

Open-plan Office and its Impact on Interpersonal Relationships

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Abstract

In a modern industrialised world, many employees work in an open-plan office environment. Therefore, the effect of the open-plan office on interpersonal relationships and worker wellbeing is important to investigate.

This study examines the lived experiences of employees who work in open-plan office environments. The academic literature illustrates how the open-plan office environment impacts on interpersonal relationships and worker wellbeing; suggesting that the open-plan office environment influences human behaviour and interaction. The positive aspects of open-plan office layouts are that they increase worker visibility, communication, collaboration, team cohesion and worker engagement. Other research outlines the negative impact of working in open-plan offices; factors such as noise, distraction and privacy issues.

Seven people were interviewed for this study, participants were recruited from my personal and professional networks. Interviews were face to face and semi-structured in design. Interviews were transcribed, and the data was analysed through thematic analysis.

Themes were generated during analysis to answer the research questions:

1. How does the open-plan office environment impact on employee interpersonal relationships?
2. What are the implications of open-plan office environments for employee wellbeing?

Participants within this study generally felt positive about working in an open-plan office, and reported healthy working relationships. On the other hand, participants were often distracted by overhearing their co-workers talk and had preferences for a quieter environment.

Through the findings, this research has provided insight into the interpersonal relationships and wellbeing of workers in open-plan office environments and recommendations for future research are provided.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has the for the award of any other degree or diploma of a university or other institution of higher learning.

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Chapter One: Introduction

1.1 Background

Nowadays many organisations are operating in an open-plan office layout. Open-plan office environments help organisations with cost saving and reduce space utilisation, which also allows for flexibility in the reallocation of workstations to fit the needs of business operations (Becker & Sim, 2001). The absence of physical barriers is alleged to facilitate better communication, engagement, collaboration and team cohesion, and as a result, improve productivity (Zimmerman & Martin, 2001). The academic literature has shown mixed findings on communication and productivity within the open-plan office, with some research reporting positive outcomes and others reporting negative outcomes (Morrison & Macky, 2017; Rashid, Wineman, & Zimring, 2009; Richard et al., 2017).

Many organisations opt to operate under an open-plan office environment because they believe it helps to increase communication flow between workers, allow the workers to form relationships and learn from one another (Kim & de Dear, 2013). The proximity afforded to workers in open-plan offices facilitates co-worker relationships, and as a result of this, it fosters work-related task efficiency, increased collaboration and communication. The open-plan office provides a good platform for workers to socialise and build close relationships, which has a positive impact on motivation, wellbeing and overall job satisfaction (Cole, Bild, & Oliver, 2012). Supporters of open-plan indicate that open-plan offices facilitate information flow (Zahn, 1991) increases employee engagement (Salis & Williams, 2010) as well as overall worker productivity (Haynes, 2008). Organisational leaders are at the forefront of influencing the positive aspects of co-worker relationships (Kozlowski & Klein, 2000). Leaders within the open-plan office can have a big impact on worker engagement; leaders who are visible within the open-plan office can build better relationships with their co-workers, help workers when required and cultivate a positive and supportive organisational culture (Sosik, Jung, & Dinger, 2009; Z. Zhang & Spicer, 2014).

The research on open-plan office design suggests that organisations often use open-plan office layouts to reduce cost, however, does not necessarily consider the impact it may have on the employees who work there (Becker & Sim, 2001). There are various types of office designs, ranging from a private office to the shared office which can hold two to four people, to the large open office space. The open-plan office also varies in its design such as workstation arrangements, decorative furniture, furniture that is designed to

cancel noise and lighting panels. Additionally, areas within the open-plan can be separated by cabinets, partitions, moveable objects such as plants which can change the look and feel of the office (Brennan, Chugh, & Kline, 2002) and impact on the way employees can interact with each other.

Designing an open office space to cultivate a supportive and innovative environment is an emerging practice among organisational leaders (Kristensen, 2004; Moultrie et al., 2007). These spaces have a range of names from multi-spaces, multi-purpose, activity-based office, breakout rooms (Nenonen et al., 2012) creativity rooms (Wycoff & Snead, 1999), combi offices, cell offices, flex offices, open-plan offices, shared room offices (Bodin Danielsson & Bodin, 2008), there is also a growing trend towards symbolic design which features bright colours and artwork to provide a stimulating space that fosters job satisfaction (Pitt & Bennett, 2008).

Open-plan offices have an impact on co-worker relationship dynamics (Leon-Perez, Medina, Arenas, & Munduate, 2015); co-workers learn about the organisation through interaction and engagement. The open-plan office helps workers access information and facilitates organisational learning (Kim & de Dear, 2013; Penn, Desyllas, & Vaughan, 1999). This helps with faster information sharing in a natural way that can enable innovative ideas between co-workers. Open-plan offices can also have a negative impact on employee wellbeing and interpersonal relationships. In organisations that have transitioned from the traditional office type to the open-plan office, workers reported feeling a decrease in overall satisfaction with their physical work environment, increase in stress and a decrease in team member relationships (Brennan et al., 2002). Satisfaction with the physical work environment is negatively impacted by overhearing conversations and temperature changes (Kim & de Dear, 2013). The open-plan office environment is a zone of distraction for workers as it restricts the worker from being able to focus and concentrate on the task. Other distractions in the open-plan include co-workers walking past, printer noise, telephone ringing, and overhearing conversations.

Privacy is a concern for workers within the open-plan office environment (Danielssen, 2008; Kim & de Dear, 2013; O'Neill & Carayon, 1993; Sunderstrom, Burt, & Kamo, 1980). Tension exists between the worker's need for privacy and the organisation's desire for collaboration. Privacy can have an impact on worker's productivity; the challenge is for the organisation to enable workers to feel a sense of privacy but also be collaborative.

Where privacy issues arise, workers can feel frustrated and unproductive as they are unable to perform their duties (Danielssen, 2008).

1.2 Contribution to the Literature

The findings and insight gained from this research will contribute to the body of academic literature on open-plan office design and specifically around the impact it may have on interpersonal relationships. Furthermore, this study will contribute to both the research in management, employee wellbeing, leadership, co-worker relationships and communication between workers within the open-plan office.

1.3 Thesis Structure

This thesis is comprised of six chapters. Chapter one introduces the topic by providing an overview of the background and the research's contribution to the literature. Chapter two reviews the literature on open-plan office design, which will inform the findings and the discussion. The literature informs the research questions: (1) how does the open-plan office environment impact on employee interpersonal relationships? (2) what are the implications of open-plan office environments for employee wellbeing? Chapter three will explain the methodological framework used for this study such as the epistemology, ontology, method, data collection, and data analysis procedures. Chapter four will illustrate the findings from the data analysed and explain the six themes and two sub-themes in detail. An overview of the findings for each theme and sub-theme will be provided. Chapter five will discuss the findings to answer the research questions. Chapter six concludes and outlines the research contribution and theoretical implications. The limitations are presented in the conclusion chapter, along with suggestions for future research on open-plan office design.

Chapter Two: Literature Review

2.1 Introduction

In the past few decades, open-plan offices have become popular for economic reasons as they reduce the need for space and facilitate information flow (Becker & Sim, 2001). Open-plan office designs are also popular because they provide increased usable areas, high occupancy and can potentially improve communication and social interaction between employees (Boutellier, Ullman, Schreiber, & Naef, 2008; Oldham & Brass, 1979; Stryker, 2004).

The purpose of moving to open-plan layout is to increase employee visibility, communication, engagement, collaboration and social cohesion; this has been found to both positively and negatively impact on working relationships (Bedoir, 1979; Van Meel, 2000; Zahn, 1991). Researchers have suggested that the open-plan office environment influences employee behaviour and interaction (Elsbach & Pratt, 2007; Hua, Loftness, Heerwagen, & Powell, 2011). Published findings indicate a negative reaction to conducting work in open-plan space, where employees complain about lack of privacy, noise pollution and being distracted by overhearing conversations (Banbury & Berry, 2005; Brennan et al., 2002; Sundstrom, Herbert, & Brown, 1982). Researchers still debate the pros and cons of open-plan office designs (Kim & de Dear, 2013; Purdey & Leifer, 2012).

A growing number of studies are now focusing on the impact of open-plan office layouts and the impact it has on employee interpersonal relationships (Haynes, 2007; Herbig, Schneider, & Nowak, 2016; Morrison & Macky, 2017). The research topic has gained popularity in recent times as organisations begin to adopt new ways of conducting work through space utilisation. Some of these ways are proving to be challenging for employees as they adapt to new ways of engaging with their colleagues and getting their work done. The current study will add value to the extant literature by illustrating the impacts of interpersonal relationships in the workplace and the implications this has on employee wellbeing.

2.2 Perceptions of Open-plan

2.2.1 Moving to Open-Plan

A number of studies have looked at the relationship between the office layout and its impact on employees; more specifically, the pre- and post-move impacts on employees (Brown, Efstratiou, Leontiadis, Quercia, & Mascolo, 2014; De Paoli, Arge, & Blakstad, 2013; Hong, Easterby-Smith, & Snell, 2006; McElroy & Morrow, 2010). McElroy and Morrow (2010) looked at pre- and post-office renovation within the financial sector; they found that employees who moved from an individual office to an open-plan space perceived the work environment culture as less bureaucratic, less formal, and more autonomous and innovative than employees who remained within their own designated office. Similarly, Hong et al. (2006) found that irrespective of hierarchy or rank, employees who were placed in an open-plan office with no physical barriers to their workstations, experienced greater collaboration and developed a learning culture. Zerella, von Treuer, and Albrecht (2017, p. 8), found that the office layout “is a predictor of organisational culture, which can guide employee behaviour, particularly in terms of the way workers interact”. Open-plan office layouts that enable workplace accessibility and visibility result in increased worker collaboration (Morrow, McElroy, & Scheibe, 2012). Hua et al. (2011) and Lee and Brand (2005) reported flexible spaces are common in open-plan offices and positively influence group cohesion and collaboration. Peterson and Beard (2004) study found that after implementing an open-plan office, team meetings operated at a higher level of collaboration.

In comparison, an earlier study conducted by Brennan et al. (2002, p. 293), found “employees appear to be negatively affected by the relocation to open offices, reporting decreased satisfaction in the overall physical environment, increase in physical stress, decreased team member relations, and lower perceived job performance”. Additionally, Bernstein and Turban (2018) found that open-plan office designs reduced face to face employee interaction of about 70 per cent and that electronic interaction increased by roughly 20 to 50 per cent. Research conducted by Brennan et al. (2002); De Croon, Sluiter, Kuijer, and Fringes-Dresen (2005) found negative and positive results, suggesting that open-plan offices can impact on employee perception of collaboration, privacy and work satisfaction.

Kaarlela-Tuomaala, Helenius, Keskinen, and Hongisto (2009) conducted quasi-field experiments investigating the relocation of employees from private offices to an open-

plan environment; job dissatisfaction was shown to be high in open-plan office environments than in an individual private office. The differences in findings could be a reflection of personal preference in the use of work space, noise sensitivity and job related difference in work task activities (Appel-Meulenbroek, Groenen, & Janssen, 2011; Hoendervanger, De Been, Van Yperen, Mobach, & Albers, 2016; Pierrette, Parizet, Chevret, & Chatillon, 2015). Given that flexible workspaces rely on the successful implementation of the open-plan office environment and fit for purpose design; where the layout of the office reflects the needs of the workers and the work which they conduct, it is possible that difficulties in adopting new working space may prevent some workers from benefiting from open-plan office design (Haapakangas, Hongisto, Varjo, & Lahtinen, 2018).

2.2.2 Proximity

Open-plan office environments mean that employees are physically closer to each other; workstation proximity is the physical distance between employee workstations (Kiesler & Cummings, 2002). Physical proximity is an important feature of the open-plan office environment, some authors have claimed proximity can increase efficiency, collaboration, communication (Allen, 1977; Homans, 1950; Kraut, Fish, Root, & Chalfonte, 1990; Kraut, Fussell, Brennan, & Siegel, 2002) and promote better working relationships (Griffin & Sparks, 1990). For example, physical proximity can influence supportive relationships within the open-plan office (Mok & Wellman, 2007). However, Sailer and Penn (2009) have shown that frequent worker interactions do not reach more than an average of 18 metres from one individual to another.

Griffin and Sparks (1990) found that physical proximity can help develop healthy relationships among employees. Similarly, physical proximity increases the frequency of communication among employees and, in turn, fosters relationship building (Allen, 1977; Boutellier et al., 2008; Kraut et al., 1990). Kraut et al. (1990) investigated the impact of physical proximity among employees within a telecommunication organisation; there was a strong positive relationship between proximity and collaboration. According to Zerella et al. (2017), teammate proximity can affect the efficiency of information sharing between employees. Santoro and Saporito (2003) state that, while the use of communication technologies and information is increasing, the value of face to face communication is far greater and efficient than virtual communication for highly complex team structures;

human to human communication is more important to organisations that value collaboration and teamwork. Through the removal of walls and desk partitions, employee proximity increases face to face communication (Stryker, 2004; Zahn, 1991).

2.2.3 Job Satisfaction

Studies that have reported lower job satisfaction in open-plan offices (Bodin Danielsson & Bodin, 2008; De Croon et al., 2005; Pejtersen, Allermann, Kristensen, & Poulsen, 2006) indicate that the relationship between office type and job satisfaction is complicated due to factors such as being near a window, or having a larger space to conduct work in. Kim and de Dear (2013) found job satisfaction decreased in open-plan offices where there are high noise levels, lack of privacy and varied indoor temperatures; they also found being overheard to be the most unsatisfactory factor in an open-plan office.

An older study conducted by Zalesny and Farace (1987), looked at perceived job satisfaction and employee reactions to change in their physical environment. They found that employees in different hierarchical positions perceived personal privacy and job satisfaction differently depending on the position they held. Judge, Thoresen, Bono, and Patton (2001) state that job satisfaction is associated with improved job performance, and it is highly likely that office design that is fit for purpose, meaning that the design of the office is reflective of the work which is done by employees, would improve both environmental and job satisfaction.

Several studies have explored worker environmental satisfaction of the open-plan office design (Bodin Danielsson & Bodin, 2008; De Croon et al., 2005; Kim & de Dear, 2013; Pejtersen et al., 2006). These studies have reported lower environmental satisfaction for workers in open-plan compared to employees who have a private office. For example, Bodin Danielsson and Bodin (2008) have found cell office, and flex offices receive higher scores for environmental satisfaction in comparison to open-plan offices because of their tendency to be noisier. Haapakangas et al. (2018) research suggests that office noise and co-worker conversations were the main complaints about environmental satisfaction. Similarly, Kim and de Dear (2013) found that high noise levels resulted in environmental dissatisfaction, a point supported by Herbig et al. (2016) who state that a higher number of people enclosed per office increases noise and decreases environmental satisfaction. In addition, an earlier study conducted by Leneer-Axelsson and Thylefors (1991) posits that medium-sized offices which have between 10 to 24 individuals may not be large

enough to allow for social groups to form and not small enough for individuals to get to know each other, possibly resulting in environmental and job dissatisfaction.

2.3 Noise

2.3.1 Intelligent Conversations

According to Martin, Wogalter, and Forlano (1988); Salame and Baddeley (1989); Schlittmeier, Hellbrück, Thaden, and Vorlander (2008); Sorqvist, Nostl, and Halin (2012), background speech affects worker's ability to complete tasks such as reading, writing and mental arithmetic. Ellermeier and Hellbrück (1998), state that performance is impaired due to the intelligibility of the speech rather than the level of noise within the office. The methods of determining speech intelligibility differ between studies, for example, Liebl et al. (2012), utilised listening tests and their study suggests that low-level speech intelligibility noise of fewer than 40 decibels affected short-term memory and reasoning ability. Keus van de Poll, Ljung, Odelius, and Sörqvist (2014), utilised the speech transmission index, this index measures the transmission of speech intelligibility and the impact on individual performance, the study revealed that performance was impaired by speech even with low speech transmission values. Hongisto (2005) study revealed that performance drops similar to the speech transmission index value. Schlittmeier and Hellbrück (2009) study revealed that participants rated office noise as the most disturbing sound condition followed by vocal music.

Smith-Jackson and Klein (2009, p. 286) looked at the effects of employee cognitive levels within noisy office environments; the study found that "workload ratings were higher in irrelevant speech conditions than in quiet conditions". This is supported in an earlier study on irrelevant speech effect by Salame and Baddeley (1989), their study utilised irrelevant speech in the work environment to determine noise distraction levels, they found performance was significantly impaired by vocal noise. Research conducted by Haapakangas et al. (2018) supports the view that quiet work environments enable improved work productivity. Loewen and Suedfeld (1992) study found exposure to office noise that consists of photocopier sounds, telephone ringing and speech, impaired performance and resulted in higher ratings of distractions. An older study conducted by Martin et al. (1988), which investigated the effects of irrelevant speech on reading comprehension, reported significant poor performance within continuous speech environments. In addition, Smith-Jackson and Klein (2009) conducted an experiment

which involved conversations about movies as irrelevant speech; they suggested that the effects might be stronger if the experiment utilised relevant speech that included the individual's name or a topic interesting to the worker.

2.3.2 Interruption

The adoption of open-plan office design enables increased opportunities for employee communication and learning (Elsbach & Pratt, 2007; Irving & Ayoko, 2014; Seddigh, Stenfors, Berntsson, Baath, & Westerlund, 2015). For example, Elsbach and Pratt (2007) state that office design can be effective in supporting the functional aspect of the open-plan office rather than the occupants; this includes the use of collaborative spaces which can cause interruption especially when the collaborative spaces are close to where the workers sit. Cummings, Oldham, and Zhou (1995) investigated the effects of worker interactions, which affected work-related task completion, occupant satisfaction, performance and caused interruptions. Office design that impacts on personal control over the workspace can lead to negative attitudes towards co-workers, this is viewed as imposing on personal comfort and an inability to perform tasks (Wajcman & Rose, 2011). Irving and Ayoko (2014) claimed that not all interruptions were perceived as negative by employees; their study found that interruptions sometimes led to employees learning new and useful information and enabled them to help others with answering questions and problem-solving.

2.3.3 Distraction

An older study conducted by Zajonc (1965) indicated that stimuli from the working environment were associated with improved performance only when the task was simple; performance was impaired when the task was demanding. Similarly, more recent studies conducted by McDonnell and Ward (2011) and Faisal, Selen, and Wolpert (2008) state that individuals conducting simple tasks in noisy environments can improve their performance; in comparison, conducting cognitively demanding tasks in noisy environments can impair performance. Lavie, Hirst, de Fockert, and Viding (2004) indicated complex and cognitively demanding tasks reduced the capacity to deal with irrelevant stimuli, however, it could increase the risk of distraction, which causes poor performance. Demanding tasks rely on mental processes required for concentration, therefore, noisy environments can impact on worker performance (Diamond, 2013). An

earlier study conducted by Mehrabian (1977), states that mental strength enables the inhibition of stimuli, where workers have an ability to stay focused. Jahncke, Hygge, Halin, Green, and Dimberg (2011), indicated that performance declined in noisy offices in comparison to low noise offices, however, they did not see any proactive inhibitory actions on the part of the participants.

