1) volume-related factors; 2) content-related factors; 3) organisational-related factors; and 4) technology-related factors. The development and implementation of a training intervention reflects job resources that assist in the achievement of work-related goals, and the reduction of job demands that elicit stress and overload, as well as encouraging growth and development. A training intervention will provide employees with the necessary knowledge regarding appropriate and efficient email use. This will give employees more time to attend to other work-related activities (i.e. work-related goals), and consequently assist in reducing email overload and stress. Additionally a training intervention will provide the employees with an opportunity for personal growth, as, if the training intervention proves to be successful, employees may have acquired a very practical and helpful skill that could be applied throughout their career. Subsequently, a secondary intervention would coincide with the primary intervention techniques. This is because the training intervention would not only address the source of the stress (the five sources of email overload), but would also create awareness and techniques that individuals can use to modify their exposure to these sources. Thus, in summary, the training may target email overload sources, such as poor etiquette that cause overload, but it also may provide individual's with strategies to alleviate strain such as switching off ones emails after work. Consequently, the combination of both primary and secondary prevention techniques in this training, may assist in combating email overload.

### 2.9. Needs Analysis

As previously discussed there are a number of sources of email overload. These sources may or may not be issues experienced/applicable to a given target population. Therefore, to customise a training intervention that targets the sources of email overload in order to reduce email over load of effects a needs analysis is a fundamental process. A needs analysis is the process of identifying the information requirements of a particular group, in a particular context in order to customise the training and training outcomes to address the need of the group (Dorner, Gorman & Galbert, 2014; Waxin & Bateman, 2009; Banks, Biggs & Dovan, 2014).Applying a needs analysis prior to the development of this training will ensure there is a thorough systematic investigation into the needs of the experimental group. This will allow for

a greater understanding of the phenomenon under investigation (email overload), and thus, it will allow the training to target the most appropriate and experienced sources of email overload, whole avoiding the inclusion of sources that are not relevant.

### 2.10. Behavioural Modelling

In order to ensure the effective development and testing of a training intervention where the foundation was embedded in stress management and that can be successful in eliminating the presence of email overload, the training intervention was formulated in such a way that it will employ behavioural modelling techniques so as to ensure maximised learning transfer. Behavioural modelling is a training technique whereby participants imitate the facilitator's behaviour (De Leon, 1991). This training technique was executed in four phases: modelling; behaviour rehearsal, feedback, and training transfer (De Leon, 1991). Phase one (modelling) is the foundation to this training as it involves the participants in watching and examining how the facilitator behaves, in order to replicate the said behaviour in phase two (behaviour rehearsal) (De Leon, 1991). Feedback, is where the participants are required to demonstrate the learnt behaviour in front of others and the facilitator, so that the participant is able to gain confidence (De Leon, 1991). Finally, the training transfer (phase four), is to ensure that the training techniques facilitate learning transfer and that the behaviour is able to be converted to the workplace. Adopting a behavioural modelling technique to the primary level of stress management, can aid participants as it provides them with those practical skills and knowledge needed to target the sources of email overload.

### 2.11. The Foundation of an Email Overload Training Intervention

The construction of a training programme is a complex process. The development of this training intervention is influenced by five main factors: a needs analysis; stress management techniques; the Job-Demand Resource Model; Soucek and Moser's Training programme, and literature surrounding email overload. The combination of these five factors, was helpful in the development of a training intervention that not only aimed to combat email overload amongst employees, but also allows for the construction of an intervention that is customised for the relevant employees.

It is apparent that emails have the potential to have an effect on employees' wellbeing and their perceived productivity in the workplace. The reasons for these effects are narrowed down to

five factors and these are: volume-related factors; content-related factors; individual-related factors; organisational-related factors; and technology-related factors. By creating links between these five sources, stress management, the job demand resource model, and previous email overload interventions, a framework is created on which to base a training intervention. This will be discussed in more detail on page 28.

# 3. RESEARCH METHODOLOGY

This section of this research report will outline the method which was adopted for the research. This section will cover: the aims of the research; the research questions; the research hypotheses; the research design and method; the unit of analysis and sample used; the data collection; the procedures for data analysis; evaluation and validation criteria; and finally, the ethical issues taken into consideration.

## 3.1. Research Aims

The aim of this research was to determine and examine the effect which a training intervention has on email stress and overload and perceived productivity.

## 3.2 Research Questions

The following research questions were proposed:

- Is email overload reduced as a result of the training intervention?
- Is perceived productivity improved after the implementation of the training intervention?

## 3.3 Research Hypothesis

*Hypothesis 1:* Participants of the experimental group will show a decrease in feelings of email overload after attending the training intervention.

*Hypothesis 2:* Participants who are exposed to the training intervention will show higher perceived levels of productivity after attending the training intervention.

## 3.4 Qualitative Research Questions

- What were the participants' experiences or relationship with emails prior to the training intervention?
- What role did emails play in the participants' personal productivity?
- What was the participants' experience of the training intervention?
- How did the training intervention affect the participants' experience of email overload?

## 3.5 Research Design and Methodology

This research study utilised a mixed method research design. A mixed method approach, according to Creswell (2003, p 18), "is one in which the researcher tends to base knowledge

claims on pragmatic grounds". Mixed method approaches tend to collect data through both qualitative and quantitative lenses, resulting in the data resembling both numeric and text information (Creswell, 2003

For the quantitative part of this study a quasi-experimental design was employed to collect data. A quasi-experimental design was utilised in which participants were measured before and after the introduction of the intervention. This research design was implemented in order to test causal hypotheses, however, unlike a true experimental design, quasi-experimental designs do not assign participants randomly into designated groups (White & Sarbarwel, 2014). A pretest post-test control group design was implemented.

Qualitative research on the other hand often employs interpretative and naturalistic approaches to the phenomena under investigation, with the emphasis being placed on the meaning people attribute to certain phenomena (Denzin & Lincoln, 1994, as cited in Neergaard & Ulhoi, 2007). For the purpose of this study participants participated in a focus group discussion that was conducted after the introduction of the intervention. This provided a clearer understanding of their experience and the usefulness of the intervention.

### 3.6 Unit of Analysis and Sampling

In order to answer the research questions, quasi-experimental data and the personal experiences of the training intervention were collected. A non-random convenience sampling technique was chosen, as it best served the aims of this research project. The process of "sampling is concerned with constructing a sample… which is meaningful" to the researcher's purpose (Manson, 1996, as cited in Silverman, 2013, p. 144). In order to achieve this, sampling requires the completion of two important actions: defining a population from which a group of people will be chosen (and represented); and ensuring that all individuals from that population have a fair chance to be included in the research (Emmel, 2013).

The quantitative sample consisted of 45 participants (23 for the experimental group and 22 for the control group), who were current employees of two small consulting advisory and service-related organisations situated in Johannesburg, Gauteng. Both companies were very similar in nature, and employees had similar job specifications. The organisation from which the experimental group was drawn was a small consulting organisation that predominately deals with recruitment and selection, training and coaching and organisational development for larger scale organisations. The organisation from which the control group was drawn from is

also a small consulting organisation whose core business focus is on psychometric assessments, training and coaching and performance management for other organisations situated in and around South Africa. The job roles of the participants who were involved from both organisations ranged from administration roles, to consultants, out-source consultants, owners (as both companies had more than one owner), and managers. The 23 participants from one organisation were allocated to the experimental group and 22 participants from the other organisation were allocated to the control group. These participants were recruited via personal communication organised with the two owners of the separate organisations. The owner of the organisation from which the experimental group was drawn, received a different information letter (Appendix A) and consent form (Appendix B) than those which were sent to the other owner (Appendices C & D). This is because the information sheet and consent form for the experimental group is far more comprehensive than that of the control group, as more information and permission was required from the experimental group.

*Control group*

The 22 control group participants (originally 25) were required to fill out the demographic questionnaire, *Email Overload Scale* and the *Personal Performance Scale* on two separate occasions. The first occasion had been before the experimental group was exposed to the intervention and then once again after the intervention had been administered. This is because, unlike the experimental group, the control group did not participate in, and were not exposed to, nor were they aware of anything regarding training intervention.

### 3.7 Data Collection

The data collection technique used by this research project incorporated three distinct forms of data collection: a needs analysis; questionnaires; and focus group discussions. The data collected from the needs analysis (conducted prior to the questionnaire and focus groups) assisted the researcher in shaping and designing the training intervention, as it was centred on a set of core questions which helped to identify the needs of the employees in terms of email overload and productivity. The two questionnaires (the *Email Overload Sca*le and the *Personal Performance Scale*) were used as a comparison measure, in determining the effectiveness of the training intervention, as the two questionnaires were both administered one week before the training intervention and two weeks after the training intervention. The last tool for data collection, the two focus group discussion, were conducted two weeks after the training intervention. The focus group discussions were focused around a set of core questions, which

were flexible in nature as this allowed the researcher and the participants to elaborate on aspects that they deemed important.

*Needs Analysis*

A needs analysis was conducted prior to the implementation of this research, in order to identify the needs of employees in terms of a training programme. A needs analysis was conducted for this research project because this is the first stage in the development of a training intervention (Waxin & Bateman, 2009; Banks, Biggs & Dovan, 2014). There are various types of needs analysis; however, the three predominant needs analyses are: organisational analysis; person analysis; and task analysis (Waxin & Bateman, 2009; Banks et al., 2014). For the purposes of this training intervention, a person analysis was conducted. A person analysis aims to "identify which competency area needs to be developed within individual employees" (Banks et al., 2014, p. 332). The person level analysis assisted in determining what skills and competencies the employees needed in order to overcome issues associated with email overload and to improve perceived productivity. As previously mentioned, there are different sources of email overload; therefore, a needs analysis identified which sources were the principal issue in this organisation.

There are numerous ways to conduct a person level analysis, but for this research project the person level analysis was achieved through five brief semi-structured interviews with six employees of the organisation (Appendix E). The semi-structured interviews provided the researcher with the necessary information that helped in the structuring and designing of the training invention.

*Data collection instruments*

*Quantitative Data*

The quantitative data consisted of the following three questionnaires:

a) Demographic questionnaire;
b) Email Overload Scale (Dependent variable); and
c) Personal Performance Scale (Dependent variable).

The questionnaire consisted of open and closed-ended questions. The demographic questionnaire was only administered once, while the *Email Overload Scale* and the *Personal*

*Performance Scale* were administered on two separate occasions, to both the experimental group and the control group.

*Demographic variables*

The demographic questionnaire (Appendix F) included variables such as gender, occupation/role in the organisation, and relationship status as well as dependents. These variables were included because, according to Barely et al., (2011) variables such as these have been known to influence factors such as stress and the ability to cope with stress. Two additional variables i.e. age and how many emails received on one day were also included.

*Dependent variables*

*Email overload*

Email overload was measured using an *Email Overload Scale*, developed by Sumecki, Chipulu and Ojiako (2011). This scale has three items relating to each individual's personal experience and feeling regarding the construct of email overload (Appendix G). These items are: "I believe there is a problem with 'email overload' at work (which measures the existence of email overload in the organisation); "Emails have a negative impact on my ability to get the job done" (this measures the impact of email overload on productivity); and "Emails are a cause of personal stress" (this determines whether emails are a contributor to stress) (Sumecki et al., 2011). Items are rated on a seven-point Likert scale, which ranges from very strongly disagree to very strongly agree. Sumecki et al., (2011) utilised the *Email Overload Scale* in order to examine the how email perception has a moderating role on the experience of email overload among 1100 participants from a multinational technology firm. After conducting the analysis, the Cronbach coefficient alpha for the three items was 0.74, suggesting that each item does measure the same construct of email overload (Sumecki et al., 2011). Subsequently, when an item is removed, the Cronbach decreases (Sumecki et al., 2011).This suggests that all the variables measure the same construct (Sumecki et al., 2011). Each participant from both the groups rated this scale on two separate occasions; before the intervention (pretest) and after the intervention (post-test).

*Productivity*

This study measured subjective productivity and productivity enhanced by technology by using the *Personal Performance Scale* of Karr-Wisniewsk and Lu (2010). The two scales were

combined to produce four items measuring productivity and productivity assessed by technology (Appendix H). The utilisation of these two scales were for two reasons: 1) to increase the number of items measuring productivity, to subsequently increase reliability and; 2) to determine whether participants believed that technology and emails directly impacted their perception of their productivity. For example, an item on the *Personal Performance Scale* is "Overall, I feel that information systems technology has efficiently enhanced my job productivity". Items are rated on a nine point Likert scale, which ranges from Strongly Disagree to Strongly Agree. The study of Karr-Wisniewsk and Lu (2010) aimed to observe the role of technology overload in reducing employee productivity as opposed to enhancing it. The *Personal Performance Scale* (as well as additional items) of Karr-Wisniewsk and Lu was administered to 111 knowledge workers for validation purposes. The *Personal Performance Scale* revealed that the Cronbach coefficient alphas for these two scales were 0.75 and 0.93. Participants from both the control and experimental group answered these questions both before the intervention and after the intervention.

*Intervention*

*Training*

The intervention that was introduced to the participants was a training intervention, which was based on the training intervention of Soucek and Moser (2010), the primary prevention tactics of stress management, and the needs analysis results (Cooper & Cartwright, 1997). The integration of these three techniques aimed to target the four (out of five) sources of email overload as previously discussed, through an intervention that emulates behavioural modelling as well as the primary stress management technique that aims to modify sources of stress. The results of the needs analysis assisted in shaping the training intervention as it addressed the needs of the employees in the organisation. It became apparent after conducting the needs analysis that three out of the four factors (excluding individual-related factors) were common issues experienced by the employees regarding their emails and these were:

- colleagues' expectations (Organisational-related factors);
- the client's expectations (Organisational-related factors);
- the number of emails received on a daily basis (Volume-related factors);
- sifting through unnecessary emails (Volume-related factors); and
- wasting time with unclear emails or unnecessary emails (Content-related factors & Volume-related factors).

