The influence of office layout features on employee perception of organizational culture

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A B S T R A C T

Office layout features and organizational culture have independently been shown to influence employee job satisfaction; however, little is known about whether office layout influences organizational culture. This study had two aims. The first was to investigate the association between office layout and organizational culture. The second was to investigate whether organizational culture mediates the relationship between office layout and job satisfaction. A total of 202 Australian workers completed an online survey. Structural equation modelling revealed that office layout features were significantly and positively associated with ratings of organizational culture. Additionally, culture ratings were shown to mediate the relationship between the office layout features and job satisfaction. These findings suggest that perceptions of office layout can influence employees' perceptions of the organizational culture and important employee attitudes.

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1. Introduction

Research has established that employee behaviour is influenced by office layout (e.g., Becker & Sims, 2001; Kraut, Fussell, Brennan, & Siege, 2002; Mehrabian, 1978). Consequently, office layouts are constantly being designed and redesigned to improve effectiveness (Baldry & Barnes, 2012; Ferrón, Pattini, & Lara, 2011), aesthetic appeal (Elsbach & Bechky, 2007; Ridoutt, Ball, & Killerby, 2002) and work efficiency (Jahncke & Halin, 2012; Robertson, Huang, O'Neill, & Schleifer, 2008). However, there is limited research that explores the impact of office layout on organizational culture and employee attitudes and behaviour.

1.1. Office layout features

Office layout refers to the physical office space and the way that objects within it are arranged (Lee, 2010). Elements of office layout include workstation positioning and the boundaries that are created by physical barriers such as walls and objects. Much of the research on office layout has focused on the differences between closed-plan and alternative forms of open-plan office layouts

(Maher & von Hippel, 2005; Oldham & Rotchford, 1983; Sundstrom, Herbert, & Brown, 1982; Zalesny & Farace, 1987). Given that work spaces can be configured in multiple ways within each office layout type, the office layouts features, such as levels of privacy can also vary, and determining their influence on the workplace culture is of interest.

Office layout is an element of the physical environment that can act as a symbolic representation that can influence employees' attitudes and behaviours (Ornstein, 1989). More specifically, organizational culture has been shown to influence job satisfaction (Shiu & Yu, 2010) and organizational performance (Goodman, Zammuto, & Gifford, 2001). Given the reported influence of organizational culture on performance, organizational culture has been recognized as an important determinant of competitive advantage (Goodman et al., 2001).

Previous research (e.g., Elsbach & Pratt, 2007; Hatch, 1990; Heerwagen, Kampschroer, Powell, & Loftness, 2004) has revealed that the physical work environment can influence human interaction and its symbolic function. Three key office layout features that are frequently studied are 'architectural privacy', 'visual access' and 'physical proximity'. Offices with fewer physical barriers and internal walls are described as being more open, with lower levels of architectural privacy and higher levels of visual access and physical proximity to other employees. Less studied is a fourth office layout feature, 'workstation equality', which refers to similarities between

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employee workstations. Workstation equality is often discussed in terms of what it symbolises (Zhang & Spicer, 2014), as opposed to its direct impact on behaviour. Employees within the same workplace can differ in terms of the privacy and space offered by their workstation, and this symbolically represents differences in status between employees (Baldry, 1999; Duffy, 1997; Elsbach, 2003; Zalesny & Farace, 1987; Zhang & Spicer, 2014). Status difference can, in turn, affect the way people within the organization communicate with one another (Welch, 1980). Along with architectural privacy, visual access, and physical proximity, workstation equality and its effect on behaviour within the workplace is further discussed below.

1.1.1. Architectural privacy

Privacy can be defined as a feature of the physical environment. Often referred to as 'architectural privacy', it refers to 'the visual and acoustic isolation supplied by an environment' (Sundstrom, Burt, & Kamp, 1980, p. 102). Architectural privacy influences the extent to which people are exposed to distractions and disturbances by others (Kupritz, 2003; Sundstrom et al., 1980). The use of walls and physical barriers create higher levels of architectural privacy; while large, open office spaces with no physical barriers separating workstations provide minimal privacy. Lower levels of architectural privacy can lead to greater opportunity for interaction, communication and collaboration (Becker & Sims, 2001; Kim & de Dear, 2013; Stryker, 2004), all of which are valued within clan cultures (Cameron & Quinn, 2011). However, clan cultures also value relationships (Cameron & Quinn, 2011) and low levels of architectural privacy can also lead to undesirable outcomes such as distractions and blurring of psychological boundaries (Sundstrom et al., 1980). While low levels of architectural privacy can have both positive and negative effects (Becker & Sims, 2001; Kim & de Dear, 2013; Stryker, 2004; Sundstrom et al., 1980), other research (Kupritz, 2005) suggest that the effect of architectural privacy levels may be dependent on other factors. Kupritz (2005), for example, found that individuals weighted architectural privacy differently depending on their job type. Offices with walls and a door were found to minimise distractions for business professionals, managers and technical professionals, but not for administration support services.

