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Exploring the components of privacy to predict satisfaction and justice in the workplace

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EXPLORING THE COMPONENTS OF PRIVACY TO PREDICT SATISFACTION AND JUSTICE IN THE WORKPLACE

A Thesis

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ABSTRACT

Privacy is a multifaceted construct that has typically been explored with two indicators: physical privacy, which relates to the office environment, and privacy related to information held by the company about the employee. The construct of privacy was explored in the organizational setting to determine if advances in technology including e-mail created a new, previously unexplored variable of e-mail privacy. It was also hypothesized that the construct of privacy would predict procedural justice and job satisfaction, and that the relationship between privacy and job satisfaction is mediated by procedural justice. A model was developed for this study to be tested with structural equation modeling (SEM) techniques.

An online questionnaire was developed, and data from a total of 238 participants was analyzed using EQS, a statistical package for evaluating models developed with SEM. While the model was not supported, post-hoc analyses discovered that e-mail privacy does contribute uniquely to the overall construct of privacy. Further, e-mail privacy was found to be a significant predictor of general job satisfaction, satisfaction with supervisor, and interactional justice. The implications of these findings are discussed.

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DEDICATION

To Richard Linklater, who wrote, "To those humans in whom I have faith: I wish suffering, being forsaken, sickness, maltreatment, humiliation. I wish that they should not remain unfamiliar with profound self-contempt and the misery of the vanquished. I have no pity for them because I wish them the only thing that can prove today whether one is worth anything or not - That one endures."

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CHAPTER ONE

LITERATURE REVIEW

Introduction

"Certainly, the use of computers in the workplace can and should mean more emphasis on computers in (Industrial-Organizational Psychology)" (Crespin & Austin, 2002).

Privacy is an important aspect of a citizen's daily life in our society. In order to function effectively, we should have a reasonable sense of privacy in our personal as well as public lives. New laws have been drawn up to ensure that workers in certain workplace settings are afforded this privacy so customer information in situations like call centers is not inadvertently shared with other employees (Scanlon, 2005). Previous literature on privacy has shown that there is a link between a desired level of privacy and job satisfaction within an organization (De Croon, Sluiter, Kuijer, & Frings-Dresden, 2005). One aim of this study is to improve on the previous literature utilizing subscales of privacy to more precisely measure the components of privacy. This study investigated the existence of a new type of privacy, called e-mail privacy, in order to determine if modern technology has created a new dimension of this construct. It also examined the relationship between three

factors of privacy - physical, informational, and electronic mail related. Finally, this study examined the relationship between the different aspects of workplace privacy and employee outcomes.

In order to better understand the construct of privacy it is essential that the components of this concept be defined as clearly as possible. Measuring privacy as a single global construct limits our understanding of the phenomenon. Therefore, breaking the larger concept of privacy into smaller dimensions enables a more comprehensive understanding of not only the components, but of privacy in general. Previous studies have focused on perceptions of privacy in the workplace (e.g., Alge, 2001; Rosenbaum, 1973), and barriers to physical privacy (e.g., Brill, Keable, & Fabiniak, 2000; Sundstrom, Town, Brown, Forman, & McGee, 1982). However, the concept of e-mail privacy has been largely ignored in psychology research. This importance is underscored by the fact that at least seventy-five percent of large employers track electronic activities of employees, including electronic mail and World Wide Web surfing (Nord, McCubbins, & Nord, 2007). Therefore, in the present study, employee perceptions related to e-mail privacy were measured as a separate component of the construct of privacy.

Privacy relates to a psychological awareness of personal boundaries. Westin (1967), in one of the pioneering efforts on workplace privacy, identified four separate groupings of privacy. Westin (1967) described four "states" of individual privacy, Personal Autonomy, Emotional Release, Self-Evaluation and Limited and Protected Communication. The author relates the concept of personal autonomy to one's desire to be free of control by others, stating that one's autonomy relates directly to his sense of dignity and individuality (Westin, 1967). The author referred to this in terms of physical and psychological methods of privacy invasion.

The State of Emotional Release in Westin's model refers to a person's ability to be himself, instead of behaving in a socially acceptable way because of a given situation (Westin, 1967). Here, Westin also writes of acceptable deviations from societal mores. He gives the examples of swearing or committing victimless crimes as evidence of this type of privacy state.

Self-Evaluation is the compliment to Emotional Release. While Emotional Release deals with breaking social customs, Self-Evaluation entails holding oneself in check with appropriate etiquette (Westin, 1967). Because of this introspection, privacy is attained because the individual is

allowed to retreat into his own reflective universe before being forced to deal with the outside world (Westin, 1967).

Limited and Protected Communication, the fourth state of privacy, serves two purposes. First, it allows a person to share things with confidants without fear of having his statements disclosed outside of the context of the conversation. Second, it allows an employee to create boundaries between himself and others so that he may keep a healthy mental distance from others. This state of privacy is intriguing because while on one hand it serves to draw people closer, it also keeps them from getting too close mentally or physically. While Westin's work was developed in the late 1960s, his work is currently viewed as making pioneering contributions to privacy research (Margulis, 2003). In organizational settings the notion of privacy has been studied under the dimensions of physical and informational privacy.

Physical Privacy

Privacy is an important factor within organizational settings. Many workplace-related studies on the subject have focused on employees' perceptions of physical privacy. Indeed, projects like BlueSpace, a massive collaboration

between IBM and Steelcase, are devoted to solving the issue of physical privacy in offices by developing dynamically customizable workspaces that include several features designed to minimize unwanted social contact (Lai, Levas, Chou, Pinhanez, & Viveros, M., 2002).

Brill, et al. (2000) examined the concept of privacy in the workplace through the use of the open-plan office. This theory states that productivity will increase and communication between employees and departments will be facilitated by the elimination of walls and partitions (Brill et al., 2000). Hedge (1982) gathered information about employees and their attitudes about the open-plan office to determine if the open-plan office had an effect on information exchange within an organization.

The logic behind this concept holds that the elimination of physical boundaries within an office will allow the organization to be more adaptable to change. However, the results of a factor analysis on a health and privacy questionnaire found that the factor of "Privacy and Distractions" accounted for more variance (37.6%) than the other seven factors combined (37.3%) (Hedge, 1982). This finding implies that there is a relationship between physical boundaries and perceived privacy. In addition, the privacy dimension may be an important predictor of how an

employee feels about his work setting. If an employee feels that he is getting less than the ideal level of privacy, he feels much worse about his employment setting. This relationship may generalize to employee outcomes as well. However, Hedge's subjects were all from a "Local Government Authority," which may limit the generalization of his findings to different workplace settings.

The theory that the open-plan office negatively affects productivity has also been studied by BOSTI Associates (Brill et al., 2000). Qualitative and quantitative data were collected from over 11,000 workers in approximately 80 different settings from 1994-2000. This study broke job types into four major categories: professional, technical, managerial and administrative. Further, several different job tasks were analyzed, ranging from the most solitary to the most group-oriented of duties.

The authors found that virtually all employees' primary tasks require performing work in an undistracted setting. However, approximately 50 percent of those surveyed stated that this was not possible (Brill et al., 2000). Interestingly, another study found that 50 percent of tasks are tasks that an employee must perform alone (Vos et al., 2001). Another finding of the BOSTI study was that as an

office becomes more open-plan oriented the percentage of workers who are satisfied with their workspace decreases. This study also found that physical space was not as important as the workspace's ability to block out aural distractions. The ability to block out aural distractions was the number one effect on performance and satisfaction.

Brennan, Chugh, and Kline (2002) also studied employees' perceptions of privacy relative to their physical environment. One of the purposes of this study was to determine how subjects' levels of satisfaction differed when moving them from individual offices to an open-plan office. Employees were surveyed at three separate times, once before the move, once shortly after and again after six months in the open-plan office. Employees showed significantly lower levels of satisfaction with their workspace after the move to the open-plan office. The study also reported that employees were "significantly less satisfied" with team members in the new office (Brennan et al., 2002). The data also showed an increase in physical stress and that employees felt the quality of their work suffered as well. No significant change in employee satisfaction with workspace, satisfaction with team member relations, level of "physical stressors" or perceived performance was recorded between the time the employees moved to the open-plan office

and six months after they had moved to their new surroundings (Brennan et al., 2002).

Physical privacy has been thoroughly researched in the workplace. Originally, it was the main focus of studies on organizational privacy. While the ability to prevent social interaction and intrusion through having secluded work areas is important, we cannot fully explain privacy by looking at the physical office environment alone. We must also consider the concept of other potential intrusions, including the type of information held about employees, and how that information is shared both inside and outside the organization.

Informational Privacy

Rosenbaum (1973) administered a questionnaire to applicants from several different types of companies to determine which types of questions would be seen as an invasion of the applicant's privacy. Through principal-components factor analysis, he delineated two distinct factors that were seen as invasions of privacy by the applicants. The first factor, which accounted for 30.4% of the variance, dealt with questions on religion and race. Rosenbaum termed this the "family background and influences"

factor (Rosenbaum, 1973). The second factor contained questions dealing with personal finances, and was termed the "financial management data" factor (Rosenbaum, 1973), accounting for 18.1% of the variance.

Rosenbaum's (1973) study explored opinions about invasion of privacy in employee selection by job applicant category. Subjects were administered questionnaires designed to assess their attitudes about questions asked in selection interviews. Results were then interpreted within the context of the position for which the subject was applying. While this study was very important to the understanding of informational privacy, the subject of physical privacy was not addressed. Additionally, Rosenbaum's study was based purely on attitudes related to informational privacy, and did not examine the concept's relationship to employee attitudes, such as job satisfaction. Moreover, electronic privacy was not a great concern at the time the study was conducted. In addition, measuring the attitudes of job applicants will most likely produce different results than measuring the attitudes of current employees.

Tolchinsky, McCuddy, Adams, Ganster, Woodman and Fromkin (1981) presented a hypothetical situation to subjects where their employer disclosed some information

about them. The 2 x 2 x 2 x 2 factorial ANOVA's conditions were:

1. The information was given with vs. without the person's consent,
2. The divulgence of the subject's information resulted in a favorable vs. unfavorable result,
3. The information was about the subject's personality vs. performance,
4. The information was revealed to sources inside vs. outside the company.

As hypothesized, the subjects perceived less invasion of privacy when the information was given with their consent, when the divulgence of the information resulted in a favorable result, when the information was about the subject's performance, and when the information was revealed to internal rather than external sources (Tolchinsky et al., 1981). These findings support the notion that privacy is a multifaceted construct. The results also demonstrated that when the information was given with a person's consent, there was little to no adverse reaction. However, the employee felt the most violated when information was given without their permission.

Two interaction effects were discovered to be statistically significant post-hoc. The first was that when permission was granted to release information beforehand, approximately the same level of invasion of privacy was reported when information was released internally and externally. Conversely, the authors also reported that subjects felt a greater level of invasion of privacy when information about their performance had been released externally rather than internally, and when the result of that release of information was negative (Tolchinsky et al., 1981).

A similar study sought to show a relationship between information and perceived privacy (Eddy, Stone & Stone-Romero, 1999). The authors designed a 2 x 2 MANOVA to test whether a subject would perceive less of an invasion of privacy when he was able to have control over the release of information about him and whether the subject would perceive less of an invasion of privacy if that information was released to internal versus external sources. The results showed that reactions about information released without a subject's prior permission elicited much stronger reactions than those where permission was granted. Further, reactions were stronger when information was made available to

entities outside the organization as opposed to information that was released internally.

Another recent study examined managers' and subordinates' perceptions of what types of information was held about them in company databases (Stanton & Weiss, 2003). The authors used semi-structured interviews to assess attitudes related to information held about employees. One common theme reported was that monitoring of employees without knowledge or consent was seen as extremely offensive (Stanton & Weiss, 2003). This finding is consistent with those of previous studies on informational privacy.

Research in the commercial sector may also be of interest when examining privacy concerns related to personal information. One author asserts that, in general, Americans feel that they have virtually no control over their personal information (Regan, 2003). In her summary of surveys conducted over the last decade, Regan concludes that both organizations and individuals tend to act in a way that is detrimental to informational privacy (Regan, 2003). Individuals, she states, are often ignorant of the ramifications of revealing too much information about themselves, and may do so simply for a discount. Organizations, on the other hand, have no incentive to move

toward protecting customers' privacy because it costs too much and may therefore make them less competitive in the marketplace (Regan, 2003).

Because these studies above were conducted across several types of organizations ranging from retail firms to aerospace corporations, it is likely that environmental differences randomly varied within these experiments. Furthermore, the surveyed companies were not all located in the same geographical region. Therefore, it seems as if this possible confound randomly varied as well. Due to the increasing pervasiveness of electronic mail and other technologies that became more prevalent in the workplace in the last decade, research must broaden the understanding of the construct of privacy and examine other factors related to employees' perceptions of privacy. To that end, the current study is building on Rosenbaum's dimensions of privacy and seeks to improve upon it by also examining physical and electronic privacy in the workplace.