The current literature identifies open-plan office environment as a contributor to increased noise levels which decreases work satisfaction (Ashkanasy, Ayoki, & Jehn, 2014; Kim & de Dear, 2013; Morrison & Macky, 2017; Sundstrom, Town, Rice, Osborn, & Brill, 1994). Kim and de Dear's (2013) study found private offices have the highest overall work satisfaction. Morrison and Macky (2017) indicated that those in shared office environments reported higher levels of distractions. Demerouti, Bakker, Nachreiner, and Schaufeli (2001) reported distraction being an environmental demand; quiet rooms were viewed as resources that had the potential to decrease the negative impact on work satisfaction. Seddigh, Berntson, Bodin Danielson, and Westerlund (2014) have shown that employees working in cell offices experience lower levels of distraction and stress in comparison to employees working in open-plan offices; the effects are stronger for employees who require a greater need for concentration.

Open-plan offices utilise a large room, where workers exchange ideas and engage in discussions (Zahn, 1991). When open-plan office designs are not designed well acoustically, the office becomes distracting for the occupants (Sundstrom et al., 1994). Noise distractions include speech, laughter and phones ringing (Bradley, 2003). Evans and Johnson (2000) identified noise as negatively impacting on performance and an inability to concentrate; that background conversations are an issue for worker concentration. Intelligible speech is one of many causes of an employees' inability to perform and focus on work tasks (Danielssen, 2008). Haapakangas, Haka, Keskinen, and Hongisto (2008) and Sarwono, Larasatim, Novianto, Sihar, and Utami (2015) reported speech as the most distracting sound in open-plan offices, overhearing others talk can cause disruption and deterioration of cognitive performance.

Jahncke et al. (2011) study on noise had reported negative impacts on employee performance. The study concluded that individuals perform better in quiet environments. Consequently, overhearing conversations leads to negative employee performance and stress within the open-plan office (Maher & Hippel, 2005; Smith-Jackson & Klein, 2009; Sundstrom et al., 1994). Interestingly, Lee and Brand (2010) suggested that employees

who perceive themselves to have control over their physical environment, such as having designated private rooms to use, mitigated the negative effects of distraction on performance in the open-plan office. An earlier study conducted by Sundstrom (1986) reported performance was affected by noise, but also by the employee's sense of personal environmental control, illustrating that a sense of personal control helps buffer against negative effects of distraction on individual perceived performance.

The literature on distraction suggests that employees prefer to conduct their work in private offices and environments with low levels of noise and spatial density (Oldham, 1988; Oldham & Rotchford, 1983; Sunderstrom et al., 1980). However, some individuals are better at handling excessive stimuli within an open-plan space, for example, an older study conducted by Mehrabian (1977), suggested that individual differences in coping are due to an ability he labelled as “stimulus screening”, reporting that screeners have the ability to reduce stimulation by focusing on priority information. In open-plan offices, irrelevant stimuli may create an incentive for employees to develop coping strategies against stimuli such as noise, laughter, and intelligible conversations (Seddigh et al., 2015). Maher and Hippel (2005) indicated that individuals in open-plan offices who inhibit stimuli from the open-plan office performed significantly better. Additionally, workers seek to minimise unwanted intrusion and excessive stimulation (Oldham & Rotchford, 1983), which may lead to workers creating their own coping strategies.

2.4 Indoor Environment Quality

Research on indoor environment quality has increased the awareness of the impact it has on workers within the open-plan office environment (Kim & de Dear, 2013). Indoor environment quality is referred to as the quality of the building’s environment in relations to the health and wellbeing of the occupants within it (Kim & de Deer, 2012). Kang, Ou, and Mak (2017) investigated the impact of indoor environment quality on worker productivity within the open-plan office. The study identified five factors that affected productivity: (1) office layout, (2) air quality, (3) acoustic comfort, (4) lighting and (5) thermal comfort. An experiment conducted by Geng, Ji, Lin, and Zhu (2017) found similar results, where the parameters measured were light, noise, temperature, privacy and humidity; the research found that there was a significant impact on productivity. Kim, Kong, Hong, Jeong, and Lee (2018) focused on the impact of the stress of workers within

the open-plan office; the study concluded that the most noticeable result is that high concentration of carbon dioxide and work stress lead to abnormal blood pressure.

2.4.2 Privacy

Open-plan offices with high visibility and low privacy can create better opportunities for collaboration, communication and interaction (Becker & Sim, 2001; Stryker, 2004). Kupritz (2005) found workers perceived privacy differently, for example, managers perceive a need for privacy when they are required to deal with confidential work, in comparison, administration support staff did not feel the need for privacy within the open-plan office. Privacy within the open-plan office can be perceived differently depending on the value which an organisation places on human interactions (Zerella et al., 2017). In organisations where communication is highly valued (Stryker, 2004) noise distraction and disturbance may not be viewed as negative by workers.

A study conducted by Brenner and Cornell (1994) investigated the behaviour of workers within an office that was designed to enhance privacy and collaboration. The office consisted of enclosed personal workspace and an open shared space, and when the shared space was used, it indicated availability for interaction, and when workers withdrew to a private space, it signalled unavailability to interact. Similarly, Hurst (1995) indicated that, in shared spaces, workers interact and collaborate and, when they withdrew to personal space, it signalled they wanted privacy. Research conducted by Nathan and Doyle (2002) stated that tension could exist between the individual need for privacy and territory and the organisational need for collaborative workspaces. Privacy needs can create tension within the workplace, which can have an impact on employee productivity, and the challenge is to create an organisational culture that enable these activities to coexist (Haynes, 2007).

2.2.3 Sitting Duration

Duncan et al. (2015) have looked at the occupational sitting time within an open-plan office; their study indicated that job requirements influence sitting time. Rashid et al. (2009) study found that employees who conduct work in an open-plan office had a higher frequency of taking breaks away from their desk; the same study found occupants of private offices took fewer breaks and therefore sat for longer. Furthermore, Rashid, Kampschroer, and Zimring (2006) found that higher levels of employee engagement at

work increase the frequency of breaks, therefore, stimulating movement in the office. According to De Cocker, Duncan, Short, van Uffelen, and Vandelanotte (2014), employees who have a perception of lower control over their sitting behaviour were associated with longer durations of sitting time. An inherent feature of the open-plan office is that workers are usually physically close to each other, Salis and Williams (2010) state that it is useful in an open-plan office environment as it encourages information sharing between workers.

Standing desks reduce occupational sitting time by allowing the employee to control their preference to sit or stand while working (Alkhajah et al., 2012; Neuhaus, Healy, Dunstan, Owen, & Eakin, 2014). Standing desks are only one of many ways the workplace can have an influence on sitting duration (Duncan, Rashid, Vandelanotte, Cutumisu, & Plotnikoff, 2013; Plotnikoff & Karunamuni, 2012). Researchers suggest that sitting duration varies based on office type (Boutellier et al., 2008; Gorman et al., 2013; Rashid, Craig, Zimring, & Thitisawat, 2006). For example, employees who move from private offices to open-plan office layout have increased interactions with their co-workers, become better at collaborating and making improvements on their work performance (Boutellier et al., 2008) along with reducing their sitting behaviours (Gorman et al., 2013).

2.2.4 Employee Wellbeing

Several studies have shown that poor office environment conditions can have adverse health effects (Clausen & Wyon, 2008; Kim & de Dear, 2013; Lan, Lian, & Pan, 2010; Richard et al., 2017). For example, Cui, Cao, Park, and Ouyang (2013) indicated that room temperatures affect wellbeing and performance, the subjects within the study experienced negative emotions and exerted greater efforts to perform in temperature conditions of 22, 29 and 32 degrees Celsius. Bodin Danielsson and Bodin (2008) found office type had a significant impact on employee health; the study found that employees with individual offices had the best health in comparison to those who were in an open-plan layout. Pejtersen, Feveile, and Christensen (2011) study found that absence from sickness was significantly related to the number of employees within an open-plan office compared to a single-use office. Their results showed a 5% chance of sick leave in a two-person office, 36% sickness absence in three to the six-person office and 62% sickness absence with more than six people in an office. Similarly, Pejtersen et al. (2011) found there are higher chances of employees taking sick leave in shared workspaces with six

people or more in an office space. Bodin Danielsson, Chungkham, Wulff, and Westerlund (2014) study reported sick leave was significantly higher among employees in an open-plan office in comparison to other office types.

The work environment can impact on employee behaviour through noise distractions, privacy and poor ventilation systems, which can also impact employee wellbeing (Ashkanasy et al., 2014). Haapakangas et al. (2018) found that stress symptoms increased due to association with distraction and reduced collaboration; an experiment was conducted which showed that moving from a private office to an open-plan environment resulted in employee stress due to increased distractions. The job demand resource model (Demerouti et al., 2001) shows that workers become frustrated as a result of distractions. Lee and Brand (2010) indicate that both single-cell offices and flexible offices give workers personal control over their work-related task, which has shown to improve health and wellbeing.

2.2.5 Personalisation and Identity

Altman (1975), originally referred to work-place personalisation as the use of personal belongings to mark territory and regulate co-worker interaction. In this context, workers within the open-plan office used personalisation to facilitate worker identity; by expressing their identity, workers can organise their interpersonal and intrapersonal experiences within the open-plan office (Ashkanasy et al., 2014). Earlier research conducted by Goffman (1973), indicated that the inability to personalise one's own space might threaten the worker's sense of individuality by imposing uniformity. Elsbach (2003) suggested that workplace conditions that reduce distinctive personal boundaries make it difficult to differentiate between groups of people within the open-plan office; furthermore, can threaten the worker's identity (Jetten, Spears, & Mansread, 1997).

The open-plan office means more than just the physical space, the way it is designed can represent the worker's expression of identity (Bechky, 2003; Elsbach, 2003; Rafaeli & Pratt, 2006). Ashkanasy et al. (2014) state that personal identity within the open-plan office is critical to how workers might engage in certain behaviours; they are either likely to feel free to be themselves or withdraw from expressing their identity. For example, Elsbach (2003) has defined workplace identity as the self-categorisation that workers use to signal their identity. Sundstrom et al. (1982) suggest that workers are happier with their work environment when it reflects their identity in the form of personalised objects such

as pictures; where workers feel their identity is missing, they are likely to bring in their personal items to reflect who they are (Ashkanasy et al., 2014). Research conducted by Dovidio et al. (1997) showed that collective worker identification could help nurture a positive work environment; shared group identities increases shared experiences and create cohesive teams.

2.5 Relationships at Work

2.5.1 Interpersonal Relationships

Research on workplace interpersonal relationships is growing within the academic literature; privacy issues, crowding and noise create negative interpersonal relationships within the open-plan office (Morrison & Macky, 2017; Seddigh et al., 2015). Open-plan offices have been found to enable employees to develop social relationships through interaction and communication (Herbig et al., 2016). Oldham and Brass (1979) and Zahn (1991) found that forming work relationships can have a positive impact on motivation, well-being and job satisfaction. Open-plan office design supporters state that open-plan offices facilitate better communication, increased employee interaction and increased productivity (Cole et al., 2012; Meijer, Frings-Dresen, & Sluiter, 2009) and as a result, this improves employee satisfaction and morale (Brennan et al., 2002). Lee and Brand (2005) indicate that open-plan office design positively influences closer working relationships among employees (Chigot, 2003) and provide easier channels to share information (Ashkanasy et al., 2014).

Open-plan layouts can also have negative behavioural, psychological and physiological consequences (Bodin Danielsson & Bodin, 2008). These types of behaviours include increased sick leave (Pejtersen et al., 2011), as well as poor emotional and psychological health (Bodin Danielsson & Bodin, 2008). Employees who occupy cell office report less distraction from co-workers than employees in open-plan setting (McElroy & Morrow, 2010; Seddigh et al., 2014). For example, Morrison and Macky (2017, p. 112) found “shared work environments, and in particular hot-desking, are associated with increased worker distraction, negative relationships, uncooperative behaviours and distrust”. Miwa and Hanye (2006), found there are complaints of irritability and hostility in an open-plan office. Bodin Danielsson, Bodin, Wulff, and Theorell (2015) study indicated that office type affects workplace conflict. Research by Brennan et al. (2002) indicates that spatially dense offices do not enhance communication among colleagues; the study suggests that

co-workers feel that open office decreases communication because they prohibit private conversations.

2.5.2 Leadership

Bryman (2004) defined leadership as the process of being able to influence subordinates by achieving a common goal. Leaders are tasked to motivate workers (Kozlowski & Klein, 2000) and sustain worker job satisfaction (Lok & Crawford, 2004). Some researchers are now looking towards leadership behaviours, their relationships with subordinates and their ability to empower (Bodin Danielsson, Wulff, & Westerlund, 2013; Hart & Quin, 1993; Spreitzer, 1995). For example, Nyberg, Westerlund, Magnusson Hanson, and Theorell (2008) state that leaders have an impact on worker wellbeing, sickness, absences, and stress levels. Additionally, workers perceive their leader's behaviour as friendly if their leader is visible and audible within the open-plan office (Crouch & Nimran, 1989). Inversely, Baldry and Barnes (2012) have taken the view that the workspace is designed to provide control to the manager; the open-plan office facilitates the opportunity for surveillance of employees. Additionally, Baldry (1999) stated that the introduction of open-plan offices increased the observation and undermining of workers by management control. Ellenders (2014), states that the physical environment, such as the look and feel of the office, reflect the office culture and status of the leader. As discovered by Pepper (2008), status becomes a point of differentiation when leaders have their own office while the remaining employees are within the open-plan space.

2.5.3 Hierarchy

Office layout not only defines where and how employees do their work, but it also provides a symbolic landscape for culture, hierarchy and identity (Kallio, Kallio, & Blomberg, 2015). Elsbach and Pratt (2007) found that perceived privacy and space can symbolically represent hierarchical differences. Z. Zhang and Spicer (2014), found the amount of space provided to individuals showed a difference in employee status; that large private spaces were often found to be allocated to higher ranked employees, these differences illustrate that workstations can symbolise status and power. Baldry and Barnes (2012) state that hierarchy is conveyed by the amount of personal space that is

allocated to a worker, furthermore, their research found that senior staff and management had retained their right to have their own offices.

2.5.4 Organisational Culture

Organisational culture is the way in which norms values and traditional behaviours within a group of employees are accepted (Haynes, 2007). Hofstede (2011, p. 3) defined culture as “the collective programming of the mind that distinguishes the members of one group or category of people from others”. A few researchers have established the impact of the open-plan office layout on employee behaviour (Becker & Steele, 1995; Kraut et al., 2002; Mehrabian, 1977). Becker and Steele (1995) argue that space utilisation changes organisational culture, meaning that the open-plan office environments will influence and change the pattern of behaviours within the open-plan office environment. Office layouts are also constantly changing and being redesigned to improve productivity and effectiveness (Baldry & Barnes, 2012; Elsbach & Pratt, 2007) however there is little research that explores the organisational culture and employee interpersonal relationships within the open-plan office environment (Zerella et al., 2017).

According to Schein (1990), workstation decorations within the open-plan office reflect the organisation's culture and workers ability to express themselves. Baldry (1999) found that office layout, décor and furnishing show environmental signs of social order within the open-plan office and the workers within it. The environmental décor is important to organisational culture, and ambient conditions such as noise and lighting (Veitch & Gifford, 1996). Elsbach and Bechky (2007, p. 87) states that “just as anthropologist point to objects as the visible part of culture, office design and decor can be seen as the visible part of an organisations culture”.

2.6 Conclusion

In conclusion, open-plan office environments are used due to their ability to provide increased usable areas and can improve communication and social interaction between workers. The academic literature has highlighted how working in an open-plan office influences worker behaviour, interaction, and engagement. For some organisations, moving to an open-plan office meant increasing worker visibility, communication, social interactions and collaboration. This was found to both positively and negatively (Bodin

Danielsson & Bodin, 2008; Frontczak et al., 2012; Morrison & Macky, 2017) impact on working relationships within the open-plan office.

There are now a growing number of studies (Bodin Danielsson & Bodin, 2008; Fried Y., Slowik, Ben-David, & Tiegs, 2001; McElroy & Morrow, 2010; Oxenstierna et al., 2011), which focus on the impact of open-plan offices and interpersonal relationships. Organisations are now beginning to adopt new ways of space utilisation; some of these are becoming challenging to workers as they try to adapt to a new ways of working. Discussion within the academic literature is still debating the positives and negatives of the open-plan office on worker interpersonal relationships and their wellbeing.

Chapter Three: Methodology

3.1 Introduction

This chapter will discuss the methodological framework used in this study. The research methodology is based on the belief that multiple realities exist and that individuals construct meaning and understanding of the world. Face to face, semi-structured interviews were conducted for this research. The recruitment of participants was derived from my own personal and professional networks. Sampling methods of participants were retrieved through snowball, criterion and convenience sampling. Thematic analysis was utilised to explore participants' experiences of open-plan office layout. Ethical consideration is a requirement when conducting interviews; therefore, throughout the interview process, it was imperative to ensure the participants did not feel forced to participate.

3.2 Research Purpose

The purpose of this research is to explore how the open-plan office environment impacts on interpersonal relationships and employee wellbeing. This study aims to explore the following research questions:

1. How does the open-plan office environment impact on employee interpersonal relationships?
2. What are the implications of open-plan office environments for employee wellbeing?

This research will provide an insight into the lived experiences of seven employees who work in open-plan office environments. The employees' perceptions of open-plan offices will be explored using interview data.

Blanche, Durrheim, and Painter (1999), state that the research process consists of three scopes: ontology, epistemology and methodology. The ontology section will examine the nature of lived realities. The epistemology section of this research is used to illustrate my theoretical perspective, thus enabling me to understand "what it means to know" (Gray, 2018, p. 17). The methodology in this research is utilised to help understand the design of this study and the techniques and methods which will be used to give shape to the research.

I have conducted a qualitative research study which has relied on the collection of interview data. The focus is on the participants' direct experiences of the open-plan office. The capturing of the meaning of everyday experiences within their workplace is an important component of this research.

3.3 Ontology

Ontology is the understanding and the examination of natural realities; whether there is a belief in the existence of one truth or many are dependent upon the individual (Bryman, 2016). Grant and Gidding (2002), state that the belief in one truth requires the researcher to have an objective view of the world; while having multiple realities requires the researcher to have a constructivist view of the world. This study is based on the belief that there exist and co-exist, multiple realities; that individuals construct meanings and understanding of the world they live and interact in. This research aims to explore the lived experiences of participants in open-plan offices, it is, therefore, important to note the multitude of realities that are associated with the participant's view of the world and for me to be mindful of making judgements of what could be perceived as right or wrong.

I have always worked in the open-plan office. When I conducted the interviews, it was easy for me to relate to the participants' experiences. I would like to note that despite my experiences in working in open-plan offices, I will not have my experiences form part of the findings but rather that my experience informs the interpretation of the data.

The participants of this study came from a range of ethnic, economic, social, educational and professional backgrounds. Therefore, each participant's experiences will be subjective. Subjective experiences are presented and interpreted within an epistemological paradigm (Gray, 2018).

3.4 Epistemology

Epistemology is defined as the philosophical background for deciding what knowledge is genuine (Gray, 2018). There is great importance in knowing the philosophical foundations that influence my decisions as the researcher. For instance, this includes what type of knowledge is available, how I have come to understand the knowledge, my own way of thinking of the knowledge and how I think others know.

Willis (1995) states that interpretivist believe that there is no single correct path or method to knowledge; the attempt to derive meaning, therefore, comes from conducting in-depth examinations of the phenomenon. Interpretivist assumes that knowledge and the meaning that is created are acts of interpretation, that there is no objective knowledge that is free from human reasoning. The foundation of interpretivism is the access to reality; that they are only through social constructs such as shared meaning, language and consciousness. Interpretivism allows me, as the researcher, to attempt to understand the lived experiences of individuals through the meaning which people assign to their experiences (Tomas, 2010).