The needs analysis allowed for the training intervention to be customised to the employee's needs, rather than a broad overview of ways to combat email overload. Therefore, the training intervention was focused on the three predominant issues: volume-related factors; content-related factors and organisational-related factors. The three main objectives of the training intervention were to: 1) create awareness about the email practices that cause email overload; 2) create awareness about the impact email practices have on productivity and; 3) suggest alternative ways to deal with certain practices so that employees can apply them to their everyday lives. These objectives were achieved through focusing on the aspects discussed below.

1. Volume-related factors

The training intervention focused on two main sources (based on the literature) that cause an influx of emails in an individual's inboxes: reply to all function and the 'CC-syndrome' (Span, 2007; Agema, 2015). Firstly, the researcher started the training by discussing the various unnecessary implications, of 'replying to all', the causes themselves and other colleagues and clients.

These issues included:

- The unnecessary influx of useless emails which causes anxiety and loss of control;
- the unnecessary scanning of useless emails, which wastes their own time and other people's time; and
- unnecessary interruptions and distractions.

Secondly, the researcher presented the participants with two examples of emails that were addressed to a variety of different people who were 'CC'ed' in the email, refer to Appendix I. A discussion was encouraged amongst the participants, in deciding whom to include in the reply to the email and who should not be included. Once the discussion was complete, the researcher presented the participants with practices to use when deciding to reply to specific people and when to use the reply to all function. For example, participants were encouraged to respond only to emails that they were willing to get a response from and also were persuaded to use other forms of communication such as phone calls or face-to-face communication when possible. These methods were both recommended to reduce the volume of emails and the distraction that emails cause, when the email has no significance to a person.

The ‘CC-syndrome’ was addressed by again, highlighting the impact ‘CC-ing’ people has on feelings of email overload (Span, 2007; Agema, 2015). Furthermore, participants were reminded of necessary etiquette when using the CC-function, as well as rules they could apply when attempting to cc people in an email, for example, never cc more than four people in an email(refer to Appendix I). Creating awareness about the do’s and don’ts of ‘CCing’, assists the participants in reducing the amount of emails they receive back and this has the potential to reduce feelings of overload.

2. Content-related factors

The needs analysis highlighted the fact that content-related factors also represented issues for the participants, even though these were not as predominant as organisational and volume-related factors. Nonetheless, two contributors to content-related email overload (unnecessary formalities and poorly chosen subject titles) were focused on in the training intervention. Focusing on unnecessary formalities emphasised to the participants how much time and effort was being wasted when including formalities into every single email that we send on a daily basis. Unnecessary formalities such as “hope this email finds you well’ or “I hope you have a lovely weekend”, become a perceived waste of time, particularly when an individual receives more than 30 emails a day. Therefore, participants were encouraged to avoid unnecessary formalities, in order to reduce the amount of time the participants spend on their emails, with the hopes of increasing productivity and decrease email overload.

Next, participants were confronted with the impact that poorly constructed subject titles have on email overload and productivity. Participants were shown various subject title techniques such as label repeating or the use of capital letters and how these factors can cause email overload (refer to Appendix I). Participants were then presented with simple and effective steps in constructing clear and descriptive subject titles.

3. Organisational-related factors

Participants were yet again reminded about how the expectations of clients and colleagues may be causing them feelings of email overload. Therefore, in order to combat this, participants were provided with three steps to assist them in reducing email overload by re-shaping the expectations of their clients and colleagues in dealing with and composing emails and these are presented below.

1) Explain to close colleagues that you have a new way of conducting your email and this means:

    - Calling and organising face-to-face interactions;
    - only three or four email sessions a day (phone calls if a matter is urgent); and
    - no access to emails after working hours.

2) Send a short message explaining your new email conduct:

    - Advise clients and colleagues that you only check your email three or four times a day.
    - Inform them that you do not access your email after working hours.
    - Inform them of other was of getting hold of you

3) Add a PS to your signature block to reinforce your new email conduct.

    - An example is : "*P.S. I am not always at my desk but I do check my emails three to four times per day. If your matter is urgent, Please contact me directly on my mobile."*

Encouraging participants to manage other people's expectations about their email conduct, allows them to be more productive, without leaving others stranded, and this means individuals feel more in control.

4. Activity booklet

Once the participants had absorbed the new information, they were provided with one activity booklet. The activity booklet contained a vast number of different types of emails, and the participants were required to use the new suggested practices in dealing with the emails. The participants were given 15 minutes to complete the activity booklet. Once the 15 minutes had passed, the participants and the researcher discussed the activity and the various ways in which the individuals dealt with the emails. The aim here was to provide participants with the necessary skills to counter email overload and avoid email stress and improve productivity, as the scenario could be transferred to their everyday working and personal lives.

The training intervention was conducted on the organisation's premises in one of the various conference rooms. The researcher of this research project facilitated the training intervention

as well as the activity, by providing participants with instructions regarding effective and appropriate email functions as well as suitable ways of email communication.

*Qualitative Data*

To gain a clearer understanding of the participants' experience of the training intervention, a focus group discussion was conducted in order to reveal the employees' perceptions of the training intervention. A focus group is essentially a group semi-structured interview, in which the discussion of the training intervention will be guided by the researcher or the leader of the discussion (Morgan, 1998). Participants of the experimental group were divided into two groups of ten and six. In these small groups the participants discussed their personal experiences of emails, email stress, email overload, the role of email in affecting their productivity, and more specifically, their experience of the interventions aimed to reduce stress and enhance productivity. The researcher was present during both focus group discussions and assisted in guiding the discussions as well as using a number of prompting questions to further encourage participants to elaborate on their experiences. The unstructured nature of the questions and prompt questions allowed the participants to control the direction of the discussion; which enabled the participants to feel comfortable about expressing what they deemed to be fit, and therefore, forming rapport. A tape recorder was utilised during the focus group discussions that recorded the conversations between the researcher and the participants as well as between the participants themselves. These were then later transcribed for data collection purposes. All participants signed a tape recorder permission slip, confirming their agreement to be tape recorded.

### 3.8 . Procedure for Data Analysis

*Demographic Data*

The demographic information collected from the questionnaires was analysed and reported in terms of mean difference scores for the outcome variables in the research study.

*Quantitative Data*

A mixed model analysis of variance (ANOVA) repeated measures was employed to analyse whether the training intervention was successful in reducing email overload among participants as well as whether it increases participants' subjective experience of their productivity. The mixed model ANOVA repeated measures enabled the researcher to examine the differences between two independent groups, who were all exposed to repeated measures. This is because

a mixed model ANOVA has a repeated measures factor and a between subjects factor. The *Email Overload Scale* and the *Personal Performance Scale* were measured at two time points. Therefore, there was a control group (participants not exposed to the intervention) and an experimental group (participants exposed to the intervention). Each group was measured twice (pretest and post-test), as this research project is aimed at determining whether the intervention had a significant difference in the effect on an individuals' email overload and productivity. A comparison between the results of the control group and those of the experimental group was conducted to determine the effect of the intervention compared to no intervention. All quantitative data was analysed using SPSS version 23.

*Qualitative Data*

The data collected from the focus groups was analysed by means of thematic analysis. Thematic analysis focuses on "identifying, analysing and reporting patterns (themes) within data" (Braun & Clarke, 2006, p. 6). An inductive approach to thematic analysis was employed for this research project. An inductive approach enabled the researcher to identify themes after coding the raw data itself, as opposed to fitting the data to a framework or pre-existing knowledge around email overload (Braun & Clarke, 2006). This approach allowed for common themes across the participants' experiences to be identified in order to gain insight into the effectiveness of the training intervention. In this research, the employees conceptualised their experience of the training intervention in relation to on their own personal issues associated with emails and email overload, as well as how they believed that the training intervention had improved their productivity at work.

According to Howitt and Cramer (2011), there are two distinct approaches to analysing data thematically: a basic approach and a sophisticated approach. The basic approach to analysis employs three separate phases when analysing transcripts; however, in practice these phases become less distinct in their application (Howitt & Cramer, 2011). The sophisticated approach breaks up into six steps as opposed to three. This ultimately enhances the likelihood of a higher standard of analysis (Howitt & Cramer, 2011). Higher standards of analysis are achieved as the instructions are more systematic and detail-orientated (Howitt & Cramer, 2011). Therefore, a sophisticated approach to thematic analysis was employed for this research project, in order to ensure that a higher level of analysis would be achieved. The following steps outlined by Howitt and Cramer (2011, p. 335) were applied by the researcher in the analysis of the transcripts generated from the focus group discussions.

1. Familiarisation with the data: In this stage the researcher became actively involved with the data, which initially began during the interviewing of participants. This involvement was further explored through the transcription of the data, during which state the researcher began to identify common patterns.

2. Conducting the initial coding phase: This step involved the generating of themes, whereby the researcher coded the data based on inherently interesting or important factors.

3. Generating themes based on the initial coding phase: The codes that were drawn on by the research were then grouped together in order to generate themes.

4. Reviewing the generated themes: In this step the researcher reviewed all the provisional themes, in order to refine them. The reviewing of themes was completed to ensure that the themes were coherent with the original data.

5. Defining and labelling of themes: The themes that had previously been established were than labelled and defined by the researcher. Therefore, the researcher ensured that the labels that were attached to themes were clear and unambiguous.

6. Reporting the write-up: This step involved the write-up of the analysis as well as the reflection of the researcher's involvement. This provided the final analysis of the research project and all the factors that were involved.

### 3.9. Evaluations/Validation Criteria

*Qualitative Data*

In terms of this research project, and particularly the qualitative component, an essential criterion to achieve is trustworthiness. Credibility, transferability, dependability and conformability need to be attained in order to convince readers of the importance of the findings of the research (Guba & Lincoln, 1982). A collaborative relationship between the researcher and the participants allowed for the achievement of credibility, in that the participants' opinions were accounted for during the thematic analysis process (Guba & Lincoln, 1982). This meaning that, after the needs analysis as well as the thematic analysis of the focus groups, participants were approached with the various themes. The participants were given the opportunity to agree

or disagree with any of the themes that the researcher had deduced. The supervisor of this research project examined all processes and products from beginning to end to ensure that dependability would be achieved (Guba & Lincoln, 1982). Conformability was accounted for through the use of a journal that documented all relevant changes made to the research itself (Guba & Lincoln, 1982). Therefore, the above steps illustrate that the four essential components of trustworthiness of this research project, were met and upheld.

### 3.10. Ethical Considerations

Participation in this study was completely voluntary and any participant had the right to withdraw from the study at any point in time. It is important to note that the quantitative data collected throughout this project remained completely confidential and anonymous, to avoid any potential harm that might have arisen from disclosing certain information. Subsequently, anonymity cannot be achieved through the use of interviews as a form of data collection; however anonymity was maintained when the data was being transcribed, analysed and reported. The requirements for anonymity was met in terms of the quantitative data collection. Reported. The requirements for anonymity was met in terms of the quantitative data collection. However, in order to ensure the participants scores could be matched and further compared from time one to two, participants were requested to create pseudonym for themselves (to ensure confidentiality). Participants were requested to write. Please note that the pseudonym were different from the pseudonyms used in the focus groups, in order to ensure confidentially. Their chosen pseudonym at the top of each scale they filled in, this occurred for both times. Furthermore, each participant was provided with a consent form (Appendix J) to sign and an information sheet (Appendix K) that clearly stated the purposes of the research project as well as their rights concerning participation in the study. Furthermore, the employees received an information sheet that provided them with necessary information about their involvement (Appendix K) and each participant was also given a form to sign regarding the agreement to be voice recorded (Appendix M). For publication purposes, the data generated during this project will be retained for a period of time. However, all record sheets will be locked away in order to rating participants' confidentiality and privacy.

There are almost no potential threats that may result from participating in this research project. However, the owners of the consultancy companies concerned were presented with a consent form (Appendix B & D), which confirmed the anonymity and confidentiality of all participants

involved. Furthermore, participants and owners will receive the results of the research, if requested.

# 4. QUANTITATIVE RESULTS

This chapter presents the results found for this research project. As previously mentioned, participants from both the experimental group and then the control group were contacted and recruited through personal communication with the owners of the organisations. The sample obtained for this research report was 50 in total (25 members of the experimental group and 25 members of the control group). However, due to certain assumptions of the statistical model, the sample was reduced to 45 participants (22 participants in the control group and 23 in the experimental group). The statistical analysis presented below was conducted on this sample.

**Independent Variables (IV):**

- The IV is type of group, which has two levels: the experimental group and the control group

**Dependent Variables (DV):**

- The first DV is the experience of email overload
- The second DV is perceived productivity

**Analysis Performed:**

A two-way mixed model ANOVA with repeated measures on the experience of email overload among participant's and the participant's perceived productivity.

**Assumptions of Mixed Model ANOVA repeated measures**

The mixed model ANOVA repeated measures has six important assumptions that needed to be met in order to ensure that the data that was collected during this research report was analysed using the most appropriate statistical measure. However, the first three assumptions could not be explored on SPSS Statistics. Nonetheless, the first assumption is that the dependent variables (Email Overload and Perceived Productivity) are interval/ratio variables, and this assumption was met. The second assumption is that the independent variable (otherwise known as the within-subjects factor) has a minimum of two related groups. This was achieved as both groups were measured on two occasions. Participants in the control group and the experimental group were present in both their respective measures and conditions. Finally, the third assumption, was that the Between Subjects factors must consist of at least two categorical groups, and this

was met. Four of the assumptions were explored using SPSS Statistics, to ensure that the mixed model ANOVA repeated measures results were valid.

After exploring the assumption that there should be no significant outliers in both the Within-Subjects factor and Between-Subjects factors, it became apparent that three data points did not follow the common pattern. Participants 20, 43 and 46 had data that was significantly different to that of the rest of the participants. Participants 20 and 46 scored significantly lower on the email overload pretest score, both totalling a score of 7, while participant 43 scored a significantly low 16 for the pretest productivity scale. These results had the potential to distort the final results. In order to rectify this, the researcher removed the outliers form the dataset, resulting in the control group consisting of 24 participants and the experimental group consisting of 23 participants.