Electronic and E-mail Privacy

The vast majority of research on attitudes toward privacy in the workplace was performed prior to the mid 1980s. Until that time, electronic mail was not a pervasive

method of communication in most organizations. It is currently estimated that the total number of e-mail users has reached over 1.4 billion (Internet World Stats, 2008).

However, there is a downside to these technological advances. In an article in Wired Magazine (May, 1999), David Bennahum stated, "the technology of electronic communications is moving so quickly that it has outpaced both the law and our own sense of propriety" (Bennahum, 1999, p. 104). Because of the rapidly growing need for and implementation of technology in the workplace, Congress passed the Electronic Communications Privacy Act of 1986. Congress passed this act to update the Omnibus Crime Control and Safe Streets Act of 1968, originally passed to amend the Fourth Amendment to the Constitution in regard to wiretapping (Samoriski, Huffman & Trauth, 1996).

The ECPA does not, however, afford absolute protection. First, system administrators (those who have access to all e-mail communications within their own organizations) have the ability to read any messages sent to or from anyone in their organization. While this is forbidden by ECPA for public employees, the Act provides no protection for private sector employees. Second, much like physical evidence, a warrant may be issued for electronic documents -- including

e-mail -- if there is reasonable belief that the information contains evidence of a crime (Samoriski et al., 1996).

Since the ECPA has gone into effect, several court cases have been filed claiming invasions of privacy. However, virtually none of them have been won (Samoriski et al., 1996). In the case of Shoars v. Epson America, Inc. (1991), Alana Shoars, an e-mail administrator for Epson, charged that her company was illegally monitoring employees' e-mail communications (Alderman & Kennedy, 1995). She alleged that she discovered approximately 650 pages of e-mails on her supervisor's desk that were written by her coworkers (Samoriski et al., 1996). When she confronted him about it, she was ultimately fired. Subsequently, she filed two lawsuits against Epson, one for wrongful termination, and a class action suit for invasion of privacy. While the former was eventually settled (Alderman & Kennedy, 1995), the latter was dismissed (Samoriski et al., 1996). Other similar court cases, including one against Nissan Motor Corporation in 1991, were fought with similar results (Samoriski et al., 1996).

The Shoars v. Epson America, Inc. case is the classic example of a perceived invasion of an employee's privacy by electronic means, but it is by no means the only one. The courts have consistently ruled in favor of employers when

employees have filed torts after being terminated for e-mail-related terminations. In the case of Fraser, et al. v. Nationwide Mutual Insurance Co., et al. (2003), the courts once again ruled that a case alleging that a violation of the ECPA had happened ruled in favor of the employer. Fraser alleged that his former employer had violated his privacy by searching his e-mail without his consent (Carney, 2003). The appeals court ruled that, because the e-mails were stored on a company server, the ECPA had not been violated (Carney, 2003).

E-mail privacy was recently studied by Cohen and Cohen (2007). In this study, graduate students were asked to detail their reactions to various types of privacy invasions, including employers' use of GPS systems to track movement, drug testing, and e-mail and Internet usage monitoring. The authors found that 81 percent of respondents favored both drug testing and Internet and e-mail monitoring (Cohen & Cohen, 2007). However, while 18 percent responded negatively to Internet and e-mail monitoring, only six percent responded negatively to drug testing. One of the comments in favor of e-mail monitoring stated that neglecting to periodically examine employees' e-mail could cause more harm than good Cohen & Cohen, 2007).

However, because this study used only graduate students, the authors' findings may not generalize to other populations.

While the topics of physical and informational privacy have been examined in several studies, electronic or e-mail privacy is currently a relatively unexplored construct. It is important to study this concept because of the salience of electronic information in the workplace. The network of computers used to send and receive e-mail, the Internet, has been expanding at an alarming rate over the past six years. Between 2002 and 2007, the percentage of people online in the United States increased from 167 million to 212 million (Internet World Stats, 2008). Therefore, businesses must turn to the Internet in order to gain new customers. It is quickly becoming a popular medium for advertising, and with good reason as computer users are more likely to be college educated and have extra income (McFadden, 1995). The need to study electronic privacy is highlighted by the fact that people who use the Internet are more aware than ever before of the fact that monitoring technologies are in place (Dinev & Hart, 2004). This need is also important due to the fact that more information is available electronically than ever before, and laws like the Freedom of Information Act are interpreted differently based on the context in which they are applied (Davis, 2003).

The Internet plays a large role in the concept of electronic privacy today. When a company's computer network is connected to this massive web of information, files from their computers can be accessed by anyone who has access to the Internet, including employees working abroad, domestic workers, and Internet hackers. Workers' perceptions about their levels of privacy related to their e-mail and computer files should be studied in order to obtain a better understanding of the components of privacy.

Performance monitoring is one area of research that has raised questions about employee privacy. Therefore, it is related to privacy research, and should be mentioned to highlight other issues related to employee privacy. Performance monitoring is defined as "any method of collecting, storing, analyzing, and reporting individual or group actions or performance on the job" (Nebeker & Tatum, 1993, p. 508). This technique has advanced so far in recent years that it can be constant and transparent to the employee being observed (Aiello, 1993). The invasion of privacy associated with monitoring electronic mail falls under the category of performance monitoring.

Electronic Performance Monitoring may fall under the broader scope of performance management. Performance management is defined as "the regular collection and

dissemination of performance data" (Moynihan, 2005, p. 203). However, electronic performance monitoring need not be regular nor disseminated, so it would not be appropriate to always categorize EPM as performance management under this definition.

Performance monitoring is not a new concept. In fact, it was asserted that "employees have been monitored at work probably as long as people have been employed" (Nebeker & Tatum, 1993, p. 508). With the ubiquity of computers in the workplace, the focus on this method of surveillance has shifted to the electronic realm and is therefore referred to as Electronic Performance Monitoring, or EPM (Stanton & Barnes-Farrell, 1996). Stanton and Barnes-Farrell researched the effects of an employee's ability to block performance monitoring on task satisfaction. In their study, subjects were asked to obtain and use information from a database. Subjects were monitored electronically and were placed into one of three groups. The control group had no control over when they were monitored several times during the exercise. The first experimental group gave the individual the option of when they would be monitored, and the second experimental group was given the option of eliminating performance monitoring altogether. The authors learned that there was a positive relationship between a

subject's level of control over performance monitoring and satisfaction (Stanton & Barnes-Farrell, 1996).

A similar study examined the effects of computer monitoring and its effects on perceptions of fairness, performance and satisfaction with the task being executed (Douthitt & Aiello, 2001). Subjects were divided into monitoring groups that had conditions identical to those in the Stanton and Barnes-Farrell (1996) study. The results showed that subjects' performance on complex tasks was significantly lower for the group that had no control over the surveillance (Douthitt & Aiello, 2001). While these results are consistent with earlier findings, the authors raise the question of external validity, as do many other researchers. To help address this concern, one study conducted interviews with 22 managers about their opinions on electronic monitoring (Alge, Ballinger, & Green, 2004). The authors reported that more than two-thirds of those interviewed stated that they would be reluctant to use electronic monitoring in their organizations because of "concerns surrounding such issues as privacy, fairness and trust" (Alge et al., 2004, p. 406).

Electronic performance monitoring has also been examined by Chalykoff and Kochan (1989). In their study, an employee's level of satisfaction with the method of EPM was

found to be significantly related to his level of job satisfaction (Chalykoff & Kochan, 1989). The authors performed a structural equation analysis to determine the effects of different elements of computer-aided monitoring on job satisfaction and turnover intentions. It was discovered that EPM was not a direct predictor of turnover propensity, but it was indirectly related through job satisfaction (Chalykoff & Kochan, 1989).

Another study examined the relationship between performance monitoring and employee well-being (Holman, Chissick & Totterdell, 2002). The authors hypothesized that employees who were monitored on content they perceived not to be "performance-related" and who perceived the EPM as negative would exhibit lower levels of well-being. Holman et al. measured well-being with four measures, one of which was a scale designed to assess job satisfaction. As hypothesized, the data showed a negative relationship between the non "performance-related content" aspect of performance monitoring and job satisfaction. Specifically, subjects who perceived that EPM was not beneficial exhibited lower levels of job satisfaction as well. These conclusions are consistent with those of Chalykoff and Kochan (1989).

Performance monitoring is related to stress as well. Aiello and Kolb (1995) discovered that employees whose work

was monitored electronically felt a significant amount of stress as a result of that monitoring. In a similar experiment, the primary author discovered that workers subjected to EPM had higher levels of anxiety than those who were not electronically surveyed (Aiello & Svec, 1993).

While performance monitoring can have many negative effects on employees, it has been argued that in some cases it is not only desirable for employers to be able to monitor their workers, but necessary. Even the harshest critics of EPM have admitted that it can have benefits for employers as well as employees including prevention of criminal activity (Miller, & Weckert, 2000). It has also been argued that performance monitoring can benefit communication in group settings, which has been shown to indirectly and positively affect performance (Marks & Panzer, 2004).

Also, one study that examined EPM reported that the control group, who were told that their computer work would not be monitored, more closely resembled the group that was told it would be monitored electronically than the group that was monitored with experimenters physically in the room with the subjects (Stanton & Sakar-Barney, 2003). The authors point out that their manipulation checks to determine whether subjects understood whether they would be monitored electronically were not perfect. That is, a

number of subjects who were told they would not be monitored answered that they were monitored or weren't sure if they were monitored on an exit questionnaire. The authors also point out that their method of simulating electronic monitoring may not have been encroached on the subjects' privacy enough (Stanton & Sakar-Barney, 2003). In fact, from the descriptions given by the author, the condition of monitoring where the researchers were actually in the room with the subjects seemed to be much more invasive than the one designed to simulate EPM.

In general, there are a few guidelines employers should adhere to when monitoring employees' e-mail: First, employers should be the ones directly providing e-mail services to their employees (Kovach, Jordan, Tansey, & Framinan, 2000). Employers who use a third-party e-mail system such as America Online would not have the same rights to monitor employee e-mail as those who provided an in-house e-mail server. Second, employers should ensure that employees are aware of electronic monitoring taking place (Crespin & Austin, 2002, Kovach et al., 2000). Employers who follow these guiding principles will help protect themselves from potential torts filed against them should they discipline or terminate employees as a direct or indirect result of monitoring them electronically.

The decision to use EPM in an organization is clearly a slippery slope. One argument against using such monitoring techniques states that providing employees with a greater degree of privacy may ultimately create "a more efficient workspace" than one utilizing EPM in hopes of increasing productivity (Kovach et al., 2000). A plethora of employees take great pride in their work, and it is plausible that watching employees may have a negative effect on their ability to perform (Kovach et al., 2000).

Now that the components of organizational privacy have been established, it is important to understand possible outcomes of privacy and why privacy makes a difference in organizations. Procedural justice or the concept of fairness may help us better understand why privacy is important. Procedural justice may also help explain employee outcomes such as satisfaction with supervisor, satisfaction with office, and general job satisfaction.

Procedural Justice

Schappe (1998, p. 277) defines the construct of procedural justice as "the extent to which the processes or procedures used to make decisions are regarded as fair." There is wide support in the literature that employees who perceive high levels of procedural justice, a dimension of

organizational justice, also tend to exhibit high levels of job satisfaction, positive attitude toward supervisors (Schappe, 1996), organizational commitment, self-esteem (Brockner et al., 2003), and even performance (Konovsky & Cropanzano, 1991). Researchers have attempted to measure organizational justice using two-, three- and four-factor models (Colquitt et al., 2001). The concept was originally separated into two constructs, distributive justice and procedural justice (Thibaut & Walker, 1975). Distributive justice is concerned with ensuring that all parties involved in an interaction take away a fair amount of what is being distributed, whatever the commodity may be (Thibaut & Walker, 1975). Procedural justice, in contrast, is concerned with the method used to divide said commodity among the participants of the transaction, and is therefore concerned with the process of distribution rather than the end result (Cropanzano & Wright, 2003). This study will focus on procedural justice because of the conceptual relevance of employee perceptions that organizational policies and practices regarding privacy are fair.

Since Thiabaut and Walker's two-factor model, both three- and four-factor models have been proposed. The three-factor model was introduced by Bies and Moag in 1986. These researchers took the concept of interactional justice

and treated it as its own dimension rather than as a component of procedural justice (Colquitt et al., 2001). This was probably the most significant development in the field of organizational justice research since the delineation between distributive and procedural justice. Separating out interactional justice accomplished at least two things. First, it allowed researchers to better understand procedural justice by removing possible error and accounting for more variance when measuring procedural justice. Second, it introduced what has become a well-accepted and well-researched component of organizational justice.