As I will be using a constructivist epistemology; it means that knowledge is created by the participant who is interacting with their world. By interacting with the world, the meaning is constructed in the individual's mind and not discovered. For instance, two people can experience the same phenomenon; however, they could construct two different meanings. Crotty (1998) states that constructivism is the interactions and knowledge created by individuals through their social surroundings. A constructivist paradigm is one where people create their realities, beliefs and experiences through the influence of objects and interactions of the world they live in and experience (Gray, 2018).

3.5 Method

The methodology in this research informs the design of this study and the techniques and methods which will be used to give shape to the research.

Crotty (1998) defined methods as the techniques and procedures that the researcher employs to collect and analyse the data which have been obtained. Face to face, semi-structured interviews were selected as they are helpful towards gaining a better understanding of the topic and of the employee's experiences within an open-plan office environment.

Barriball and While (1994) state that semi-structured interviews have the potential to overcome poor response rates; they are much better suited to exploring behaviours, attitudes and beliefs. They provide greater opportunities for evaluating the respondent's answer; they enable facilitation of comparability by ensuring all questions are answered and that the interviewer can probe, explore and clarify meaning.

There are multiple paths that could have been taken to analyse semi-structured interviews. In this study, I decided that the best way to analyse the data is through a thematic analysis approach. Thematic analysis is a simple method to use for a novice researcher who is unfamiliar with complex qualitative research analysis (Alhojailan, 2012; Braun & Clarke, 2006; University of Auckland, 2018). This method of analysis is flexible in the sense that it allows for a rich and detailed description of the data.

3.6 Data Collection

This section provides an outline of techniques and procedures taken for data collection. Questions for the interviews were created to retrieve specific information from the participants; the questions were also used to help guide me through the participant's experiences.

3.6.1 Participant Selection

The recruitment of participants was conducted through my professional and social network. I have an established group of professional networks to call on, through the following channels:

- LinkedIn
- Human resource events
- Conferences
- Previous colleagues
- Social networks

People from these networks expressed their interest to be part of the study. I used an AUT Ethics Committee approved advertisement text to post on LinkedIn to attract potential participants for the study. LinkedIn was useful for generating interest and spreading the message to a wider audience that I may not have previously had a reach to.

The sampling of participants requires taking into account diversity, experience, age and profession (Ritche, Lewis, & Elam, 2003). New Zealand workplaces are commonly diverse, which will be helpful towards this research as it is much more advantageous to employ an eclectic range of participants. It is important to consider participants of various

backgrounds as they have different life experiences, and they can impart different ideas and perspectives that may not have been considered.

All participants who expressed an interest in being part of the research received a soft and hard copy of the participation information sheet and the consent form. The electronic versions were sent prior to the interview session; this was to allow the potential participant to consider their involvement in the research and to ask further questions if they wanted. Participants who agreed to take part in the interview were given the choice of being interviewed at their workplace or in a public location that was not too noisy.

The demographic details of all participants involved in this study are provided in the findings chapter.

3.7 Sampling Method

For the purpose of this research, the following sampling methods were the most appropriate sampling method for this research: snowball sampling, criterion sampling and convenience sampling.

3.7.1 Snowball Sampling

Snowball sampling is a method which draws information from the already recruited participants (Patton, 2002). Participants who were interviewed for this research were asked to disseminate the information sheet to others who may be interested in the study. The advertisement that was placed on my LinkedIn account generated interest. There was no snowballing effect from the already interviewed participants, however snowballing occurred through LinkedIn where the advertisement was circulated amongst my network, yielding six new potential participants to interview. Bagnasco, Ghirotto, and Sasso (2014) state that snowball samples generate a network of people who have similar experiences. The effects of snowballing have helped me collect a decent pool of candidates. Despite an initial good outcome, three of the six potential interviewees decided to withdraw from participating. Two of the participants thought I was joking when I informed them I will record their interviews. The third person who withdrew did not provide a reason.

3.7.2 Criterion Sampling

Criterion sampling was used in this study to construct a comprehensive understanding of the required exclusion criteria. Criterion sampling involves reviewing and studying “all cases that meet some predetermined criterion of importance” (Patton, 2002, p. 238). I had intentions to draw on my own workplace connections as potential candidates to interview for the research. Because I am currently an employee and student of AUT it was a conflict of interest to use AUT employees as part of this research. This topic will be discussed further in the Ethical Considerations section.

3.7.3 Convenience Sampling

Convenience sampling is a common sampling strategy, it involves selecting participants that are easy to access (Bagnasco et al., 2014). One participant was selected under this sampling method. The participant had a close social connection to me; she was called upon as a last resort to increase the number of participants for the study at hand. Waters (2014) suggests that snowball sampling can begin from convenience sampling and can be used for easy to reach and as well hard to reach populations.

3.8 Interview Process

I had a list of leading open-ended interview questions to explore the interviewee's experience of open-plan offices and the impact they believe it has on them. Language is a medium from which human's make meaning of the world; it allowed me to delve into the experiences and meanings by which the participants made sense of their world, therefore interview sessions were the most appropriate method of data collection. Conducting face to face interviews allowed participants to build trust through sharing of personal information between the interviewer and interviewee (Crotty, 1998).

At the beginning of the interview, I wanted to make sure that each participant felt at ease by initially engaging in social conversations. I communicated to each participant that the interview session would be recorded and transcribed; this was also noted on the participation information sheet. I was then able to begin the process by asking the participant if they had any questions before the recording took place. The participation sheet and consent form were provided to the participant with a brief verbal explanation of each one. Once consent was received, the interviews began. The interview sessions

lasted an average of 45 minutes. At the end of the interview, the participants were also made aware that they can request to have their transcripts emailed to them, along with the findings.

3.8.1 Interview Questions:

- Describe your office environment.
- How many people occupy your office floor?
- Please describe features of your work environment that you like, what is it you like about these features?
- How does your workspace/environment impact your experience of work?
- Advantages / benefits?
- Disadvantages/annoyances?
- Are you able to personalise your workspace? If not, why not? If so, have you done so? Please describe.
- Does your workplace provide alternate areas where you can be in a quiet/private environment (e.g. a breakout space)? If so, how often do you use this space and is it in demand?
- Environmental control is about giving employees a choice in terms of how they work, do you feel you have control over your environment? Provide examples of this, e.g. access to resources, technology, furnishings, lighting, natural light areas, etc.
- What, if any, are the impacts (positive and negative) on collegial relationships within the workspace that result from working in an open-plan office environment? Please explain.
- What are the most common distractions in your work environment? Do you think it impacts on productivity? Provide an example(s).
- What do you do to reduce/cope with any distraction you experience?
- Have you felt physically or mentally unwell due to your work environment? Can you provide examples?

There are some disadvantages associated with conducting semi-structured interviews. Interviews can go beyond the designated time frame; for example, when it is time to compare results, it can prove to be difficult as each interview is unique. I was vigilant throughout each interview process to maintain similarity, there were specific interview

questions that I made sure not to deviate from. This ensured that similarity would be maintained. I intended for the interview sessions to be relaxed by nature and that the interviewees felt that they had time to answer and reflect on the questions asked. As the interview sessions were in progress, I encouraged the participants to feel free to elaborate on topics relating to their experiences (McCracken, 1990), I also ensured that the participants did not have to answer questions which made them uncomfortable.

Throughout the interview session, I took notes, this helped me keep a record of things I found interesting and to describe what I heard, the experience during the interview sessions, and anything else I thought was important to remember so I was able to include it in this study.

3.9 Data Analysis

This section will detail how the data was managed, recorded, transcribed and reviewed. Thematic analysis will be used in this study to analyse the data. Thematic analysis is a widely used method of analysis within qualitative studies, it is a method which focuses on identifying patterns, meanings and themes across the data set (Boyatzis, 1998; University of Auckland, 2018).

3.9.1 Transcribing Data

The transcripts were examined by listening and reading the documents simultaneously. The intention for this was to gain immersion that I had initially intended on by transcribing the audio files myself. This was also done to examine the transcripts for accuracy, where there may be errors (Boyatzis, 1998).

3.10 Procedure for Data Analysis

Thematic analysis was selected as the most appropriate research analysis approach because it aims to analyse textual material by generating themes derived from interviews (Smith, 2007). Thematic analysis looks into the relationships between themes and compares them with replicated data (Alhojailan, 2012). Thematic analysis allowed me to make sense of collective meaning and shared experiences (Braun & Clarke, 2006).

Thematic analysis is a method which allows researchers to systematically identify and organise patterns of meaning across the data; these are the themes among the data. It is a suitable analysis approach for this research because it gives space for flexibility to focus on the data in numerous ways.

The following structure helped to analyse the data set:

3.10.1 Phase 1: Gaining Familiarity

This step entailed listening to each recording and reading simultaneously to attain accuracy within the transcript. Riessman (1993) stated that this can also be a good way to familiarise oneself with the data set.

3.10.2 Phase 2: Gaining Immersion

This step involved re-reading through the transcripts multiple times to gain immersion; highlighting areas of potential interest. Braun and Clarke (2006), state that it is important for the researcher to immerse themselves in the data, this involves repeated reading in an active way where the researcher reads analytically, critically and starts to think about what the data might mean.

3.10.3 Phase 3: Generating Codes

Generating codes includes breaking down each transcript into smaller sections where significant findings can be derived. This is referred to as, coding and is the main part that illustrates meaning to the phenomenon (Braun & Clarke, 2006). The size of the code must be big enough to capture the meaning and not lose context.

3.10.4 Phase 4: Searching for Themes

This process involved reviewing the codes generated from each transcript to retrieve themes within the data. Vaismoradi, Turunen, and Bondas (2013) defined a theme as an integration of different pieces of data that constitute a finding. In this study, themes were captured from the codes that had represented the research questions; the inductive aspect of this research assisted in identifying sub-themes (Braun & Clarke, 2006), for this research, sub-themes were related to organisational culture and private spaces. Braun and

Clarke (2006) state that it is important to follow the basic principles of thematic analysis, but the researcher needs to consider flexibility throughout the analysis process. The analysis is a recursive process, where movement can go back and forth as required through the process of analysis (Boyatzis, 1998; Patton, 2002). For this research, I found myself going back and forth between generating codes and searching for themes. The codes which generated the themes of communication and privacy was where I had to continually distil and refine to really capture the meaning of the theme, this was because some of the codes generated were interrelated and I had to think critically about where they sit within the narrative of the research and how it answers the research questions. Lapadat and Lindsay (1999) describe this step of the process as a key step towards data analysis within interpretative qualitative methodology; meanings are created and not mechanically acted upon. Muganga (2015), suggests that the researcher must analyse each answer from the participant in a way which contributes to the bigger picture. This allowed me to gain an understanding that is much broader in context and provides meaning for each answer given by the participant.

3.10.5 Phase 5: Defining and Naming Themes

This process involved a detailed approach to analysing each theme; which is the scope and focus of individual themes (Braun & Clarke, 2006) and creating a story for each theme. Furthermore, this process involved the creation of names for each theme (University of Auckland, 2018). The theoretical and inductive aspects of thematic analysis was used further to enable interpretation and in-depth analysis (Alhojailan, 2012; University of Auckland, 2018).

3.10.6 Phase 6: Producing the Report

This final part of this process involved weaving the narrative together, data extracts and contextualising the data analysis as it relates to the academic literature.

According to Guba and Lincoln (1994), interpretations of the research findings can be influenced by the researcher's backgrounds, their current attitude towards life during the study and any other variables which can impact on the researcher's perceptions. It is important to accept the potential impact of bias. However, in contrast, Smythe and Gidding (2007) describe this bias as adding richness to the research process, which

renders it more alive. I remained mindful of my own experiences working in open-plan office environments and the potential impact of bias.

Thematic analysis has allowed me to identify patterns that are important to the topic and research questions (Braun & Clarke, 2006), these patterns include interpersonal communication, supportive leadership, overhearing conversations, self-expression, disconnecting and privacy. Thematic analysis will provide an opportunity to gain further understanding of potential issues that are likely to arise and may give room for an opportunity to provide recommendations for future research on this topic (Marks & Yardley, 2004).

Post analysis involved the review of the data analysis and finding by way of peer review process. The findings were shared with my supervisors; they provided their views regarding the relevance of the analysis and findings.

3.11 Ethics

The nature of qualitative studies requires interaction between the participant and me to collect meaningful data for the study. In this study, I aimed to ensure the safety and wellbeing of participants while also adhering to AUT Ethics policy and guidelines.

The interaction between participants and me affects the interview process and the understanding of the participant's experiences. Interviews are, therefore saturated with ethical and moral issues due to complexities of researching into worker's private lives. In this study, I ensured that the participants did not have to discuss topics which could make them feel uncomfortable. An important aspect of this research is the participant's comfort and the ability to be themselves. I ensured confidentiality of the participant's name, this was done through a numbering system which is only known to me; by doing so, the participant risk of vulnerability was minimised. The participants were informed of the nature of the study and all other aspects of the study, which could have impacted on their willingness to participate such as the length of time and the location. Participation was voluntary and the data collected was only used with informed consent which is in adherence with AUT Ethics Committee policy.

3.12 Conclusion

This chapter explained the methodology used. The following were examined and clearly detailed: research purpose, my ontological and epistemological perspectives, methods for data collection, sampling methods and interview structure.

Semi-structured face to face interviews were used as a central method for collecting data, because of the nature of the study, open-ended questions were used to allow the participant freedom to express and feel comfortable while the process was in progress. Interview sessions took place in public locations and the interviewee's place of work.

Thematic analysis was used to recognise and categorise the data into themes. The next chapter examines the findings in detail and explores the lived experiences of employees working in open-plan office environments.

Chapter Four: Findings

4.1 Introduction

This chapter will present the findings of the study. The transcripts were analysed to form six themes and two sub-themes: (1) interpersonal communication, (2) supportive leadership; sub-theme, organisational culture, (3) overhearing conversations, (4) self-expression, (5) disconnecting, (6) privacy; sub-theme: private spaces. This chapter begins with a representation of the participant demographics and is followed by the interpretation of the themes and sub-themes; after that, an overview of the findings will be provided and the conclusion.

As noted previously, this research is exploratory; it seeks to understand the experiences of workers in the open-plan office environment. The one-to-one interview sessions provided an intimate engagement between myself and the participants; this helped in the interpretation of the data and provided further context for me to draw on for the findings.

It is important to note that although the findings within this chapter may capture other themes related to open-plan office, I have only specifically looked for themes within the data that would enable me to answer the research questions.

4.2 Participant Demographics

All participants work full-time in an open-plan office environment and spend an average of 40 hours per week working with their co-workers. The age of participants ranged between 20 to 59, and the gender distribution was five females and two males. The participants have come from a range of industry backgrounds and with varying years or experience. As discussed in the interview session between the participant and I, most participants worked in an organisation that had between 100 and 200 people, with the exception of one employee who came from an organisation of about 1000 employees. The information listed in table one is what the participants had disclosed as on their consent form.

Table 4.2.1: Participant Demographic

Participant	Gender	Work Industry / Sector	Position Title	Ethnicity	Age Bracket
Participant 1	Female	Insurance	Loss Adjuster	Middle Eastern	30-39
Participant 2	Male	Engineer	Structural Engineer	Irish	30-39
Participant 3	Female	Finance Services	Head of HR	European	50-59
Participant 4	Female	IT	Service Management Team Lead	Middle Eastern	Did not disclose
Participant 5	Male	Tertiary Education	Head of Department	European	40-49
Participant 6	Female	Digital Consultancy	Operations Manager	European	30-39
Participant 7	Female	Finance	Wholesale associate	Pakeha	20-29

4.3 Interpersonal Communication

Participants in this study have reported that they work in open-plan office environments where they can communicate with their co-workers on a personal and professional level. Interpersonal communication in this context relates to the participant's ability to engage with co-workers, learn about their co-workers in a social context and also acquire organisational knowledge.

Participant 5 made a point in saying that humans are hardwired to connect; inevitably, this will flow into the workplace.

“Show me a human being that can survive without connecting to other human beings, they really struggle right, or even that movie Castaway is a perfect example” (Participant 5).

Conversations that happen organically within the open-plan office can have a positive impact on work-related tasks. Social conversations in the open-plan office environment may seem unproductive but in the long run, they allow for easier co-worker relationship building, collaboration and can increase productivity in the long run.

The below illustrates the workers need to communicate in the office:

“It’s quite good having the kind of open-plan office and having someone next to you and even if it’s just what you think it is and you know they don’t know the answer, but you just want to verbalise it, it’s quite good” (Participant 2).

Participant 2 is saying that we are hardwired to connect and communicate in the open-plan office. Co-workers engage through verbal communication and as a result, build their relationships progressively.

Furthermore, participant 2, says the following:

“Well to a point I suppose I do kind of normally make a point of saying hello, good morning, to whoever’s either side of me in the morning.” (Participant 2).

General day-to-day communication over time builds up a platform for co-workers to get to know each other better. Participants would become familiar with who their co-workers are, what they did in the weekend, if they have any children, and what outside of work activities they engage in.

Participant 4 has had similar experiences in the sense that she feels welcomed and has felt she was able to freely communicate with her co-workers and build relationships despite it being her third week in the job:

“People are definitely approachable here, you know they walk up to me, I mean it’s week three and people they haven’t seen me come up, and they introduce themselves and talk to me and just check-up so I’ve definitely met and built relationships with people quite quickly” (Participant 4).

Some organisations make it their mission to encourage a culture of inclusivity and trust, where workers can communicate easily within the open-plan office with transparency and behave consistently with their organisational values. By enabling such a culture, employees have an advantage where their work relationships enable them to contribute and add value to the organisation's mission, resulting in the employee feeling they have healthy relationships with their co-workers.

For some of the participants, they work in relatively smaller teams; getting to know each other is easier:

“It’s only a few of us so, so you make an effort to know each person, so you pretty much know a lot about each individual” (Participant 1).

When workers make an effort to get to know each other they are also more likely to engage in conversations that are likely to lead to learning.

In open-plan office environments, it can be easier working in smaller teams than working in larger teams. Working in larger teams means there is a larger number of people and with that comes an array of social complexities and conflict:

“Sometimes some of those conversations can simply be toxic, so, you’ve got the sort of quiet gossiping going on as well and sometimes you do get someone who makes a comment about someone else that is negative without realising, oh, they’re within earshot. I had to deal with a case like that for example where there was a PG raised against somebody for saying something, blah, that this person overheard which I kind of said well they probably would have said that any way you just heard about it now and that was a sense of reality for that person to kind of go, should I really go through a whole process now where there’s maybe some truth in it, some opinion that I just need to rectify” (Participant 5).

There is bound to be some form of conflict, disagreement or workers voicing their opinions that can be offensive to others in the open-plan office. Participant 5 is saying that workers are bound to have conflicts with each other in the workplace, however through learning how to navigate through these issues, workers can engage in one to one conversations where they can help each other see a different side to the problem and potentially resolve the issue.

Having good interpersonal communication skills can mitigate negativity between co-workers within the open-plan office environment. It also enables positive working relationships which can lead to learning new organisational knowledge and co-workers’ behaviours. This is done by having constructive conversations that lead to personal reflection.

Similarly, participant 3, has a few troubled workers:

“I’ve got one team at the moment which is not functioning particularly well because there’s a bunch of young people and they’re like really young, and they’re playing like they’re in the school yard, and so they’re forming sort of little triumvirates against the people leaders and behaving poorly” (Participant 3).

Participant 3 might be able to employ the same strategies as participant 5 to mitigate negativity within the open-plan office environment.

