



Examining employee compliance with organizational surveillance and monitoring

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Although the prevalence of employee monitoring and surveillance technologies (MSTs; e.g. e-mail monitoring) is increasing, very little research has explored the question of whether employees simply accept these systems (compliance) or enact strategies for thwarting them (resistance). In the present study, we proposed a framework based on the theory of planned behaviour and ethical decision making research to predict employees' MST compliance and resistance intentions. We proposed that organizational commitment, organizational identification, and attitudes towards surveillance would predict intentions, with the relationships between attitudes and intentions being moderated by employees' perceived behavioural control and social norms. Moderated multiple regression models were tested and provided support for predictions about the attitudinal and belief constructs, and partial support for predictions about behavioural control and norms. Implications for organizational MST policies and practices are discussed.

As the uses of new types of technology (e.g. internet-based applications) increase within work organizations, more and more employees face the likelihood that their organization will track their workplace behaviours using technology (Loch & Conger, 1996). In particular, about two-thirds of work organizations have implemented some type of employee monitoring and surveillance technology (MSTs; Orthmann, 1998), such as computer, e-mail or video monitoring in order to help measure, shape, or control the behaviour of employees. Computer monitoring has become prevalent in most organizations, and computer software allows employers to monitor employees' computer usage by recording activity logs for all software programmes used on a computer, access to resources on a local area network (LAN), logs of all internet sites visited, and detailed information about keystrokes. Furthermore, some computer monitoring software allows employers to obtain screenshots of the computer displays of employees connected to the network at any time. E-mail monitoring involves employers storing records of employee e-mails that are transferred through company servers and

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using keyword searches or natural language processing to locate and flag suspicious text. Video monitoring systems range from analogue time-lapse systems that record information every 10 to 60 seconds to newer digital video monitoring systems that can be installed visibly or invisibly, and that can transmit information to remote computer and surveillance stations.

Researchers have found that some employees dislike and distrust MST, and some may even actively thwart their organization's use of these systems by altering monitoring equipment/software or by avoiding monitored areas (Nussbaum & du Rivage, 1986; Stanton, 2000, 2002; Stanton & Weiss, 2000). It appears certain that if employees allocate effort to circumventing these systems, they may do so at the expense of performing more productive activities. If employees succeed in circumventing the systems, then the technology may provide little of its intended value to the organization. Thus, one might generally propose that the effectiveness of organizational MSTs depends to some degree on employees' willingness to comply with their use. Insights into employees' intentions on whether to comply with or resist the organizational use of MSTs may prove helpful in promoting both fair and effective use of these technologies.

Despite the reliance of organizational MST implementation on employee acceptance and compliance, very few studies in the domain of MST examine employees' acceptance and compliance with MST policies and practices as an outcome variable. Studies that investigated outcomes of MST from an employee perspective have examined whether the implementation or presence of MST policies and practices impacts perceptions of fairness and justice (Alge, 2001; Douthitt & Aiello, 2001; Hovorka-Mead, Ross, Whipple, & Renchin, 2002; Stanton, 2000), privacy concerns (Alge, 2001; Hovorka-Mead *et al.*, 2002), task and job performance (Aiello & Kolb, 1995; Larson & Callahan, 1990; Stanton & Barnes-Farrell, 1996; Stanton & Julian, 2002; Stanton & Sarkar-Barney, 2003), organization attraction and turnover (Hovorka-Mead *et al.*, 2002; Stanton & Lin, 2003), and employee well-being and job stress (Aiello & Kolb, 1995; Douthitt & Aiello, 2001; Holman, Chissick, & Totterdell, 2002). Among the few studies that have explicitly investigated acceptance of monitoring systems as a necessary prerequisite for their functioning are studies on acceptance and use of active badge monitoring systems (Harper, 1995), and awareness monitoring systems (Zweig & Webster, 2002, 2003). Harper's (1995) study of employee compliance with organizational policies found both individuals' group membership, social norms within groups, their workgroup identification as well as their participation in the implementation of the monitoring system to be precursors of compliance with the monitoring policy. Zweig and Webster (2002) found that if monitoring systems did not invade privacy, if adequate justifications for system implementation were provided, and if the systems were perceived to be useful, individuals were likely to accept monitoring systems. Both emotional stability and extraversion were found to moderate (Zweig & Webster, 2003) awareness monitoring adoption. In both Harper's and Zweig's studies, the monitoring systems (active badges and awareness monitoring) allowed employees to decide whether they wanted to use them or not. However, many employee monitoring systems are implemented with employees unable to choose whether they would like to be monitored or not. Hence, acceptance and compliance of organizationally-imposed monitoring systems such as computer, e-mail and video monitoring may incur employee resistance. To date, no quantitative empirical study has been conducted that examined employee compliance or resistance to organizationally-imposed monitoring and surveillance systems. Therefore, the objective of the current study was to examine attitudinal, personality and social antecedents of compliance and resistance with organizationally-imposed MST. In particular, we were interested in