Interactional justice was said to be comprised of two parts. The first part focused on the way an employee felt about how he was treated by his immediate supervisor, while the second part weighs the information that was made available to employees during these interactions (Cropanzano et al., 2002). However, seven years after Bies and Moag's three-factor model was offered, Greenberg (1993) proposed that these two components of interactional justice should actually be measured as separate constructs.

Greenberg proposed that the latent variable of organizational justice could be better explained with four factors than with three. One of the questions a meta-

analysis of the organizational literature sought to answer was whether measuring interactional justice separately from procedural justice helped account for more variance when trying to measure organizational justice (Colquitt et al., 2001). Using hierarchical regression and entering each "conceptualization" of organizational justice in the order it appeared in the literature, this study suggested that "interpersonal and informational justice explained an additional 6% of the variance in fairness perceptions" (Colquitt et al., 2001, p. 433).

A subsequent study by Colquitt sought to determine if organizational justice should in fact be measured with a four-factor model. This model would split interactional justice into two distinct and separate dimensions of interpersonal justice and informational justice (Colquitt, 2001). Colquitt et al.'s meta-analysis found that, while these two were highly correlated ($r = .57$), they should be treated as different variables because they were tapping different constructs. However, interpersonal and informational justice were entered together in the same step of the multiple regression portion of the meta-analysis.

To assess the fit of a four-factor model of organizational justice, Colquitt (2001) performed a confirmatory factor analysis on two studies, one in a

university setting and one in a workplace setting. Looking at the root-mean-square error of approximation (RMSEA) confidence intervals, the author shows that for both studies, the four-factor model fits the data best (Colquitt, 2001).

It is interesting to note that some more recent studies have eschewed the four-factor model for the three-factor model when measuring organizational justice. Even Greenberg, while mentioning the two components of interactional justice, does not highlight the difference in an article on workplace stress and organizational justice (Greenberg, 2002). A clue as to why this might be so is in a study on Affirmative Action. Cropanzano studied reactions of Black job applicants' feelings about different Affirmative Actions Plans (AAPs) using a three-factor model to measure organizational justice (Cropanzano, 2005). He stated that "none of the AAPs provide explanations for why the specific AAP is in place" (Cropanzano, 2005, p. 1171). This suggests that, in some situations, using the four-factor model of procedural justice may not capture as much variance as the two- or three-factor model.

Outcomes of procedural justice have been studied alongside many different constructs, including privacy and job satisfaction. In the aforementioned study by Eddy,

Stone and Stone-Romero (1999) that examined employees' reactions to dissemination of personal information, the independent variables were the control a subject had over disclosure and to whom the information would be disclosed. These authors found that employees' perceptions of fairness were negatively related to feelings of invasion of privacy (Eddy et al., 1999). While this finding is important and the subjects were employed, this study was conducted through an MBA program, and not in actual workplaces.

Procedural justice is also significantly correlated with job satisfaction. Schappe (1998) studied how procedural fairness, job satisfaction and organizational commitment affected organizational citizenship behavior. Schappe defined structural procedural justice as "the characteristics of the formal procedures themselves." The interpersonal dimension of procedural justice refers to how persons are dealt with while the procedures are being enforced. Through hierarchical regression, the author showed that the construct of job satisfaction was significantly correlated with structural procedural justice as well as interpersonal procedural justice (Schappe, 1998).

Another article examined the relationships between aggression, employee outcomes and undesirable behaviors in the workplace (Judge, Scott, & Ilies, 2006). The authors

built on Weiss and Cropanzano's affective events theory to test their hypotheses about the relationships between these constructs. As predicted, hierarchical linear modeling revealed a significant correlation between interpersonal justice and job satisfaction (Judge et al., 2006).

Yet another study that examined procedural justice and job satisfaction surveyed residents of a suburb of Montreal after a two-week-long power outage (Harvey & Haines III, 2005). Employees from various organizations were contacted by researchers to ask questions about how their employers dealt with them during the blackout. Survey questions relevant to this paper revolved around how the employees were treated by their employers during this disaster situation. The authors used multiple regression to show that job satisfaction was most strongly predicted by feelings of procedural justice.

One recurring concept in procedural justice literature is the concept of a balanced allocation of control (Thibaut & Walker, 1975). To illustrate this idea in his work, *A Theory of Justice*, John Rawls gives the example of a group of people who must share a cake. He states that the solution that would produce high perceptions of procedural justice would be to have the person who divides the cake allow the others to choose their pieces first. That way, he

would be sure to divide the cake in a way that would seem fair to all parties (Rawls, 1971).

Ambrose's (2000) study of procedural justice and workplace drug testing is a good illustration of both structural and interpersonal, or "interactional justice." The author hypothesized that subjects who were drug tested as part of the selection process would view the testing as more fair than job incumbents. The author's hypothesis was supported, as the results showed stronger reactions to drug testing "for cause" (Ambrose, 2000). As an example of interactional justice, the author hypothesized that interpersonal treatment during a drug test will have a positive relationship to the employee's attitudes about the drug testing program. The results showed that the process was viewed more positively by subjects in the group with "courteous" administrators than in the group with "rude" administrators (Ambrose, 2000).

One previously mentioned article examined issues of electronic privacy and procedural justice (Alge, 2001). This study set out to explain consequences related to electronic performance monitoring. The author hypothesized that privacy was a prerequisite for procedural justice, and that low perceptions of privacy would be negatively related to procedural justice (Alge, 2001). The data was subjected

to a confirmatory factor analysis that supported this hypothesis. While a wealth of research on procedural justice and privacy has been conducted, a very small number of studies look at these two constructs simultaneously.

While the construct of procedural justice continues to evolve, its multiple dimensions have successfully demonstrated relationships with employee outcomes. The relationship of procedural justice to job satisfaction may help to explain the important role of privacy in the workplace. If an employee is content with the level of privacy in the workplace, the employee may feel that the organization deals with them fairly. This sense of procedural justice could lead to feelings of job satisfaction.

Privacy and Job Satisfaction

Job satisfaction is defined as an employee's level of contentment with aspects of a job including the work performed, compensation, credit received, and mobility (Chalykoff & Kochan, 1989). Understanding the link between privacy and job satisfaction is important to understanding employee attitudes with regard to job satisfaction. To investigate the effects of physical privacy on job satisfaction, De Croon and colleagues performed an extensive

review of the literature on these topics. The authors had three criteria for selecting articles from all available research. Each article received one point if the response rate was over 50%, one point if the analyses used were appropriate, and one point if the study was conducted in either a simulated or actual workplace setting (De Croon, Sluiter, Kuijer, & Frings-Dresden, 2005). Articles that met two of the criteria were listed as medium quality, while those that met all three were labeled high quality. Studies that did not meet at least two of the above criteria were not included in the review. All four of the studies labeled as high quality, and three of the six labeled as medium quality were reported to show a negative relationship between working in an open-plan office and job satisfaction.

Another study examined the relationship between environmental control and environmental satisfaction. This study sought to improve the ergonomics of an employee's workspace through empowering them to change their physical workspace. The authors asserted that workers who perceived their offices to be more enclosed reported higher levels of environmental satisfaction (Huang, Robertson, & Chang, 2004).

Stone and Irvine (1993) examined a subject's performance, affect and satisfaction with a task based on

whether the room had a window or not. While the authors hypothesized that the subjects would prefer the windowed room, they found the opposite. Subjects exhibited higher levels of confidence and control in the room without windows. The authors concluded that this may be due to the subject's preference for privacy in facilitating concentration and minimizing tensions related to outside assessment and intrusion (Stone & Irvine, 1993).

Leonard, Margolis and Keating's (1981) study on turnover at a Community Living Arrangements dormitory for the mentally disabled provided more support for the link between privacy and job satisfaction. The authors found that a major contributor to the turnover problem was the subjects' perceived lack of privacy (Leonard et al., 1981). Unfortunately this study was exploratory and the authors did not formulate a definition of privacy (Leonard et al., 1981).

Another study was Block and Stokes' (1989) workplace simulation. This study used a 2 x 2 x 2 x 2 MANOVA to examine the relationship between the independent variables of sex, task complexity, introversion/extroversion and work setting (private or non-private) and performance and satisfaction. The authors concluded that employees who performed tasks in a private experimental condition reported

higher levels of job satisfaction than those in the nonprivate condition (Block & Stokes, 1989).

Sundstrom et al. (1982) examined the relationship between the number of walls surrounding an employee's workspace and the subject's rated privacy of that workspace. Sundstrom et al. (1982) used subjects from three distinct job categories: secretaries, accountants/ bookkeepers, and managers. For each category, the authors found a positive correlation between the number of walls surrounding the person's work area and the subject's reported level of perceived privacy (Sundstrom et al., 1982). Working in a private office accounted for 31 percent of the variance in predicting one's level of privacy (Sundstrom et al., 1982). The authors of this study also concluded that privacy was a correlate of job satisfaction, although this was not as strong a predictor as satisfaction with workspace. It can be argued, however, that the construct of privacy contributed to the construct of satisfaction with workspace because the construct of satisfaction with workspace was defined by such items as number of enclosed sides or walls and not being visible to one's supervisor (Sundstrom et al., 1982). These items could be seen as indicative of physical privacy and social privacy because other studies have used

similar items to measure perceptions of privacy (Maher & von Hippel, 2005).

Oldham (1988) also examined the relationship between physical environment and privacy within an organization. In his study, Oldham examined the effects of three open-offices that moved to one of three separate conditions. Office D moved to a low-density open-office environment designed to maintain the open-office atmosphere while providing more individual space per employee. Office P moved to a setting where three partitions were placed around each employee's desk, in order to provide the workers with more privacy. Office C served as the control group, and moved from an open-office climate to a similar open-office setting. The results demonstrated that employees from offices P and D were more satisfied with the office environment, were more comfortable holding private conversations within the office, and were better able to concentrate on their work than in their previous office setting (Oldham, 1988).

The authors were also interested in examining the relationship between office density and job satisfaction, because previous studies indicated a link between overly crowded offices and lower levels of satisfaction (Oldham, 1988). The study found that giving employees more physical space or partitions resulted in higher levels of

satisfaction with levels of privacy and with the office in general. However, moving to an office with partitions did not affect job satisfaction, while moving from a more crowded open office to a larger, less dense open-plan office did have a positive effect on satisfaction (Oldham, 1988).

While these results may appear contrary to previous findings concerning the open-plan office, there may be other factors at play. First, while job satisfaction did not increase for the partitioned office, it did increase for the less dense office. One interpretation of this finding is that these employees, even though perceived crowding improved, knew that because their nearest neighbor had not moved they were not afforded any additional privacy as a result of the introduction of partitions. This is supported by the fact that office satisfaction increased for this group. Additionally, perceptions of privacy increased for both offices. Also, Hedge's (1982) study found that higher levels of job satisfaction were achieved with higher physical privacy for secretarial employees, who reported their work as being less challenging. The concept of work satisfaction in this case is self-explanatory. "Work satisfaction refers to the degree to which the employee is generally satisfied with his or her job" (Oldham, 1988, p. 255). Oldham's finding that an employee who perceives a low

level of privacy may exhibit lower satisfaction is consistent with other findings in this paper.

Brill et al. (2000) also concluded that workplace design affects job satisfaction. When employees are not able to perform job tasks because of a lack of privacy, their job satisfaction decreases (Brill et al., 2000). This theme has persisted since the inception of the open-plan office, and research appears to confirm that the direction of this correlation has not changed over time.

Other studies have found a negative relationship between workplace density and job satisfaction, including one that was designed to build on the work of Oldham, Sundstrom and others (Fried, Haynes Slowik, Ailan Ben-David, & Tiegs, 2001). Further support for this finding was reported by Kupritz (2003). The author reported that workers in both older and younger cohort groups ranked "having a large personal office space" as the most important factor for performing work tasks (Kupritz, 2003).

While the above studies focused upon physical walls in relation to privacy perception, Le Poire, Burgoon and Parrott's (1992) work examined three different types of invasions of privacy. In addition to physical invasions, they also examined informational-psychological intrusions, as well as social invasions of privacy (Le Poire et al.,

1992). Le Poire et al.'s definition of physical privacy was similar to Altman's (1976) definition. Both studies stated that physical privacy deals with freedom from observation and having power over one's physical area (in Altman, 1976, Le Poire, 1992). Le Poire et al. (1992) combined psychological and informational privacy into one construct, and stated that informational privacy deals with control over access to information about one's "values or attitudes" (Le Poire et al., 1992).

For the experiment, the authors assigned each of the 285 participants to a role of supervisor, subordinate or co-worker commensurate with their current position in their organization. Subjects were then randomly assigned to an invasion of physical, informational-psychological or social privacy. A 37-item questionnaire was then administered to capture privacy restoring behavior exhibited (Burgoon et al., 1992). These types of privacy restoring behavior ranged from "distancing," which entails physically removing oneself from an uncomfortable situation, to "confrontation," where the subject proactively engages the person responsible for the privacy invasion (Burgoon et al., 1992).