Participant 5 has stated that he has found, as a result of moving into an open-plan office environment, email traffic has increased:

“In the past what I have noticed is going from a closed space, separate offices, to an open space suddenly it seemed like the email traffic kind of increased which is, as a leader, you just need to be conscious of that and kind of you know, get people around the table... I always found it ironic, is that people complain about the teenagers sitting on Facebook and just liking things and commenting on people’s

Facebook feeds for example and I'd say I don't see the difference you're on your device" (Participant 5).

The participant response to this type of communication is illustrative of the importance of having face to face communication and being able to engage in real life dialogue where there is an ability to build upon ideas and get to know each other. Through this, workers are learning about each other and how to communicate with each other constructively.

Participant 5 has expressed the following about how he and his co-workers engage in interpersonal communication in the open-plan office:

"Many of those conversations let certain things just happen organically so you kind of have to go, well this is a conversation that seems unproductive but with longer-term positive outcomes. In other words, it may take people away from their current work and deadlines but actually in the longer term it saves quite a bit of time and it will be things like changes of policy changes of practice, new innovative ideas that people share. For example I had a conversation with someone over tea time and he had a good idea and instead of us now having to work and run a workshop on that idea he can just start speaking to people around what that might look like so it's that kind of quick look over your shoulder and have a chat with someone about well this is what I'm doing, oh yeah, that sounds like a great idea" (Participant 5).

As a result of interpersonal communication in the open-plan office, relationships are formed naturally, participant 5 states:

"Yeah it could have been lunchtime, it could be over a cup of tea it could mean someone pitches up at someone's desk and says... you know, they just get talking and they might realise that there's actually a lot of common things, you've got three kids as well I've got them and it's hard and they start talking but they find something that is common... but actually the conversation outcome long term was being productive so I think often that's the challenge for people that are micromanaging is that some of those conversations are they might seem mundane they might seem like this is nothing to do with work but building relationships is everything to do with work... I know for a fact long-term is a massive benefit" (Participant 5).

These relationships enable us to have faith and trust in our co-workers and as a result, bonds are formed along with sharing memories over successes and struggles.

All participants have indicated that they work in an open-plan office environment where they feel they can trust their co-workers, and easily build relationships within the open-plan office. One participant has indicated that part of their recruitment process is to ensure the workers will fit into the culture of the organisation:

"Yes, we've never had any issues and I think that's one of the main reasons when they hire someone, that they say they actually have to fit that culture in the office,

otherwise yeah they don't really hire them just because yeah everyone gets along everyone's pretty chill" (Participant 5).

As a result of internal recruitment processes, workers in the open-plan are more likely to be like-minded and exhibit similar tendencies towards communication and relationship building in the open-plan office.

4.4 Supportive Leadership

Participants in this study saw supportive leadership in terms of their leader sitting with everyone in the open-plan office environment.

"Leadership need to sit with their teams because they need to lead by example and they need to demonstrate and they need to be close to their teams to know what is going on, that is my view which puts the onus on the leadership team to build a good culture... but they should be able to do that, we should be able to do that because we're grown-ups and also we should be able to do that because that is why we are at that level right we should be able to" (Participant 3).

The above participant's view is that leaders need to lead by example and a way of doing this is by sitting in the open-plan with the rest of their team. Also, it is up to the leader to maintain a good working culture.

For example, participant 4 has indicated:

"I feel more relaxed I guess when you see your you know, when you see your manager or your manager's manager sitting right in front of you and you can see what they do on a daily basis and those conversations you have with them, you feel like you know your progress, you know where you are going you know they can see the work that you are doing and the effort you are putting in so that transparency I think is really important" (Participant 4).

Being able to openly communicate with your leader provides an opportunity for growth and learning for both the employee and the leader. There is appreciation from the employee towards the manager as they feel that their work is being recognised and the leader also has visibility over what the employee is doing and contributing to the team. The working relationship, therefore, becomes more enjoyable within the open-plan office.

Participant 7 has expressed similar sentiments:

"It creates better relationships for sure and especially like not so much with people who are sort of your level and your age where it is very easy to obviously build relationships with them or friendships rather but so easy to just you know to chat to people of all levels especially yeah senior like I'm not, I mean, I'm a confident person anyway so I'm not afraid to go up and talk to someone who is a

senior but that is just what people do here you know it is very open, very conversational” (Participant 7).

Being part of a team where leadership is visible and supportive is important for the participants in this study. For the above text, the participant is telling the interviewer that although she is happy to walk up to seniors and talk to them, it is nice for them to be in the open as it creates better working relationships. Workers feel a sense of connection and feel like they are part of the bigger picture. By leadership being out in the open-plan office, workers can learn from them and also be motivated by them.

4.5 Sub-theme: Organisational Culture

Organisational culture in this study refers to the underlying beliefs and values that are unique to the social environment within the open-plan office environment. Organisations have their own cultures where there is a standard code of conduct and set values. Leaders within the open-plan office influence organisational culture; they can set the tone for how workers perceive their working environment. A leader’s success is dependent on their ability to shape and uphold the organisational culture.

Having a positive and flexible organisational culture in the open-plan office can help workers become more productive:

“They are pretty understanding like if they see that you are exhausted or if you need a break and stuff like you are encouraged to take some time to yourself and stuff. So they have never been the type that will expect you to come if you are sick if you like got other things going on they are pretty understanding and you taking time off because they think of your productivity at the end of the day. Our boss said all he cares about is like productivity he does not really care where you do it from how you do it and it is not really about oh you are here from 8.30 to 5.00 on the dot usually like most people are there between 8.30 and 5.00 but if you have to leave a little bit earlier for other commitments they would be understanding” (participant 1).

The same participant has also stated:

“It is a very independent work environment, people are really helpful, people are laid back as long as you get the work done they do not really mind where you do it like we have the option of working from home occasionally... like it is not like a nine to five per se like just because we are always out and about meeting clients so it is pretty hard to do nine to five” (participant 1).

The leader is perceived to care about his employee’s wellbeing and he understands that productivity matters more when conducting work in the open-plan office environment which can be a cause of stress and fatigue. This shows his caring demeanour has carried

forward over to his employees and it has created a healthy open-plan working environment where people look out for each other. Participant 1 has illustrated that a positive work culture can contribute to collegiality, empathy and productivity within the open-plan office environment.

In contrast to the above, bullying is an issue that unfortunately, some workers will face in their professional career. Participant 4 has noted that she felt bullied by her manager in a previous organisation and was unable to rectify the issue:

“In my previous role I did face a lot of bullying from my direct manager and another manager that was Wellington-based she was above me, it felt like a bit of discrimination, I don’t know if it was because I was a younger female or they felt threatened or I don’t know what the reason was but I was not treated right and there was a lot of unprofessionalism in the way they behaved and towards me and other team members so I actually dealt with that for about a year and seven months. I did take it to HR, unfortunately, it did not go anywhere after a formal bullying investigation so once I saw the result of that I decided to leave the organisation” (participant 4).

It is difficult to mend a soured relationship between an employee and a leader. In this instance, employees conducting work in a negative open-plan office environment can often find it difficult to be productive, focus on their career development and build healthy relationships in the workplace.

Participant 4 felt that the best way forward for her and her wellbeing is to leave the organisation. Having a toxic relationship with a manager in the open-plan office can have a detrimental effect on the worker’s mental health and can potentially affect the surrounding co-workers who may experience negative energy, gossiping or passive-aggressive behaviour.

Although this was a terrible situation for her to be in, she is now feeling a sense of relief that she no longer has to endure a strenuous working relationship or feel that she needs to defend herself in the face of a bully within the open-plan office and potentially in front of her co-workers. Going through such an experience has the potential to help workers reflect back on those dark times and learn from their experiences and also be able to apply their learning in a way that helps others around them.

4.6 Overhearing Conversations

In this study, participants spoke about their awareness of how conversations in the open-plan office can be impacting on others and themselves. Overhearing conversations in this study refer to the overhearing of words being spoken and understood by the listener. For example, participant 3 notes:

“Benefits are that it's open-plan and you can see and you can hear and I like that because I think that people grow more and understand more, I guess the flip side of that is that it can be a bit noisy especially if you are sitting near me (laugh) if I'm really honest it can be a bit noisy and a bit distracting” (participant 3).

The point she makes is that because you can see and hear everything, it helps workers to grow; this can be by way of building up an ability to zone out conversations or, by workers becoming privy to new knowledge that could be beneficial to their role in the organisation. However, this participant is also aware that she can be loud and sitting next to her would be noisy.

Participant 2 indicated:

“It depends on, I guess, the moment if I'm doing something really important, I'd probably just tolerate it, if I was doing something less, I guess wasn't overly demanding in terms of getting whatever it is finished I might go for a coffee or just go for a walk, you know if someone's on the phone you could just leave and they're usually finished by the time you come back, yeah usually, but yeah I guess that's as much as I'd do, I don't think I'd necessarily complain if someone was causing too much of a distraction” (participant 2).

This participant has built a strategy for himself to cope with audible conversations in the open-plan office. He is also aware of his weaknesses, for example, if the work is demanding he knows he would not be able to focus and will most likely put his energy elsewhere until the conversation has stopped.

Additionally, the same participant is aware of the impact of conversations in the open-plan office but suggests that these conversations are never on-going, and a level of tolerance is required.

“There's always a moment in time you know whether someone talking loudly on their phone or you know just an informal conversation near you or you know a small thing like someone eating at their desk all those things can irritate you, but like essentially it's never you know constant, like I feel if it was something constant like roadworks outside you know it's appropriate to seek an action to mitigate or reduce it but I guess you'd be very intolerant to complain about someone eating an apple” (participant 2).

Participant 2 is someone who has built up a tolerance to his co-worker's habits and understands that these things can be irritating, and will eventually come to an end. It is a good way of thinking about everyday nuances in this particular way, it has helped the participant overcome the chatter and noise within the office.

Being aware of how you may impact on others shows a sign of self-awareness, respect and an appreciation towards team members:

"I think everyone is pretty cautious that we are in an open space and just to be cautious of each other but I think most of us in the office I've noticed have the ability to kind of switch people off like and just concentrate on what we're doing" (participant 1).

Having a sense of awareness that you may be distracting or irritating co-workers is equally as important as being able to switch off in the open-plan office. Being self-aware shows that participants think about the impact of open-plan office conversations and are more likely to self-manage frustrations and distractions.

There are times when co-workers need to have conversations with each other to be able to get the work done. In this instance, the participant has shown that there are two sides to a coin: being self-aware of the impact of open conversations, and the ability to be able to switch off.

Being able to switch off is a good skill to build on when working in an open-plan office environment. Participant 4 has been able to block out conversations as well as making it clear to her co-workers to not engage with her:

"If someone is talking loudly or starting a conversation, where, with me I tend to just block it out and I think people learnt that about me quite quickly so they don't have, you know, they don't start a random conversation with me or they just let me be so it's just about how you manage yourself I think yeah" (participant 4).

Setting personal boundaries and expectations allow co-workers to know when to engage or not. Participant 4 is aware that within the open-plan office, conversations are inevitable. However, she has managed to communicate this across to her co-workers.

"I think especially on a Monday morning could be a bit, could be quite noisy, I am the type of person that likes to work in a quiet space, so I often put headphones on to concentrate" (participant 4).

Mondays are typically the day where people catch up with each other about what they did in the weekend and discuss work that they had not been able to complete from the previous week. This can create a sense of buzz in the open-plan office and heightened activity:

“Like writing a report, I would I guess, I would like you know, something like a private office or a quiet room, that’s you know available 24 hours a day, whenever I want it because I find it very distracting or maybe I just jumble my words when I’m typing reports and get caught in a loop of rewriting the same sentence when I guess there are a number of distractions” (participant 2).

The participant has noted that there are several distractions, however, it is his work that is impacted the most. It is common for workers to become side-tracked when they are distracted; this is especially prevalent when your attention is on more than one task at a time which is common in busy open-plan environments.

Another way of dealing with distraction is by implementing a designated quiet time rule:

“I did work for a company where they wanted to institute a rule that between let’s say between 10 and 12 quietly in the office nobody talks and I kind of went that’s ridiculous” (participant 5).

Although this rule may not have been implemented, it illustrates that there are concerns for workers becoming distracted and losing focus of their work in the open-plan office. It also illustrates that most workers prefer some form of quiet time to be able to concentrate. As participant 5 has stated; he was caught in a loop of rewriting due to becoming distracted.

4.7 Self-Expression

The participants in this study have reported that their workplace has taken initiatives to enable them to come into work every day, knowing they will be accepted and respected. Some of these initiatives include workplace attire, freedom to personalise workstation, and creating spaces that are personal and also showcase teamwork within the office.

One participant spoke about a dress for your day policy within the open-plan office, where people were given the option to dress as appropriately for the day and within reason:

“Casual dress policy right or we call it, dress for your day, so when they bought dress for your day in which is like personalising your space a lot of people said to me no I’m not doing that and I’m like well yeah we are cos that’s the policy and I had a huge debate with the chief risk officer who said well you wouldn’t like it if you were sitting next to someone who was wearing their jeans and I said you know what I don’t care what they’re wearing as long as they’re doing their job, these guys don’t go out to meet customers so this is fine, so around the personalising space if people want photos or pot plants or whatever I mean I’ve got my duck right there she’s a rubber ducky and I’ve had my rubber ducky... she wears a tiara like a crown princess duck and she sits there because I’m HR and what do we do, we glide across the water things looks as smooth as... and my feet are going loopy

lala underneath so if I couldn't have my duck I'd be very unhappy" (participant 3).

It is important to be yourself and feel accepted by co-workers in the open-plan office. Having an organisation that establishes an environment that is accepting is important to the worker feeling safe and happy in the workplace. This can provide a sense of empowerment and give workers room to think about their daily work, their contribution to the organisation and the value they impart.

By being able to express who you are as a person in an open-plan office can also create stronger relationship bonds through finding commonalities between co-workers.

In the open-plan office, some participants have observed their co-workers decorating their desk:

"Some people have yeah things on there, so you're allowed to pretty much have like photos or just personal things, that, I like to have there, yeah so I've seen a few people maybe have like one of the girls has a like her Hindu follower like a statue of him that she puts on her desk and some people yeah have other things but yeah no one really cares some people have lolly jars there" (participant 1).

The comment participant 1 made about "no one really cares", shows that people accept others for who they are and what they believe in.

However, working in the open-plan office means that everything is out in the open, this can have a negative impact on workers. Therefore it may become important for the workers to think about how they dress and conduct themselves in the open-plan office. Everything becomes more visible in the open-plan office and workers may need to think twice about how they personalise their workstations and what message it sends to their co-workers.

Participant 4 does not give too much thought into personalising her workspace:

"I don't think there are restrictions on what you can and can't have on the desk I've seen other people you know with their stress ball or whatever on their desk so I think it's an option for them I mean for me in particular as long as I have my laptop and my coffee mug I'm good" (participant 4).

This could be indicative of her personal working style, that she prefers things to be minimal with little clutter on her desk. Additionally, participant 4 may have opted not to personalise her space because she does not regard it as a permanent space, which is also a way of personalising space and a potential strategy to mitigate distraction by having a clear desk to work on.

Participant 6 has stated that in her workplace, she has been trying to encourage people to personalise their teamwork space within the open-plan office; the intention is to highlight the different teams within the open-plan office and to encourage collaborations between them.

“Yeah we can and actually one thing we’ve been talking about is people personalising it more or not necessarily personalising it but adding some team flair to it so be it that there’s a sign hanging from the ceiling or up in a flag of a desk, that is entirely up to his own creative mind but just to sort of be like this is the sales team this is the team who works on ACC this is the team who works on MYOB you know things like that just sort of be like this is where they are and then if we have clients who happen to be in this space and they walk through and they can kind of be like oh this where my team is or just to kind of see how we use the space cos we use the middle walls on both sides are whiteboard and we use them quite a lot and we’ve got like some post-its down the wall down there where it’s like a KANBAN board so” (participant 6).

Often, it becomes a habit to stay in a corner and get on with the work. Breaking away from this habit can bring about team cohesion and better relationship bonds. Decorating can also show a human side to the team’s image by allowing people to break away from their normal working duties and get creative with their co-workers.

4.8 Disconnecting

Participants in this study have raised concerns regarding being able to disconnect from the open-plan office. A simple and effective health practice, which participant 2 takes advantage of is using the stairs to disconnect from noise and distraction within the open-plan office.

“I guess you have the option to kind of walk up and down... just gives you that disconnect away” (participant 2).

It is evident that being able to walk away from the open-plan office is beneficial for this participant. As discussed earlier in ‘overhearing conversations’, overhearing others can cause distraction which some participants have been able to zone out. In this instance, having the ability to take a stroll can help to clear the mind; intermittent breaks can also help lessen the discomfort of lengthy periods of sitting.

Participant 3 has expressed similar issues with breaks, although this time it is also an issue of company regulation and compliance.

“Well we’ve made it mandatory and it’s about making sure that people take breaks and it’s about taking a decent break and it’s about making sure that people just step away” (participant 3).

As participant 2 noted, there is an option to disconnect, which is an important part of employee physical wellbeing. Having that time away from the screen and the workstation can help workers to come back feeling a little bit more energised. Depending on the size of the office and the number of occupants, the open-plan office can have an impact on sensory overload, this can be through noise levels such as printers, office chatter, and co-workers walking past. The level of sensory overload may contribute negatively to the worker's performance. Additionally, visibility of the open-plan office influences compliance and co-worker's awareness of extending sitting time.

4.9 Privacy

Most of the participants in this study see privacy as a responsibility for the role they hold within their organisation. What is meant by this is that participants feel that privacy should be provided in instances where a role, such as human resources that deal with confidential information, should be given private space to conduct their work.

For example, participant 3 is an HR professional, the nature of that role requires some level of privacy. In some situations, she could be dealing with sensitive issues where people surrounding her could hear about the issue:

“I was sitting right there which meant that people could see my screen which was not ideal, anyway I’ve moved seats now so now when I can see people, I go (gestures), or I go stop there I’ll be right with you, just give me a minute so that’s a disadvantage” (participant 3).

The disadvantage is that she needs to be discreet in an open-plan office, she is aware that the work she does is sensitive and requires a level of discretion. However, she makes an effort to see people when they need her despite privacy issues.

The same participant has also stated:

“I had an open-door policy (in a previous role) always my door was only ever closed if I was on a conference call or on a call or I had someone in there for some reason but it was a fishbowl, so it wasn’t the ideal office to have people in. I had one of those last week and it was like God where do I take her, there’s nowhere to go and it’s like arrr” (participant 3).

Technology plays an important part in the way we deal with privacy issues in the open-plan office. For some participants, having a laptop to take to meetings is a way to mitigate

privacy issues, for example, participant 5 would much prefer a laptop over a desktop because of privacy concerns:

“Yeah so when I get the choice of would you like a desktop or a laptop, I go laptop you know, I can always request a bigger screen if I need it but I always go laptop that’s what I prefer because I can pick it up and I can do what I need to do but it’s also beneficial when let’s say for example I’ve got to have a private conversation with somebody and I need to take notes, then it happens right there, the laptop goes with me my notes go with me my files go with me” (participant 5).

The same participant has also expressed concerns regarding how visible everything can be in the open-plan office. He witnessed a colleague go through a dark time:

“He had a visible angry outburst, the phone just went flying basically and so everybody saw it, not just the people in his office, everybody saw” (participant 5).

Privacy in this instance is about how people express themselves in the open-plan office; there are people in the open-plan office who may not realise how much they are exposing themselves and how this may impact them in the long run.