The table below presents two tests of normality: the Kologorov-Smirnov Test and the Shapiro-Wilk Test. This sample consisted of fewer than 50 participants (after removing extreme outliers), and so the most appropriate test to examine the normality of this data was The Shapiro-Wilk Test. The table below demonstrates that in both control group and experimental groups, the dependent variables measures of Pretest Email Overload, Pretest Productivity, Post-test Email Overload and Post-test Productivity were normally distributed. (Significance values of all four dependent measures of The Shapiro-Wilk Test are greater than 0.05).

Table 2: The assumptions table

| | Type group | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|---|
| | | Statistic | df | Sig. | Statistic | df. | Sig. |
| Pretest Total | 1 | .159 | 22 | .155 | .937 | 22 | .170 |
| Email Overload | 2 | .170 | 23 | .084 | .911 | 23 | .044 |
| Pretest Total | 1 | .161 | 22 | .145 | .960 | 22 | .497 |
| Productivity | 2 | .138 | 23 | .200* | .937 | 23 | .156 |
| Post-test Total | 1 | .194 | 22 | .030 | .907 | 22 | .042 |
| Email Overload | 2 | .212 | 23 | .009 | .927 | 23 | .095 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Post-test Total | 1 | .167 | 22 | .111 | .943 | 22 | .228 |
| Productivity | 2 | .179 | 23 | .054 | .920 | 23 | .067 |

*. This is a lower bound of the true significance.

The final assumption of mixed method ANOVA repeated measures is that of sphericity. This is a particularly important assumption, specifically when working with repeated measures, as it is concerned with ensuring that the variances of differences between all the related groups are equal. The table below demonstrates Mauchly's Test of Sphericity. In order for the assumption of sphericity to be met, the significance value needs to be greater than 0.05. However, it is clear that from the table below that there is no significance value for Mauchly's Test of Sphericity. The reason for this is that there are only two measures (Email Overload scale and Perceived Productivity scale), each measurement only consists of two levels. Therefore, no values are given because each measurement needs more than two levels, and there are only two levels used for this research. Thus, in order to determine that the variance is equal, outliers will be used.

Table 3: Mauchly's Test of Sphericity

| Within-Subjects Effect | Mauchly's W | Approx. Chi-Square | Df | Sig. | Epsilon[b] | | |
|---|---|---|---|---|---|---|---|
| | | | | | Greenhouse-Geisser | Huynh-Feldt | Lower-bound |
| pre_post_Email overload | 1.000 | .000 | 0 | . | 1.000 | 1.000 | 1.000 |
| pre_post_Productivity | 1.000 | .000 | 0 | . | 1.000 | 1.000 | 1.000 |
| pre_post_Email overload * pre_post_Productivity | 1.000 | .000 | 0 | . | 1.000 | 1.000 | 1.000 |

Table 1: Means and Standard Deviations

| | Type of Group | Mean | Std. Deviation | Number of participants |
|---|---|---|---|---|
| **Email Overload Pretest** | Experimental Group | 13.87 | 2.007 | 23 |
| | Control Group | 14.41 | 1.709 | 22 |
| **Email Overload Post-test** | Experimental Group | 10.61 | 2.330 | 23 |
| | Control Group | 14.59 | 2.016 | 22 |
| **Perceived Productivity Pretest** | Experimental Group | 29.00 | 4.523 | 23 |
| | Control Group | 30.00 | 3.690 | 22 |
| **Perceived Productivity Post-test** | Experimental Group | 27.09 | 4.274 | 23 |
| | Control Group | 29.82 | 3.887 | 22 |

The above table displays the means of the email overload experienced by employees firstly, prior to the training intervention, and secondly after the training intervention. Employees in the control group (*M*= 14.41; *SE*= 1.709) experienced a slightly higher level of email overload than those of the experimental group (*M*= 13.87; *SE*= 2.007), prior to the introduction of the training intervention. Similarly, the above table demonstrates that the control group (*M*= 30.00; *SE*= 3.690) perceived their productivity as being slightly higher than that of the experimental group (*M*= 29.00; *SE*= 4.523), before the introduction of the training intervention. However, the table reveals that after the training intervention, the control group (*M*= 14.59; *SE*= 2.016), experienced a significantly higher level of email overload than that experienced by the experimental group (*M*=10.61; *SE*= 2.330). Interestingly, it is apparent from the table that the perceived productivity of the experimental group (*M*= 27.09; *SE*= 4.274) appears to be lower than that of the control group (*M*= 29.82; *SE*= 3.887).

**Email Overload**

Table 4: Pretest post-test control group design

| | Time One | Time Two |
|---|---|---|
| **X** | 13.71 | 10.79 |
| **O** | 14.409 | 14.49 |

The table above illustrates the differences between the scores of the experimental group (X) and the control group (O) at time one and time two. The Email Overload scale was administered two weeks before the introduction of the training intervention (time one) and then again two weeks after the training intervention had been administered (time two). The table shows that the experimental group (M= 13.71) and the control group (M= 14.409) were slightly different prior to the introduction of the training intervention. Therefore, we can deduce that the two groups were not equal from the beginning, regarding their experience and feeling of email overload. However, despite this, it is evident that, during time two, the experimental group experienced a significantly lower feeling of email overload (M= 10.79) than during time one (M=13.71). This suggest that the introduction of the training intervention assisted in reducing email overload amongst the experimental group participants. This is further supported by the fact that the control group feeling of email overload at time two (M= 14.49), among the control group was both higher than their score at time one and higher than the experimental groups score at time two. However, it is important to emphasise that whilst the means possibly indicate the differences across the groups, more is required to determine whether or not these difference are statistically meaningful.

Table 5: Tests of Within-Subjects Contrasts

| Source | Email Overload | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Email Overload | Linear | 42.925 | 1 | 42.925 | 13.731 | .001 |
| Email Overload * type of group | Linear | 55.099 | 1 | 55.099 | 17.625 | .000 |
| Error (Email Overload) | Linear | 137.553 | 44 | 3.126 | | |

In order to examine whether there was statistically significant interaction between email overload and the type of group, the Tests of Within-Subjects Effects was examined. The test of the Within-Subjects contrasts table demonstrates the interaction between the independent variable (type of group) and the dependent variable (email overload). It is evident in the above table that the email overload variable is significant $F$ (1, 44) = 13.731 $p < 0.05$). This effect suggest that even the interaction between email overload and the type of group is ignored, the email overload experienced by the participants were significantly different to one another. However, more importantly, the Tests of Within-Subjects Effects table indicates that there was a significant main effect between email overload and type of group, $F$ (1, 44) = 17.625 $p < 0.05$). This effect suggests that the training intervention did significantly affect the participants' levels of email overload, as the experimental group (labelled as X) significantly reduced their feelings of email overload from time one (13.71), to time two (10.79), whereas, the control group (labelled as O), increased slightly from time one (14.409) to time two (14.49). This shows that the degree of the main effect is dependent on another variable. In this case that variable is the type of group (whether having been exposed to the training or not)

Table 6: Tests of Between-Subjects Effects

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Intercept | 16426.826 | 1 | 16426.826 | 2891.121 | .000 |
| Type of group | 116.217 | 1 | 116.217 | 20.454 | .000 |
| Error | 250.000 | 44 | 5.682 | | |

The tests of the Between-Subjects effects table highlights that the independent variable (the type of group - experimental group and control group) and its interaction have a statistically significant effect on the dependent variable, 'email overload' ($F$= 20.454, $p < 0.05$). This emphasises that the type of group the participant were, had an impact on their feelings of email overload. One can thus deduce that the training intervention did have a significant impact on the participants' experience of email overload.

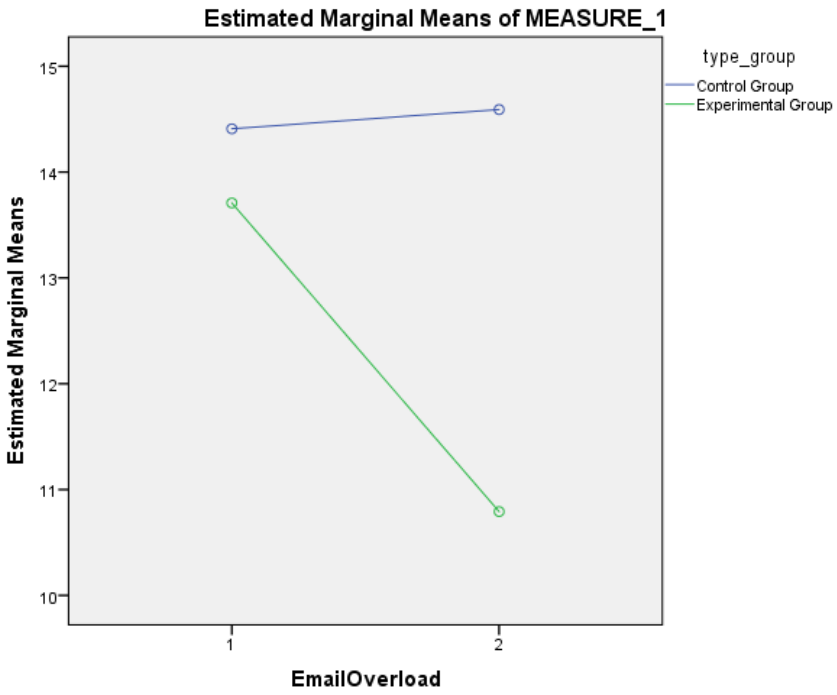



*Figure 4:* A graph comparing the levels of email overload across the experimental group and the control group

The above graph further illustrates what has been discussed previously in this chapter. The graph clearly reveals that there is a significant difference between the scores of the control group and those of the experimental group. One can see that the experimental group experienced significantly less feelings of email overload after the training intervention, whereas the control group experienced slightly higher feelings of email overload prior to the training intervention. Consequently, the graph shows that after the intervention, the experimental group's email overload drops from time one to time two, whereas, the control group's feeling of email overload increases slightly from time one to time two. This reinforces the finding and discussions above.

**Perceived Productivity**

Table 7: Pretest post-test control group design

| | **Time 1** | **Time 2** |
|---|---|---|
| **X** | 28.96 | 27.13 |

| | | |
|---|---|---|
| **O** | 29.92 | 29.92 |

This table illustrates the differences between the experimental group (X) and the control group (O) at time one (before the intervention) and time two (after the intervention). The table indicates that yet again, the perceived productivity of the experimental group (M= 28.96) was slightly less than that of the control group (M=29.92), suggesting that the two groups were not equivalent from the beginning of the research. The table does emphasise the fact that that the control group did not change from time one (M= 29.92) to time two (M= 29.92). Furthermore, the perceived productivity of the experimental group drops from time one (M= 28.96) to time two (M=27.13). However, this could be attributed to a number of reasons, which will be further discussed later on in this chapter.

Table 8: Tests of Within-Subjects Contrasts

| Source | Productivity | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Productivity | Linear | 20.578 | 1 | 20.578 | 2.521 | .119 |
| Productivity * type of group | Linear | 20.578 | 1 | 20.578 | 2.521 | .119 |
| Error (Productivity) | Linear | 383.667 | 47 | 8.163 | | |

The test of the Within-Subjects contrasts test demonstrates the interaction between the independent variable (type of group) and the dependent variable (perceived productivity). It is evident in the above table that the perceived productivity variable is no significant ($F$= 13.731, $p< 0.05$). The researcher fails to reject the null hypothesis and cannot accept the alternative hypothesis. The training intervention did not improve the participants' perceived productivity, as the experimental group's perceived productivity did not increase or improve.

Table 9: Tests of Between-Subjects Effects

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Intercept | 82274.811 | 1 | 82274.811 | 3472.457 | .000 |
| Type of group | 86.403 | 1 | 86.403 | 3.647 | .062 |
| Error | 1113.597 | 47 | 23.694 | | |

The Between-Subjects effects test reveals that the independent variable (the type of group i.e. experimental group and control group) and its interaction has no significantly effect on the dependent variable, 'perceived productivity' ($F$= 3.647, p= 0.062). This highlights that the type of group or training intervention did not have an impact on the participants' perceived productivity.

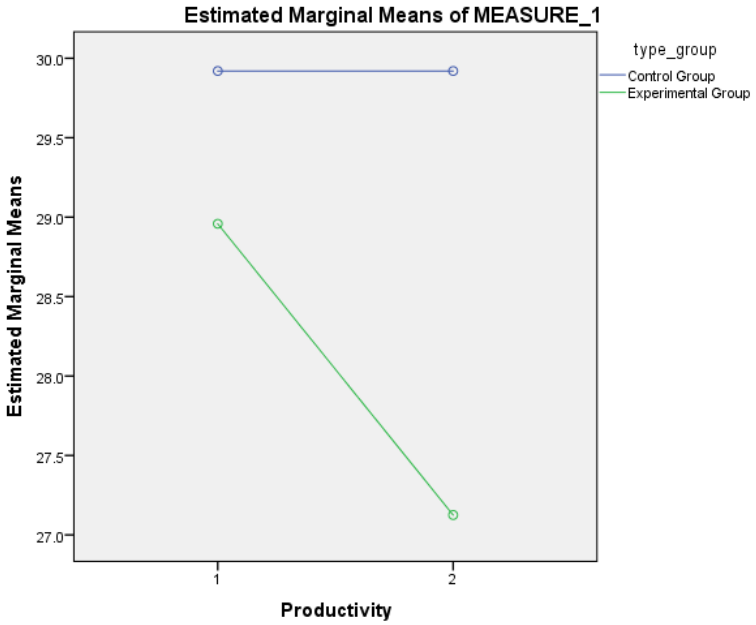



*Figure 5:* A graph comparing the perceived productivity of participants in the experimental group and the control group

The above graph simply reiterates what has previously been discussed. The experimental group's perceived productivity decreased from time one to time two, whereas, the control group's perceived productivity remained constant from time one to time two.

# 5. QUALITATIVE FINDINGS

This chapter consist of the qualitative data that was captured and analysed as well as the interpretation of the data, in order to expand on the quantitative data in greater depth. The qualitative data was captured during two separate focus group discussions, in order to gain a clear understanding of the participants' relationship with emails before and after the training intervention, as well as the their experience of the training itself. This data was produced by asking specific questions such as:

- What was your experience of, or relationship with emails prior to the training intervention?
- What role did emails play in your personal productivity?
- What was your experience of the training intervention?
- What was the most useful aspect that you learnt?