The authors found that while social invasions of privacy evoked the weakest reactions, physical and informational-psychological invasions evoked much stronger

ones. Le Poire et al.'s work was important because it contributed to the theory that there are many facets of privacy. Additionally, the author implied that these latter types of privacy invasion (informational and physical) could cause a loss of productivity by the employees, and therefore a loss in revenue for the company. This finding lends more support to the argument that additional research on privacy must be conducted in organizations.

Because studies are reflective of the time period in which they were conducted, the information they provide serves as a vital building block for future research. While the aforementioned analyses of workplace privacy were important for understanding the construct of privacy at the time, the proliferation of technology has changed the workplace significantly over the past few years. This is one of the major factors driving the next wave of privacy research in the organizational context.

The majority of anecdotal reports on the open-plan office state that while it may have been designed to increase communication, in reality, more harm than good comes from this paradigm shift (Gallagher, 1999). Driven by harsh criticisms by employees, many companies who transitioned to the open-plan office environment have since

put walls and other partitions back up in an attempt to appease privacy-starved workers (Gallagher, 1999).

Companies such as Microsoft and Sun have kept a predominantly single-person office-based environment, while KN Energy Inc., a Colorado-based utility company who adopted the open-plan office concept in 1993, has since reinstated its previous office space configuration (Gallagher, 1999).

Conclusion

Organizational privacy is a multifaceted construct. When a study attempts to measure a sample of subjects' perceptions of privacy, it must delineate the type of privacy it is trying to quantify. Previous research illustrates that privacy cannot be viewed as a one-dimensional construct. Moreover, the definition of privacy must necessarily evolve to include factors that were not present or prevalent at the time previous research was conducted. This study seeks to improve on Rosenbaum's (1973) study by adding the components of physical and e-mail privacy. This will provide invaluable insight into privacy research and help determine the attitudes of employees using e-mail in the workplace.

Rosenbaum (1973) stated that some types of questions were viewed as an invasion of privacy when posed to job

applicants. Specifically, his research found that applicants perceived questions about an applicant's finances and lifestyle, including questions related to religious affiliation and ethnicity, as an invasion of privacy. Similarly, it has been reported that there are certain features of online stores that can negatively influence a user's perceptions of online privacy (Resnick & Montania, 2003) and that a user who believes her online privacy will be protected reports more positive feelings about the company it represents (Metzger, 2004). These findings may generalize to electronic privacy in the workplace as well. It is important to understand what features of electronic information systems should be put into place and what features should be avoided if an organization is to address the issue of electronic privacy effectively.

This study will attempt to assess employees' satisfaction with their physical, informational and electronic privacy as well as satisfaction with their working environment and their feelings about procedural justice. If an employee is satisfied with the levels of physical, informational and electronic privacy at work, the employee should also have positive feelings about the procedural justice in the organization, especially where related specifically to privacy. Because procedural justice

has been shown to be highly correlated with employee outcomes such as job satisfaction, it stands to reason that an employee who reports high levels of privacy and procedural justice will also report high levels of job satisfaction.

Physical privacy is defined by an employee's level of satisfaction with their physical environment, including the office setup and the relative distance from the nearest coworker. Informational privacy seeks to assess an employee's comfort level with the type of personal data their employer keeps. Electronic privacy is designed to measure one's comfort level with their computer and electronic mail messages sent and received. Job satisfaction is measured by satisfaction with an employee's supervisors and the work that they perform. Finally, procedural justice is measured by the employee's perceptions of how fair an organization's policies are, as well as how well they are treated with respect to the enforcement of those policies.

This research is important in laying the groundwork for future research on other aspects of privacy. This study incorporates the concept of informational privacy as tapped by Rosenbaum and adds the dimensions of physical privacy and electronic privacy. Finally, this study adds job

satisfaction as another factor contributing to the overall importance of privacy in the workplace.

Hypotheses

1. The three dimensions of privacy will uniquely add to the prediction of job satisfaction.
2. The relationship between privacy and job satisfaction will be partially mediated by procedural justice.
3. The model shown in Figure 1 will produce an estimated population covariance matrix that is consistent with the observed covariance matrix.
    a. Privacy is a latent variable that is predicted by physical privacy, informational privacy and e-mail privacy.
    b. Procedural justice is a latent variable that is predicted by structural justice and interactional justice.
    c. Job satisfaction is a latent variable that is predicted by how an employee feels about his job, his supervisor, and his office setting.

CHAPTER TWO

METHOD

Summary of Model

In the model depicted in Figure 1, circles represent latent variables or "factors," while squares represent "measured variables" (Tabachnick & Fidell, 2001). Each measured variable has an unknown amount of error in measurement associated with it. This is represented in the diagram by an arrow pointing from the letter "E" and a unique number (e.g., E1) to the measured variable. Similarly, measuring latent variables is not precise. Instead of error, the word "disturbance" is used to describe residual error in measuring a construct, and therefore the letter "D" would be used in lieu of "E." These disturbances are implied on this diagram but are not expressly written.

The arrows pointing to the boxes from the circle marked "Privacy" in Figure 1 hypothesize that privacy is a latent variable that will be predicted by the manifest variables of physical privacy, informational privacy, and e-mail privacy. The arrows pointing to the boxes from the circle marked "Job Satisfaction" in Figure 1 hypothesize job satisfaction is a latent variable that is predicted by the manifest variables of general satisfaction with job, satisfaction with

supervisor, and satisfaction with workspace. The arrows pointing to the boxes from the circle marked "Procedural Justice" in Figure 1 hypothesize that procedural justice is a latent variable that is predicted by the manifest variables of structural justice and interactional justice. Finally, the latent variable of privacy will predict both procedural justice and job satisfaction, while procedural justice will also help predict job satisfaction.

Participants

The sample consisted of 239 respondents from an unknown number of organizations who use e-mail in the course of their daily work. This sample size is above the 180 minimum recommended based on ten subjects per parameter for structural equation modeling of an 18-parameter model (Tabachnick & Fidell, 2001). Positions ranged from entry-level to supervisory level employees. Each participant used a computer daily and was familiar with how to send and receive e-mail. Multiple companies were surveyed to vary possible policies on privacy and e-mail.

A total of 233 subjects answered that they had between zero and 25 years of experience in their current capacity or position. The median number of years of experience was 2.0. A total of 50.6% of the respondents were women, 48.1% were

men, and 1.3% were of unknown gender. Subjects ranged in age from 20 to 77 years old, with a median age of 37.0.

Subjects answered that they used computers between 1-18 hours per day, with a median of 8.0 hours per day. Subjects answered that they sent between zero and 200 e-mails per day on average, with a median of 20, and received between zero and 1500 e-mails per day, with a median of 30. These were open-ended questions, and where a subject entered a range, the average was used.

When asked if a respondent's organization had a policy on privacy as it relates to physical space, 36.8% answered no, 23.0% answered yes, and 39.3% answered that they were not sure. Less than one percent did not respond. When asked if a respondent's organization had a policy on information collected about them, 20.1% answered no, 40.2% responded yes, and 38.9% answered that they were not sure. Again, less than one percent did not respond. When asked if a respondent's organization had a policy related to e-mail, 18.0% answered no, 51.5% answered yes, and 29.3% answered that they were not sure. 1.3% of respondents did not answer this question.

Procedures

An online survey was written in the ColdFusion programming language by the researcher to collect survey data. The survey was encrypted using the same level of security used for online shopping and banking. The data was stored in a SQL Server database, and the site was hosted at www.cfdynamics.com, a popular ColdFusion hosting site.

The introduction page guaranteed that the survey was secure, stating that no one on the Internet would be able to see the respondents' answers. The respondents were also promised that their individual answers would not be shared with anyone outside the study. To help ensure the highest level of privacy, no identifying information was collected about the person (e.g., respondent name, name of company). For this reason, it was not possible to perform any analyses related to differing privacy policies in organizations

The survey consisted of one page per section. Respondents navigated through the survey by clicking buttons at the bottom of each Web page labeled "Previous" and "Next". If a section was too long to display on a single screen without scrolling vertically, the scale was repeated as many times as necessary across the top of the choices for clarity.

Respondents were encouraged to answer every question, but were allowed to navigate between sections if questions were left unanswered. If a respondent tried to close his Web browser before completing the survey, a warning message appeared informing the respondent that he had not completed all sections of the survey, and asked him to confirm that he would like to exit. After the respondent completed the final (demographics) section, a message was displayed, thanking the respondent for completing the survey, and he was allowed to close his Web browser window without seeing a warning message.

Respondents were recruited through various professional and educational e-mail lists. An email was sent to a contact person, who forwarded the email to members of the list. These e-mails were sent during the day to try to reach as many potential respondents as possible.

Measures

The manifest variable of physical privacy was measured using the "Crowding" scale from May, Oldham and Rathert (2005). The authors reported a Chronbach's Alpha of .92. This study used four items altered from Oldham (1988). Each item is measured on a seven-point Likert-style scale, with anchors of agree strongly (1) and disagree strongly (7).

This scale, which is designed to measure "crowding" in the office, was chosen because it closely resembles the concept of physical privacy. Also, the results of the Oldham et al. (2005) study reported that crowding was highly negatively correlated with employee outcomes, including work area satisfaction. Although they were highly correlated, the authors verified that these two constructs loaded on separate factors using principal component factor analysis with oblique rotation. Chronbach's Alpha was computed on the collected data, and was reported to be .94 for this scale.

Informational privacy was measured using a scale taken from Alge, Ballinger, Tangirala, & Oakley (2006). The authors were interested in the relationship between informational privacy and employee outcomes. They created a measure of 23 questions designed to tap three areas of informational privacy, including "Perceived Legitimacy" of the information held about a person, "Information Gathering Control," and "Information Handling Control" (Alge et al., 2006). The authors reported a Chronbach's Alpha of .81 for Perceived Legitimacy, .75 for Information Gathering Control, and .88 for Information Handling Control. These items were averaged together for this study to form a single scale.

Chronbach's Alpha was computed on the collected data, and was reported to be .91.

E-mail privacy was measured using questions developed for this project that were designed to determine an employee's level of satisfaction with his corporate e-mail account. These questions were developed based on prior studies on physical and informational privacy. Chalykoff and Kochan's (1989) study of electronic performance monitoring (EPM) was also influential in the development of these questions. Their study concluded that some employees viewed EPM negatively but others did not. Because their study focused on employee attitudes in relation to electronic performance monitoring and its relationship to job satisfaction, the theme of their study was a great influence designing the questions to tap this construct. Each question in this section consisted of a statement followed by a five-point Likert-style scale, with a score of one representing strongly disagree, and a score of five representing strongly agree to each statement. Chronbach's Alpha was computed on the collected data, and was reported to be .73 for this scale.

Structural procedural justice and interactional procedural justice were measured using Schappe's (1998) scales. Schappe examined the relationship of several

different variables, including job satisfaction and procedural justice. Schappe used a 19-item questionnaire to measure the structural dimension of procedural justice and "an 8-item scale measuring the interpersonal dimension of procedural justice" (Schappe, 1998). The author reported a Chronbach Alpha of .92 for the structural justice scale, and .97 for the interactional justice scale. In this study, Chronbach's Alpha was .94 for the structural justice scale, and .97 for the interactional justice scale. The structural justice scale was later split into two scales, structural justice related to consistent/fair use and structural justice related to ethics/bias. The Chronbach Alpha for this scale was .93 for the former and .89 for the latter in this study.

Hackman and Oldham's (1975) "General satisfaction" and "Satisfaction with supervisor" subscales from the Job Diagnostic Survey and Oldham's (1988) "Office Satisfaction" scale were selected to measure the construct of job satisfaction. The former section consists of five items. Three of these items are taken from the section of the Job Diagnostic Survey which instructs the employee to describe how he feels about his job. The other two are taken from section five of the survey, and ask the employee to describe how others at his company in the same or similar position

would feel. Two of these questions are reverse-scored, and each of the five questions is based on a seven-point Likert scale, with anchors of "Strongly Disagree" to "Strongly Agree" for questions derived from both sections of the survey.

General job satisfaction was measured using Hackman and Oldham's measure (1988). This measure consisted of five items. Each question in this section consisted of a statement followed by a seven-point Likert-style scale, with a score of one representing disagree strongly, and a score of seven representing agree strongly to each statement. The authors reported Chronbach Alpha of .76 for this scale (Hackman & Oldham, 1975). Chronbach Alpha for this scale was .85 in this study.

Satisfaction with supervisor was measured using Hackman and Oldham's measure (1975). This measure consisted of three items. Each question in this section consisted of a statement followed by a seven-point Likert-style scale, with a score of one representing extremely dissatisfied, and a score of seven representing extremely satisfied with each statement. The authors reported Chronbach Alpha of .79 for this scale (Hackman & Oldham, 1975). The Chronbach Alpha for this scale was .93 in this study.