predicting different forms of employees' compliance and resistance behaviours, such as intentions to alter or manipulate MST equipment, intentions to avoid monitored areas or work domains, intentions to complain about the presence of MST to supervisors, intentions to passively comply with the systems, and intentions to actively support the systems by reporting non-compliant co-workers. We developed a framework using the theories of reasoned action and planned behaviour (Ajzen & Fishbein, 1977; Fishbein & Ajzen, 1975, Ajzen, 1991) as well as research on ethical decision making in organizations (Loch & Conger, 1996; Trevino, 1986). As previous research has not investigated acceptance of monitoring systems that are implemented without employees having a say or choice in adopting the systems, we tested whether attitudes towards ones' organization and towards MST predict compliance and resistance intentions. Past research (Zweig & Webster, 2003) examined Big Five personality traits as moderators of acceptance. We complement this approach by testing whether employees' perceived behavioural control and social norms functioned as moderators of the relationship between attitudes and MST compliance intentions. We report a test of this framework as an attempt at understanding some of the antecedents of employees' compliance with and/or resistance to organizational uses of MST, such as computer, e-mail and video monitoring. In addition, our work extends previous research on the theories of reasoned action and planned behaviour by further investigating the types of individual differences and organizational norms that may impact whether individuals' attitudes lead to the formation of behavioural intentions.

A framework for explaining compliance and resistance

Theory of planned behaviour

Ajzen (1991; Ajzen & Madden, 1986) developed the theory of planned behaviour, which has subsequently proved useful for the prediction of organizational behaviour based on attitudes, beliefs, social norms, intentions, and volitional control. In an earlier version of the theory (the theory of reasoned action), Fishbein and Ajzen (1975) defined attitudes as evaluative links between objects and attributes. Beliefs are probabilistic evaluations of relations between objects. Social norms refer to an individual's perception of the expectations of individuals in his or her social environment (Fishbein & Ajzen, 1975). Meta-analytic reviews of the theory of reasoned action (Sheppard, Hartwick, & Warshaw, 1988) have supported Fishbein and Ajzen's claim that '... most behaviors can be accurately predicted from an appropriate measure of the individual's intention to perform the behavior in question' (Fishbein & Ajzen, 1975, p. 380). Later, Ajzen (1991) amended the theory of reasoned action to account for volitional control of behaviour; inclusion of this variable represented one of the primary structural differences between the theory of reasoned action and the theory of planned behaviour. Volitional control served as a moderator variable: given a certain level of intentions, a behaviour would more likely occur in situations where the behaviour was under the control of the actor. The theory of reasoned action/theory of planned behaviour frameworks have apparent application to the study of compliance and resistance pertaining to MST. Employees may hold certain beliefs and may form attitudes about organizational monitoring and surveillance based on these beliefs. In turn, intentions to comply or resist may relate to attitudes as well as social norms about these behaviours. Whether employees then enact compliance or resistance behaviours may depend upon intentions and volitional control. Prior research has applied the theory of planned behaviour to examinations of

unauthorized behaviour in organizations. For example, Loch and Conger (1996) applied the theory of planned behaviour to employees' use of computers in organizations, and found that attitudes and social norms predicted intentions to misuse the organization's computers. Their study thus supported the utility of the theory in predicting behavioural intentions with reference to uses of technology in organizations.

Ethical decision making

Trevino and Youngblood (1990; Trevino, 1986) developed and empirically tested a model of ethical decision making that predicted an interaction of individual and situational factors in determining ethical decision making in organizations; they thereby attempted to explain choice behaviour involving value conflicts within organizations. In their framework, cognitions (defined similarly to attitudes in work by Fishbein and Ajzen) predict behaviour, whereas situational and individual variables function as constraints (moderators) on the relationship between cognitions and behaviour. When testing their model, Trevino and Youngblood (1990) found that locus of control, organizational culture, and other variables influenced decision-making behaviour. In particular, Trevino and Youngblood's (1990) findings indicated that both contextual and individual difference variables functioned as main effects on ethical decision making, while locus of control functioned as a moderator, with an internal locus of control strengthening the relationship between environmental and other individual difference variables and ethical decision making. Although Trevino and Youngblood's work has not been applied specifically to employee compliance and resistance, these researchers have studied a variety of organizational situations where ethically-problematic choices arose. Because resistance to MSTs may run counter to organizational rules and compliance with MSTs may conflict with some employees' personal values (e.g. Stanton, 2002), we asserted that elements of Trevino and Youngblood's work would have applicability to studying behaviour related to MSTs.