A thematic analytic process was applied to the two focus group discussions in order to elicit key relationships and experiences that were evident amongst majority of the participants involved. Although the number of participants involved in the qualitative phase was less (n=16) than the number of participants who participated in the quantitative phase, this is not unusual for qualitative data. The participants who participated in the focus group discussion are all employees of a small consulting company in Johannesburg, Gauteng. Due to the nature of the participants' job requirements, they often interact with various different clients from small to large corporations as well with as their own colleagues in their team. To ensure that confidentiality and anonymity were maintained throughout the data collection process, pseudonyms were allocated to each participant who was involved in the focus group discussion.

The themes mentioned below encouraged a clearer understanding of the participants' experience and relationships not only with emails, but also with the training. Furthermore, the themes mentioned below were structured into themes and sub-themes in order to provide an in-depth understanding of the experiences of the participants. Sub-themes were created and expanded on in order to build on and elaborate on the core and peripheral elements of the main theme. During the two focus group discussions, participants described their own subjective experience of emails before and after the training, and also the training intervention as well as the most effective and useful tool that they took away from the training intervention. Themes and subthemes were generated through identifying repetition, similarities and differences, as

well as cutting and sorting important information. Due to the fact that this research report also employed a qualitative discipline, the above processes assisted in only producing three distinct themes: *Anxiety; Waste of time; and De-clutter my inbox,* some of which consisted of sub-themes. The above themes were further supported by the other literature and empirical evidence that were employed to support the research questions as well as the development of the training intervention. Therefore, the generated themes provided an accurate interpretation of the participant's experiences with emails prior to the training intervention as well as their experience of the training intervention itself.

*Table 1*: Themes and sub-themes.

| **Themes** | **Sub-themes** |
|---|---|
| 1. Anxiety | • Volume of emails received on a daily basis<br>• *Other people's email expectations and conduct* |
| 2. Waste of time | |
| 3. De-cluttering my inbox | • Creating email expectations<br>• Combating cc-syndrome<br>• Not replying to all<br>• Removing formalities |

### 5.1. Theme One*: Anxiety*

A particularly evident issue that arose during both focus group discussions was the extent to which emails caused participants anxiety. Seven out of the sixteen participants reported feelings of apprehension as a result of their emails prior to the training intervention, and expressed the opinion that this was an issue that they were faced with on a daily basis, as they had to interact with their emails every day for work purposes. Participant Great Gatsby emphasised that he *"was always anxious to turn on [his] computer*". This coincided with participant Jenner who stressed how she would "*get quite anxious with emails"*. This issue with anxiety was then repeated by Racket who reported that her emails were "*sometimes very overwhelming and caused me unnecessary anxiety*", to which participants Finch, DeeDee and

Boz, further agreed with Rackets confirming this by muttering "*yes, yeah*" and nodding. This issue of anxiety that was associated with emails was extremely relevant and problematic to participants and became an issue that they could not avoid, because emails were and are fundamental in performing their jobs. Therefore, this anxiety experienced by the participants was quite clearly a result of emails becoming imbedded in the participants' working lives. It became apparent that this experience of anxiety was often caused by two separate entities in the participants' working lives; anxiety was either experienced as a result of the *volume of emails received on a daily basis* or was caused by *Other people's email expectations and conduct.*

### 5.1.1. *Volume of emails received on a daily basis*

Anxiety caused by the *volume of emails received on a daily basis* became a recurring theme across four of the participants in the two separate focus groups. This is supported by the findings of Jerejian, Reidt and Reese (2013), which revealed that email volume is a significant predictor of email stress and anxiety. Consequently, the volume of emails received by the participants every day is a dominant contributor to their feeling of anxiety. Participant Great Gatsby reflected on this by stating, "*I would feel overwhelmed when I would get 30 or 40 emails, so it was almost a fear to turn on my computer*". He emphasised this by adding that he would feel so relieved, if he opened his email inbox and there were only five or six emails. This accentuates and supports other research concerning email overload, as one definition of email overload includes the number of emails received by an individual on a day to day basis (Agema, 2015).

Participant Racket further expanded on this issues by recalling an instance when she would leave her desk for ten minutes and would "*come back and I have like 50 emails*". She emphasised the feeling of anxiety and panic that she would endure during events such as these, by rephrasing what she would say when this would occur: "*How am I going to deal with this? What am I actually going to do?"*. Participant Boz further elaborated on the issue of email volume by stating that *"they send a lot of emails".* The experience of anxiety of Great Gatsby, Boz and Racket due to the volume of emails the received, is not a unique experience alone and supports the research of Span (2007), Neustaedter et al., (2005), Agema (2015) and Jerejian et al., (2013). Thus, one can see how the subjective experience of emails and email volume (a cause of email overload) by the participants before the training is very important to understand.

**5.1.2.** *Other people's email expectations and conduct*

The focus group findings revealed that participants often experienced anxiety cause by other colleagues and clients. This resonates with a study conducted by Barley et al., (2011) who aimed to examine the relationship between stress and the use of communication technologies. Their one conclusion revealed that participants would experience anxiety as often they felt obligated to meet the reply expectations of colleague and clients. This suggests the sub-theme of anxiety caused by *others* and is further confirmed by participants:

> *I get quite anxious with emails to respond to them. Um, I feel as if I don't respond to an email within a reasonable timeframe then I am not delivering an adequate or good enough service. Um, it feels like I have ignored somebody's phone calls, you know, that kind of thing.* (Participant Jenner)

It became evident from the above description that the expectations of others had a huge impact on participants' wellbeing, as such expectations resulted in feeling of anxiety, and these feelings are associated with emails. One can see how this issue evidently has had an impact on the above participants' perception of themselves, their work and their work ethic. This coincides with the study of Merten and Gloors (2010), which revealed that there is a negative correlation with emails received and sent and the employees' job satisfaction. However a slightly different stance is that others also cause anxiety because of the lack of information they provide the participant with and their email etiquette.

> *They are extremely lazy, and they the ones that cause a lot of our stress, not only on an email basis but even on a person to person chat or whatever the case is… It's often also the lack of information that comes on the email, they send you saying can you please check this client out for me, but they give you no other information.* (Participant DeeDee)

> *So there is nothing worse than someone asking you whether you have received their email, especially after they have just sent it, because you haven't even had a chance to look through it.* (Participant Great Gatsby)

The above comments illustrate how anxiety, stress and email overload are not only caused by the number of emails that one receives, but by *others*. The sub-theme of *others* that causes anxiety and stress is a direct reflection of people's email expectations both during working hours and after working hours. This is supported by a study conducted by Belkin (2016) that

examined the relationship between email expectations and emotional exhaustion, which revealed that email expectations negatively effects employees' emotional state and health and wellbeing.

### 5.2. Theme Two: *Waste of Time*

This theme is concerned with the time consuming nature of the participants' email practices and their relationship with their emails. Within this theme, participants Rachet, Boz, Finch, Mandoza, M.J, Great Gatsby and DeeDee all related to the issue of certain email practices being a waste of time in some way or another:

> *Yes, because your emails can take up two hours of your time… so I have to read their emails 10 times to understand or ask somebody… wasting her time and my time.* (Participant Boz)

> *Sometimes there is stuff there that shouldn't be in junk, and I read through my junk inbox even if there isn't anything, just in case I miss something else… so it takes time.* (Participant Great Gatsby)

> *With that person, Yes! I do that when I write to the chairperson or the CEO, but I have had to then think about it and if I have said it once today, I don't say it again. It's a waste of time* (Participant Mandoza)

Participants Boz, Great Gatsby and Mandoza all complained about emails wasting their time. Participant Great Gatsby emphasised how reading through junk and spam mail is a waste of his time, but he was too worried that something might slipped through the cracks and gone there, whereas, participant Boz highlighted how emails in general waste one's precious work time, particularly in the attempt to try to understand the content of an email. This correlates with finding by Burgess et al., (2004) who found that the language of an email can create feelings of loss of control, particularly when an individual has to spend more time cognitively processing an email because of misunderstandings and miscommunication. Participant Narnia further confirms this point by stating:

> *I think they [clients] need to realise that they must rather pick up the phone and phone and say did you do this or did you do that. It is faster that way. Instead of sending a whole long email, to which they don't understand you or they misinterpreted you and then it keeps going back and forth. Wasting everyone's time!*

Therefore, it has become apparent that emails have the potential to be misinterpreted and misunderstood, which can waste not only the employee's time but also the time of clients and colleagues. Participant DeeDee emphasised how detrimental misunderstanding and misinterpreting an email can be: "*reading an email and trying to understand it and trying to interpret what they are saying and if you send it back and they don't interpret the right thing then it's a problem…because you can get comebacks like 'is everything ok' or 'why are you so rude'"*. This corresponds with Bryson (2008), who found that emails have the potential to elicit negative effects because often people misinterpret the email, due to the lack of cues and adequate feedback, even though that was not the intention of the sender of the email. Thus, misinterpreting emails not only wasted time, but can also have effects on relationships with colleagues and clients.

Participants Racket and Finch experienced similar issues with emails being a source of time wasting, however, their experience was not associated with email practices but, rather with their general relationship with emails. Participant Racket explained that, *"I found my emails as we discussed before like really distracting"*. This was repeated by participant Finch *"It was just distracting, I would stop what I am doing and I would forget what I was doing after replying to that email".* This correlates with a vast amount of research around email and their impact on an employee's productivity (Jackson et al., 2003; Van Solingen, Berghout & van Latum 1998; Zijlstra et al., 1999). Participant M.J's confession highlights how emails had a huge impact on his productivity and concentration:

> *I was finding myself, I would have 10 or 15 open up at the same time, that I had only partially responded to because then another one would pop up, and then I would be like of ya that is more important and then go to that one or C.F would ask me for something, or whatever it, I would have go and open another one. I just couldn't finish one thing at one time!*

This confession of M.J overlaps with findings from Jackson et al., (2003) who revealed that unexpected emails have the potential reduce employees' productivity because they are switching between two or more tasks, as opposed to completing a current task or email. Therefore, the experiences of the above participants highlight what a negative effect emails and certain email practices can have on productivity as often they are distracting and a waste of time.

### 5.3. Theme Three: *De-cluttering my Inbox*

As previously exposed in the sub-theme of *others*, it became evident that email expectations among colleagues and clients had huge implications for participants, as these caused stress and anxiety. After discussing the various different experiences and relationships participants had with their emails prior to the training intervention, the participants were presented with the question: So what did you learn from the training intervention that you can apply to your working lives now? The most profound and predominant responses that emerged across both control groups was the process of *de-cluttering my inbox*. Participant Racket emphasised this by asserting that: "*One thing that I really took away from the training was just the de-cluttering… I cleared out my entire inbox"*. Participant Boz mirrored this response: *"I have cut out all the clutter… I am not making my life complicated because of emails"*. When prompted to expand on how the participants de-cluttered their inbox, four sub-themes became apparent and these were: *creating email expectations; combating the CC-syndrome; not replying to all and; removing formalities.*

#### 5.3.1. *Creating email expectations*

Expectations and organisational culture came through as a very important theme that caused participants email overload and anxiety. This was seen and stressed by Reinke and Chamorro-Premuzic (2014), who note that organisational norms and expectations are predictors of email overload. This concept of email expectations was stressed by participant M.J as he exclaimed *"People have this reply in like two minute rule!"*. Conversely, participants explained the positive impact the training had on their email expectations among their team members (however, not their clients).

> *We have to change a lot of the expectations and also we have to retry educate them in a sense of not just emails but on what they are asking us on emails.* (Participant DeeDee)

> *It made us aware about our relationships and the expectations we hold each other to. The whole expectation that we will be able 24 hours a day…the expectation of being connected all the time, and that type of stuff. I think people just have to take other things into consideration, and realise that, no I don't have to be available 24 hours a day.* (Participant Great Gatsby)

Participants DeeDee and Great Gatsby illustrate the importance of creating awareness of email practices and behaviour that we perform on a daily and the effects that these have had on

themselves as well as others. But it more importantly highlights the necessity of training and educating employees about email etiquette and effective email communication in a way that will assist in reducing email overload and increasing productivity. The concept of training and educating employees about email practices is not a new topic and has been explored by many different researchers, but it is a concept that has not been extensively explored in a South African context (Van Solingen et al., 1998; Soucek & Moser 2010; Burgess et al., 2004; Spoelstra, 2007). Therefore, the discussion about the effectiveness of the training intervention in creating awareness highlights not only how email overload is a universally experienced, feeling, but how training is an effective tool in addressing it.

### 5.3.2. *Combating the CC-syndrome*

A common feature that a number of the participants referred to as a way of assisting them to de-clutter their inbox and other people's inbox (colleagues and clients), was to be consciously be aware of who they included in carbon copying, as well as deciding whether to reply to an email if they were 'CC-ed' in that particular email. Many participants felt that the training intervention created awareness of their own 'CC-ing' habits, that often caused themselves and others email overload.

> *No not everybody, just now the consultants and whoever is only involved in that particular situation.* (Participant Boz)

> *It did resonate with me and I do cognitively think about emails and who I am Ccing.* (Participant M.J)

The training intervention aimed not only to create awareness about how carbon copying is much overused, abused, incorrectly administered and the impact it has on others. The training also encouraged participants to think before 'CC-ing' someone else as well as persuading the participants to create rules that everyone applies to their emails when 'CC-ing'. The focus group discussion actually revealed how they applied these rules and guidelines to their 'CC-ing' habits. Participant M.J highlighted how they *"started policing each other"*. He further emphasised how they would correct one another (as a team), and if it happened again and then that person said *'OH no not again and then it has become a habit"*. This supports Soucek and Moser (2010), whose training intervention also provided guidelines for email use at the workplace regarding the appropriate use of carbon copy. The above theme stresses the importance of providing employees with awareness and training regarding practices that cause

email overload, in order to assist them in policing and guiding one other so as to reduce anxiety and email overload.