Satisfaction with office space was measured using Oldham's measure (1988). This measure consisted of three items. Each question in this section consisted of a statement followed by a seven-point Likert-style scale, with a score of one representing disagree strongly, and a score of seven representing agree strongly to each statement. The authors reported Chronbach Alpha of .88 for this scale (Oldham, 1988). The Chronbach Alpha for this scale was .92 in this study.

A demographics section was also included in the study, asking questions on time in position, gender, age, type of position, ethnicity, daily usage of computers (in hours), and daily usage of Internet and Intranet e-mail, measured by number of messages sent.

CHAPTER THREE

RESULTS

Assumptions

Before analyzing the data through Structural Equation Modeling (SEM), e-mail privacy, informational privacy, physical privacy, general job satisfaction, satisfaction with workspace, satisfaction with supervisor, interactional justice and procedural justice were examined through various SPSS programs for accuracy of data entry, missing values, and fit between their distributions and the assumptions of multivariate analysis. Scales were computed on the cleaned data to compute the mean of these variables using SPSS DESCRIPTIVES. Z-scores were computed, and no univariate outliers were found. SPSS REGRESSION was run to find Mahalanobis distance to test for multivariate outliers, but none were found. SPSS MVA was run in an attempt to find missing values, and the number reported was less than one percent. A table of bivariate correlations was produced through the SPSS CORRELATIONS command. Correlations between the means of the variables ranged from .21, between information privacy and physical privacy, to .84, between structural justice related to consistent/fair use and procedural justice related to ethics/bias.

Means and standard deviations were computed on the collected data for privacy variables, physical privacy (M = 5.20, SD = 1.88), informational privacy (M = 4.23, SD = 1.29) and e-mail privacy (M = 3.06, SD = 0.61). These statistics were also computed for the procedural justice variables, interactional justice (M = 5.06, SD = 1.70), structural justice related to consistent/fair use (M = 3.97, SD = 1.37), and structural justice related to ethics/bias (M = 3.64, SD = 1.21). Finally, means and standard deviations were computed for the job satisfaction variables, general job satisfaction (M = 4.79, SD = 1.31), satisfaction with supervisor (M = 4.88, SD = 1.84), and satisfaction with office (M = 5.21, SD = 1.41).

Hypothesis 1

The main purpose of this study was to contribute to the definition of privacy by expanding the definition of privacy. Hypothesis 1 stated that the components of privacy would uniquely contribute to the factors of job satisfaction. While the percentage of variance accounted for by e-mail privacy was low (two percent for general job satisfaction, two percent for satisfaction with supervisor), it was significant.

A series of standard multiple regressions were performed to determine the extent to which e-mail privacy contributed to each of the measured variables of Job Satisfaction (general job satisfaction, satisfaction with workspace and satisfaction with supervisor). A standard multiple regression was performed between general job satisfaction as the dependent variable and e-mail privacy, informational privacy, and physical privacy as the independent variables. Table 1 displays the correlations between the variables, the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (β), the semipartial correlations (sr_i^2) and R^2. R for regression was significantly different from zero, $F(3, 235) = 23.72$, $p < .01$. This means that the "correlations between DVs and IVs and all regression coefficients" do not equal zero (Tabachnick & Fidel, 2001, p. 142). Ninety-five percent confidence intervals for B were calculated for e-mail privacy (.076 to .647, $p < .05$), informational privacy (.141 to .412, $p < .01$), and physical privacy (.067 to .229 $p < .01$).

All three of the IVs contributed significantly to prediction of general job satisfaction: e-mail privacy ($sr_i^2 = .02$), informational privacy ($sr_i^2 = .05$), and physical privacy ($sr_i^2 = .04$). The three IVs in combination

contributed another .11 in shared variability. Altogether, 23% (22% adjusted) of the variability in general job satisfaction was predicted by knowing scores on these three IVs.

A standard multiple regression was performed between satisfaction with office as the dependent variable and e-mail privacy, informational privacy, and physical privacy as the independent variables. Table 2 shows that $\underline{R}$ for regression was significantly different from zero, $F(3, 234) = 36.47$, $p < .01$. Ninety-five percent confidence limits for $\underline{B}$ were calculated for informational privacy (.101 to .376, $p < .01$), and physical privacy (.250 to .413, $p < .01$).

The IVs of informational privacy and physical privacy contributed significantly to prediction of satisfaction with office: informational privacy ($sr_i^2 = .03$), and physical privacy ($sr_i^2 = .19$). The three IVs in combination contributed another .10 in shared variability. Altogether, 32% (31% adjusted) of the variability in satisfaction with office was predicted by knowing scores on these three IVs.

A standard multiple regression was performed between satisfaction with supervisor as the dependent variable and e-mail privacy, informational privacy, and physical privacy as the independent variables. Table 3 shows that $\underline{R}$ for regression was significantly different from zero, $F(3, 235)$

= 20.34, $p < .01$. Ninety-five percent confidence limits for B were calculated for e-mail privacy (.126 to .939, $p < .05$), informational privacy (.108 to .494, $p < .01$), and physical privacy (.112 to .343, $p < .01$).

All three of the IVs contributed significantly to prediction of satisfaction with supervisor: e-mail privacy ($sr_i^2 = .02$) informational privacy ($sr_i^2 = .03$), and physical privacy ($sr_i^2 = .05$). The three IVs in combination contributed another .10 in shared variability. Altogether, 21% (20% adjusted) of the variability in satisfaction with office was predicted by knowing scores on these three IVs. Because all three IVs contributed significantly to prediction of general job satisfaction and satisfaction with supervisor, and because both the IVs of informational privacy and physical privacy contributed significantly to prediction of satisfaction with workspace, hypothesis 1 was partially supported.

Model Estimation

The data was then analyzed with EQS. Structural Justice and Interactional Justice would not run because they were linearly dependent, so the model was run again, after manually splitting Structural Justice into two separate variables, Ethics/Bias and Consistent/Fair Use, based on the

literature. This is a common problem in EQS. The program generally finds variables with only two indicators to be unstable.

The independence model that tests the hypothesis that the variables are uncorrelated with one another was easily rejected, χ^2 (36, $\underline{N}$ = 238) = 1132.29, $\underline{p}$ < .01. The comparative fit index (CFI) reported for the modified model was .85, which is less than the .95 rule of thumb to indicate a good fit. Therefore, the model was not supported. There were no post hoc changes recommended that would increase the fit of the model. See Figure 2 for the final model with coefficients. Because the model was not supported based on a reported CFI less than .95, caution should be used in interpreting these coefficients.

Privacy was shown to increase for each of the three measured variables, e-mail privacy (standardized coefficient = .67), informational privacy (standardized coefficient = .72) and physical privacy (standardized coefficient = .38). Procedural Justice was shown to increase for structural justice related to ethics/bias (standardized coefficient = .91) but to decrease for interactional justice (standardized coefficient = -.67). Job satisfaction was shown to increase with satisfaction with office (standardized coefficient = .70) and satisfaction with supervisor (standardized

coefficient = .79). Privacy was predictive of job satisfaction (standardized coefficient = .37), but higher levels of Privacy led to lower levels of Procedural Justice (standardized coefficient = -.52). Higher levels of Procedural Justice also led to lower levels of Job Satisfaction (standardized coefficient = -.65).

Post-Hoc Analyses

A series of standard multiple regressions were performed to determine the extent to which e-mail privacy contributed to each of the measured variables of Procedural Justice (structural justice relating to ethics/bias, structural justice relating to consistent/fair use, and interactional justice). A standard multiple regression was performed between structural justice related to consistent/fair use as the dependent variable and e-mail privacy, informational privacy, and physical privacy as the independent variables. Table 4 shows that $\underline{R}$ for regression was significantly different from zero, $F(3, 235) = 12.72$, $p < .01$. Ninety-five percent confidence limits for $\underline{B}$ were calculated for informational privacy (-.417 to -.118, $p < .01$) and physical privacy (-.191 to -.013, $p < .05$).

The IVs of informational privacy and physical privacy contributed significantly to prediction of structural

justice related to ethics/bias: informational privacy (sr_i^2 = .05) and physical privacy (sr_i^2 = .02). The three IVs in combination contributed another .08 in shared variability. Altogether, 14% (13% adjusted) of the variability in satisfaction with office was predicted by knowing scores on these three IVs.

A standard multiple regression was performed between structural justice related to consistent/fair use as the dependent variable and e-mail privacy, informational privacy, and physical privacy as the independent variables. Table 5 shows that R for regression was significantly different from zero, $F(3, 235) = 18.30$, $p < .01$. This means that the "correlations between DVs and IVs and all regression coefficients" do not equal zero (Tabachnick & Fidel, 2001, p. 142). Ninety-five percent confidence limits for B were calculated for informational privacy (-.459 to -.201, $p < .01$) and the physical privacy (-.171 to -.017, $p < .05$).

The IVs of informational privacy and physical privacy contributed significantly to prediction of structural justice related to ethics/bias: informational privacy (sr_i^2 = .09) and physical privacy (sr_i^2 = .02). The three IVs in combination contributed another .08 in shared variability. Altogether, 19% (18% adjusted) of the variability in

structural justice related to consistent/fair use was predicted by knowing scores on these three IVs.

A standard multiple regression was performed between interactional justice as the dependent variable and e-mail privacy, informational privacy, and physical privacy as the independent variables. Table 6 shows that R for regression was significantly different from zero, $F(3, 235) = 12.50$, $p < .01$. This means that the "correlations between DVs and IVs and all regression coefficients" do not equal zero (Tabachnick & Fidel, 2001, p. 142). Ninety-five percent confidence limits for B were calculated for e-mail privacy (.031 to .814, $p < .05$) and physical privacy (.094 to .316, $p < .01$).

The IVs of e-mail privacy and physical privacy contributed significantly to prediction of structural justice related to ethics/bias: e-mail privacy ($sr_i^2 = .02$) and physical privacy ($sr_i^2 = .05$). The three IVs in combination contributed another .07 in shared variability. Altogether, 14% (13% adjusted) of the variability in interactional justice was predicted by knowing scores on these three IVs.

Gender was investigated as a potential factor in differences in perceptions of privacy in an attempt to dispel the myth that men are more computer-savvy than women.

Independent samples t-tests were performed comparing men and women on the three privacy dimensions. No differences were found. In addition, correlations were run between age and concepts of privacy. However, none were significant. While questions were asked about whether an employee's organization had policies on various types of privacy, this information could not be adequately analyzed because all responses were totally anonymous.

Finally, a full correlation matrix was produced, including all scale variables and all control variables. The results of these correlations are included in Table 7 and Table 8. Not surprisingly, number of emails sent per day was significantly correlated with number of emails received per day ($r = .39$). Number of hours of computer use per day was also significantly positively correlated with both number of emails sent per day ($r = .29$) and number of emails received per day ($r = .17$). Also, age was significantly positively correlated with years of experience ($r = .39$). Age was the only control variable that was significantly correlated with any of the measured variables. Age was found to be positively correlated with physical privacy ($r = .14$), general job satisfaction ($r = .14$) office satisfaction ($r = .14$), structural justice related to consistent/fair use ($r = .17$) and structural justice related

to ethics/bias (r = .21). Finally, all scale variables were significantly correlated with all other scale variables.

CHAPTER FOUR

DISCUSSION

Summary and Interpretation of Findings

Hypothesis one stated that the three different factors of privacy would contribute to job satisfaction. This hypothesis was based on the need to add email privacy to our understanding of the privacy construct. A series of multiple regressions confirmed that the three dimensions did contribute to many of the dimensions of job satisfaction. However, the structural equation model suggested that the amount of variance accounted for by the predictors was not strong enough to fit the model.

Hypothesis 2 and 3 were tested using EQS. Hypothesis 2 stated that the relationship between privacy and job satisfaction could be better explained if procedural justice were examined at the same time. The model did not provide support for this hypothesis.

Hypothesis 3 stated that the data analysis performed on the sample would generalize to the population. That is, the data collected would show that the overall feeling of privacy would predict job satisfaction and procedural justice. Further, the hypothesis stated that the relationship between privacy and job satisfaction could be

better understood by also looking at procedural justice. In a meta-analysis of job satisfaction, researchers found that approximately 37 percent of the variance was accounted for when predicting job satisfaction (Podsakoff, LePine & LePine, 2007). If hypotheses two and three would have been supported, this study should have reported similar figures when predicting job satisfaction.

This type of analysis looks at statistics known as "comparative fit indices" to determine if the proposed model is a good way to explain real-world dynamics. The model was not supported. The model does provide some evidence that the indicators are related to the factors and that the factors are related. However, the variance accounted for in the model is low suggesting that there are some other variables not included in the model that would likely be stronger predictors.