Similar to the above, participant 4 states:

“I think one negative about the open-office or open yeah open-office style is that when you’re having those intense conversations with your team members or your management team other people can hear those conversations and it can be a bit stressful and embarrassing at times especially if you’re having a you know a disagreement with someone or just a conversation you don’t want everyone else to hear so that was one of the issues I faced in my previous role yeah” (participant 4).

The participant has experienced stressful times due to being out in the open-plan. She has mentioned that this is embarrassing, and the thought of her co-workers overhearing the conversations is making her feel uncomfortable and uneasy.

4.10 Sub-theme: Private Spaces

Breakaway spaces can come in various forms and provide different functions, they can be places where employees can relax, recharge, meet with clients, have private meetings or they can be spaces where people can go and pray or perform an activity that is personal to them. They are places where workers can escape the open-plan office.

Private spaces are important in open-plan offices when sensitive issues arise, and a meeting needs to take place away from everyone in the office:

“Now I think that if you are going to have that sort of working space you have to have lots of meeting rooms and meeting rooms that can be booked and meeting rooms that can just wander into when you just need to at the last minute and my only thing about that is that in HR we need a meeting room that only we can book or that doesn't have to be big because you quite often get people walk up to you and the next minute you can see that they're welling up” (participant 3).

Different roles require different levels of privacy needs in their day to day activities. Participant 3 has illustrated the importance of having designated rooms for people to be able to move to and mitigate the potential of prying eyes and ears in the open-plan office.

Participant 5 expresses a similar point of view:

“I've noticed was quite awkward when you have a difficult conversation with somebody the emotions are quite high they don't want to walk past everybody else when there are tears flowing down their cheeks you know so it's about where you position those specific rooms as well” (participant 5).

Participant 5 is demonstrating that in situations where there might be a worker who is highly emotional or is going through a tough time, it is important to have easy access to private rooms and for those rooms to be designed to maintain privacy.

“It's completely transparent everything you do feel think see eat whatever everybody knows about it and for some that's uncomfortable, but they eventually get used to it or they don't and they move on that's just how it works” (participant 5).

Participant 5 has illustrated everything that a worker does is out in the open. This can be seen as an inability to escape the open-plan and that people who do work in open-plan need to learn skills to be able to cope with the demands that come with it.

There are instances where workers require a room to break away from their work or to have some alone time.

“So where I worked before I made sure we had a prayer room, a quiet room or which we could use as a prayer room particularly during Ramadan you know cos people need to know they've got space we don't have that when we move I am happy to have that so I've put that request in for the next place but we don't really have it right now which is disappointing we've got a kitchen and we've got a, you know, sick bay which doubles up as a mother's room too so they can go for you know to express if they need to or whatever but we just do not have enough little rooms or spaces so that to me is something that is critical going forward” (participant 3).

Breakaway spaces are important to have in the open-plan office environment; they can help to reduce stress. Having a prayer room or a space for people is important to participant 3, and she feels a sense of responsibility to ensure people have the option to break away when they need to.

“I think in this particular office it’s quite minimal in terms of having access to quiet space previously in other organisations I was able to find myself a meeting room and just work in there for a couple of hours and just you know getting the work done because I work better in a quiet space where here meeting room access is quite difficult because there’s only a few of them and yeah most of the time they’re booked out or yeah so I’d normally have to just stay at my desk and do the work” (participant 4).

Participant 4 has articulated her need for a quiet space to do her work for a couple of hours however, in her current organisation, she is unable to do so because the rooms are always booked. Interruptions and distraction in the workplace are unavoidable; it can make it difficult for some to concentrate on a task when it is natural for people to want to socialise.

“Open-plan’s good for people to get together, if you need a bit of quiet space there’s got to be the ability to move and go and sit where you need to sit so we have lots of those little bookable rooms and I think every organisation whether academic or whether commercial or whether production oriented consultancy based whatever every single organisation where people work in open-plan that is what works is the there’s got to be the ability to break away if you want to do focused work if you want to have confidential conversations, break-out rooms are really valuable and when I say break-out rooms it’s got to be confidential as well” (participant 5).

Open-plan is good for workers to build on their relationships with their co-workers, but it is equally important to have space where workers can take some time out and focus.

4.11 Overview of the Findings

The following section will provide a concise overview of the findings. The section will also highlight the positive and negative aspects of the findings and what strategies were used by the participants to help them lessen the negative effects of working in the open-plan office. The majority of the findings in this study are positive. Therefore, where there are no negatively reported findings, the strategy will not be discussed.

Table 4.11.1: Interpersonal Communication

Positive	Negative	Strategy
<p>Interpersonal communication that happens organically can have long term productivity benefits within the open-plan office.</p> <p>Participants believe that face to face communication is important to building better team cohesion, collaboration and increase worker productivity.</p> <p>Participants believe that there is value in having social conversations within the open-plan office; social conversations can sometimes lead to new information and learning.</p> <p>All participants reported that they trust their co-workers and as a result were better equipped to communicate and learn from each other.</p>	<p>Disagreements and conflicts are inevitable in larger organisations.</p> <p>Email traffic increased as a result of moving to an open-plan office; workers resorted to electronic communication.</p>	<p>Relationships that are built on mutual trust between co-workers allows for better conflict resolution.</p> <p>Having an open, honest and frank conversations can help to mitigate negativity in the open-plan office.</p>

Table 4.11.2: Supportive Leadership

Positive	Negative	Strategy
Participants believe that leaders should lead by example and sit with their workers in the open-plan office.		
Having the ability to openly communicate with your leader builds a healthy relationship which in turn creates a relaxed open-plan office environment.		
Supportive leadership within the open-plan office creates a sense of connection between the worker and leader.		

Table 4.11.3: Sub-theme: Organisational Culture

Positive	Negative	Strategy
Leaders who show empathy and understanding in the open-plan office towards their employees influence others to behave in the same way which creates a healthy working environment.	Only one participant reported bullying behaviour in their previous open-plan office which had a negative impact on her wellbeing.	Resigning from the organisation as a result of bullying was a strategy to maintain health and mental wellbeing.

Table 4.11.4: Overhearing Conversations

Positive	Negative	Strategy
All participants reported that conversations in the workplace are inevitable and they help build stronger relationships, complete work tasks better and enable us to work collaboratively.	All participants reported being distracted. Distractions caused annoyances, irritation and not being able to focus on the work task.	Coming to an understanding that a level of tolerance is required in the open-plan office environment.
Participants are aware of their own impact on others, which shows respect and appreciation towards co-workers	Most participants prefer to work in quiet environments to concentrate on their work.	Self-awareness helps in managing frustrations and distractions.
Listening to other conversations in the workplace can be useful to the worker as they may become privy to new knowledge they can use in their own work.		Allocating designated quiet times for the open-plan office environment.

Table 4.11.5: Self-expression

Positive	Negative	Strategy
Participants within the study feel free to express who they are without the judgement of others within the open-plan office.	Working in an open-plan office can expose workers to vulnerable situations where they may be judged or scrutinised	Organisations build an environment for workers through policy reviews and organisational values which make working in an open-plan office free from the judgement of others.
Participants can form stronger bonds as a result of self-expression by finding commonalities between each other.	Everything is more visible in the open-plan, workers may think twice about how they present themselves.	

Table 4.11.6: Disconnecting

Positive	Negative	Strategy
Having an opportunity to disconnect from the open-plan office can help workers feel more energised when they come back after a break.	Not being able to disconnect may increase worker frustration and distraction, which leads to poor performance through sensory overload.	Walking away from the workstation can help to elevate stress and clear out the clutter in the participant's mind.

Table 4.11.7: Privacy

Positive	Negative	Strategy
Participants in this study saw privacy as a requirement of the role they held within the organisation. Not everyone requires privacy to do their job.	<p>Difficult conversations do happen in the open-plan office and can cause stress and anxiety among the workers that are involved. It can also impact on the working relationship to those who are exposed to uncomfortable and awkward conversations.</p> <p>Some participants reported having to be discrete when they were dealing with sensitive issues within the open-plan office.</p> <p>Everything is visible in the open-plan, one participant reported experiencing a co-worker going through a dark time in their life.</p>	Technology helps to combat privacy issues; having a personal laptop means workers can pick up their work and move elsewhere that suits

Table 4.11.8: Sub-theme: Private Space

Positive	Negative	Strategy
Open-plan office designs are good for having people come together, it enables relationship building and working collaboratively. It is equally important to have space where workers feel they can take some time out and focus on what they believe is important.	<p>Participants in this study reported that there is a lack of private rooms for workers to use when there are privacy concerns within the open-plan office.</p> <p>That rooms should be designed specifically to maintain confidentiality.</p> <p>Everything that is done in the office is out in the open, this can be seen as an inability to escape the open-plan office.</p>	Using a laptop for work instead of a desktop. This means that workers can pack up and relocate to an area with fewer distractions to conduct work.

4.12 Conclusion

An important part of developing healthy workplace relationships is by building trust through the use of our everyday communication. Social connections can make workers happier and perform better in the workplace. Overhearing conversations in the workplace can have a positive and negative effect on the surrounding workers. A healthy workplace values its worker's health and wellbeing and promotes trust and confidence; encourages good relationships and wants to see its workers be creative and aware of the diversity that is around them. The participants for this research all liked working in an open-plan office. Participants have expressed that open-plan offices allow them to get to know their co-workers and build relationships.

Chapter Five: Discussion

5.1 Introduction

In this chapter, I will outline how the findings have fulfilled the purpose of this research and how the research questions were answered.

5.2 Interpersonal Communication

There are two forms of communication that take place in the open-plan office: work-related and non-work related. Work-related communication is important because it helps workers to get the work done. Non-work-related communications are equally important in helping to establish a social bond: they allow the workers to discover common interests and share personal details (Chadsey & Beyer, 2001). The research on open-plan office environments indicates that through the removal of walls and desk partition, worker proximity increases face to face communication (Stryker, 2004; Zahn, 1991). In comparison, Brennan et al. (2002) found that spatially dense offices do not enable communication among workers and that co-workers felt that the open-plan office decreased communication. The participants in this study believe that face to face communication is an important part of building relationships and improving team cohesion. Having an open-plan office environment enables employees to communicate better with their co-workers and have productive professional and social engagements. Therefore, communication is an important feature of the open-plan office environment; it can increase collaboration, communication and promote healthy working relationships.

The relationships built between workers within the open-plan office environment are not only dependant on organisational culture but also on the balance of opportunities for work-related and non-work-related communication (Salis & Williams, 2010; Zahn, 1991). Also, conflict between workers is common in open-plan office environments (Oxenstierna et al., 2011). This is due to the visibility and audibility of workers within the open-plan office as a key factor in causing conflict. The findings of this study have illustrated that disagreements and conflicts are inevitable between co-workers; having good co-worker relations helps to mitigate the severity of conflicts and allows for a smoother conflict resolution. Conflict management style differs between person to person, which can affect the workers at the individual and team level (Leon-Perez et al., 2015). Therefore, managing conflict in a co-operative way is dependent on having good

co-worker relationships within the open-plan office environment. As a result, it strengthens trust among the involved parties and reduces the level of conflict likely to arise.

Interpersonal communication is an integral part of worker's ability to maintaining healthy relationships within the open-plan office, this is associated with job satisfaction, job commitment and decreased stress and absenteeism (Cole et al., 2012; Oldham & Brass, 1979; Zahn, 1991). All participants within this study reported positive relationship building experiences within the open-plan office. They felt that building healthy relationships was part and parcel of their work activities. Morrow et al. (2012) state that open-plan office environments enable workplace accessibility and visibility, which increases worker collaboration. In this instance, the open-plan office provides visibility, it enables workers to engage, collaborate and build healthy working relationships with one another.

This study found that participants felt that the open-plan office environment helped them to foster trust and respect among each other. Open-plan offices help to facilitate better communication, increase interaction and productivity (Cole et al., 2012; Meijer et al., 2009), also, workers feel this improves morale and workplace satisfaction. Participants in the current study also reported experiencing high trust among co-workers. Being able to trust co-workers helps to embed a culture of positive working relationships and an environment where workers feel at ease to communicate with each other. Lee and Brand's (2005) study has found that open-plan offices positively influence working relationships among employees. Chigot (2003) states that the open-plan office design provides easier channels of communication.

As illustrated in the literature review, there are negative and positive aspects of relationships at work. It is wise to consider that the positive and negative nature of relationships at work are dependent on the worker's perceptions of what a healthy working relationship looks like. Workers within the open-plan office environment bring in their morals and values. It is the collective mindset of the workers within the organisation which is what allows workers to build healthy working relationships. As much as it is the worker's responsibility to foster a trusting, reliable and cohesive working environment, it is also up to the organisation to embed strong moral values for the workers to commit to. Being able to freely communicate with co-workers is seen as a positive experience as it

allows workers to improve their connections and build relationships within the office. It can also mitigate unwanted feelings of stigma.

5.3 Supportive Leadership and Organisational Culture

Workplace relationships are particularly important between the leader and the worker. A leader should be leading by example so that others can learn and be motivated by them. The findings of this research indicated that supportive leadership had an impact on the relationships being built between the leader and the worker. The finding was that relationships formed as a result of the leader being visible in the open-plan office, which in turn created a perceived supportive working environment and enabled collegial working relationships. Bodin Danielsson et al. (2013) found that good managerial leadership was significantly higher within medium-sized open-plan office environments; an effective leader can recognise an individual's contribution to the team, leading to the worker feeling valued. An observant leader should be striving to identify a sense of connection between themselves and the worker. A leader can influence workers to create a positive and healthy team culture within the open-plan office. Ugboro and Obeng (2000) suggest that a leadership role has a strong association with employee empowerment. A leader should set a standard of performance, as workers will expect the leader to lead by example. Gaining the trust of workers will guarantee a productive working relationship and one where the worker feels valued; this enables the leader to gain the worker's cooperation through influence.

The academic literature on leadership, in general, is vast. There is limited academic research, however, on the perceptions of supportive leadership within the open-plan office environment and its impact on worker relationships. So far in this research, the applicants have all noted that supportive leadership is an important aspect of their everyday work activities. The expectation is that the leader leads by example, and an extension to this is that the leader should sit in an open-plan environment as the workers do.

The research conducted also found one participant who had reported experiencing bullying behaviour from her leader in the open-plan office. Workers who are going through conflict display negative behaviours and portray a variety of emotions that would be exposed within the open-plan office. D'Cruz and Noronha (2010) found that workplace conflicts in the form of harassment and bullying cause suffering and bad feelings about

the organisation, in addition, the worker is likely to withdraw and resign from the organisation. Within this research, and consistent with the literature, the participant had noted that she laid a formal complaint with human resource management, her complaint produced no satisfactory results, as a consequence she left the organisation. Long lasting workplace conflicts are more likely to lead to on-going conflicts. Conflicts within the open-plan become more impactful when co-workers overhear the conversations and see the conflict happening, this results in embarrassment and frustration.

This study has found that leaders in the open-plan office environment who display traits of empathy, understanding and compassion towards their workers, influence them to behave in the same manner which in turn creates a healthy working environment. Visible and audible leaders have a positive impact on the worker perceptions of their leader's friendliness, for example. Nielsen and Munir (2009) state that transformational leaders are leaders who wish to broaden and lift the interest of their worker, to generate awareness and commitment of workers to fulfil the purpose and mission of the organisation.

5.4 Overhearing Conversations

The findings in this study have shown that participants are not only impacted by overhearing others, but they are also aware of people overhearing them in the open-plan office. The literature on overhearing conversations indicates that overhearing others can impair concentrations and performance; this is in agreement with the findings in this research. For example, Ellermeier and Hellbrück (1998), have shown that work-related performance is impaired due to speech intelligibility rather than the level of noise within the environment. The participants in this research prefer to conduct work in quiet office environments so that they can concentrate on their task. Similarly, the work from Haapakangas et al. (2018) study supports the view that working in quiet conditions allow the worker to concentrate and work productively.

Although overhearing conversations can be distracting, conversations that are overheard can also allow workers to become privy to organisational information which the worker can benefit from. Consistent with prior literature, Irving and Ayoko (2014) state that interruptions sometimes lead to workers learning new and useful information which can enable them to answer questions and solve work-related problems in the future. Similarly, Zerella et al. (2017), suggests that teammate proximity can help in the efficiency in

communication. Overhearing conversations can also enable workers to get to know each other and build a trusting relationship through communication.

While conversations in the open-plan office, as noted above, are a source of distraction, worker performance does not necessarily become impaired because of overhearing conversations. This is dependent upon the work which is being conducted. If the worker is performing a task which is mentally demanding and requires concentration, intelligible conversations become a source of distraction and impair performance. The opposite is true, where the work being conducting is not demanding, overhearing conversations do not affect the worker, it may, in some situations help the worker. As indicated by Zajonc (1965), stimuli from the open-plan office were associated with improved performance when the task was deemed simple; performance became impaired when the task was deemed demanding.

5.5 Self-Expression

There are benefits to revealing information about one's self, this can include the expression of self through ornaments, personal photos, printed articles, and ethnic décor within the open-plan office. Elsbach and Bechky (2007, p. 87) state that “just as anthropologists point to objects as the visible part of the culture, office design and decor can be seen as the visible part of an organisation's culture”. The benefits include building relationships through finding commonalities, engaging in social conversations to learn about co-workers and the worker feeling a sense of acceptance through the display of their personalised items. However, having the ability to freely express one's self opens up the door for others to react and judge. Sabat et al. (2019) state that expressing one's self and bringing attention to an identity that may be stigmatised has the potential for undesirable worker perceptions. In this research, it was found that participants felt their work allowed them to express themselves and not feel judged or stigmatised by others, within the open-plan office. Wells (2000) states that an organisation that has a relaxed environment and lenient outlook on personalisation reported higher levels of worker wellbeing. Therefore, if an organisation restricts employees being able to express themselves, it may reduce employee wellbeing.

Participants in the study have also reported feeling comfortable and flexible when it came to workplace dress code policies within the open-plan office. For some participants, they had the flexibility to be able to dress for the day. This meant some organisations employed

a dress for the day policy; if the worker is to meet clients they must dress professionally, for every other normal working day, workers are allowed the flexibility of wearing what they wanted to wear, within limits. Participants in this study felt that this rule provided them with a sense of empowerment and an ability to exercise autonomy. Woodard (1999) suggests that workplace dress codes can enable positive organisational culture through inspiring workers to feel confident, optimistic and collaborative within the working environment and around peers. Additionally, participants can form stronger bonds as a result of being able to identify with each other; having the ability to express their identity, workers can organise their intrapersonal and interpersonal experiences within the open-plan office (Ashkanasy et al., 2014).

5.6 Disconnecting

Worker wellbeing is not just about sick leave or stress from the open-plan office. The wellbeing of workers is an important part of the worker's professional career development and maintenance of work performance. The literature review chapter highlights aspects of the physical environment that impacted on worker wellbeing (Bodin Danielsson & Bodin, 2008; Pejtersen et al., 2011). The participants in this study spoke about both the open-plan office and personal wellbeing of working in an open-plan office environment. The physical aspects that participants spoke about related to their abilities to be able to disconnect from the workplace. According to Rashid, Kampschroer, et al. (2006), workers who have a higher social connection frequently have more breaks. Participants in this study have stated that being able to disconnect can also help in feeling energised and be able to come back to work with a clear mind.