### 5.3.3. *Not replying to all*

Many participants expressed how the training intervention actually provided them with effective ways in deciding whether to reply to an email or not. Participant Finch explained that before the training intervention, she *"would have to sit down and reply to everything"*. Participant Simba reiterated this feeling: *"I use to reply to all the emails I received…it would take time, but I would reply to everything!".* Similarly, participant Jenner emphasised how she *"felt obligated to reply"*, yet again indicating that replying to emails caused a feeling of overload. Thus, it became evident through the constant repetition of *"I reply to everything"* and *"reply…reply… reply"* across all participants that the participants experienced feelings of being overwhelmed as they felt as if they were expected to reply to every email that they received, even if this was not the case. This resembles the findings by Neustaedter et al., (2005) that revealed that often individuals struggle with the decision either to reply to an email or not to reply which resulted resulting in feelings of email overload. Although previously this was the case, participants expressed that after the training intervention, their decisions and practices regarding replying to emails changed drastically.

> *I became more aware of what to reply to and what not to reply to… who to reply to and who not to reply to… People need to accept that you don't need to send back an email thanking them or replying unnecessarily*.(Participant Great Gatsby)

> *I just get to the point and if it is a simple email like uh, they are asking me if medicals were done, I don't even reply to them.* (Participant Kramer)

> *I let them know if I have submitted it, I have done a part of my job. But the reply to that reply is unnecessary, so now I don't do it.* (Participant Jenner)

> *For me the training was very relevant. It started making me think consciously about who I reply to and how I reply.* (Participant Mandoza)

> *For me the training created awareness. You think before you send an email if it is really most important to send. We use to just send emails regardless, without thinking at all or about the consequences in terms of other people's time and things like that.* (Participant Cake)

The above illustrations of the participants' new approach to replying to emails after the training intervention as well as their previous approach, shows the vital effectiveness of protocol awareness and training in combating email overload.

### 5.3.4. *Removing formalities*

Interestingly, the theme and lesson that were the most predominant across both the focus groups was the movement away from using so many unnecessary formalities in their emails. All participants who agreed to reduce the amount of formalities in an email emphasised that shifting their focus to the core message of the email without including the 'nice' formalities was a *"struggle"*, "*a bit of a challenge"* or *"I don't find that easy".* A number of participants have applied a more scaled down and minimalistic approach to the construct of their emails. As participant DeeDee explained *"I am doing these one liners like 'could you please advise me to when I am receiving this'... it is saving me a lot more time that way than what I was doing"* . Similarly, participant Racket is applying a similar strategy to her emails as she says *"Sometimes I won't even put my signature because it like well now I have established [who I am], and this is already a feed of conversation so let's just keep it short and sweet."*. This emphasises how the participants are adopting behaviours and email practices that address the core message of an email, as opposed to using unnecessary formalities that waste time and are often ignored anyway.

The above themes provide two distinct reflections regarding this research report and they demonstrate: 1) the impact emails and email overload has on employees' productivity and health and wellbeing; and 2) the importance of training in providing employees with awareness about unhealthy email practices, as well as ways to address these unhealthy practices. However, the frequency with which of emails cause anxiety and waste time may be dependent on the time of the year and the number of clients at the time.

# 6. DISCUSSION

The literature review in Chapter 2 discussed a number of issues that were apparent in other literature and empirical findings, including: 1) the impact of email overload on employees' wellbeing and productivity; and 2) the various approaches adopted to reduce email overload and increase productivity. However, there was no prior research that had conceptualised email as a job demand and training as a job resource (JD-R model). Thus, the aim of this discussion chapter is to discuss the finding of this research in relation to the literature.

## 6.1. Research Objectives, Hypotheses and Questions

In order to fully evaluate and discuss the findings and results of this research, it is useful to re-examine the core hypotheses and questions. The overall objective of this research was to examine the role of a training intervention in reducing email overload and increasing perceived productivity. In order to examine this, a quasi-experimental design was utilised to answer the following questions:

- Is email overload reduced as a result of the training intervention?
- Is perceived productivity improved after the implementation of the training intervention?

## 6.2. Discussions of the Results

Overall, the results of this research both supported and contradicted the initial expectations and hypotheses that were assumed to have been proven prior to the implementation of the training intervention, based on previous empirical evidence. Specifically, this research revealed that utilising training as a job resource (JR-D model) significantly reduced the feeling of email overload that is associated with emails (job demand) among participants. The results also revealed that the job resource of the implemented training intervention did not increase participants' perceived productivity, which revealed that perceived productivity is far more complex than previously expected. These findings related to the research hypotheses are discussed below.

### 6.2.1. The Impact of Training on Email Overload

One of the key objectives of this study was to determine whether the participants' in the experimental group, who were exposed to the training intervention, experienced lower feelings

of email overload after participating in the training. Previous research has found that training and education programmes have had a significant positive contribution in reducing feelings of email overload (Soucek & Moser, 2010; Jackson et al., 2005; Solingen et al., 1998). The findings of this research provided support for the claims that training and education programmes are effective tools in reducing email overload, thus, confirming research hypothesis one (refer to Table 5 & 6 and Figure 4 in Chapter Four).

The results of the mixed model ANOVA repeated measure indicated that there was a significant difference between the means of the experimental group and the control group ($p=<0.05$). This result extends support to the study conducted by Soucek and Moser (2010) who examined the role of a cognitive behavioural training in reducing email overload among 90 participants. The study revealed that the training was successful in reducing email overload among participants. Furthermore, the study contended that this training was successful in improving the participants' knowledge of email function and assisted the participants in applying those functions to their everyday work (Soucek & Moser, 2010). The qualitative findings of this research, further support the claims of Soucek and Moser (2010), as many of the participants disclosed during the focus group discussions that the training *"created awareness"* about the appropriate and efficient email functions and practices. Additionally, in order to reinforce the previous results, a comparison of the two groups (i.e. the experimental group and the control group) was conducted. The results supported hypothesis two, as the control group experienced significantly lower feelings of email overload after the training intervention than that of the control group (refer to Table 5 in Chapter Four). These results provide support to previous research that training does in fact have a positive impact on email overload. These findings provide further reinforcement that training as a job resource affords an effective framework in creating awareness about email practices, and this reduces email overload.

After the examination of the control group's difference between time one and time two, it became apparent that hypothesis 3 is accepted. It is evident that the control group does not remain constant from time one to time two (refer to Table 5 & 6 and Figure 4 in Chapter Four). Both the graph and table suggest that the control group experience slightly higher levels of email overload in time two than in time one, which is what originally was speculated. This increase could be attributed to the fact that the control group were not exposed to any form of training that would assist them in reducing their feelings of email overload, however, this can not to proven as there were no measures in place to justify why or why not the control group increased.

### 6.2.2. The Impact of Training on Perceived Productivity

One of the main objectives of this research associated with perceived productivity was to determine whether the training intervention significantly improved/increased the perceived productivity of the experimental group. Research conducted by Jackson et al., (2003) Von Solingen et al., (1998) and Belkin, (2016), have all found that emails and email overload have had a negative impact on employees' productivity due to the fact that emails and email overload cause interruptions and distractions at work. The finding of this present research proved that there is no relationship between training and increased productivity among the experimental group, thus rejecting hypothesis four. The results of the mixed model ANOVA repeated measures revealed that the independent variable: type of group (i.e. the training intervention) did not have any statistically significant level (as presented in Table 4.11. in Chapter Four). The results for this study do not support other studies findings. However, the difference in findings can be attributed to the differences in methodology between this current study and the studies' of D'Ambra et al., (2007) and Jackson et al., (2003), for example. The study conducted by D'Ambra et al., (2007), examined the impact of email on productivity through a qualitative lens. This is in contrary to the current study whereby scales were used to measure the impact of email and technology on participant's productivity. Additionally, the nature of Jackson et al., (2003) study is completely different to that of the current study, whereby the impact of email distractions on employee productivity were observed via videotape. Thus, the results were generated on the basis of actual performance by participants. Whereas, the current study observed productivity through the use of a subjective/perceived productivity scale. Thus, this is perhaps the reason for the difference in results between the two studies.

Consequently, these results indicate that, perceived productivity is more complex than previously expected and that there are potentially various different ways in which productivity is impacted or influenced, other than by email and email overload. Additionally, in order to fully determine the role of the training intervention in improving perceived productivity among participants, it was essential to compare the experimental group results and the control group's results, in order to support the claims of the research. Such claims can suggest that training can reduce distractions and interruptions caused by emails and email overload and fundamentally increase perceived productivity. Therefore, the aim was to determine whether the experimental group experienced higher levels of perceived productivity after the training intervention than the control group. The results of the mixed model ANOVA repeated measures revealed that the independent variable, type of group (i.e. the training intervention) did not have any level of

statistically significant (as presented in Table 4.11. in Chapter Four). Thus failing to reject the null hypothesis five.

Based on these results there are several alternative factors may help in analysing and understanding the unexpected finding on of this research. A factor that may help explain the results, is that the participants in the control group and experimental group were not from the same organisation. Therefore, there could have been extraneous variables that could have affected the results, but that was not the result of the independent variable (i.e. training intervention). One factor that could be recognised as an extraneous variable that could explain the unexpected results of the perceived productivity of the experimental group participants, is that of workplace. This is because, as previously discussed in Chapter Three, the experimental group and control group participants came from two different organisations.

### 6.3. Research Contributions

This research has presented insight and support regarding the effectiveness of a training intervention as a job-resource in reducing email overload among participants. Previous literature revealed that training is an effective tool in combating email overload, but, there was no evident literature in a South African context. Furthermore, the findings of this research, particularly the findings that revealed that a training intervention is an effective job-resource to help employees combat email overload and the implications associated with them may be a necessary tool that all organisations provide to their employees'. However, the results for perceived productivity were not what was expected, based on the literature. Future research can alter this, by ensuring the extraneous variables are controlled. This can be achieved by ensuring the experimental group and the control group are randomly assigned from the same organisation. This will ensure that extraneous variables, for example office spatial arrangements, do not play a role in perceived productivity.

# 7. LIMITATIONS

This section discusses the various limitations and challenges concerned with this research report. The limitations associated with the sample size, size and adequacy of the scales, as well as limitations associated with the quasi-experimental nature of the research design arose during the execution of this research project are all discussed (7.1-7.3), and further recommendations about future research around email overload and productivity are set out below.

## 7.1 Sample Size

The most significant limitation for this study is that of the adequacy of the sample size for this current research report. Because of this there may be limitations concerning the representativeness of the population under investigation. Therefore generalisability cannot be achieved. However, this research report was intended to be a pilot study, and therefore, a large sample was not required for the purposes of this research. Furthermore, a larger sample size would have aided the research process and would have enhanced the answering of the research questions. The reason for the relatively small sample size is accounted for by the struggle to gain access to larger organisations. Achieving a larger sample size and wider range of organisations with different job roles would have enhanced the credibility of the results of this research.

## 7.2 Scale Content and Size

Although email overload and productivity in employees is a topic that has been comprehensively researched, there have been limited scales developed that aim to explore email overload and its impact on employees' perceived productivity. Therefore, the limitation of the scale content arose in this research. The minimalistic nature and limited operationalisation of both the email overload and perceived productivity scales may be viewed as one of the limitations of this study. In total the combined scales only consisted of seven items, and so, one could argue that the content of items might not have been sensitive enough for the intervention-related change. Nevertheless, due to the time constraints of this research project and the p fact that the purpose of the research project not being focused on the development of new scales, it was necessary to use already existing scales. Even though, the numbers of items on the scales are seemingly problematic, a potential solution to this would be to develop a scale based on literature that would

effectively measure email overload and the impact of email overload on productivity and that would be sensitive enough for the intervention.

Furthermore, another minor limitation associated with the scale and scale items is the language, particularly on the productivity scale. The scale has four items, however all items are similar to one another and participants expressed their concerns about the similarity, assuming that item one and two were meant to be the same as well as items three and four. This is because the items interchanged effectively and efficiently with one another, and yet this could also be narrowed down to participants not reading the items carefully enough.

### 7.3 Quasi-experimental research design

Due to the nature of the research design of this research paper being embedded in quasi-experimental design, there is the limitation of no random assignment associated with this research. This lack was caused by the fact that the experimental group consisted of employees from one organisation and the control group consisted of employees from another completely separate organisation, no random assignment was achieved. Therefore, one could argue that this created a limitation on this particular research report, as random assignment is implemented in order to ensure that the experimental group participants and control group participants are as similar to one another before the intervention as possible. This ensures that the results are not attributed to any confounding variables (extraneous variables that the researcher was not able to control). For example, in the case of this research report, because the experimental group and control group were not randomised, a confounding variable could be different work environments that could have affected the experience of email overload of each employee.

# 8. CONCLUSION

The purpose of this research report was to examine the role of a training intervention in reducing email overload and increasing productivity among employees. The mixed method design resulted in this research paper to consist of both research questions and research hypotheses. The research questions for this research report were: 1) Is email overload reduced as a result of the training intervention?; 2) Is email-related stress reduced as a result of the training intervention?; and 3) Is perceived productivity improved after the implementation of the training intervention? These research questions were constructed in order to test the theories that suggested that training is the most effective tool to reduce email overload and increase productivity. After running a mixed model ANOVA with repeated measures, it became apparent that the training intervention did in fact reduce the feeling of email overload among the experimental group participants' and not the control group participants. Thus, we reject the null hypothesis and accept the alternative hypothesis for hypothesis 1, 2, 3 and 6. However, the results revealed that the training intervention was not successful in increasing the experimental group participants' perceived productivity. Consequently, the null hypothesis for hypothesis 4 and 5 is accepted and the alternative is rejected. The quantitative analysis, allowed the researcher to examine the relationship between a training intervention and its impact on email overload and productivity. This examination revealed that a training intervention does in fact assist in reducing email overload among participants', however, has no impact on the perceived productivity of participants.