Integration of theory of planned behaviour and Trevino's framework

For the purposes of explaining and predicting employees' compliance behaviour towards MST practices, Ajzen's theory of planned behaviour (Ajzen, 1991) and Trevino's framework (1986, Trevino & Youngblood, 1990) both contain similar elements that can be subsumed within the broader theory of planned behaviour model. In the theory of planned behaviour, attitudes are conceptualized as evaluations of objects. By evaluating an object, the individual attaches a certain positive or negative valence to the object. In a contemporary revision of the theory of reasoned action, Ajzen (1991) added the construct of perceived behavioural control to the theory of reasoned action in order to improve the model's applicability to situations in which the actors have environmental constraints that limit their behavioural options. Notably, Ajzen (1991) focused on the perception of such constraints, and thus cast behavioural control as a construct representing an individual's belief in his or her ability to act on an intention. In a similar vein, Trevino included the locus of control construct in her research to represent the perceived relationship between one's own behaviours and desired outcomes.

Looking again at the theory of planned behaviour, social norms within the organization are proposed to moderate the relationship between attitudes and intentions. In Fishbein and Ajzen's (1975) work, perceived social norms provided the individual with information about which behaviours are socially rewarded and which are socially prescribed in a given situation. In an organizational setting, norms reflect

what employees believe to be shared standards for acceptable and unacceptable behaviour in their workplace. For instance, employees' perceptions of their work environment as highly profit-oriented might lead to the expectation that instrumental behaviours of employees to generate revenue would be socially acceptable. The consideration of organizational norms and behavioural control facilitates the integration of an additional variable from Trevino's (1986) model of ethical decision making into a theory of planned behaviour-based framework. In Trevino's work, organizational reward systems pertained to the perceived relationships between one's own job behaviours and likely organizational rewards or punishments. As a consequence, an organizational rewards system communicates what types of behaviours adhere to the organization's norms. For example, if an organization's promotion and compensation system is focused on employees' contribution to profitability, then employees should only be likely to enact behaviours based on their attitudes if they are in line with the organizational norm to seek profitability. Altogether, the integration of Trevino's theory of ethical decision making allows us to include relevant ethics variables to the study of MST in organizations. In the following sections, we provide theoretical and empirical arguments to substantiate the relationships depicted in Fig. 1.

Attitude predictors

Allen and Meyer (1990) distinguished among three components of organizational commitment. In particular, they described affective commitment as 'an emotional attachment to, identification with, and involvement in the organization' (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002, p. 21). In contrast, normative commitment was defined as 'a perceived obligation to remain with the organization' (p. 21), and continuance commitment was meant to reflect 'the perceived costs associated with leaving the organization' (p. 21). We predicted that individuals with high affective organizational commitment, or high emotional attachment to their organization would be more likely to perceive organizational goals as congruent with their own goals and should thus be less likely to circumvent organizational MSTs.

Hypothesis 1a. High affective commitment is inversely related to intentions to circumvent organizational MST.

Similarly, we anticipated that employees with high normative commitment, or strong perceived obligations to stay with the organization would not only perceive obligations

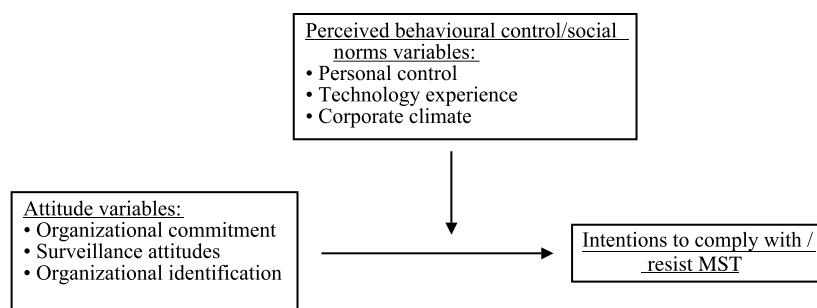


Figure 1. Attitude and perceived behavioural control/social norms hypotheses.

to stay with the organization, but would also feel obliged to act in line with the organization's policies and procedures. Thus, when confronted with MST, we expected employees' normative commitment to predict intentions to comply with MST. In other words, we anticipated employees' perceived obligations towards their organization to lead employees to also feel obligated to comply with MST policies and practices.¹

Hypothesis 1b. Normative commitment is negatively related to intentions to resist MST policies and practices.

General attitudes pertaining to the appropriateness of organizational monitoring and surveillance can also be categorized as an attitude predictor of compliance intentions because they are personal evaluations of the appropriateness of employee monitoring and surveillance as an organizational practice. From a theory of reasoned action perspective, attitudes pertaining to the appropriateness of monitoring and surveillance can be interpreted as 'proximal' attitudes, which should be particularly likely to predict intentions and actual behaviour. We predicted that individuals who perceive monitoring and surveillance systems to be a viable and justified means for employers to control and monitor their employees would express higher intentions to comply with MST policies and practices than individuals with more negative attitudes who do not generally endorse the development and application of monitoring and surveillance systems.