One of the many negative impacts of the open-plan office is that participants reported feeling distracted and unable to perform work-related tasks. In their study, Lavie et al. (2004) have stated that demanding work-related tasks reduce worker capacity to inhibit irrelevant stimuli and could increase the risk of distraction which negatively impacts performance. Taking a break away from the open-plan and being able to sit in a quiet place can be helpful to workers coming back feeling refreshed and being productive when conducting work. Each individual is different in their ability to handle stimuli within the open-plan office, workers may cope with this by disconnecting from the office.

5.7 Privacy

The lack of privacy within the open-plan office environment was not reported as a major concern in this research. Participants in this research were pragmatic in their views towards privacy issues in the workplace. Participants did not see privacy as an issue unless it was either a requirement of a role that may deal with sensitive and confidential information or where difficult conversations in the workplace happen then privacy becomes a concern., Kim and de Deer (2012) state that the ability to have confidential conversations is not an expectation of workers, rather it is the space available for a worker that is the basic expectation.

Nathan and Doyle (2002) have noted in their research that tension may exist between workers where there is a need for privacy. Similarly, Haynes (2007) state that tension in the workplace can impact on employee productivity; the challenge is for the organisation to create a culture that enables all work activities to co-exist. Organisations that have an open-plan office layout need to consider the privacy implications per each role within the organisation. Some roles require greater privacy needs to ensure their work conduct is not compromised by a lack of private facilities. This is consistent with Kupritz (2005) study which found that workers had a different perception of privacy in the sense that managers perceive privacy needs when they were required to deal with confidential work, in comparison, administrative support staff did not feel the need for privacy in their everyday work.

In the open-plan office, there can be a loss of personal space by way of worker proximity and unwanted sounds such as co-worker conversations and intrusions, thus resulting in the feeling of losing personal private control over one's space. The current study found that participants use technology as a way to mitigate the effects of privacy intrusions. Participants use technology such as laptops, tablets, and smartphones to move away from their desk when privacy was needed. Consistent with previous findings, Hurst (1995), found that in shared office environments, workers collaborated and interacted, however when they wanted to withdraw they relocated to signal the need for privacy.

5.8 Sub-theme Private Space

In this research, private spaces or rooms within open-plan office environments were seen to be an important feature of the office and one that is often lacking. Participants in this

research reported that having a designated room for workers to use without the need of booking was necessary when dealing with a private matter. An extension of this finding is that participants reported the need for designated rooms to be designed in a way to maintain privacy. Oke (2002), stated that the growth of shared workplaces means that there is an increase in collaborative work being conducted and spaces such as conversations pods are all contributing to the changing landscape of the open-plan office. The participants within this study were all in support of an open-plan office layout but felt that it was necessary to have designated rooms for the purpose of maintaining some form of confidentiality in the workplace. Kim and de Dear (2013) found job satisfaction decreased in open-plan offices where there is a lack of privacy.

5.9 Conclusion

To conclude, communication is an important part of interpersonal relationships, this research found that the open-plan office environment allows for easier passage of communication to take place (Elsbach & Pratt, 2007). Because workers are out in the open, there is a natural tendency to want to feel connected. Having our co-worker's confidence and trust to be who we are without feeling scrutinised or judged is an important component to building healthy relationships within the open-plan office.

Leadership within the open-plan have a large impact on interpersonal relationships and wellbeing, their influence and guidance can enable a positive culture where workers feel engaged and productive (Bryman, 2004). Organisational culture and values also influence how interpersonal relationships are impacted by the open-plan office layout. Having a positive culture within the open-plan office allows for increased productivity and healthy relationships (Lok & Crawford, 2004).

Relationships within the open-plan office are likely to become embroiled in conflicts which can have an impact on employee wellbeing. Conflict is natural within worker relationships and given the nature of the open-plan office, it is only inevitable that conflicts arise within the open-plan office environment as everything is out in the open (Morrison & Macky, 2017; Vischer, 2007). Conflicts within the open-plan can impact on worker morale and feeling emotionally safe. When conflict within the open-plan office occurs, there are a variety of issues and emotions that can result for workers, these include privacy, shame, embarrassment and frustration. Because everything is out in the open,

workers are therefore exposed to others overhearing the conflict which can also create further strain on work relationships and affect workers wellbeing (Haynes, 2007).

As stated earlier, it is a natural tendency to want to feel connected and communicate with co-workers in the open-plan office environment; this would occur occasionally as workers engage with each other through work-related and non-work-related conversations. These conversations can be distracting for workers who are overhearing it and it is as equally distracting for those who engage in conversations that may seem unnecessary at the time (Schlittmeier et al., 2008; Sorqvist et al., 2012). However, as highlighted in the findings, these conversations can lead to new information being learnt and shared.

The findings within this research suggest that workers are not necessarily concerned about having personal privacy, but rather their concern is around privacy when they are dealing with a private and confidential work-related issue within the open-plan office environment (Kupritz, 2005). This is a point of frustration and worry for workers within the open-plan office as when the need for privacy is not met, it can affect worker's productivity and concentration. By having private spaces, workers can feel a sense of ease knowing that they have the option to go elsewhere when the need arises (Nathan & Doyle, 2002).

Chapter Six: Conclusion

6.1 Introduction

This study has looked at how the open-plan office environment impacts on interpersonal relationships and worker wellbeing. It begins by reviewing the academic literature on the open-plan office which has helped to clarify the aim of exploring the research topic. The literature illustrated some of the issues that workers face in open-plan office environments and how this study can add value to the existing academic literature as it relates to overhearing conversations, privacy, organisational culture, supportive leadership and communication.

This chapter will explain how the findings have fulfilled the purpose of this research and how the research questions have been answered. Further discussion will outline the limitations of the research and provide recommendation for future research.

6.2 Research Contribution

As stated in the methodology chapter, the purpose of this research is to explore how the open-plan office environment impacts on interpersonal relationships and employee wellbeing. This research contributed to the growing body of academic literature on open-plan office environments; however, more specifically, it provided insight into interpersonal relationships and wellbeing of employees who conducted work in open-plan office environments.

Communication within the open-plan office is a natural part of everyday employee engagement and interaction. Participants within this research believe that communication is important for building relationships within the open-plan office environment. Disagreements and conflict as a result of communication within the open-plan office are inevitable. However, building relationships based on trust helps to mitigate conflict and enable better conflict resolution.

Supportive leadership was seen by the participants as an integral part of the open-plan office. Participants within this research believed that leaders should be sitting with workers in the open-plan and that they should lead by example. Participants noted that by having the ability to communicate with the leader, it created a relaxed environment. Also,

leaders who show empathy and understanding are more likely to influence others to behave in the same way and, as a result, build a positive organisational culture.

Participants within this study reported being aware of when their conversations impacted on their co-workers becoming distracted. Equally as important, listening to audible conversations within the workplace can lead to new organisational knowledge.

Feeling free to express oneself within the open-plan office helped participants build stronger relationships by finding commonalities. However, expressing oneself can also lead to workers being exposed to a vulnerable situation where they may feel judged and stigmatised for being who they are, thus negatively impacting on worker wellbeing.

Having the freedom to disconnect away from the open-plan office and their workstation enables workers to free the clutter in their mind and to come back to work feeling re-energised. The negative side of being in the open-plan office is that it can overload the senses with office chatter, telephone ringing and co-workers walking around. This affects the worker's ability to concentrate and focus on the task within the open-plan office.

Privacy within this study was not seen as an issue to the participants, rather privacy was seen as a requirement of the position which the worker holds and how much privacy does that position require to carry out duties productively. Privacy became an issue when there were no private rooms available.

6.3 Theoretical Implications

There is now a growing body of literature that looks at the effects of interpersonal relationships and wellbeing of workers within the open-plan office environment. As this research is exploratory, it provides a new perspective on the topic and the themes within this study can be revisited by future researchers.

By exploring the lived experience of workers within the open-plan office, this study has contributed to the understanding of the topic. The findings illustrate the importance of communication among co-workers in order to help strength interpersonal relationships and positively contribute towards worker wellbeing. Interpersonal communication within the open-plan office implies that it is important for workers to feel included in the social structure of the open-plan office (Kim & de Dear, 2013; Zahn, 1991). The implications are that relationship formation between co-workers within the open-plan office are part

of the socialisation process; communication is an important component of social support and networking (Chernyak-Hai & Rabenu, 2018). In addition, workers within the open-plan office environment will need to be flexible towards the unpredictable challenges they face within the open-plan office.

The paradigm to examining interpersonal relationships within the open-plan office environment is social exchange theory (Homans, 1958; Zhang et al., 2018), which is based on the premise that relationships are formed based on cost-benefits analysis where people repeat actions that are seen as rewarding based on historical experiences. In the context of this research, it implies that interpersonal relationships within the open-plan office environment are based on trust, perceived organisational support, citizenship behaviour and in addition, gestures of good will are assumed to be reciprocated by co-workers (Chadsey & Beyer, 2001; Wineman, Kabo, & Davis, 2009).

In the context of the open-plan office environment, personalisation of office space implies that it can serve as enabler and inhibitor of employee identification. Personalisation of space can also imply that an employee creates their own identity within the open-plan office; who they are outside of work is different to who they are within the open-plan space (Wells, 2000). Through personalisation, identity captures a worker's view of themselves, this implies that employees are able to organise their interpersonal actions and experiences within the open-plan office environment (Ashkanasy et al., 2014; Baldry & Barnes, 2012). Furthermore, worker identity within the open-plan office provides the motivation, rules and plans when the worker feels a need to adjust within the social and physical environment (Shamir, 1992); the implication is that the loss of ability to personalise space may pose a threat to the worker's sense of personal individuality which can happen in rigid open-plan office environments.

6.4 Reflection

The concepts of interpersonal relationships and wellbeing within the open-plan office have been something I have experienced since I started working in a professional setting. I have realised during this period that interpersonal relationship and wellbeing go hand in hand, especially when the work is conducted in the open-plan office. I believe that it is important to build meaningful relationships at work, I spend more than forty hours a week of my time in the open-plan office. Everything I do, say and act is done in the open. For example, relationships can become toxic and detrimental to the wellbeing of workers, I

have experienced this myself and as a result I have become curious about the experiences of other works within the open-plan office. This is my rationale for why I have chosen to research this topic.

I drew on my own experiences to help me understand the concept of interpersonal relationships and wellbeing. I had an experience within the open-plan office where I had a good bond with a co-worker, however the bond broke due to conversations being overheard and repeated to others within the open-plan office. Two years after the issues occurred, we reconciled our differences by talking about the issue and understanding each other's perspectives. In that time period, my own wellbeing was affected because of the issue and how others within the open-plan office responded to the issue. This experience often triggered me to think about what experiences others have within the open-plan office and how their wellbeing might be impacted by these experiences. In addition, because of my profession within human resources, I often have conversations with workers about the issues they have within the open-plan office. As a result, I have unknowingly and continually been building up my knowledge on interpersonal relationships within the open-plan office, and the impact it has on my own wellbeing and others.

6.5 Limitations

This topic is very interesting to me because I have always worked in open-plan office environments. Therefore, it was easy to relate to the experiences which the participants spoke about. I have not taken into account my own experiences of the open-plan office. However, my experiences of working in the open-plan office have informed the interpretation of the data.

The following factors limited the current research:

- This study used a small sample of people who work in open-plan office environments. A small sample may illustrate the unique characteristics within the findings, but they cannot be generalised to the larger population.
- Snowball sampling has the potential to produce biased sampling, especially given that I only had seven participants.

- This study focused on the Auckland region only and used participants who worked within the central business district as a sample, hence its scope was limited by region.
- The participants within this study were predominantly female, this may have skewed the data to reflect a more feminine perception of the open-plan office.
- There is a possibility that my own experiences of the open-plan office may have coloured my interpretations of what the interviewees have said.

6.6 Recommendations for Future Research

The findings of this study have provided recommendations for future research on open-plan office design. This study provided useful insight on the topic and it resembled similar findings to the academic literature but has also found some interesting key points which could be useful to future researchers.

The following points can be looked into for future studies on open-plan office environments:

- The importance that workers place on interpersonal relationships within the open-plan office layout and how it mitigates conflict.
- The impact of supportive leadership within open-plan office environments
- The effect of the open-plan office on employee perception of organisational culture

References

- Alhojailan, M. (2012). Thematic Analysis: a critical review of its process and evaluation. *West East Journal of Social Sciences*, 1(1), 39-47.
- Alkhajah, T. A., Reeves, M. M., Eakin, E. G., Winkler, E. A., Owen, N., & Healy, G. N. (2012). Sit-stand workstations: A pilot intervention to reduce office sitting time. *American Journal of Preventative Medicine*, 43(3), 298–303. doi:10.1016/j.amepre.2012.05.027
- Allen, A. (1977). *Managing the flow of technology*. Cambridge, MA MIT Press.
- Altman, I. (1975). *The environment and social behavior*. Monterey: Brooks/Cole.
- Appel-Meulenbroek, R., Groenen, I., & Janssen, P. (2011). An end-user's perspective on activity-based office concepts. *Journal of Corporate Real Estate*, 13(2), 122-135. doi:10.1108/14630011111136830
- Ashkanasy, N., Ayoki, O., & Jehn, K. (2014). Understanding the physical environment of work and employee behaviour: An affective event perspective. *Journal of Organisational Behaviour*(35), 1160 – 1184. doi:10.1002/job.1973
- Bagnasco, A., Ghirotto, L., & Sasso, L. (2014). Theoretical Sampling. *Journal of Advanced Nursing*, 70(11), 6-7.
- Baldry, C. (1999). Space – the final frontier. *Sociology* 33(3), 228 - 245.
- Baldry, C., & Barnes, A. (2012). The open-plan academy: space, control and the undermining of professional identity. *Work Employment and Society*, 26(2), 228-245.
- Banbury, S. P., & Berry, D. C. (2005). Office noise and employee concentration: identifying causes of disruption and potential improvements. *Ergonomics*, 48(1), 25-37.
- Barriball, K. L., & While, A. (1994). Collecting data using a semi-structured interview: a discussion paper. *Journal of Advanced Nursing*, 19, 328 - 335.
- Bechky, B. A. (2003). Object lessons: Workplace artifacts as representations of occupational jurisdiction. *American Journal of Sociology*, 109, 720–752.
- Becker, F., & Sim, W. (2001). *Offices that Work. Balancing Communication, Flexibility and Cost*. New York: International Workplace Studies.
- Becker, F., & Steele, F. (1995). *Workplace by Design: Mapping the High-Performance Workscape*. San Francisco, CA: Jossey-Bass.
- Bedoir, F. (1979). Open plan offices, landscape offices and celltype office. *Architektur*, 1, 16-26.
- Bernstein, E. S., & Turban, S. (2018). The impact of the open workspace on human collaboration. *Philosophical Transactions of the Royal Society, B*(373). doi:10.1098/rstb.2017.0239
- Blanche, M., Durrheim, K., & Painter, D. (1999). *Research in Practice: Applied Methods for the Social Sciences* South Africa: University of Cape Town Press.
- Bodin Danielsson, C., & Bodin, L. (2008). Office type in relation to health well-being, and job satisfaction among employees. *Environment and Behavior*, 40, 636–668.
- Bodin Danielsson, C., Bodin, L., Wulff, C., & Theorell, T. (2015). The relation between office type and workplace conflict: A gender and noise perspective. *Journal of Environmental Psychology*, 42, 161-171. doi:10.1016/j.jenvp.2015.04.004
- Bodin Danielsson, C., Chungkham, H. S., Wulff, C., & Westerlund, H. (2014). Office design's impact on sick leave rates. *Ergonomics*, 54, 139-147. doi:10.1080/00140139.2013.871064
- Bodin Danielsson, C., Wulff, C., & Westerlund, H. (2013). Is perception of leadership influenced by office environment. *Journal of Corporate Real Estate*, 15(3/4), 194 - 212.
- Boutellier, R., Ullman, F., Schreiber, J., & Naef, R. (2008). Impact of office layout on communication in a science-driven business. *Research and Development Management*, 38(4), 372-391. doi:10.1111/j.1467-9310.2008.00524.x
- Boyatzis, E. (1998). *Transforming qualitative information: thematic analysis and code development*: Sage Publications.
- Bradley, S. (2003). The Acoustical Design of Conventional Open Plan Offices. *Canadian Acoustics*, 31, 23-31.

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa
- Brennan, A., Chugh, S., & Kline, T. (2002). Traditional versus open office design: A longitudinal field study. *Environment and Behaviour*, 34, 279-299.
- Brenner, P., & Cornell, P. (1994). *The balance between privacy and collaboration in knowledge worker teams*. Paper presented at the International Symposium on Human Factors in Organizational Design and Management, Sweden.
- Brown, C., Efstratiou, C., Leontiadis, I., Quercia, D., & Mascolo, C. (2014). *Tracking serendipitous interactions: How individual cultures shape the office* (Proceedings of the ACM conference on computer-supported cooperative work and social computing ed.). New York: ACM Press.
- Bryman, A. (2004). Qualitative research on leadership: a critical but appreciative review. *Leadership Quarterly*, 15, 729-769.
- Bryman, A. (2016). *Social Research Methods* (5th Ed.). Oxford, United Kingdom: Oxford University Press.
- Chadsey, J., & Beyer, S. (2001). Social Relationships in the workplace. *Mental retardation and developmental disabilities research review*, 7, 128 - 133.
- Chernyak-Hai, & Rabenu, E. (2018). The New Era Workplace Relationships: Is Social Exchange Theory Still Relevant? *Industrial and Organizational Psychology*, 11(3), 456-481.
- Chigot, P. (2003). Controlled transparency in workplace design: balancing visual and acoustic interaction in office environments. *Journal of Facility Management*(2), 21-130.
- Clausen, G., & Wyon, D., P. (2008). The combined effects of many different indoor environmental factors on acceptability and office work performance. *Science and Technology for the Built Environment*, 14(1), 103 – 113.
- Cole, R. J., Bild, A., & Oliver, A. (2012). The changing context of knowledge-based work: consequences for comfort, satisfaction and productivity. *Intelligent Building International*, 4(3), 182 - 196. doi:10.1080/17508975.2012.695950
- Crotty, M. (1998). *Research Methods in Education* (5th ed.). London: Routledge.
- Crouch, A., & Nimran, U. (1989). Office design and the behavior of senior managers. *Human Relations*, 42(2), 139-155.
- Cui, W., Cao, G., Park, J., H., & Ouyang, Q. (2013). Influence of indoor air temperature on human thermal comfort, motivation and performance. *Build Environment*, 68, 114 – 122. doi:10.1016/j.buildenv.2013.06.012
- Cummings, A., Oldham, R., & Zhou, J. (1995). The spatial configuration of organisations: A review of the literature and some new research directions. *Research in Personnel and Human Resource Management*, 13, 1-37.
- D'Cruz, P., & Noronha, E. (2010). The exit coping response to workplace bullying: the contribution of inclusivist and exclusivist HRM strategies. *Employee Relations*, 32(2), 102 - 120.
- Danielssen, C. B. (2008). Noise and perceived privacy: flexible office space matters. Retrieved from <https://acousticalsociety.org/>
- De Cocker, K., Duncan, M. J., Short, C., van Uffelen, J., & Vandelanotte, C. (2014). Understanding occupational sitting: Prevalence, correlates and moderating effects in Australian employees. *Preventive Medicine*, 67, 288-294. doi:10.1016/j.ypmed.2014.07.031
- De Croon, A., Sluiter, J. K., Kuijer, P. P., & Fringes-Dresen, M. W. (2005). The effect of office concepts on worker health and performance: a systemic review of the literature. *Ergonomics*, 48, 119 – 134.
- De Paoli, D., Arge, K., & Blakstad, S. (2013). Creating business value with open space flexible offices. *Journal of Corporate Real Estate*, 15(3), 181-193. doi:10.1108/JCRE-11-2012-0028
- Demerouti, E., Bakker, B., Nachreiner, F., & Schaufeli, W. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499-512.

- Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, 64, 135-168. doi:10.1146/annurev-psych-113011-143750
- Dovidio, J. F., Gaertner, S. L., Validzic, A., Matoka, A., Johnson, B., & Frazier, S. (1997). Extending the benefits of recategorisation: Evaluations, self-disclosure, and helping. *Journal of Experimental Social Psychology*, 33(401 - 420).
- Duncan, M., Rashid, M., Vandelanotte, C., Cutumisu, N., & Plotnikoff, R. C. (2013). Development and reliability testing of a self-report instrument to measure the office layout as a correlate of occupational sitting. *International Journal of Behavioral Nutrition and Physical Activity*, 10-16. doi:10.1186/1479-5868-10-16
- Duncan, M., Short, C., Rashid, M., Cutumisu, N., Vandelanotte, C., & Plotnikoj, R. (2015). Identifying correlates of breaks in occupational sitting: a cross-sectional study. *Building Research & Information*, 43, 646 - 658. doi:10.1080/09613218.2015.1045712
- Ellenders, P. (2014). Can you feel the heartbeat? The importance of managing culture in a law firm. *Proctor*, 34(9), 56-57.
- Ellermeier, W., & Hellbrück, J. (1998). Is level irrelevant in "irrelevant speech"? and binaural unmasking. *Journal of Experimental Psychology: Human Perception and Performance*, 24(5), 1406-1414.
- Elsbach, K. (2003). Relating physical environment to self-categorisations: Identity threat and affirmation in a non-territorial office space. *Administrative Science Quarterly*, 48(4), 622-654. doi:10.2307/3556639
- Elsbach, K., & Bechky, B. A. (2007). It's more than a desk: Working smarter through leveraged office design. *California Management Review*, 49(2), 80. doi:10.2307/41166384
- Elsbach, K., & Pratt, G. (2007). The physical environment in organisations. *Academy of Management Annals*, 1(1), 181-234. doi:10.1080/078559809
- Evans, G. W., & Johnson, D. (2000). Stress and open-office noise. *Journal of Applied Psychology*, 85, 779-783.
- Faisal, A., Selen, L., & Wolpert, D. M. (2008). Noise in the nervous system. *Nature Reviews Neuroscience*, 9(4), 292-303. doi:10.1038/nrn2258
- Fried Y., Slowik, L., Ben-David, H., & Tiegs, R. (2001). Exploring the relationship between workspace density and employee attitudinal reactions: An integrative model. *Journal of Occupational and Organisational Psychology*, 74(3), 359 - 372.
- Frontczak, M., Schiavon, S., Goins, J., Arens, E., Zhang, H., & Wargocki, P. (2012). Quantitative relationships between occupant satisfaction aspects of indoor environmental quality and building design. *Indoor Air*(22), 119-131.
- Geng, Y., Ji, W., Lin, B., & Zhu, Y. (2017). The impact of thermal environment on occupant IEQ perception and productivity. *Building and Environment*, 121, 158-167.
- Goffman, E. (1973). *The presentation of self in everyday life*. New York: Overlook Press.
- Gorman, E., Ashe, M. C., Dunstan, D. W., Hanson, H. M., Madden, K., Winkler, E. A., & Healy, G. N. (2013). Does an 'activity-permissive' workplace change office worker's sitting and activity time? *PLoS ONE*, 8(10). doi:10.1371/journal.pone.0076723
- Grant, B., & Gidding, L. (2002). Making Sense of Methodologies: A paradigm framework for the novice researcher. *Contemporary Nurse: A Journal for the Australian Nursing Profession*, 13(1), 10-28.
- Gray, D. (2018). *Doing Research in the Real World* (4th ed.). London Sage Publications
- Griffin, E., & Sparks, G. (1990). Friends forever: A longitudinal explanation of intimacy in same-sex friends and platonic peers. *Journal of Social and Personal Relationships*, 7, 29-46.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of Qualitative Research*, 2, 163-194.
- Haapakangas, A., Haka, M., Keskinen, E., & Hongisto, V. (2008). *Effect of speech intelligibility on task performance an experimental laboratory study*, 9th International Congress on Noise as a Public Health Problem. USA

- Haapakangas, A., Hongisto, V., Varjo, J., & Lahtinen, M. (2018). Benefits of quiet workspaces in open-plan offices – Evidence from two office relocations. *Journal of Environmental Psychology*, 56, 63-75. doi:10.1016/j.jenvp.2018.03.003
- Hart, S., & Quin, R. (1993). Roles executives play: CEOs' behavioral complexity, and performance. *Human Relations*, 46, 543-574.
- Haynes, A. (2007). The impact of the behavioural environment on office productivity. *Journal of Facilities Management*, 5(3), 158 - 171. doi:10.1108/14725960710775045
- Haynes, A. (2008). Impact of workplace connectivity on office productivity. *Journal of Corporate Real Estate*, 10(4), 286-302.
- Herbig, B., Schneider, D., & Nowak, D. (2016). Does office space occupation matter? The role of the number of persons per enclosed office spaces, psychosocial work characteristics, and environmental satisfaction in the physical and mental health of employees. *Indoor Air*, 26, 755 – 767.
- Hoendervanger, J., De Been, I., Van Yperen, N., Mobach, M., & Albers, C. (2016). Flexibility in use: Switching behaviour and satisfaction in activity-based work environments. *Journal of Corporate Real Estate*, 18(1), 48-62.
- Hofstede, G. (2011). Dimensionalising Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, 2(1), 3 - 26. doi:10.9707/2307-0919.1014
- Homans, G. (1950). *The human group*. New York Harcourt Brace.
- Homans, G. (1958). Social behavior as exchange. *American Journal of Sociology*, 597–606.
- Hong, L., Easterby-Smith, M., & Snell, R. S. (2006). Transferring organisational learning systems to Japanese subsidiaries in China. *Journal of Management Studies*, 43(5), 1027-1058. doi:10.1111/j.1467-6486.2006.00628
- Hongisto, V. (2005). A model predicting the effect of speech of varying intelligibility on work performance. *Indoor Air*, 15(6), 458-468. doi:10.1111/j.1600-0668.2005.00391.x
- Hua, Y., Loftness, V., Heerwagen, J., & Powell, K. (2011). Relationship between workplace spatial settings and occupant-perceived support for collaboration. *Environment and Behavior*, 43, 807-826. doi:10.1177/0013916510364465
- Hurst, D., K. (1995). *Crisis & Renewal: Meeting the Challenge of Organisational Change*. Cambridge MA: Harvard Business Press.
- Irving, G., & Ayoko, O. (2014). *An exploratory study of the connection between office environments and group cognition*. Paper presented at the Conference of the Australian and New Zealand Academy of Management (ANZAM), Sydney
- Jahncke, H., Hygge, S., Halin, N., Green, A. M., & Dimberg, K. (2011). Open-plan office noise: Cognitive performance and restoration. *Journal of Environmental Psychology*, 31, 373-382. doi:10.1016/j.jenvp.2011.07.002
- Jetten, S., Spears, R., & Mansread, A. (1997). Distinctiveness threat and prototypicality: Combined effects on intergroup discrimination and collective self-esteem. *European Journal of Social Psychology*, 27, 635–657.
- Judge, T., Thoresen, C., Bono, J., & Patton, G. (2001). The job satisfaction-job performance relationship: a qualitative and quantitative review. *Psychological Bulletin*, 127(3), 376-407.
- Kaarlela-Tuomaala, A., Helenius, R., Keskinen, E., & Hongisto, V. (2009). Effects of acoustic environment on work in private office rooms and open-plan offices – longitudinal study during relocation. *Ergonomics*, 52, 1423-1444.
- Kallio, T., Kallio, K., & Blomberg, A. (2015). Physical space, culture and organisational creativity – a longitudinal study. *Facilities*, 33(5/6), 389-411. doi:10.1108/F-09-2013-0074
- Kang, S., Ou, D., & Mak, C. M. (2017). The impact of indoor environmental quality on work productivity in university open-plan research offices. *Building and Environment*, 124, 78-89.
- Keus van de Poll, M., Ljung, R., Odelius, J., & Sörqvist, P. (2014). Disruption of writing by background speech: the role of speech transmission index. *Applied Acoustics*(81), 15-18.

- Kiesler, S., & Cummings, J. (2002). *What do we know about proximity and distance in work groups? A legacy of research' in Distributed work* ((Eds.) Ed.). Cambridge, MA.
- Kim, J., & de Dear, R. (2013). Workspace satisfaction: the privacy-communication tradeoff in open-plan offices. *Journal Environmental Psychology*, 36, 18-26.
- Kim, J., & de Dear, R. (2012). Nonlinear relationships between individual IEQ factors and overall workspace satisfaction. *Building and Environment*, 49(1), 33 - 40.
- Kim, J., Kong, M., Hong, T., Jeong, K., & Lee, M. (2018). Physiological response of building occupants based on their activity and the indoor environmental quality condition changes. *Building and Environment*, 145, 96-103.
- Kozlowski, S., & Klein, K. (2000). *A multilevel approach to theory and research in organisations: contextual, temporal, and emergent processes*. San Francisco, CA: Jossey-Bass.
- Kraut, A., Fish, S., Root, W., & Chalfonte, B. L. (1990). *Informal communication in organizations: Form, function, and technology* (I.S. Oskamp, S. Spacapan (Eds.) ed.). Beverly Hills, CA: Sage Publications.
- Kraut, A., Fussell, R., Brennan, S., & Siegel, J. (2002). *Understanding effects of proximity on collaboration: Implications for technologies to support remote collaborative work*. Cambridge: MIT Press.
- Kristensen, T. (2004). The physical context of creativity. *Creativity and Innovation Management*, 13(2), 89-96. doi:10.1111/j.0963-1690.2004.00297.x
- Kupritz, V. (2005). *Ethnographic assessment of individual and group privacy needs: Phase I and II studies*. Holland, MI: Haworth Inc.
- Lan, L., Lian, L., & Pan, L. (2010). The effects of air temperature on office worker's well-being, workload and productivity-evaluated with subjective ratings. *Applied Ergonomics*, 41(1), 29 – 36. doi:10.1016/j.apergo.2010.04.003
- Lapadat, C., & Lindsay, A. C. (1999). Transcription in research and practice: from standardisation of technique to interpretive positionings. *Qualitative Inquiry*, 5(64 - 86).
- Lavie, N., Hirst, A., de Fockert, W., & Viding, E. (2004). Load theory of selective attention and cognitive control. *Journal of Experimental Psychology General*, 133(3), 339-354. doi:10.1037/0096-3445.133.3.339
- Lee, S., Y, & Brand, J. L. (2005). Effects of control over office workspace on perceptions of the work environment and work outcomes. *Journal of Environmental Psychology*, 25, 323-333. doi:10.1016/j.jenvp. 2005.08.001
- Lee, S., Y, & Brand, J. L. (2010). Can personal control over the physical environment ease distractions in office workplaces? *Ergonomics*, 53(3), 324-335. doi:10.1080/00140130903389019
- Leneer-Axelsson, B., & Thylefors, I. (1991). *The Psychology of the work group* Stockholm: Natur och kultur.
- Leon-Perez, J., Medina, F., Arenas, A., & Munduate, L. (2015). The relationships between interpersonal conflict and workplace bullying. *Journal of Managerial Psychology*, 30(3), 250 - 263.
- Liebl, A., Haller, J., Jodicke, B., Baumgartner, H., Schlittmeier, J., & Hellbrück, J. (2012). Combined effects of acoustic and visual distraction on cognitive performance and well-being. *Applied Ergonomics*, 43(2), 424-434.
- Loewen, L., & Suedfeld, P. (1992). Cognitive and arousal effects of masking office noise. *Environment and Behavior*, 24(3), 381–395.
- Lok, P., & Crawford, J. (2004). The effect of organisational culture and leadership style on job satisfaction and organisational commitment: a cross-national comparison. *Journal of Management Development*, 23(4), 321-338.
- Maher, A., & Hippel, C. (2005). Individual differences in employee reactions to open-plan offices. *Journal Environmental Psychology*, 25(2), 219 - 229.
- Marks, D., & Yardley, L. (2004). *Research methods for clinical and health psychology*: Sage.
- Martin, R., Wogalter, M., & Forlano, J. (1988). Reading comprehension in the presence of irrelevant speech and music. *Journal of Memory and Language*, 27, 382–398.

- McCracken, D. (1990). *Culture and consumption: new approaches to the symbolic character of consumer goods and activities*. Bloomington: Indiana University Press.
- McDonnell, M., & Ward, L. M. (2011). The benefits of noise in neural systems: bridging theory and experiment. *Nature Reviews Neuroscience*, 12(7), 415-426. doi:10.1038/nrn3061
- McElroy, J., & Morrow, P. C. (2010). Employee reactions to office redesign: a naturally occurring quasi-field experiment in a multi-generational setting. *Human Relations*, 63(5), 609-636. doi:10.1177/0018726709342932
- Mehrabian, A. (1977). A questionnaire measure of individual difference in stimulus screen and associated differences in arousability. *Environmental Psychology and Nonverbal Behaviour*(1), 89 -103.
- Meijer, E., Frings-Dresen, W., & Sluiter, J. K. (2009). Effects of office innovation on office workers' health and performance. *Ergonomics*, 52(9), 1027 - 1038.
- Miwa, Y., & Hanye, K. (2006). The effects of interior design on communication and impressions of a counselor in a counseling room. *Environment and Behavior*, 38, 484–502. doi:10.1177/0013916505280084
- Mok, D., & Wellman, B. (2007). Did distance matter before the internet? Interpersonal contact and support in the 1970s. *Social Networks*, 29(3), 430-461.
- Morrison, R., & Macky, K. (2017). The demands and resources arising from shares office space. *Applied Ergonomics*, 60, 103 – 115.
- Morrow, P., McElroy, J., & Scheibe, K. (2012). Influencing organizational commitment through office redesign. *Journal of Vocational Behavior*, 81(1), 99-111. doi:10.1016/j.jvb.2012.05.004
- Moultrie, J., Nilsson, M., Dissel, M., Haner, U., Janssen, S., & Van der Lugt, R. (2007). Innovation spaces: Towards a framework for understanding the role of the physical environment in innovation. *Creativity and Innovation Management*, 16(1), 53-65. doi:10.1111/j.1467-8691.2007.00419.x
- Muganga, L. (2015). The Importance of hermeneutics Theory in Understanding and Appreciating Interpretive Inquiry as a Methodology. *Journal of Social Research and policy*, 65-88.
- Nathan, M., & Doyle, J. (2002). *The State of the Office: The Politics and Geography of Working Space*, Industrial Society. London.
- Nenonen, S., Hyrkkänen, U., Rasila, H., Hongisto, V., Keränen, J., & Koskela, H. (2012). *Activity-based office – Guidelines for the use and design*. Finnish: Finnish Institute of Occupational Health.
- Neuhaus, M., Healy, G. N., Dunstan, D. W., Owen, N., & Eakin, E. G. (2014). Workplace sitting and height-adjustable workstations: A randomised controlled trial. *American Journal of Preventive Medicine*, 46(1), 30-40. doi:10.1016/j.amepre.2013.09.009
- Nielsen, K., & Munir, F. (2009). How do transformational leaders influence followers' affective well-being? Exploring the mediating role of self-efficacy. *An International Journal of Work, Health and Organisations*, 23(4), 313 - 329.
- Nyberg, A., Westerlund, H., Magnusson Hanson, L., & Theorell, T. (2008). Managerial leadership is associated with self-reported sickness absence and sickness presenteeism among Swedish men and women. *Scandinavian Journal of Public Health*, 36, 803-811.
- O'Neill, M., & Carayon, P. (1993). The relationship between privacy, control, and stress responses in office workers. *Proceedings of the human factors and ergonomics society annual meeting*, 37(7), 479–483. doi:10.1177/154193129303700702
- Oke, A. (2002). Making it happen: how to improve innovation capability in a service company. *Journal of change management*, 2(3), 272 - 281.
- Oldham, R. (1988). Effects of changes in workspace partitions and spatial density on employee reactions: A quasi-experiment. *Journal of Applied Psychology*, 73, 253 – 258.
- Oldham, R., & Brass, D. J. (1979). Employee reaction to open plan office: a naturally occurring quasi-experiment. *Administration Science Quarterly*, 24, 267 – 284.

- Oldham, R., & Rotchford, N. L. (1983). Relationship between office characteristics and employee reactions: A study of physical environment. *Administrative Science Quarterly*, 28, 542 – 556.
- Oxenstierna, G., Magnusson Hanson, L., Widmark, M., Finnholm, K., Stenfors, C., & Elofsson, S. (2011). Conflicts at work- the relationship with workplace factors, work characteristics and self-rated health. *Industrial Health*, 49, 501-510.
- Patton, M. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks: Sage Publications
- Pejtersen, J., Allermann, L., Kristensen, T., & Poulsen, O. M. (2006). Indoor climate, Psychosocial work environment and symptoms in open-plan offices. *Indoor Air*, 16, 392-401.
- Pejtersen, J., Feveile, K., & Christensen, H. (2011). Sickness associated with Shared and Open Plan Offices – A national cross sectional questionnaire Survey. *Scandinavian Journal of Work*, 37(5), 376 – 582. doi:10.527/sjweh.3167
- Penn, A., Desyllas, J., & Vaughan, L. (1999). The space of innovation: Interaction and communication in the work environment. *Environment and Planning B: Planning and Design*, 26(2), 193–218 doi:10.1068/b260193
- Pepper, L. (2008). The physical organisation as equivocal message. *Journal of Applied Communication Research*, 36(3), 316-338.
- Peterson, T., & Beard, J. (2004). Workspace technology's impact on individual privacy and team interaction. *Team Performance Management*, 10(7/8), 163-172. doi:10.1108/13527590410569887
- Pierrette, M., Parizet, E., Chevret, P., & Chatillon, J. (2015). Noise effect on comfort in open-space offices: Development of an assessment questionnaire. *Ergonomics*, 58(1), 96-106. doi:10.1080/00140139.2014.961972
- Pitt, M., & Bennett, J. (2008). Workforce ownership of space in a space sharing environment. *Journal of Facilities Management*, 6(4), 290-302. doi:10.1108/14725960810908154
- Plotnikoff, R., & Karunamuni, N. (2012). Reducing sitting time: The new workplace health priority. *Archives of Environmental and Occupational Health*, 67(3), 125–127. doi:10.1080/19338244.2012.697407
- Purdey, B., & Leifer, D. (2012). A preliminary study of cognitive failures in open plan offices. *Facilities*, 30(11/12), 472-487.
- Rafaeli, A., & Pratt, G. (2006). *Artifacts and organisations: Beyond mere symbolism*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Rashid, M., Craig, D., Zimring, C., & Thitisawat, M. (2006). *Sedentary and fleeting activities & their spatial correlates in offices*. Paper presented at the 37th Annual Conference of the Environmental Design Research Association, Atlanta
- Rashid, M., Kampschroer, K., & Zimring, C. (2006). Spatial layout and face-to-face interaction in offices: a study of the mechanisms of spatial effects on face-to-face interaction. *Environment and Planning B: Planning and Design*, 33(6), 825 - 844. doi:10.1068/b31123
- Rashid, M., Wineman, J., & Zimring, C. (2009). Space, behavior, and environmental perception in open-plan offices: A prospective study. *Environment and Planning B: Planning and Design*, 36(3), 432 - 449. doi:10.1068/b33034
- Richard, A., Potter, J., Paterson, M., Tyler-Merrick, G., Reid, K., & MccChesney, J. (2017). Office design and health: a systematic review. *New Zealand Medical Journal*, 130(1467), 39 - 49.
- Riessman, C. (1993). *Narrative Analysis* Sage Publications
- Ritche, J., Lewis, J., & Elam, G. (2003). *Designing and Selecting samples*. London: Sage Publications.
- Sabat, I., Lindsay, A., Eden, L., Winslow, C., Jones, K., Membere, J., & Smith, N. (2019). Stimula expression outcomes and boundary conditions: A meta analysis. *Journal of Business Psychology*, 1 - 16. doi:doi.org/10.1007/s10869-018-9608-z
- Sailer, K., & Penn, A. (2009). *Spatiality and transpatiality in workplace environments*. Stockholm, Sweden.