E-mail privacy contributed uniquely to prediction of general job satisfaction, satisfaction with supervisor, and interactional justice. These findings are encouraging because it shows good discriminant validation. That is, it doesn't predict what it shouldn't predict. It could be discouraging to see that e-mail privacy helped predict seemingly unrelated constructs like satisfaction with workspace. Conversely, this finding also shows good

convergent validation. That is, it makes sense that e-mail privacy would help predict general job satisfaction as well as satisfaction with supervisor and interactional justice. Future studies on privacy in the workplace should measure e-mail privacy to account for as much variance in measuring the latent variable of privacy as possible.

The post-hoc analyses also found age to be positively correlated with physical privacy ($r = .14$), general job satisfaction ($r = .14$), satisfaction with office ($r = .14$), structural justice related to consistent/fair use ($r = .17$) and structural justice related to ethics/bias ($r = .21$). While statistically significant, these correlations are weak. Age was also positively correlated with years of experience ($r = .39$), exhibiting convergent validity between the control variables. Number of emails sent per day was positively correlated with number of emails received per day ($r = .39$), again exhibiting convergent validity.

Limitations of the Study

The sample used for this study is one limitation. A convenience method was used to gather the data, which means that anyone who was willing to fill out the survey was encouraged to do so. Therefore, employees with privacy concerns may have self-selected themselves out of the study.

This would limit the range of values collected on the privacy scales. While the data does not suggest this, it is possible. Also, the data collection process had to guarantee anonymity, so it was impossible to compare groups between different organizations, because organization name was not collected. In retrospect, adding the control variable of organization type or industry could have been collected to facilitate post-hoc analyses and provide more insight.

This could influence the results of this study in at least two ways. First, the data were based only on employees who wanted to fill out the survey. Therefore, employees who did not have the time nor interest to do so were not represented in the sample. Second, the results based on a convenience sample may not generalize to other, more well-defined samples.

One limitation that may have decreased the fit of the model was that the data could not be run as it was originally proposed because the two procedural justice measures did not work well together in the analysis. In retrospect, it may have helped to include a third measure of procedural justice to see if the model would have found better support with an additional measured variable. Support has been found in the literature for two-, three-

and four-factor models when measuring procedural justice, depending on the other variables of interest (Colquitt et. al, 2001).

Another limitation was the perception of privacy policies in subjects' organizations. Many subjects answered that they were unsure if their organization had certain types of privacy policies, while others in the same organization that they did. Arguably, this study could benefit if it sampled a group of people who absolutely knew if there were privacy policies in their organization, and if so, what they were.

Another potential issue is that the questions on the participant survey ask the subject questions about their employer that may be perceived as negative. Therefore, constructs such as organizational commitment may come into play. It is possible that organizational commitment would fit well into the current study, as employees who are more dedicated may be more accepting of privacy policies, may perceive higher levels of procedural justice, and be more satisfied with their jobs.

Importance of Examining Privacy and Employee Attitudes in the Workplace

Americans' right to privacy in the workplace is diminishing. The Fair and Accurate Credit Transactions Act (FACTA) that took effect at the end of March 2004 gives employers even more power to invade an employee's privacy by gathering information on an employee without notifying him (Bromberg & Rudy, 2004). This reverses the protections provided an employee under the Fair Credit Reporting Act that require employers to obtain written permission from an employee before certain types of investigations. Future laws are sure to shape the direction of research into employee privacy as well.

The USA PATRIOT Act of 2001, which was created in response to the terrorist attacks that destroyed the World Trade Center in New York City, grants managerial staff in the public sector new ways to "collect, disseminate, and evaluate information for decision making" (Haque, 2005). This act states that current and future technologies should be used to attempt to determine patterns in behavior that may threaten national security (Haque, 2005). Abuse of technology in the name of this act could negatively affect employees' perceptions of privacy, which could in turn negatively affect employee outcomes.

Finally, while monitoring in the workplace is not a new concept, technology is moving at such a rapid pace that the price of monitoring will continue to fall, while the need to monitor employees will rise. Part of the reason monitoring is so prevalent is because the technology is more affordable than ever before (Nord et. al, 2006). When an employer compares the relatively low cost of this technology with the potentially astronomical costs of loss of trade secrets, the decision to monitor may be an easy one. However, it is still important to understand how best to implement and enforce these policies (Miller & Wells, 2007).

Possible Topics for Future Research

The finding that e-mail privacy contributes uniquely to the prediction of privacy deserves more research in the future. As offices have become more electronic and automated, privacy has been disappearing more rapidly. Also, while the scale produced a respectable alpha, it could be improved with further research to better tap the construct of e-mail privacy.

This model used a limited number of variables. Future research should investigate potential mediators and moderators, such as age, familiarity with technology, and type of position (Brill et. al, 2000). In addition,

individual differences may also predict an employee's perceived level of privacy in the workplace. Personality characteristics such as introversion vs. extroversion (Block & Stokes, 1989) may be interesting to examine within the context of the current study, and may help to account for more of the variance than the current study can in predicting the construct of privacy. As previously mentioned, some potential variables include organizational commitment (Brockner et al., 2003), intention to leave (Chalykoff & Kochan, 1989), and stress (Huang & Chang, 2004; Greenberg, 2004).

To determine why privacy might lead to employee outcomes, it may help to return to Westin's (1967) pioneering research on privacy. Westin suggested that privacy is related to psychological states of awareness that create comfort and security with the environment. These psychological states may act as mediators that predict employee outcomes. One of the states of privacy Westin described was limited and protected communication. Westin stated that "Reserved communication is the means of psychic self-preservation for men in the metropolis" (Westin, 1967, p. 38). Westin goes on to explain that this state of privacy affords a person the same level of anonymity as a person taking confession. If a person felt that his e-mail

communication had the same level of confidentiality as communications with a priest, this attitude could serve as a mediator to help predict employee outcomes. Organizational policies regarding privacy may elevate psychological states that would decrease attitudes of conflict and increase attitudes related to security and satisfaction with the organization.

Future studies in this area may want to look into expanding the number of observed variables to try to better capture the construct of procedural justice, including distributive justice. Also, the variables of interactional justice and structural justice should be examined in a different way to help both the theory and analysis of the model with EQS. For instance, interactional justice could be split into interpersonal justice and informational justice (Colquitt, 2001).

Another idea for future research is to examine the degree to which organizations communicate their electronic privacy policy. Because this was a completely anonymous study, this information could not be compared between companies. It would be interesting to perform a between-groups analysis of employees who were well-informed about their organization's privacy policies vs. those who were not well-informed. These groups could be further divided by

employees who were generally content with their companies' policies on privacy vs. those who were generally not content with privacy policies in the organization. Previous research has indicated that employees with less challenging jobs place higher value on privacy than those with more complex jobs (Hedge, 1982). Therefore, type of position could be in interesting variable in future studies.

The study attempted to gather as much data as possible in the demographics section by leaving questions open-ended. However, this turned out to make many answers harder to classify, and therefore harder to compare across groups. Future studies seeking to improve upon this one should offer standardized categories for demographic questions like title of position. Future studies may also want to investigate relationships between specific factors of the latent variables examined in this study. For example, it is possible that procedural justice may mediate the relationship between e-mail privacy and general satisfaction more strongly than the relationship between informational privacy and office satisfaction.

Implications for Organizations

It has been well-documented that physical and informational privacy are important to an individual, but organizations should be interested to know that employees experience higher levels of privacy when their level of e-mail privacy is higher as well. While many companies are extremely strict with their e-mail systems, others understand that completely controlling what an employee can and can't do over e-mail is not the answer. Even though e-mail is technically the property of the company, it probably doesn't behoove an organization to dig through an employee's e-mail without cause. This is similar to another concept in organizational privacy literature: drug testing for cause vs. random testing (Ambrose, 2000). Organizations may want to consider searches of e-mail in the same way they consider drug testing. That is, employees may see searches for cause as more fair than random searches (Cohen & Cohen, 2007).

Also, this could mean that employees are happier with their perceived e-mail privacy because their supervisor took the time to explain what is and is not acceptable in the workplace. Future studies may want to explore these to determine which predicts which better. Any future studies on organizational privacy should include a section on e-mail privacy as part of their measure.

Miller and Wells (2007) suggest a three step procedure for addressing issues related to privacy and security in an organization. First, identify the problem. Second, ascertain the disconnect between management's need for security and the employee's need for privacy. Third, talk openly to the employees and try to create a situation where the needs of all parties are met (Miller & Wells, 2007).

The analyses also found that informational privacy predicted general job satisfaction, satisfaction with workspace, satisfaction with supervisor, structural justice related to fair and consistent application of policies, and structural justice related to ethics and bias. This may point to the fact that informational privacy is more important to nearly every other measured variable in this study. Finally, physical privacy predicted general job satisfaction, satisfaction with workspace, satisfaction with supervisor, structural justice related to fair and consistent application of policies, structural justice related to ethics and bias, and also predicted interactional justice. Much research has concluded that this may be the most important aspect of privacy in the workplace. This is highlighted by the important role physical privacy plays in predicting satisfaction with office.

Current trends in employment, including outsourcing jobs to temporary agencies and foreign countries, play into this and future research in industrial and organizational psychology. With so many options, employers must have a reason for keeping employees on staff. Whether the company has decided that the person currently performing the role is a substantial asset to the company or because the position needs to exist in-house for some reason, one thing is certain. Companies who employ workers have a vested interest in retaining those employees. Those who are more satisfied with their jobs are more likely to remain than ones who are not (Aarons & Sawitzky, 2006).

Understanding what drives perceptions of procedural justice and employee job satisfaction is essential to organizations that have competent people working for them. Organizations experiencing high turnover will have another angle from which to approach the problem of retention. Organizations experiencing high levels of disgruntled employees will likewise have more and better questions to ask their employees. If organizations have a better understanding of what makes an employee content in his workplace, they will have a better opportunity to make their employees happy. This could reach to all aspects of

employers and employees including recruiting, selection and retention of quality team members.

Summary of Contributions of this Study

This study contributed to the literature on privacy by adding the dimension of e-mail privacy. While not all the hypotheses were supported, there was a unique contribution by e-mail privacy when predicting employee outcomes. Perhaps the most compelling reason to examine e-mail privacy and its effect on job satisfaction and procedural justice is to prepare for the next threat to employee privacy. The main reason more employers than ever are monitoring their employees is that the necessary technology to perform such monitoring is more available and less expensive than ever before. With the current trends in science and technology, it is likely that other invasions of employee privacy, including genetic testing, may become as available to employers as electronic methods of monitoring employees are today. The results of this study may serve as an early warning to employers who wish to institute other measures that employees may perceive as an invasion of their privacy.

APPENDIX A

PARTICIPANT SURVEY

E-MAIL PRIVACY

Please circle the number that corresponds with your answer.

		Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
1.	No one else at my company accesses my e-mail account.	1	2	3	4	5
2.	I have often considered or currently have a private e-mail account, separate from my business account, for personal use.	1	2	3	4	5
3.	I use my work e-mail account to send personal e-mails.	1	2	3	4	5
4.	I would feel comfortable sending a personal letter using my office e-mail account.	1	2	3	4	5
5.	I have never encountered a situation where a colleague or subordinate read my e-mail from my computer screen without my permission.	1	2	3	4	5
6.	I wish I had more control over the way my e-mail is monitored.	1	2	3	4	5
7.	I have never encountered a situation where a superior or supervisor read my e-mail from my computer screen without my permission.	1	2	3	4	5
8.	The information I send via e-mail is secure from co-workers and supervisors.	1	2	3	4	5
9.	In general, I am satisfied with my company's policy on e-mail privacy.	1	2	3	4	5
10.	I feel comfortable sending job-related confidential information via e-mail at work.	1	2	3	4	5
11.	I am concerned that my company checks my e-mail.	1	2	3	4	5

INFORMATIONAL PRIVACY

Please circle the number that corresponds with your answer.

	1	2	3	4	5	6	7
	Strongly Disagree						Strongly Agree
1. I feel that my organization's information policies and practices are an invasion of privacy.	1	2	3	4	5	6	7
2. I feel uncomfortable about the types of personal information that my organization collects.	1	2	3	4	5	6	7
3. The way that my organization monitors its employees makes me feel uneasy.	1	2	3	4	5	6	7
4. I feel personally invaded by the methods used by my organization to collect personal information.	1	2	3	4	5	6	7
5. I have little reason to be concerned about my privacy here in my organization.	1	2	3	4	5	6	7
6. I am able to keep my organization from collecting personal information about me that I would like to keep secret.	1	2	3	4	5	6	7
7. I determine the types of information that my organization can store about me.	1	2	3	4	5	6	7
8. I am completely satisfied that I am able to keep my organization from collecting personal information about me that I want to keep from them.	1	2	3	4	5	6	7
9. I am satisfied in my ability to control the types of personal information that my organization collects on me.	1	2	3	4	5	6	7

INFORMATIONAL PRIVACY (Continued)

10. My organization always seeks my approval concerning how it uses my personal information.	1	2	3	4	5	6	7
11. My organization respects my right to control who can see my personal information.	1	2	3	4	5	6	7
12. My organization allows me to decide how my personal information can be released to others.	1	2	3	4	5	6	7
13. I control how my personal information is used by my organization.	1	2	3	4	5	6	7

PHYSICAL PRIVACY

Please circle the number that corresponds with your answer.