The research questions aimed to gain a clearer understanding of the participants' experience of email overload, helpfulness of the training intervention in reducing email overload and increasing productivity and the most fundamental aspect that they learnt from the training itself. This was achieved by the qualitative findings of this research project. This research project has provided a comprehensive thematic analysis of the participants' previous experience with emails and email overload as well as how they experienced emails after the intervention. The thematic analysis revealed two issues experienced by the participants that were most predominant which were referred to as: *Anxiety* and *Waste of time*. Furthermore, the analysis revealed that the training intervention assisted them to *De-clutter my inbox.* It became evident that in order for the participants to de-clutter their email inboxes, they needed to change certain habits such as replying to all, 'CC-ing' everyone and anybody, holding back on overused formalities and re-shaping colleagues and clients expectations of email conduct. The focus group discussions and thematic analysis provided the research more depth, detail and

understanding, not only regarding the experience of emails and email overload in general but more importantly with practical ways that an individual can combat email overload. The qualitative findings provided human experiences that enriched the results documented by the quantitative analysis.

Emails have become an increasingly important job demand to consider in the workplace. They are often important for more than just their communicative functions. However, they are misused, overused and abused which lead to effects such as email overload and decreased levels of productivity. Research concerning email overload is found in many journals, however, no research has examined emails as a job demand and training as a form of job resource. Therefore, this research is useful in bridging the gap between considering emails as a demand in order to provide employees with effective resources (i.e. training) in order to counter the job strain (i.e. email overload) and to increase employee motivation to increase performance. This is because this research provided evidence to the fact that a training programme is effective in reducing email overload. Although, the results concerning perceived productivity were not expected, they also supported the fact that emails may not be the only contributor that impacts perceived productivity. Thus, various other factors need to be considered before replicating this research in the future.

## 8.2 Recommendations

This chapter has mentioned a number of recommendations that have been suggested in order to assist both future researchers and organisations whose employees may experience email overload in the workplace. This research report has presented both provided a causal effect due to the implementation of a training intervention as well as an in-depth account of employees' experience of email overload and the training intervention through the application of a mixed method research design. A considerable amount of research around email overload has focused either on the quantitative side of email overload (either how to address it or the existence of it, or the qualitative side).However, few researchers have utilised both approaches in gaining a better understanding of the phenomenon, and specifically there has been no extensive research of email overload in a South African context. Thus, there is a demand to embrace a mixed method approach in South Africa in order to effectively determine the most efficient and effective way in reducing email overload and to increase productivity in South African organisations. The recommendations concerning organisations utilising a training intervention explored in this section of Chapter Six, are merely suggestions; however, careful consideration

should be given, particularly as email overload has various implications concerning the health and wellbeing of the employees. In order to achieve this, an expansion of the following is required: context (other provinces in South Africa); sectors (different organisations with different job roles); and sample size (more participation of participants). By achieving the above, it is would be more feasible to generalise the findings associated with the most effective ways to deal with email overload.

Alternatively, in order to achieve the most effective results regarding the usefulness of the training intervention, the development of more comprehensive scales is required. This would allow for the scale items to customised and developed in such a way that they would gather relevant data that would answer the research papers questions in the research more effectively. Furthermore, the development of a comprehensive scale that is influenced and shaped by the literature, would ensure that the items will be sensitive to the intervention-related change and not merely sensitive to the function of it being a demand characteristic. Therefore, the development of a fairly timeless and extensive scale, which effectively aims to measure both email overload and the impact of email overload on employees' perceived productivity is strongly encouraged.

Additionally, the implementation of a true experimental design, as opposed to a quasi-experimental design, would provide more internal validity and causal effect claims to a research of similar nature to this research report. A true experimental design would allow the researcher the ability to randomly assign participants, which would create the certainty that the effect of the treatment would be attributed to the manipulation because all subjects were the same before the start of the experiment. Therefore, the most effective way to achieve this would be to use an organisation that had a larger sample of participants to choose from and who could be randomly assigned and selected. This would allow the researcher a larger and higher range of control in regulating and confounding variables such as different work environments that might be factors that could contribute to varying experiences of email overload might be factors that could contribute to varying experiences of email overload. In the eventt that future samples could not be drawn from one organisation, perhaps an Analysis of Covariance (ANCOVA) could be utilised instead of an ANOVA. The reason for this is that an ANCOVA, which tests for difference in mean responses to categorical factors levels , would enable future researchers to control for differences in time one across different groups. This is particularly important when groups are not derived from the same organisation.

## 9. REFERENCES


Agema, L. E. (2015). *Death by E-mail Overload* (IBA bachelor thesis). University of Twente, Enschede, Netherlands.

Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309-328.

Banks. T.D., Biggs, H.C., & Dovan, N. (2014). Creating a common approach to safety management through structured training development. In T. Short & R. Harris (Eds.), *Workforce Development: Strategies and Practices* (pp.327-24). New York: Springer.

Barley, S. R., Meyerson, D. E., & Grodal, S. (2011). E-mail as a source and symbol of stress. *Organization Science, 22*(4), 887-906.

Bawden, D., & Robinson, L. (2009). The dark side of information: overload, anxiety and other paradoxes and pathologies. *Journal of Information Science, 35*(2), 180-191.

Belkin, L. (2016, July 27). *After-hours email expectations negatively impact employee well-being.* Retrieved from <www.sciencedaily.com/releases/2016/07/160727110906.htm

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Brill, M. & Weidemann, S. (2001), Disaproving widespread myths about workplace design, Jasper, USA: Kimball International.

Burger, E., & Rensleigh, C. (2007). Investigating e-mail overload in the South African banking industry. *South African Journal of Information Management*, 9(3).

Burgess, A., Jackson, T., & Edwards, J. (2004). The effectiveness of training in reducing email defects. In D. Edgar- Nevil, M. Ross & G. Staples ( Eds), *New Approaches to Structure Quality* (pp. 345-354). Canterbury : British Computer Society.

Chesley, N. (2005). Blurring boundaries? Linking technology use, spillover, individual distress, and family satisfaction. *Journal of Marriage and Family, 67*(5), 1237-1248.

Cooper, C. L., & Cartwright, S. (1997). An intervention strategy for workplace stress. *Journal of Psychosomatic Research*, *43*(1), 7-16.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. California: Sage publications.

Dabbish, L. A., & Kraut, R. E. (2006, November). Email overload at work: an analysis of factors associated with email strain. In *Proceedings of the 2006 20th anniversary conference on Computer supported cooperative work* (pp. 431-440). ACM.

D'Ambra, J., Toorn, C. V., & Dang, G. (2007). The Negative Aspects of Email and Productivity: Towards Quantification. *ACIS 2007 Proceedings*, 72.

De Jonge, D., Scherer, M.J., & Rodger, S. (2007). *Assistive technology in the workplace.* Missouri: Mosby Elsevier.

De Leon, E.B. (1991). Training and development in organisations. In E.B. De Leon (Ed.), *Industrial Psychology* (pp. 133- 166). Philippines: Rex.

Dorner, D.G., Gorman, G.E., & Calvert, P.J. (2014). *Information Needs Analysis: Principles and Practice in Information Organizations*. London: Facet Publishing.

Ducheneaut, N, and Watts, L, A. (2005). In Search Of Coherence: A Review of E-Mail Research. *Human-Computer Interaction*, 20, 11-48.

Edmunds, A., & Morris, A. (2000). The problem of information overload in business organisations: a review of the literature. *International journal of information management*, *20*(1), 17-28.

Emmel, N. (2013). *Sampling and choosing cases in qualitative research: A realist approach*. Los Angeles: Sage Publications.

Freed, M., Carbonell, J. G., Gordon, G. J., Hayes, J., Myers, B. A., Siewiorek, D. P., & Tomasic, A. (2008, July). RADAR: A Personal Assistant that Learns to Reduce Email Overload. In *AAAI* (pp. 1287-1293).

Frehner, C. (2008). *Email, SMS, MMS: The Linguistic Creativity of Asynchronous Discourse in the New Media Age.* New York: Peter Lang.

Grevet, C., Choi, D., Kumar, D., & Gilbert, E. (2014, April). Overload is overloaded: email in the age of Gmail. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 793-802). ACM.

Guba, E. G., & Lincoln, Y. S. (1982). Epistemological and methodological bases of naturalistic inquiry. *ECTJ, 30*(4), 233-252.

Haynes, B.P. (2007). Office productivity: a theoretical framework. *Journal of Corporate Real Estate,* 9(2), pp. 97-110.

Hole, J. D. (2008). *Email overload in academia* (Master's thesis). Rochester Institute of Technology, New York.

Howitt, D., & Cramer, D. (2011). *Introduction to research methods in psychology*. London: Pearson Education.

Jackson, T., Dawson, R., and Wilson, D. (2003). Reducing the effect of email interruption on employees. *International Journal of Information Management*, 23(1), pp.55-65

Jerejian, A. C., 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 Behaviour*, *29*(3), 991-996.

Karr-Wisniewski, P., & Lu, Y. (2010). When more is too much: Operationalizing technology overload and exploring its impact on knowledge worker productivity. *Computers in Human Behaviour*, *26*(5), 1061-1072.

Konstant, T. (2012). *Instant Manager: Overcoming Information Overload*. London: Hachette Book Group

Kushlev, K., & Dunn, E. W. (2015). Checking email less frequently reduces stress. *Computers in Human Behaviour*, *43*, 220-228.

Mano, R. S., & Mesch, G. S. (2010). E-mail characteristics, work performance and

distress. *Computers in Human Behaviour*, *26*(1), 61-69.

Mark, G., Voida, S., & Cardello, A. (2012, May). A pace not dictated by electrons: an empirical study of work without email. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 555-564). ACM.

McMurtry, K. (2014). Managing email overload in the workplace. *Performance Improvement*, *53*(7), 31-37.

Merten, F., & Gloor, P. (2010). Too much e-mail decreases job satisfaction. *Procedia-Social and Behavioural Sciences*, *2*(4), 6457-6465.

Morgan, D.L. (1998). *Focus groups as qualitative research.* California: Sage Publications.

Neergaard, H., & Ulhoi, J.P. (2007). *Handbook of Qualitative Research Methods in Entrepreneurship*. Massachusetts: William Prat House.

Neustaedter, C., Brush, A. B., Smith, M. A., & Fisher, D. (2005, July). The Social Network and Relationship Finder: Social Sorting for Email Triage. In *CEAS*.

Reinke, K., & Chamorro-Premuzic, T. (2014). When email use gets out of control: Understanding the relationship between personality and email overload and their impact on burnout and work engagement. *Computers in Human Behaviour*, *36*, 502-509.

Renaud, K., Ramsay, J., & Hair, M. (2006). " You've got e-mail!"... shall I deal with it now? Electronic mail from the recipient's perspective. *International Journal of Human-Computer Interaction*, *21*(3), 313-332.

Seeley, M., & Hargreaves, G. (2003). *Managing in the email office*. Oxford: Routledge.

Silverman, D. (2013). *Doing qualitative research: a practical handbook*. London: Sage Publications.

Soucek, R., & Moser, K. (2010). Coping with information overload in email communication: Evaluation of a training intervention. *Computers in Human Behavior*, *26*(6), 1458-1466.

Span, R. A. V. (2007). *The Problem of Email Overload: a Private Sector Case Study*. Paper presented at the 6th Twente Student Conference on IT, Enschede, Netherlands.

Spoelstra, W.J.T. (2007). The problem of Email Overload: A Public Sector Case Study. University of Twente.

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.

Stother, J.B., Ulijn,J.M., & Fazal, Z. (2012). *Information Overload: An international challenge for professional engineers and technical communicators*. New Jersey: Wiley.

The Radicati Group. (2015). Email Statistics Report 2015-2019. Palo Alto, CA: A technology market research firm.

Vacek, M. (2014). Email Overload: Causes, Consequences and the Future. *International Journal of Computer Theory and Engineering*, *6*(2), 170-176.

Van Solingen, R., Berghout, E., & Van Latum, F. (1998). Interrupts: just a minute never is. *IEEE software*, *15*(5), 97.

Waxin, M.F., & Bateman, R. (2009). HRM in the public sector: is it enough? In S.F. Goldfinch & J.L. Wallis (Eds.), *International Handbook of Public Management Reform* (pp. 44-65). Cheltenham: Edward Elgar.

White, H., & Sabarwal, S. (2014). Quasi-experimental design and methods. *Methodological Briefs: Impact Evaluation*, *8*.

Whittaker, S., & Sidner, C. (1996, April). Email overload: exploring personal information management of email. In *Proceedings of the SIGCHI conference on Human factors in computing systems* (pp. 276-283). ACM.

Zijlstra, F. R., Roe, R. A., Leonora, A. B., & Krediet, I. (1999). Temporal factors in mental work: Effects of interrupted activities. *Journal of Occupational and Organizational Psychology*, *72*(2), 163-185.

# 10. APPENDICES

## Appendix A:
## Email sent to the owner of the small (experimental group)

Dear Lindiwe

My name is Kerry Meghan Campbell and I am currently studying for my Master's degree in Organisational Psychology at The University of the Witwatersrand. In order to obtain my degree, I am required to conduct a research study. My study is aimed at examining the role of a training intervention in decreasing email overload and stress, as well as increasing productivity. Therefore, the aim of my research study is to conduct an experimental design in order to examine whether these interventions are successful, as well as to document the participants' personal experiences of the training intervention.

As required, this project has been approved by the Research and Ethics Review Committee of The University of the Witwatersrand, Department of Psychology. This being said, in order to continue with this study, I request permission to access your employees to request their permission in this study. I will be conducting this experiment with a minimum of 20 participants. This experiment will run for no longer than two weeks, in which all measures, focus groups, and training will be conducted.

The training intervention will act as a primary prevention that will help reduce/modify behaviours that are associated with emails and stress and productivity. The training will demonstrate desirable skills and behaviours associated with emails. These include, but are not limited to, implementing a general census regarding appropriate 'CCing' of other colleagues and supervisors, forwarding, response times among colleagues, and even switching off email notifications. Once this has been formulated, the participants will be given the opportunity to 'copy' and implement these skills and behaviours in 'fake' scenarios. The aim is that this will provide participants with the necessary skills to counter email overload and avoid email stress and improve productivity, as the scenario can be transferred to their everyday working and personal lives.