- Salame, P., & Baddeley, A. (1989). Effects of background music on phonological short-term memory. *Quarterly Journal of Experimental Psychology*, 41(1), 107–122.
- Salis, S., & Williams, A. M. (2010). Knowledge sharing through face-to-face communication and labour productivity: Evidence from British workplaces. *British Journal of Industrial Relations*, 48(2), 436 - 459. doi:10.1111/j.1467-8543.2009.00762.x
- Santoro, M., & Saporito, P., A. (2003). The firm's trust in its university partner as a key mediator in advancing knowledge and new technologies. *Engineering Management*, 50(3), 362-373. doi:10.1109/TEM.2003.817287
- Sarwono, J., Larasatim, A. E., Novianto, W., Sihar, I., & Utami, S. (2015). Simulation of Several Open Plan Office Design to Improve Speech Privacy Conditions without Additional Acoustics Treatment. *Social and Behavioural Science*, 184, 315 – 321. doi:10.1016/j.sbspro.2015.05.096
- Schein, H. (1990). Organizational culture. *American Psychologist*, 45(2), 109-119.
- Schlittmeier, J., & Hellbruck, J. (2009). Background music as noise abatement in open-plan offices: a laboratory study on performance effects and subjective preferences. *Applied Cognitive Psychology*, 23, 684-697.
- Schlittmeier, J., Hellbruck, J., Thaden, R., & Vorlander, M. (2008). The impact of background speech varying in intelligibility effects on cognitive performance and perceived disturbance. *Ergonomics*, 51, 719-736.
- Seddigh, A., Berntson, E., Bodin Danielson, C., & Westerlund, H. (2014). Concentration requirements modify the effect of office type on indicators of health and performance. *Journal of Environmental Psychology*, 38, 167-174. doi:10.1016/j.jenvp.2014.01.009
- Seddigh, A., Stenfors, C., Berntsson, E., Baath, S., & Westerlund, H. (2015). The Association between office design and performance on demanding cognitive tasks. *Journal of Environmental Psychology*, 47, 172 – 181. doi:10.1016/j.jenvp.2015.05.001
- Shamir, B. (1992). Some correlates of leisure identity salience: Three exploratory studies. *Journal of Leisure Research*, 24(301–323).
- Smith-Jackson, T., & Klein, K. W. (2009). Open-plan offices: task performance and mental workload. *Journal Environmental Psychology*, 29, 279 - 289. doi:10.1016/j.jenvp.2008.09.002
- Smith, J. (2007). Hermeneutics, human sciences and health: Linking theory and practice. *International Journal of Qualitative Studies on Health and Well-being*, 2(1), 3-11. doi:<http://dx.doi.org/10.1080/17482620601016120>
- Smythe, L., & Gidding, L. (2007). From experience to definition: addressing the question 'what is qualitative research?'. *Nursing praxis in New Zealand*, 23(1), 37-57.
- Sorqvist, P., Nostl, A., & Halin, N. (2012). Disruption of writing processes by the semanticity of background speech. *Scandinavian Journal of Psychology*, 53, 97-102.
- Sosik, J., Jung, D., & Dinger, S. (2009). Values in authentic action: Examining the roots and rewards of altruistic leadership. *Group & Organisation Management*(34), 395–431. doi:
- Spreitzer, G. (1995). Psychological empowerment in the workplace: dimensions, measurement, and validation. *Academy of Management Journal*, 38(5), 1442-1465.
- Stryker, J. (2004). *Designing the workplace to promote communication: The effect of collaboration opportunity on face-to-face communication in R&D project teams*. (Doctoral Dissertation), Rutgers University, Newark, NJ.
- Sunderstrom, E., Burt, R., & Kamo, D. (1980). Privacy at work. Architectural correlates of job satisfaction and job performance. *Academy of Management Journal*, 23, 101 – 117.
- Sundstrom, E. (1986). *Work places: The psychology of the physical environment in offices and factorie*. New York Cambridge University Press.
- Sundstrom, E., Herbert, R. K., & Brown, D. W. (1982). Privacy and communication in an open-plan office: a case study. *Environment and Behavior*, 14(5), 379-392.
- Sundstrom, E., Town, J., Rice, R., Osborn, D., & Brill, M. (1994). Office noise, satisfaction, and performance. *Environmental Behaviour*, 26(2), 195-222.

- Tomas, P. (2010). Research Methodology and Design Retrieved from http://uir.unisa.ac.za/bitstream/handle/10500/4245/05Chap%204_Research%20methodology%20and%20design.pdf
- Ugboro, I., & Obeng, K. (2000). Top management leadership empowerment, job satisfaction and customer satisfaction TQM organisations: an empirical study. *Journal of Quality management*, 5, 247 - 272.
- University of Auckland, T. (2018). About thematic analysis. Retrieved from <https://www.psych.auckland.ac.nz/en/about/our-research/research-groups/thematic-analysis/about-thematic-analysis.html>
- Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing and Health Sciences*, 15(3), 398 - 405. doi:10.1111.nhs.12048
- Van Meel, J. (2000). *The European Office. Office Design and National Context*. Rotterdam.
- Veitch, J., & Gifford, R. (1996). Choice, perceived control, and performance decrements in the physical environment. *Journal of Environmental Psychology*, 16(3), 269-276.
- Vischer, J. (2007). The effects of the physical environment on job performance: Towards a theoretical model of workspace stress. *Stress and Health*, 23(3), 175-184.
- Wajcman, J., & Rose, E. (2011). Constant connectivity: Rethinking interruptions at work. *Organisation Studies*, 32(7), 941-961. doi:10.1177/017084061140829
- Waters, J. (2014). Snowball sampling: a cautionary tale involving a study of older drug users. *Journal International Journal of Social Research Methodology*, 18(4), 367 - 380.
- Wells, M. M. (2000). Office clutter of meaningful personal displays: the role of office personalisation in employee and organizational well-being. *Journal of Environmental Psychological Bulletin*, 20, 239-255.
- Willis, J. (1995). A Recursive, Reflective Instructional Design Model Based on Constructivist-Interpretivist Theory. *Educational Technology*, 35(6), 5-23.
- Wineman, J., Kabo, F., & Davis, D. (2009). Spatial and Social Networks in Organizational Innovation *Environment and Behavior*, 41(3). doi:10.1177/0013916508314854
- Woodard, G. (1999). Academic papers: Casual apparel in the workplace. *Journal of Fashion Marketing and Management*, 4, 301 - 310. doi:10.1108/eb022567
- Wycoff, J., & Snead, L. (1999). Stimulating innovation with creativity rooms. *Journal for Quality and Participation*, 22(2), 55-57.
- Zahn, L. (1991). Face to face communication in an office setting: the effects of position, proximity and exposure. *Communication Research*, 18, 737-754.
- Zajonc, R. (1965). Social Facilitation. *Science*, 149, 269-274.
- Zalesny, M., & Farace, R. (1987). Traditional versus open offices: A Comparison of Sociotechnical, Social relations, and Symbolic Meaning Perspective. *Academy of Management*, 30(2), 240 - 259. doi:10.2307/256272
- Zerella, S., von Treuer, K., & Albrecht, S. (2017). The influence of office layout features on employee perception of organisational culture. *Journal of Environmental Psychology*, 54, 1-10. doi:10.1016/j.jenvp.2017.08.004
- Zhang, Zhang, Y., Sun, Y., Lytras, M., Pablo, P., & He, W. (2018). Exploring the effect of transformational leadership on individual creativity in e-learning: a perspective of social exchange theory. *Studies in Higher Education*, 43(11), 1964-1978
- Zhang, Z., & Spicer, A. (2014). 'Leader, you first': The everyday production of hierarchical space in a Chinese bureaucracy. *Human Relations*, 67(6), 739-762. doi:10.1177/0018726713503021
- Zimmerman, A., & Martin, M. (2001). Post occupancy evaluation: Benefits and barriers. *Building Research and Information*, 29(2), 168-174.

Appendices

Appendix 1: Ethics pre-approval



Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

AUT

TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

5 September 2018

Rachel Morrison
Faculty of Business Economics and Law

Dear Rachel

Ethics Application: 18/350 Open plan office design and interpersonal relationships

Thank you for submitting your application for ethical review. I am pleased to advise that a subcommittee of the Auckland University of Technology Ethics Committee (AUTEC) approved your ethics application, subject to the following conditions:

1. Provision of the recruitment email or notice;
2. Amendment of the Information Sheet as follows:
 - a. Inclusion of further detail under the 'what will happen' section, including advice of where the interviews will occur, and if they will be taped and transcribed. Clarify if transcripts will be offered to participants for confirmation;
 - b. Provide more reflection about the potential for risks and discomforts, given the interview queries wellbeing, and asks if the workplace has contributed to mental health problems. Describe how the discomforts will be managed if it arises during participation;
 - c. Complete the date (and on the consent form too), and all contact details (include phone numbers);
 - d. Review for clarity of expression; e. In the 'how was I identified' section explain the criteria for having been approached with an invitation, including for example, that the potential participant is available for an interview in the Auckland region.

Please provide me with a response to the points raised in these conditions, indicating either how you have satisfied these points or proposing an alternative approach. AUTEC also requires copies of any altered documents, such as Information Sheets, surveys etc. You are not required to resubmit the application form again. Any changes to responses in the form required by the committee in their conditions may be included in a supporting memorandum.

Please note that the Committee is always willing to discuss with applicants the points that have been made. There may be information that has not been made available to the Committee, or aspects of the research may not have been fully understood.

Once your response is received and confirmed as satisfying the Committee's points, you will be notified of the full approval of your ethics application. Full approval is not effective until all the conditions have been met. Data collection may not commence until full approval has been confirmed. If these conditions are not met within six months, your application may be closed and a new application will be required if you wish to continue with this research.

To enable us to provide you with efficient service, we ask that you use the application number and study title in all correspondence with us. If you have any enquiries about this application, or anything else, please do contact us at ethics@aut.ac.nz.

I look forward to hearing from you,

Yours sincerely

Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

Appendix 2: Ethics Approval



Auckland University of Technology Ethics Committee (AUTC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
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www.aut.ac.nz/researchethics

9 October 2018

Rachel Morrison
Faculty of Business Economics and Law

Dear Rachel

Re Ethics Application: **18/350 Open plan office design and interpersonal relationships**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTC).

Your ethics application has been approved for three years until 8 October 2021.

Standard Conditions of Approval

1. A progress report is due annually on the anniversary of the approval date, using form EA2, which is available online through <http://www.aut.ac.nz/research/researchethics>.
2. A final report is due at the expiration of the approval period, or, upon completion of project, using form EA3, which is available online through <http://www.aut.ac.nz/research/researchethics>.
3. Any amendments to the project must be approved by AUTC prior to being implemented. Amendments can be requested using the EA2 form: <http://www.aut.ac.nz/research/researchethics>.
4. Any serious or unexpected adverse events must be reported to AUTC Secretariat as a matter of priority.
5. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTC Secretariat as a matter of priority.

Please quote the application number and title on all future correspondence related to this project.

AUTC grants ethical approval only. If you require management approval for access for your research from another institution or organisation, then you are responsible for obtaining it. You are reminded that it is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard.

For any enquiries, please contact ethics@aut.ac.nz

Yours sincerely,

A handwritten signature in black ink, appearing to read 'K O'Connor'.

Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

Cc: Hadeel Alsarraj; Roy Smollan

Appendix 3: Participation Information Sheet

AUT

TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

Participant Information Sheet – Appendix 1

Date Information Sheet Produced:

04 / 10 / 2018

Project Title

Open-plan Office Design and Interpersonal Relationships

What is the purpose of this research?

The aim of this research is to add to the existing body of knowledge to help organisations make the most of the advantages of shared workspaces, while lessening possible negative outcomes.

The research will provide an opportunity for interviewees to reflect on a topic which can impact workers' experience of work and wellbeing. The research is in partial fulfilment of a Master's degree.

How was I identified and why am I being invited to participate in this research?

1. I did a search on my LinkedIn connections and your profile was one of the many that were identified:
 - Your profile showed that you are within the Auckland region and potentially available for an interview
 - Your organisation is known to have open plan offices
 - You are in my list of first connections on LinkedIn, which means that either you or I have accepted an invitation from the other to connect on LinkedIn.
2. Otherwise, you are a known professional connection of mine and a relationship has already been established where I know a little about your work environment.

How do I agree to participate in this research?

Your participation in this research is voluntary and, whether or not you choose to participate, you will not be disadvantaged. You are able to withdraw from the study at any time until the findings have been produced. If you choose to withdraw from the study, you will be offered the choice of having your interview data removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

A consent form will be provided at the interview, once you have accepted the invitation to take part in this study.

What will happen in this research?

An interview session will be conducted and will take 25 to 45 minutes. Ideally you will be interviewed in a public and quiet location such as an office or meeting room. AUT has many rooms that we can use; otherwise please let me know if you have a preferred location, such as your own workplace. The time of the interview will be conducted during work hours, any day of the week.

The interview will be recorded. Our conversation will be transcribed by an independent transcriber who will be under a confidentiality agreement. The information you supply will be anonymous and confidential. You can request the transcription if you wish.

The interview session is semi-structured with broad questions guiding our conversation. We can talk about these questions in as much detail as you like. You are free to express any ideas, concerns, or beliefs that are related to the topic.

You do not have to answer any question you are not comfortable with. Your comfort in this process is important and I want this to be an enjoyable experience.

What are the discomforts and risks?

You will be asked questions which relate to your wellbeing within the workplace, you are under no obligation to answer these questions. If at any point in time you do not wish to carry on with the interview, you can immediately stop.

Please note that your safety and wellbeing are a priority and the next section of this information sheet will provide you with information on counselling if required as a result of any discomfort from any questions in the interview. Though, given the topic of discussion, this is unlikely.

How will these discomforts and risks be alleviated?

AUT Health Counselling and Wellbeing is able to offer three free sessions of confidential counselling support for adult participants in any AUT research project. These sessions are only available for issues that have arisen directly as a result of participation in the research and are not for other general counselling needs. To access these services, you will need to:

- drop into our centres at WB219 or AS104 or phone 921 9992 City Campus or 921 9998 North Shore campus to make an appointment. Appointments for South Campus can be made by calling 921 9992
- let the receptionist know that you are a research participant, and provide the title of my research and my name and contact details as given in this Information Sheet

You can find out more information about AUT counsellors and counselling on <http://www.aut.ac.nz/being-a-student/current-postgraduates/your-health-and-wellbeing/counselling>.

What are the benefits?

The potential benefits of the research is that participants have an opportunity to reflect on a topic that affects worker well-being. To the researcher, it provides new ideas, insights and understanding of how the issues affect workers. In addition, it would be beneficial to explore trends, fads and other related topics, which could highlight a gap in the literature for future researchers to focus on.

The benefit to the wider community would be to add to knowledge of "best practice" for future office design and to increase awareness of possible negative and positive outcomes of different types of office layout.

You will also be helping me achieve my Masters degree, and I am very appreciative of your efforts to help me.

How will my privacy be protected?

Your data will be stored in a secure location that is only accessible to me and my supervisor.

Digital information will be stored on a USB memory stick and all documents will be password protected. All physical data collected will be stored in a locked cabinet that only I and my supervisor will have access to.

Your identity as the participant will be protected through the use of pseudonyms.

What opportunity do I have to consider this invitation?

From the date of invitation, you will be given two weeks to consider whether you wish to take part in the study. Please let me know at the earliest possible whether you wish to take part.

Will I receive feedback on the results of this research?

Yes. In the consent form, you will be given the option to request the findings of the research once it has been finalised.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Rachel Morrison – rachel.morrison@aut.ac.nz, telephone 921 9999 ext 5457.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, Kate O'Connor, ethics@aut.ac.nz, 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this information sheet and a copy of the consent form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Hadeal Alsarraj

Email: hadeal.alsarraj@gmail.com

Mobile: 0212649722

Project Supervisor Contact Details:

Dr Rachel Morrison rachel.morrison@aut.ac.nz, telephone 921 9999 ext 5457

Dr Roy Smollan roy.smollan@aut.ac.nz, telephone 921 9999 ext 5390

Approved by the Auckland University of Technology Ethics Committee on 09 / 10 / 2018, AUTEC
Reference number: 18/350.

Appendix 4: Consent Form



Consent Form – Appendix two

Project title: **Open Plan Office Design and Interpersonal Relationships**

Project Supervisors: **Dr Rachel Morrison and Dr Roy Smollan**

Researcher: **Hadeal Alsarraj**

Consent

- I have read and understood the information provided about this research project in the Information Sheet dated: 04 / 10 /2018
- I agree to take part in this research.
- I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed
- I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- I wish to receive a summary of the research findings (please tick one): Yes ☐ No ☐
- I wish to receive the interview transcript (please tick one): Yes ☐ No ☐

Participant Name:

Participant signature: Date:

Participant Contact Details (not mandatory):

.....
.....

Approved by the Auckland University of Technology Ethics Committee on: 09 / 10 /2018. AUTEC Reference number: 18/350/

Appendix 5: Interview Questions

The logo for AUT (Auckland University of Technology) is displayed in a stylized, bold font.

TE WĀNANGA ARONUI
O TĀMAKI MAKAU RAU

Indicative Interview Questions – Appendix 3

Date:	
Time:	
Location:	
Gender identification:	
Participant Name:	
Participant work industry / sector:	
Position Title:	
Ethnicity:	

Select your Age Group	20-29 <input type="checkbox"/>	30-39 <input type="checkbox"/>	40-49 <input type="checkbox"/>	50-59 <input type="checkbox"/>	60+ <input type="checkbox"/>
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Describe your office environment.

How many people occupy your office floor?

Please describe features of your work environment that you like, what is it you like about these features?

How does your workspace / environment impact your experience of work?

Advantages / benefits?

Disadvantages / annoyances?

Are you able to personalise your workspace? If not, why not? If so, have you done so? Please describe?

Does your workplace provide alternate areas where you can be in a quiet/private environment (e.g. a break out space)? If so, how often do you use this space and is it in demand?

Environmental control is about giving employees choice in terms of how they work, do you feel you have control over your environment? Provide examples of this, e.g. access to resources, technology, furnishings, lighting, natural light areas etc.

What, if any, are the impacts (positive and negative) on collegial relationships within the workspace that result from working in open plan office environment? Please explain.

What are the most common distractions in your work environment? Do they impact on your productivity? Do you think it impacts on other's productivity? Provide an example(s).

What do you do to reduce / cope with any distraction you experience?

Have you felt physically or mentally unwell due to your work environment? Can you provide examples?