		Disagree Strongly						Agree Strongly
1.	My work area has an adequate amount of space for the number of employees who work in it.	1	2	3	4	5	6	7
2.	I often feel 'crowded' while at work.	1	2	3	4	5	6	7
3.	My work area does *not* have enough space for the number of employees currently working in it.	1	2	3	4	5	6	7
4.	Employees must work too closely together in my work area.	1	2	3	4	5	6	7

JOB SATISFACTION

Please circle the number that corresponds with your answer.

		Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
1.	Generally speaking, I am very satisfied with this job.	1	2	3	4	5	6	7
2.	I frequently think of quitting this job	1	2	3	4	5	6	7
3.	I am generally satisfied with the kind of work I do in this job.	1	2	3	4	5	6	7
4.	Most people on this job are very satisfied with the job.	1	2	3	4	5	6	7
5.	People on this job often think of quitting.	1	2	3	4	5	6	7
6.	Overall, I feel comfortable in this office facility.	1	2	3	4	5	6	7
7.	I am satisfied with the office setting as a whole.	1	2	3	4	5	6	7
8.	In general, the office provides a good setting in which to work.	1	2	3	4	5	6	7

JOB SATISFACTION (Continued)

Now please indicate how *satisfied* you are with each aspect of your job listed below. Once again, circle the appropriate number beside each statement.

How satisfied are you with this aspect of your job?

		Extremely Dissatisfied	Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Satisfied	Extremely Satisfied
9.	The degree of respect and fair treatment I receive from my boss	1	2	3	4	5	6	7
10.	The amount of support and guidance I receive from my supervisor	1	2	3	4	5	6	7
11.	The overall quality of the supervision I receive in my work	1	2	3	4	5	6	7

PROCEDURAL JUSTICE

The questions in this section ask you how you feel about the procedures used to make decisions in your organization. Indicate the extent to which you disagree or agree with each statement. To do this use the following scale:

Strongly Agree	Moderately Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Moderately Disagree	Strongly Disagree
1	2	3	4	5	6	7

The **procedures** used to make decisions in your organization:

1.	... allow supervisors to get away with using an inconsistent approach in making decisions.	1	2	3	4	5	6	7
2.	... are consistently applied from one time to the next.	1	2	3	4	5	6	7
3.	... are consistently applied across different employees.	1	2	3	4	5	6	7
4.	... make sure that any biases supervisors have will not affect the decisions they make.	1	2	3	4	5	6	7
5.	... are unbiased.	1	2	3	4	5	6	7
6.	... dictate that the decisions made will not be influenced by any personal biases people have.	1	2	3	4	5	6	7
7.	... make sure that the decisions made are based on as much accurate information as possible.	1	2	3	4	5	6	7
8.	... take into account all the relevant information that should be when decisions are made.	1	2	3	4	5	6	7
9.	... maximize the tendency for decisions to be based on highly accurate information.	1	2	3	4	5	6	7
10.	... increase the likelihood that improper decisions will be changed.	1	2	3	4	5	6	7
11.	... make it very probable that improper decisions will be reviewed.	1	2	3	4	5	6	7

PROCEDURAL JUSTICE (Continued)

12.	... provide an opportunity for the reversal of improper decisions.	1	2	3	4	5	6	7
13.	... do not take into consideration the basic concerns, values, and outlook of employees.	1	2	3	4	5	6	7
14.	... do not take into consideration the basic concerns, values, and outlook of management.	1	2	3	4	5	6	7
15.	... guarantee that all involved parties can have their say about what outcomes are received.	1	2	3	4	5	6	7
16.	... ensure that all involved parties can influence decisions.	1	2	3	4	5	6	7
17.	... are consistent with basic ethical standards.	1	2	3	4	5	6	7
18.	... are not consistent with my own values.	1	2	3	4	5	6	7
19.	... are unethical.	1	2	3	4	5	6	7

PROCEDURAL JUSTICE (Continued)

For this section, your "supervisor" refers to the person to whom you directly report. Circle the extent to which you disagree or agree with the following statements. To do this use the following scale:

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

With regard to your supervisor ***carrying out*** the procedures at your organization, your supervisor:

1.	... considers your viewpoint.	1	2	3	4	5	6	7
2.	... provides you with timely feedback about decisions and their implications.	1	2	3	4	5	6	7
3.	... treats you with kindness and consideration.	1	2	3	4	5	6	7
4.	... considers your rights as an employee.	1	2	3	4	5	6	7
5.	... takes steps to deal with you in a truthful manner.	1	2	3	4	5	6	7
6.	... provides reasonable explanations for the decisions s/he makes.	1	2	3	4	5	6	7
7.	... gives adequate reasons for the decisions s/he makes.	1	2	3	4	5	6	7
8.	... attempts to describe the situational factors affecting the decisions s/he makes.	1	2	3	4	5	6	7

DEMOGRAPHICS

1. How many years have you been working in your current position or job title? If less than one year, how many months?

   _____ years _____ months

2. Gender

please circle one: (male / female)

3. Age? _____

4. Title of position (e.g., secretarial, computer operator/programmer, etc. - please no abbreviations)

   _____

5. Ethnicity?

   _____

6. Approximately how many hours per day do you use a computer?

   _____

7. Approximately how may e-mails do you send per day?

   _____

8. Approximately how may e-mails do you receive per day?

   _____

9. Is there a policy on privacy as it relates to your physical space in your organization?

   please circle one: (yes / no / not sure)

10. Is there a policy on privacy as it relates to information collected about you by your organization?

    please circle one: (yes / no / not sure)

11. Is there a policy on privacy as it relates to e-mail at your organization?

    please circle one: (yes / no / not sure)

APPENDIX B

FIGURES

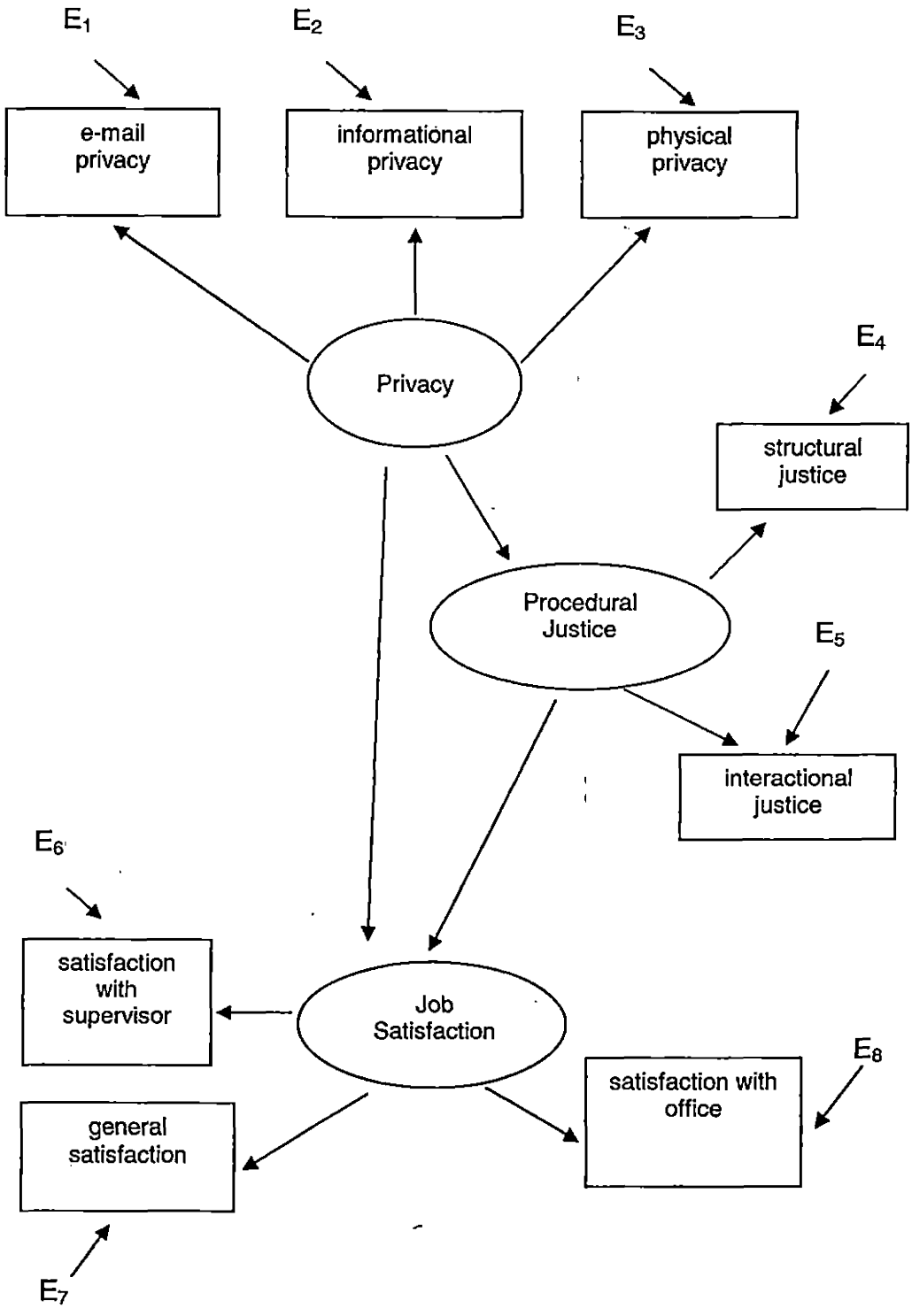

Figure 1. Hypothesized model.

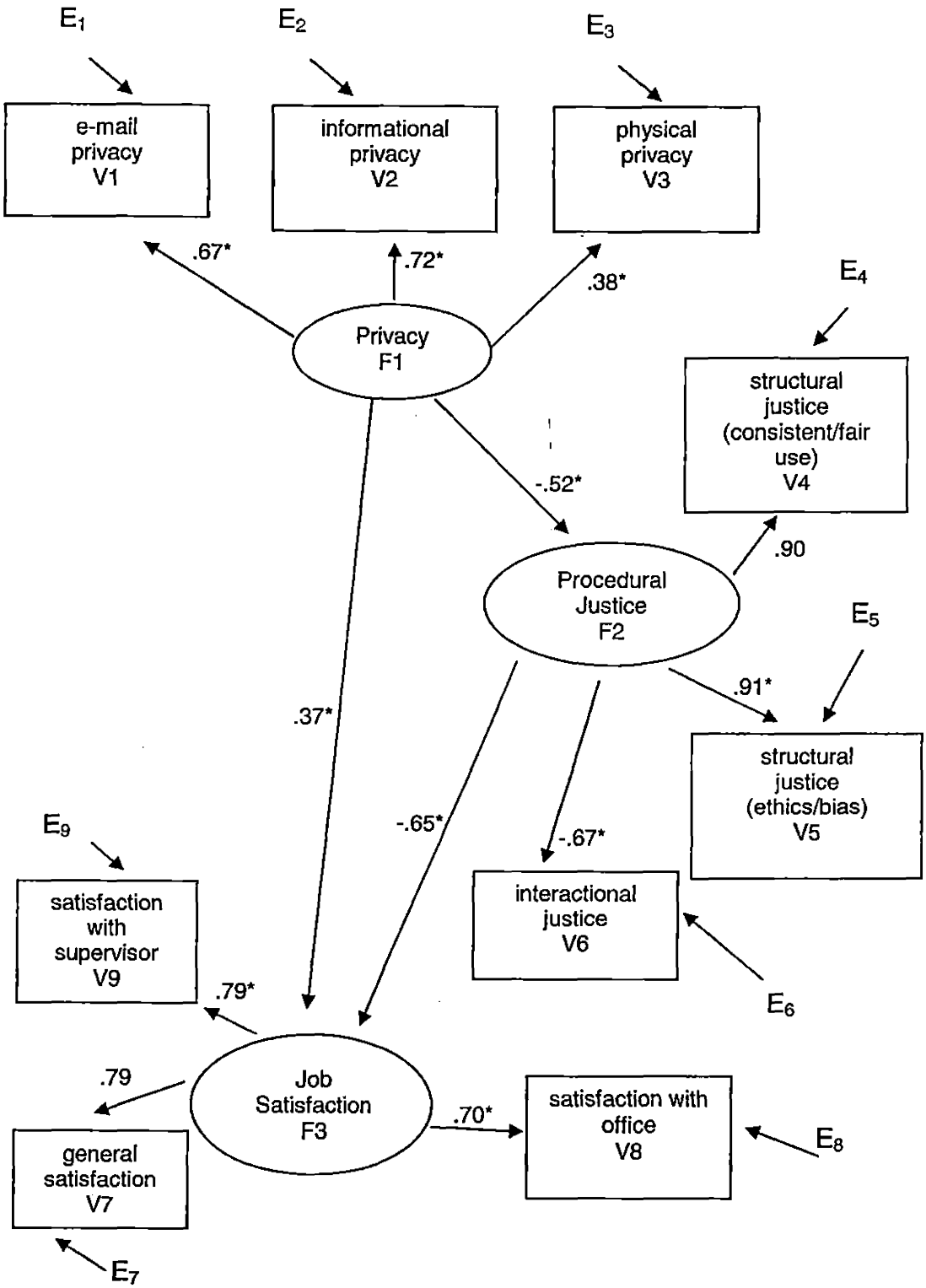

Figure 2. Final SEM model.