Each participant will be asked to fill out three questionnaires prior to the intervention and then again after the intervention. A week or so after the intervention, three to four focus groups will be conducted, involving a period of forty-five minute, where the focus of the discussion will be on the individual's personal experience. It is important to note that participants will not be

expected to participate in the experiment or answer any questions that they do not wish to, and they will have the right to withdraw from the study at any point in time. The findings from the study will be shared with both the participants and the owners and managers concerned (if requested).

The supervisor of this particular study is Professor Karen Milner, who can be contacted via email Karen.Milner@wits.ac.za. Thank you in advance for your patience and assistance throughout this whole process.

If you have any queries, please do not hesitate to contact me on 1199916@wits.students.ac.za or 0833872300.

Kind Regards
Kerry Campbell

## Appendix B:
## Consent form from gate keepers of the organisation

**Research Title:** *The role of a training intervention in reducing email overload and improving productivity*

**Researcher:** *Kerry Meghan Campbell*

**Supervisor:** *Professor Karen Milner*

**Please place a tick in the various spaces indicating your understanding and acceptance of this research project as well as indicating your acceptance for your organisation to be involved in this research project as well as the use of your facility.**

1. I confirm that I have read and understood the information provided for the above study. ☐

2. I understand that my organisation and employees involvement in this study is voluntary, anonymous, and confidential and should I or any of my employees wish to withdraw from the study, we may do so. ☐

3. I fully understand that any information collected will remain completely anonymous and thus I will not be able to know what information is from which employee. ☐

4. I allow the researcher to gain access to my organisations premises in order to conduct this research ☐

5. I also understand that a training intervention is needed to be conducted, therefore, I provide the researcher of this project permission to take two hours in total of employees' working hours to conduct said training. ☐

| | | |
|---|---|---|
| Name of Gatekeeper: | Date: | Signature: |
| Name of Researcher: | Date: | Signature: |

## Appendix C:
## Email sent to the owner of the small (control group)

Dear Garth

My name is Kerry Meghan Campbell and I am currently studying for my Master's degree in Organisational Psychology at The University of the Witwatersrand. In order to obtain my degree, I am required to conduct a research study. My study is aimed at examining the role of a training intervention in decreasing email overload and stress as well as increasing productivity. Therefore, the aim of my research study is to conduct an experimental design in order to examine whether these interventions are successful as well as to document each participant's personal experiences of the training intervention. However, in order to determine whether the training intervention is successful, a comparison control group is needed.

As required, this project has been approved by the Research and Ethics Review Committee of The University of the Witwatersrand, Department of Psychology. This being said, in order to continue with this study, I request permission to access your employees to further ask their permission to take part in in this study. I will be conducting this experiment with a minimum of 20 participants. Each participant will be asked to fill out three questionnaires prior to the intervention being implemented at another organisation and then again after the intervention. Therefore, in total, participants will fill out altogether five questionnaires. It is important to note that participants will not be expected to participate in the experiment or answer any questions that they do not wish to and they have the right to withdraw from the study at any point in time. The findings from the study will be shared with the participants as well as the owners and managers concerned (if requested).

The supervisor of this particular study is Professor Karen Milner, who can be contacted via email Karen.Milner@wits.ac.za. Thank you in advance for your patience and assistance throughout this whole process.

If you have any queries, please do not hesitate to contact me on 1199916@wits.students.ac.za or 0833872300.

Kind Regards
Kerry Campbell

## Appendix D:
## Consent form from gate keepers of the organisation

**Research Title:** *The role of a training intervention in reducing email overload and improving productivity*

**Researcher:** *Kerry Meghan Campbell*

**Supervisor:** *Professor Karen Milner*

**Please place a tick in the various spaces indicating your understanding and acceptance of this research project as well as indicating your acceptance for your organisation to be involved in this research project as well as the use of your facility.**

1. I confirm that I have read and understood the information provided for the above study. ☐

2. I understand that my organisation and employees involvement in this study is voluntary, anonymous, and confidential and should I or any of my employees wish to withdraw from the study, we may do so. ☐

3. I fully understand that any information collected will remain completely anonymous and thus I will not be able to know what information is from which employee. ☐

4. I allow the researchers to gain access to the premises of my organisation in order to collect the completed questionnaires. ☐

| | | |
|---|---|---|
| Name of Gatekeeper: | Date: | Signature: |
| Name of Researcher: | Date: | Signature |

## Appendix E:
## Interview Schedule (Needs Analysis)

**Introduction:**

*My name is Kerry Campbell, and I am currently studying my masters in Organisational Psychology at The University of the Witwatersrand. For my research report I am interested in email overload, stress and perceived productivity, and in particular possible interventions to manage email overload and productivity. In order to create an effective intervention, I need to understand what employees believe their largest source of email overload is. I am really interested in hearing what you have to offer.*

**Body:**

1. *Do you know what email overload is?*

2. *Have you ever experienced feelings of email overload or stress due to email overload? If so could you elaborate briefly , when, where etc?*

3. *How would you describe feelings of email overload?*

4. *How do you think email overload affects you?*

5. *What do you believe is the main source of this feeling?*

   (Potential prompt questions)

   - Volume
   - Content in emails
   - Constant notifications etc.

**Conclusion:**

*I appreciate the time you took for this interview. Is there anything else you think would be helpful for me to know? Is there anything you have thought about in terms of a way to potentially deal with email overload at your organisation?*

## Appendix F:
## Demographic questionnaire

1. **Please specify your gender**

| | |
|---|---|
| **Female** | |
| **Male** | |

2. **Please specify your age**

_____

3. **Please specify your current marital status**

| | |
|---|---|
| **Single** | |
| **Partner** | |
| **Married** | |
| **Divorced** | |

4. **How many dependents do you have**

_____

5. **Please specify your job category**

| | |
|---|---|
| **Owner** | |
| **Manager** | |
| **Consultant** | |
| **Outsourced consultant** | |
| **Other** | |

6. **What are your working hours on an average day?**

| | |
|---|---|
| **7- 8 hours per day** | |

| | |
|---|---|
| **9- 10 hours per day** | |
| **11-12 hours per day** | |
| **13+ per day** | |

**7. Please specify how many emails on average you receive a day.**

| | |
|---|---|
| 10- 30 | |
| 31-50 | |
| 51- 70 | |
| 71- 90 | |
| 91- 100 | |
| 100 + | |

**8. What proportion of your work time do you currently spend on reading and responding to emails?**

_____

**9. What proportion of your work time is spent on preparing, reading and correcting or performing work-related activities?**

_____

**10. What proportion of your work time is spent attempting to understand an unclear email?**

_____

**11. How often are you constantly corresponding with clients, colleagues or supervisors during work hours?**

_____

## Appendix G:
## Email Overload Scale

Please mark an 'X' on the most appropriate response to each question.

**1. I believe there is a problem with "email overload" at work.**

| | | | | | | |
|---|---|---|---|---|---|---|
| Very strongly disagree | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Very strongly agree |

**2. Email have a negative impact on my ability to get the job done.**

| | | | | | | |
|---|---|---|---|---|---|---|
| Very strongly disagree | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Very strongly agree |

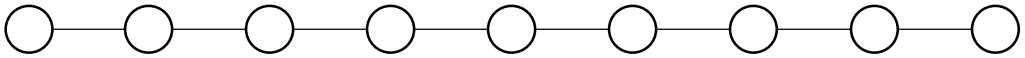
**3. Emails are a cause of personal stress.**

| | | | | | | |
|---|---|---|---|---|---|---|
| Very strongly disagree | Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Very strongly agree |

## Appendix H:
## Productivity Scale

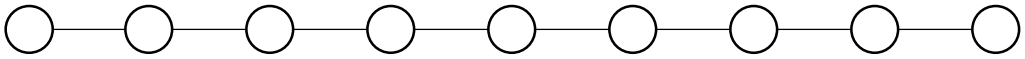
Please mark an 'X' on the most appropriate response to each question.

1. **Overall, I feel that information systems technology has efficiently enhanced my job productivity.**



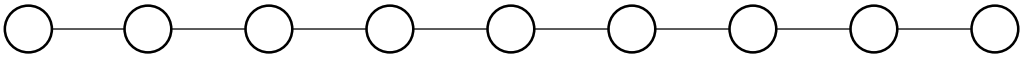
Strongly Disagree Strongly Agree

2. **Overall, I feel that information systems technology has effectively enhanced my job productivity.**



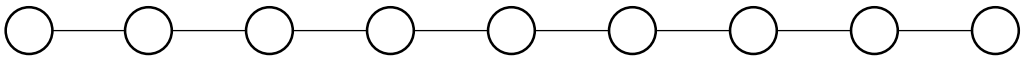
Strongly Disagree Strongly Agree

3. **Overall, I feel I perform my job efficiently.**



Strongly Disagree Strongly Agree

4. **Overall, I feel I perform my job effectively.**



Strongly Disagree Strongly Agree

**Appendix I:**
**Training Booklet**

# Email Overload Training Intervention

Activity Book One

11th October 2016

**Email Overload- Activity One**

**Activity Focus**

Setting goals for the training intervention

**Theoretical Background**

Soucek and Moser (2010) based their training intervention on cognitive behavioural skills training. The cognitive-behavioural approach to therapy (CBT) was developed in the 1960s by psychiatrist, Aaron Beck. According to van der Klink et al., (2001) a cognitive- behavioural approach aims to reinforce coping skills in individuals by ultimately changing cognitions. Cognitive behavioural skills training has proven to be successful in stress management interventions. Therefore, when working with employees who experience feelings of overload due to emails which negatively affect their productivity, it is increasingly important to assist the individuals in constructing new patterns of behaviour. This will assist the employees to live their lives in more constructive ways. The first port of call is for employees to establish goals for the training intervention, which will assist them by not only shaping new behaviours during the intervention, but also with the hopes that those goals and behaviours will remain with them throughout their lives.

**Activity**

The employees will be asked to write down their personal goals for the training intervention. Additionally, they will be asked to write down specific behaviours that they believe will help them in achieving these gaols. This is done to assist them in reordering their thinking processes and is also to inspire the development of new behaviours.

**Icebreaker - "One word"**

- Divide the employees into four groups of five.
- Inform the group that they have one minute to think about one word that best describes their experience with emails in the last year.
- Then each individual gets an opportunity to share that word amongst the group.

- Once everyone has had their opportunity to share their one word with the group, each group must choose one of the words previously mentioned that best represents their group.
- Once this word has been decided on, one member from the group must describe their group's word to the rest of the groups

(This icebreaker helps the groups explore their common issues and experiences of emails and is a perfect transition into the topic of the training intervention).

**Materials Needed**

Lined A4 paper, writing instruments

**Instructions**

The facilitator welcomes the group to the training session and asks the group to spilt into groups of five to decide on one word that best describes their experience of email, email overload and the impact of these two on productivity (Icebreaker). After the words have been shared amongst the groups, the facilitator will invite the employees to write down at least three goals for the training session. Each goal will be accompanied by two actions that will assist in the achievement of these goals. The facilitator needs to challenge the group to write their goals down in a way that truly inspires them, in order to make the training session as effective as possible.

**Objective**

The human mind is programmed to look for rewards. By stating goals in a way that inspires and motivates, members may find it easier to achieve the stated goals and to view the achievement of these goals as a reward. Goals are a wonderful way to focus the mind, and positive behaviours can be integrated into the lives of members by writing down at least two actions that correspond with each goal (For example, I want to lose weight by: 1) eating healthily and 2) exercising). This process may also help members feel more positive towards the training intervention and give them a sense of control over their training outcomes.

## Email Overload- Activity Two

## Volume-related factors

## Activity Focus

Becoming aware of the sources that cause email influx and overload by addressing poor email practice

### Theoretical background

Employees tend to experiences feelings of email overload, because of those poor methods of email management which result in overflowing inboxes (Agema, 2015). This activity aims to address one of the sources of email overload, i.e. email volume, by providing the individuals with the awareness and knowledge of correct email practice. The activity helps individuals with the relevant knowledge about the appropriate functions of email programs, such as Outlook or Google mail. This will provide individuals with the skills to deal with high quantities of emails, and will be achieved through behavioural modelling. Behavioural modelling is a component of the social learning theory, formulated by Albert Bandura (1977), whereby an individual essentially transfers new knowledge, and therefore learns through demonstration, usually through physical or visual demonstration.

### Icebreaker

N/A

### Demonstrations and discussion

1. **Reply to all function**

The reply to all function is a very effective tool, as it provides relevant information to all relevant recipients. However, when used incorrectly, it can lead it feelings of overload.

**Scenario One:**

**From:** Cynthia Smith [mailto:cynthiasmith@yahoo.co.za]
**cc:** kayla Jacob [mailto:kaylajacob@yahoo.co.za]; Megeen White [mailto:megeenwhite @yahoo.co.za]
**Sent:** 12 September, 2016 10:06 AM
**To:** Cynthia Smith
**Subject:** Short-Term Contract Opportunity

Dear Colleagues

One of my clients (global mining business) has a short-term (3-6 month) opportunity available for an M. Psychology graduate (could also be an M. Psychology student still in process of a finalising dissertation) to support the HR team in developing role profiles and assessment criteria linked to the business's new Capability model.

If you know of anyone who is looking for a short-term opportunity, please let me know so that I can connect them up.