Architectural privacy may also be perceived differently depending on the extent to which human interactions (such as communication and collaboration) are valued within the workplace. For example, in organizations that value team communication, distractions and disturbances may not be viewed as negatively as in organizations that do not value interaction as highly, or that value hierarchical communication. As such, office layout may influence organizational culture. Architectural privacy could, for example, influence the emergence and maintenance of 'clan culture', whereby teamwork and collaboration are valued cultural practices (Cameron & Quinn, 2011). To date, no research has focused on the effect of the level of architectural privacy on workplace culture.

1.1.2. Visual access

While the visual component of architectural privacy focuses on being exposed to people from other destinations within the working space, visual access refers to being able to see others without leaving one's workstation or needing to stand up (Archea, 1977; Becker & Sims, 2001). Visual access between people can vary depending on the level of the physical barriers within the space. A number of advantages associated with visual access have been identified through previous research. First, employees who are seated at workstations that are highly visible to each other have significantly higher communication (Stryker, 2004) and this visibility can aid conversation, as well as resolve or even avoid conflict with the use of non-verbal cues (Becker & Sims, 2001; Mehrabian, 1978).

Becker and Sims (2001) conducted an extensive study, collecting survey, interview and observational data on eight American organizations from a number of different industries, surveying 229 employees, interviewing 347 and observing over 3000 interactions over a total of 130 h. They found that people with high levels of visual access to others were less likely to interrupt one another because they could see if people were busy, prior to initiating interaction. This also held true for managers initiating contact with team members, which facilitated the development of quality relationships. They concluded that high levels of visual access can lead to more frequent face-to-face communication between managers and subordinates, which can support mentoring and reduce psychological distance between managers and staff. Overall, being able to see others can have a significant positive effect on communication and relationships at work (Becker & Sims, 2001; Mehrabian, 1978; Stryker & Santoro, 2012; Stryker, 2004).

While Becker and Sims (2001) study revealed many behaviours that were affected by visual access, the researchers predetermined various categorical levels of visual access between groups, based on the type of office layout (e.g., private, enclosed offices or open-plan offices). Consequently, their results are not generalisable to differences within the same office layout type. This is important because of the number of organizations that opt for an open-plan layout.

1.1.3. Physical proximity

Another office layout feature commonly investigated is physical proximity. This refers to the physical distance between people, measured in units, such as metres (Kiesler & Cummings, 2002). A large body of research has found that physical proximity increases the frequency and quality of communication between people (Allen & Gerstberger, 1973; Allen, 1977; Boutellier, Ullman, Schreiber, & Naef, 2008; Kraut, Fish, Root, & Chalfonte, 1990). In turn, having teammates in close proximity to one another can provide an environment for the efficient information exchange that is necessary for teamwork. While the use of information and communication technologies is increasing, face-to-face communication is more effective than virtual communication methods for complex team tasks (Santoro & Saparito, 2003), remaining important for organizations that value teamwork and collaboration.

Physical proximity has also been shown to increase the level of collaboration between employees (Kraut et al., 1990). Kraut et al. (1990) investigated the impact of physical proximity on the probability of collaboration between 164 researchers within a large telecommunications organization. Their results indicated a strong positive relationship with a relatively large effect size. Further, research has demonstrated that physical proximity can facilitate the development of relationships between employees (Griffin & Sparks, 1990; Homans, 1950) and that people feel closest to those who are in close physical proximity (Allen, 2007; Festinger, Schachter, & Back, 1950; Kiesler & Cummings, 2002). Previous research has suggested that physical proximity may be an important feature of the physical work environment that can be modified to increase the level of communication and collaboration (Allen, 1977, 2007; Kraut et al., 1990, 2002), as well as being a tool to promote relationships between people (Griffin & Sparks, 1990).

1.1.4. Workstation equality

Some studies have found that differences in the levels of actual or perceived levels of privacy and space offered by their workstation can symbolically represents differences in status between employees (Elsbach & Pratt, 2007), and it can affect the way people behave and interact (Cameron & Quinn, 2011; Welch, 1980). In turn, the present study operationally defined workstation equality as the