APPENDIX C

TABLES

Table 1

Standard Multiple Regression of Privacy Variables on General Job Satisfaction

Variables[b]	meanJS1 (DV)	meanEM	meanIF	meanPH	B	β	sr^2 (unique)
meanEM	.35				.361*	0.17	.02
meanIF	.40	.52			.277**	0.27	.05
meanPH	.30	.21	.21		.148**	0.21	.04
			Intercept = 1.748				
Means	4.79	3.06	4.23	5.20			
Standard Deviations	1.31	0.61	1.29	1.88			
						R^2 = .23[a]	
						Adjusted R^2 = .22	
						R = .48**	

*p < .05

**p < .01

[a]Unique variability = .11; shared variability = .12.

[b]meanJS1 = General job satisfaction, meanEM = Email privacy, meanIF = Informational privacy, meanPH = Physical privacy

Table 2

Standard Multiple Regression of Privacy Variables on Satisfaction with Office

Variables[b]	meanJS2 (DV)	meanEM	meanIF	meanPH	B	β	sr^2 (unique)
meanEM	.28				0.168	0.07	
meanIF	.35	.53			0.238**	0.22	.03
meanPH	.50	.21	.20		0.331**	0.44	.19
			Intercept = 1.967				
Means	5.21	3.06	4.22	5.20			
Standard Deviations	1.40	0.61	1.28	1.88			

R^2 = .32[a]

Adjusted R^2 = .31

R = .56**

**p < .01

[a]Unique variability = .22; shared variability = .10.

[b]meanJS2 = Satisfaction with office, meanEM = Email privacy, meanIF = Informational privacy, meanPH = Physical privacy

Table 3

Standard Multiple Regression of Privacy Variables on Satisfaction with Supervisor

Variables[b]	meanJS3 (DV)	meanEM	meanIF	meanPH	B	β	sr^2 (unique)
meanEM	.34				0.532*	0.18	.02
meanIF	.35	.52			0.301**	0.21	.03
meanPH	.31	.21	.21		0.227**	0.23	.05
			Intercept = 0.796				
Means	4.88	3.06	4.23	5.20			
Standard Deviations	1.84	0.61	1.29	1.88			

R^2 = .21[a]

Adjusted R^2 = .20

R = .45**

*p < .05

**p < .01

[a]Unique variability = .10; shared variability = .11.

[b]meanJS3 = Satisfaction with supervisor, meanEM = Email privacy, meanIF = Informational privacy, meanPH = Physical privacy

Table 4

Standard Multiple Regression of Privacy Variables on Structural Justice Related to Consistent/Fair Use

Variables[b]	Mean PJ1a (DV)	meanEM	meanIF	meanPH	B	β	sr^2 (unique)
meanEM	-.26				-0.225	-0.10	
meanIF	-.33	.52			-0.267**	-0.25	.05
meanPH	-.21	.21	.21		-0.102**	-0.14	.02
			Intercept = 6.317				
Means	3.97	3.06	4.23	5.20			
Standard Deviations	1.37	0.61	1.29	1.88			

R^2 =.14[a]

Adjusted R^2 = .13

R = .37**

**p < .01

[a]Unique variability = .07; shared variability = .07.

[b]mean PJ1a = Structural justice related to consistent/fair use, meanEM = Email privacy, meanIF = Informational privacy, meanPH = Physical privacy

Table 5

Standard Multiple Regression of Privacy Variables on Structural Justice Related to Ethics/Bias

Variables[b]	meanPJ 1b (DV)	meanEM	meanIF	mean PH	B	β	sr^2 (unique)
meanEM	-.27				-0.103	-0.05	
meanIF	-.41	.52			-0.330**	-0.35	.09
meanPH	-.23	.21	.21		-0.094*	-0.15	.02
			Intercept = 5.844				
Means	3.64	3.06	4.23	5.20			
Standard Deviations	1.21	0.21	1.29	1.88			

R^2 =.19[a]

Adjusted R^2 = .18

R = .44**

*p < .05

**p < .01

[a]Unique variability = .11; shared variability = .08.

[b]meanPJ 1b = Structural justice related to ethics/bias, meanEM = Email privacy, meanIF = Informational privacy, meanPH = Physical privacy

Table 6

Standard Multiple Regression of Privacy Variables on Interactional Justice

Variables[b]	meanPJ2 (DV)	meanEM	meanIF	meanPH	B	β	sr^2 (unique)
meanEM	.27				0.423*	0.15	.02
meanIF	.26	.52			0.169	0.13	
meanPH	.28	.21	.21		0.205**	0.23	.05
			Intercept = 1.982				
Means	5.06	3.06	4.23	5.20			
Standard Deviations	1.70	0.61	1.29	1.88			

R^2 =.14[a]

Adjusted R^2 = .13

R = .37**

*p < .05

**p < .01

[a]Unique variability = .07; shared variability = .07.

[b]meanPJ2 = Interactional justice related to ethics/bias, meanEM = Email privacy, meanIF = Informational privacy, meanPH = Physical privacy

Table 7

Correlation Matrix of Control Variables and Scales

	gender	age	e-mails sent per day	e-mails received per day	hours per day of computer use	years of experience
E-mail privacy	0.03	0.00	0.05	-0.08	0.04	0.03
Informational privacy	0.06	0.08	-0.01	-0.10	0.02	0.05
Physical privacy	0.04	.14(*)	0.06	-0.11	0.03	0.10
General job satisfaction	0.06	.14(*)	0.06	-0.06	-0.03	0.01
Office satisfaction	-0.04	.14(*)	0.05	-0.09	-0.02	0.07
Satisfaction with supervisor	-0.06	0.07	0.06	0.06	-0.03	0.13
Structural justice - content / fair use	0.002	.17(**)	0.02	-0.12	-0.06	0.06
Structural justice - ethics / bias	0.03	.21(**)	-0.01	-0.10	-0.03	0.05
Interpersonal justice	-0.10	0.06	0.04	-0.13	0.00	0.08

*p < .05

**p < .01

Table 8

Correlation Matrix of Scales

	1	2	3	4	5	6	7	8	9
(1) E-mail privacy	1	.52 (**)	.21 (**)	.35 (**)	.28 (**)	.34 (**)	.26 (**)	.27 (**)	.27 (**)
(2) Informational privacy		1	.21 (**)	.40 (**)	.35 (**)	.35 (**)	.33 (**)	.41 (**)	.26 (**)
(3) Physical privacy			1	.30 (**)	.50 (**)	.31 (**)	.21 (**)	.23 (**)	.28 (**)
(4) General job satisfaction				1	.64 (**)	.57 (**)	.56 (**)	.56 (**)	.50 (**)
(5) Office satisfaction					1	.51 (**)	.45 (**)	.46 (**)	.47 (**)
(6) Satisfaction with supervisor						1	.62 (**)	.62 (**)	.78 (**)
(7) Structural justice - content / fair use							1	.84 (**)	.57 (**)
(8) Structural justice - ethics / bias								1	.58 (**)
(9) Interpersonal justice									1

**p < .01

APPENDIX D

SCALES

E-mail Privacy (meanEM)

1. No one else at my company accesses my e-mail account.
2. I have often considered or currently have a private e-mail account, separate from my business account, for personal use.
3. I use my work e-mail account to send personal e-mails.
4. I would feel comfortable sending a personal letter using my office e-mail account.
5. I have never encountered a situation where a colleague or subordinate read my e-mail from my computer screen without my permission.
6. I wish I had more control over the way my e-mail is monitored.
7. I have never encountered a situation where a superior or supervisor read my e-mail from my computer screen without my permission.
8. The information I send via e-mail is secure from co-workers and supervisors.
9. In general, I am satisfied with my company's policy on e-mail privacy.
10. I feel comfortable sending job-related confidential information via e-mail at work.
11. I am concerned that my company checks my e-mail.

Informational Privacy (meanIF)

1. I feel that my organization's information policies and practices are an invasion of privacy.

2. I feel uncomfortable about the types of personal information that my organization collects.

3. The way that my organization monitors its employees makes me feel uneasy.

4. I feel personally invaded by the methods used by my organization to collect personal information.

5. I have little reason to be concerned about my privacy here in my organization.

6. I am able to keep my organization from collecting personal information about me that I would like to keep secret.

7. I determine the types of information that my organization can store about me.

8. I am completely satisfied that I am able to keep my organization from collecting personal information about me that I want to keep from them.

9. I am satisfied in my ability to control the types of personal information that my organization collects on me.

10. My organization always seeks my approval concerning how it uses my personal information.

11. My organization respects my right to control who can see my personal information.

12. My organization allows me to decide how my personal information can be released to others.

13. I control how my personal information is used by my organization.

Physical Privacy (meanPH)

1. My work area has an adequate amount of space for the number of employees who work in it.

2. I often feel 'crowded' while at work.

3. My work area does not have enough space for the number of employees currently working in it.

4. Employees must work too closely together in my work area.

General Job Satisfaction (meanJS1)

1. Generally speaking, I am very satisfied with this job.
2. I frequently think of quitting this job
3. I am generally satisfied with the kind of work I do in this job.
4. Most people on this job are very satisfied with the job.
5. People on this job often think of quitting.

Satisfaction with Office (meanJS2)

1. Overall, I feel comfortable in this office facility.
2. I am satisfied with the office setting as a whole.
3. In general, the office provides a good setting in which to work.

Satisfaction with Supervisor (meanJS3)

1. The degree of respect and fair treatment I receive from my boss

2. The amount of support and guidance I receive from my supervisor

3. The overall quality of the supervision I receive in my work

Structural Justice - Consistent/Fair Use (meanPJ1a)

The questions in this section ask you how you feel about the procedures used to make decisions in your organization. Indicate the extent to which you disagree or agree with each statement. To do this use the following scale:

Strongly Agree	Moderately Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Moderately Disagree	Strongly Disagree
1	2	3	4	5	6	7

The **procedures** used to make decisions in your organization:

1. ... allow supervisors to get away with using an inconsistent approach in making decisions.

2. ... are consistently applied from one time to the next.

3. ... are consistently applied across different employees.

4. ... make sure that the decisions made are based on as much accurate information as possible.

5. ... take into account all the relevant information that should be when decisions are made.

6. ... maximize the tendency for decisions to be based on highly accurate information.

7. ... increase the likelihood that improper decisions will be changed.

8. ... make it very probable that improper decisions will be reviewed.

9. ... provide an opportunity for the reversal of improper decisions.

Structural Justice - Ethics/Bias (meanPJ1b)

The questions in this section ask you how you feel about the procedures used to make decisions in your organization. Indicate the extent to which you disagree or agree with each statement. To do this use the following scale:

Strongly Agree	Moderately Agree	Slightly Agree	Neither Agree Nor Disagree	Slightly Disagree	Moderately Disagree	Strongly Disagree
1	2	3	4	5	6	7

The **procedures** used to make decisions in your organization:

1. ... make sure that any biases supervisors have will not affect the decisions they make.

2. ... are unbiased.

3. ... dictate that the decisions made will not be influenced by any personal biases people have.

4. ... do not take into consideration the basic concerns, values, and outlook of employees.

5. ... do not take into consideration the basic concerns, values, and outlook of management.

6. ... guarantee that all involved parties can have their say about what outcomes are received.

7. ... ensure that all involved parties can influence decisions.

8. ... are consistent with basic ethical standards.

9. ... are not consistent with my own values.

10. ... are unethical.

Interactional Justice (meanPJ2)

For this section, your "supervisor" refers to the person to whom you directly report. Circle the extent to which you disagree or agree with the following statements. To do this use the following scale:

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

With regard to your supervisor ***carrying out*** the procedures at your organization, your supervisor:

1. ... considers your viewpoint.

2. ... provides you with timely feedback about decisions and their implications.

3. ... treats you with kindness and consideration.

4. ... considers your rights as an employee.

5. ... takes steps to deal with you in a truthful manner.

6. ... provides reasonable explanations for the decisions s/he makes.

7. ... gives adequate reasons for the decisions s/he makes.

8. ... attempts to describe the situational factors affecting the decisions s/he makes.

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