Kind Regards
Cynthia

**In the event that you do know someone who would be looking for a position like this, do you respond just to Cynthia or do you reply to Cynthia, Kayla and Megeen?**

**Scenario Two:**

from: **Charlotte Fredman** <charlotte@shooling.co.za>

to: eleniannakalaitzi@gmail.com,
akmasondo@gmail.com,
venterbernice@yahoo.com,
bontlem.moremi13@gmail.com,
carriewatters@acenet.co.za,
cherisenelcn@gmail.com,
corliagrib@gmail.com,
elaneodendaal@ymail.com,
gardiberrington@gmail.com,
gilliandraaier@gmail.com,
ikraamk@vodamail.co.za,
kaynich24@yahoo.com,
katinkaclack@netactive.co.za,
larieb11@gmail.com,
lizanneviviers@gmail.com,
mariza858@gmail.com,
hathaways@mweb.co.za,
michevdm@gmail.com,
michellemichas91@gmail.com,
petri.swart@hotmail.com,
riricasa@gmail.com,
sn.immelman@gmail.com,
1199916@students.wits.ac.za,
robjardine8@gmail.com,
sashamacnab@gmail.com

cc:Claire Bell <clement@shooling.co.za>,
Kyle Bladwin <kyle@shooling.co.za>,
Nicole Smith<nicole@ shooling.co.za>,
Kate Webster<kate@ shooling.co.za>,
Shelley Nelson <shelley@ shooling.co.za>,
Gabi Foster<Gabi@ shooling.co.za>

| | |
|---|---|
| Date: | 26 September 2016 at 22:16 |
| subject: | Shooling Assessment Centre |
| mailed-by: | Shooling.co.za |
| Signed by: | Shooling -co-za.2015458723.gappyrined.com |
| : | Important mainly because of the people in the conversation |

Hi Everyone

We just wanted to say thanks once again for attending our assessment centre today.

Once again, please do not hesitate to contact us with any questions or concerns you may have.

Kind Regards,

**In the event that you do wish to contact Charlotte, do you immediately respond to all? Do you respond to Charlotte and all those included on the CC receipt, or do you respond to Charlotte only?**

**The importance:**

It is always important to take a few seconds to realise to whom you are replying. It is good to spend a few extra seconds or even minute to understand the content of the email and/or email reply in order to choose effectively who needs to see this email, or whether the email is just useless garbage to them. So ask yourself:

1. Do I need to respond to this email?
   - Usually every email you send produces one, two or three additional emails in return.
   - The fewer unnecessary emails you reply to, the fewer emails you will receive back.

**For example:**

**If you are responding to the first email: No I don't know anyone, but I'll keep it in mind.**

**Your response has the potential to open you up to another response: Thank you so much for your help. Please do let me know if you think of someone.**

- So only respond to emails where you are prepared to continue the conversation.

2. If you need to respond… Ask yourself 'Why are you sending this email to this person?'
   - Is an email the most effective way to reply?
   - Can you communicate with the person face-to-face?
   - Is it possible that a phone call would be more efficient?

## 2. CC-syndrome

Carbon Copying is a way of sending an additional copy of a document in order to ensure that everyone is informed.

However 'CCing' is…

1. Heavily overused and abused; and
2. Used inaccurately.

What to remember…

1. Always announce the identity and presence of the new person.
2. Never copy someone in an email as a way of gaining support or as a way of threatening someone.
3. Never copy someone to make them feel a part of something.
   Only CC someone if the information is vital to them **(remember emails can always be saved… you don't need to CC your boss to cover yourself).**

- 1 CC = acceptable
- 2 CC's = sometimes
- 3 CC's = rarely
- 4 CC's = NEVER

- Direct Requests: Someone asks you to specifically to send an email out and as a courtesy you copy them, so they know it was sent.
- Co-workers / Team: The email is about something that our co-workers or team members absolutely need to be informed about, because they will be directly affected by the email exchange.
- Your Supervisor: There is a potential issue or important information, that your supervisor must know about in detail and in real-time.
- Recipient's Supervisor: This should be reserved for requests that cannot be resolved by the recipient alone. Frequently, you know the person you are emailing cannot fully process your request without supervisory support or encouragement.
- Replying: If a client or subcontractor sends you an email copying your supervisor and others, as a courtesy, reply all so that your supervisor or others know this issue/request

is being handled promptly.

**The importance**

When you become aware of the do's and don'ts of 'CCing' and 'BCCing', you reduce the number of emails you receive back from other… which can significantly reduce feelings of being overwhelmed.

### 3. Deleting, dealing, delegating and deciding

**Delete** all emails you don't need, including spam, jokes and irrelevant information.

**Deal** with emails that will take you less than two minutes to do such as replies, forwarded messages, schedule meetings and so on.

**Delegate** if an action is better suited TO someone else… Forward the email to that person OR print it out and hand it to them**.**

**Decide** if an email requires more than two minutes, can't be deleted or delegated. You need to decide:

1. **Where… if you need to keep a message**
2. **When**
3. **Wait**

**Objective**

The objective of this activity is create awareness about the individual email practices and further provide participants with alternative ways of dealing with certain practices that will assist them and their colleagues concerning issues of volume overload in their email inboxes. Examples of ways to deal with sources that cause excess volume overload in the employees' inboxes, will allow employees to transfer what they have practised into their working and personal lives.

**Email Overload - Activity Three**

**Content-related factors**

**Activity Focus**

Creating awareness of content-related factors that cause email overload and which affect productivity.

**Theoretical background**

Much like volume-related factors, content –related factors also tend to cause feelings of email overload among employees, as well as contributing to decreased productivity (Agema, 2015; Span, 2007; Burgess et al., 2004; Vacek, 2014). The focus of this activity is to address two contributors to content-related email overload: poorly chosen subject titles, and unnecessary formalities.

**Demonstration and discussion**

1. Poorly chosen subject titles

Poorly chose subject titles can both decrease productivity and increase the feeling of email overload because they:

- Force employees to unnecessarily scan through entire email to understand the importance of the email, which is a waste of time;
- waste people's time trying to find the particular email, amongst the rest of their already full email inbox;
- cause employees to struggle with the importance and priority of the email; and
- make it difficult to file the email in appropriate folder.

This usually happens when people use the same subject title over and over again; or when subject titles are generic in nature, such as "Weekly update"; when people use deceiptive subject titles or cry wolf subject titles such as "URGENT!". Therefore, in order to address this effectively, a simple approach can be used when composing a subject title.

1. Subject lines should summarise, not describe.
2. Subject lines need to be clear.
3. They should be short and sweet.
4. Don't use the same subject line over and over.

**Scenario One:**

- Christmas Party Deadline Discussion and recommendation.
- Christmas Party 4th December.

Which subject title is the most informative subject title that enables you to know: 1) exactly what is in the email; 2) where to file the email; and 3) How to prioritise the email in your busy working day.

2. Unnecessary Formalities

People use a vast array of unnecessary formalities when composing an email and even when responding to an email; however, although they tend to make us feel better and less rude, these also are a huge waste of time. An email is not the same as face-to-face communication or even a phone call; however, we tend to categorise them as such. Consequently, we waste precious time adding these formalities to every single email we type, but, when we receive up to 100 emails or even more a day, it ends up taking a lot more time than we realise.

Therefore, how do we avoid this problem or challenge? We need to ddress the core message of the email as opposed to the formalities that more often than not people read past and don't even acknowledge.

**Objective**

The objective of this activity is to create awareness about simple email practices that may cause individuals to feel overwhelmed. The two previously mentioned ways to deal with content related email overload are simple and effective adjustments that, when made a habit, can bring about significant change in people's working lives.

**Email Overload - Activity Three**

**Organisational-related factors**

**Activity Focus**

Creating a new expectation of email conduct from clients and colleagues.

**Theoretical background**

Much like volume-related factors, content–related factors also tend to cause feelings of email overload among employees, as well as contributing to decreased productivity (Agema, 2015; Span, 2007; Burgess et al., 2004; Vacek, 2014). The focus of this activity is to address the two contributors to content-related email overload which are poorly chosen subject titles and unnecessary formalities.

**Demonstration and discussion**

An organisation's culture, norms and value shape the weighting and urgency of emails and expectations of reply times. However, these often lead to time pressures that make individuals feel overwhelmed, overloaded and stressed. Furthermore, emails are more often used for internal communication within one company and frequently within the same building. This leads to an unnecessary build-up of emails causing email overload.

**How to address this**

1) Explain to close colleagues that you have a new way of conducting your email.
2) Send a short message explaining your new email conduct.
3) Add a PS to your signature block to reinforce your new email conduct.

**1). Explain to close colleagues that you have a new way of conducting your email.**

- Instead of emailing response (colleagues)

  Communicate your response face-to-face or via a phone call.

- No access to your email after working hours

  If it is urgent - they may contact you via your mobile.

- Specific access times

  Inform your colleagues that you only spend large amounts of time on your emails– three times a day. If it is urgent, call.

**2) Send a short message explaining your new email conduct.**

1. Advise clients and colleagues that you only check your email ____ a day (i.e. three times a day)
2. Inform them that you do not access your email after working hours.
3. Inform them of other ports of call to get a hold of you

**3) Add a PS to your signature block to reinforce your new email conduct**

**From:** Cynthia Smith [mailto:cynthiasmith@yahoo.co.za]

**cc:** kayla Jacob [mailto:kaylajacob@yahoo.co.za]; Megeen White [mailto:megeenwhite @yahoo.co.za]

**Sent:** 12 October, 2016 10:06 AM

**To:** Julia Right

**Subject:** Short-Term Contract Opportunity

Dear Colleagues

Thank you all for getting back to me so quickly regarding the annual Christmas party on the 4th December.

Kind Regards

Cynthia

*P.S. I am not always at my desk but I do check my emails three or four times per day. If your matter is urgent, Please contact me directly on my mobile.*

**The importance:**

The process of managing other people's expectations about your email conduct, allows you be more productive, without leaving others stranded (by suggesting preferred channels of communication). Therefore, you feel more in control of your emails and your work.

**Objective:**

The objective of the organisational-related factor is to provide employees with ways in which to change/modify the expectations of their email conduct among clients and colleagues. Often people expect others to reply almost what instantaneously to their emails; however, this is not realistic and can cause people to feel overwhelmed, particularly when they are juggling various tasks at once. Therefore, by suggesting three simple ways of restructuring other people's email expectations, individuals have more control over their email conduct.

## Appendix J
## Participant Consent Form

I (participant's name) _____ agree to participate in the research project of **Kerry Meghan Campbell** on **The role of a training intervention in reducing email overload and increasing productivity.**

**I understand that:**

**1.** The researcher is a student conducting the research as part of the requirements for a Master's degree in Organisational Psychology at the University of the Witwatersrand. The researcher may be contacted on **0833872300** or **1199916@wits.students.ac.za**.The research project has been approved by the relevant ethics committee(s), and is under the supervision of **Professor Karen Milner** in the Psychology Department at Witwatersrand University, who may be contacted on **Karen.Milner@wits.ac.za.**

2. The researcher is interested in the role of training intervention in decreasing email stress and increasing perceived productivity.

3. My participation will involve in a training intervention, conducted by Kerry Campbell (researcher), which will be conducted for no more than one to two hours on a working day.

4. My participation will be to participate in a focus group with Kerry Campbell (researcher/facilitator), which will be conducted for no more than 1 and a half hours. However a follow up interview may be conducted, if there is any information that needs to be considered/ re-considered by both the participant and researcher.

5. I may be asked to answer questions of a personal nature, but I can choose not to answer any questions about aspects of my life which I am not willing to disclose.

6. I am invited to voice to the researcher any concerns I have about my participation in the study, or consequences I may experience as a result of my participation, and to have these addressed to my satisfaction**.**

7. I am free to withdraw from the study at any time – however if I have any concerns commit myself to full participation unless some unusual circumstances occur, or I have concerns about my participation, which I did not originally anticipate.

8. I understand and I am willing to participate (if requested by the researcher) in discussion after the completion of the training programme, regarding an interpretations of the results by the researcher.

Signed on (Date):

Participant: _____

Researcher: _____

# Appendix K
# Information Sheet

**Participants' information sheet**

**A research project investigating the role of training in reducing email overload and improving productivity**

**Introduction**

I would like to invite you to participate in my research project, which is interested in the role email overload has on stress and productivity in the workplace.

**Why?**

In order to obtain my Master's degree in Organisational Psychology at The University of Witwatersrand, I am required to conduct a research project. My study focuses on a minimum of 20 employees, who generally experience feelings of email overload. The aim of my research is to extend the previous knowledge around email overload, email stress and email interruptions in order to provide recommendations concerning how to reduce these issues.

**How to participate?**

1. Fill out three separate questionnaires ( should not take longer than 10-15minutes)
2. Attend the training programme during office hours ( no longer than two hours)
3. Fill out three separate questionnaires two weeks after training programme (This should not take longer than 10-15minutes)
4. Participate in a focus group discussion ( lasting no longer than 45minutes)

**Do I have to participate?**

No, all participation in this research project is completely voluntary. You are not obligated to take part in this study, and there will be no implications if you choose not to participate. Similarly, if you choose to participate, you are also able to withdraw from this research project at any time, without justifying yourself.

**What if I participate?**

If you choose to participate in the following research project, your name and any information disclosed to the researcher will remain confidential and anonymous. All partners of your organisation are aware of and support the conduct, confidentiality and anonymity of this research project. Your involvement in this research project will not be known by the partners nor will it affect your current position in the organisation.

If you have any further queries, please do not hesitate to contact me on 1199916@students.wits.ac.za or 0833872300, or my supervisor Professor Karen Milner on Karen.milner@wits.ac.za.

## Appendix L:
## Tape recording permission form

| | |
|---|---|
| ***Participant name & contacts (address, phone etc)*** | |
| ***Name of researcher & level of research (Honours/Master's/PhD)*** | **Kerry Meghan Campbell**<br>**Master's** |
| ***Brief title of project*** | **The role of a training intervention in reducing email overload and improving productivity** |
| ***Supervisor*** | **Professor Karen Milner** |

**Declaration**

***(Please initial/tick blocks next to the relevant statements)***

| | | |
|---|---|---|
| ***1. The nature of the research and the nature of my participation have been explained to me*** | verbally | |
| | in writing | |
| ***2. I agree to be interviewed and to allow tape-recordings to be made of the interviews*** | audiotape | |
| | videotape | |
| ***3. I agree to take part in*** | audiotape | |
| ***and to allow tape-recordings to be made.*** | videotape | |
| ***5.1 I have been informed by the researcher that the tape recordings will be erased once the study is complete and the report has been written.*** | | |
| ***5.2 OR I give permission for the tape recordings to be retained after the study and for them to utilised for the following purposes and under the following conditions:*** | | |

**Signatures**

| | | |
|---|---|---|
| ***Signature of participant*** | | ***Date*** |
| ***Witnessed by researcher*** | | |