Hypothesis 2. Attitudes pertaining to the appropriateness of MST are negatively related to employees' intentions to resist MST policies and practices.

Organizational identification describes the extent to which employees feel they share their organizations' value and belief systems (Rousseau, 1998), as well as the characteristics of organization members (Mael & Tetrick, 1992). If employees perceive themselves as sharing the organizations' characteristics and values, they should be unlikely to form intentions to resist organizational policies and practices. In other words, if employees view their own value system to be in congruence with their organizations', they should view organizational actions (e.g. the implementation of monitoring systems) as the organizations' attempt to act based on its values. Hence, if employees consider their own values and beliefs to overlap with the organizations', they should be less likely to resist monitoring and surveillance systems than if they feel their organization is acting upon values dissimilar to their own. With regard to MSTs, higher levels of organizational identification should thus lead to higher compliance intentions.

Hypothesis 3. Organizational identification is negatively related to employees' intentions to resist MST policies and practices.

Moderators of the relationship between attitudinal antecedents and compliance intentions towards monitoring and surveillance

Our choices of moderator variables were informed by our integrated framework, and contain elements of both the theory of planned behaviour and Trevino's work on ethical decision making. Both Trevino's work and the theory of planned behaviour contain

¹ Note that we felt unable to make a prediction concerning continuance commitment. As dependent variables, compliance and resistance both presume continuance in the organization, so intentions to comply or resist MST did not seem predictable from employees' beliefs about leaving their organization.

control constructs: Trevino and Youngblood's (1990) work on moral decisions and behaviours proposed locus of control as a variable that would impact whether individuals do 'what they think is right and to tolerate discomfort or penalty for doing so' (p. 379). Thus, control functions as a variable impacting whether individuals act (or form intentions) on the basis of their attitudes as to what is right and wrong. In other words, employees may hold attitudes about the desirability of certain behaviours or outcomes, but may not act upon them due to low levels of control. Similarly, perceptions of control may impact the relationship between attitudes and MST compliance/resistance intentions in that those with higher perceived control may be more likely to act on the basis of their attitudes than those who feel they are not in control of their work environment. Despite the focus of earlier research on locus of control as a moderator (Trevino & Youngblood, 1990), the construct of personal control, which has been defined as a cognitive construct 'reflecting an individual's beliefs, at a given point in time, in his or her ability to effect a change, in a desired direction in the environment' (Greenberger & Strasser, 1986), may be more promising for the study of MST compliance intentions. Locus of control (Rotter, 1966) refers to a trait-like personality dimension that reflects whether individuals have the perception that either they or their environment is in control of what happens in their lives. Personal control, in contrast, has been conceptually and empirically shown to be influenced by current organizational experiences, behaviours and attitudes of others (Greenberger & Strasser, 1986; Greenberger, Strasser, & Lee, 1988). Hence, it appears to capture a more context- and organization-specific type of control.

Hypothesis 4. Personal control moderates the relationship between attitudes and intentions to resist MST, such that the relationship will be stronger for individuals high on personal control.

Part of the perception of control may arise from the fact that those individuals with more technology experience would have a stronger belief that they would be able to alter or manipulate the technology for their own benefit. Thus, we also predicted that greater technology experience would strengthen the relationships between attitude variables (e.g. surveillance attitudes) and compliance or resistance intentions, whereas less experience with technology would weaken those relationships.

Hypothesis 5. Technology experience moderates the relationship between attitudes and intentions to resist MST, such that the relationship is stronger for individuals with strong technology experience.

In his formulation of the theory of planned behaviour, Ajzen (1991) proposed social norms to function as moderators of the relationships between attitudes and intentions. Similarly, research on unethical organizational behaviour (Trevino & Victor, 1992) proposed norms, namely informal rules or standards, to function as constraints on employees' behaviour. We thus proposed that social norms would alter the likelihood of employees forming intentions on the basis of their attitudes. For the study of intentions to comply or resist MST, organizational ethical climates (Victor & Cullen, 1988) seem to represent particularly pertinent social norms. In particular, prevailing ethical climates communicate to employees what types of behaviours are in line with social expectations for ethical behaviour. Victor and Cullen (1988) initially proposed ethical climates as being organizational norms with an ethical basis that provides employees with information about what types of behaviour are acceptable, or

what they can do. Therefore, ethical climates are likely to influence the relationship between attitudes and intentions to comply or resist MST. For example, if employees have negative attitudes towards MST, they may be predisposed to act in line with these attitudes. However, if organizational norms clearly convey that acting upon these attitudes may have negative consequences for the group and the individual, then employees should be less likely to act upon their negative MST attitudes. Three of the ethical climate types proposed by Victor and Cullen – namely caring, rules oriented, and instrumental climates – appear to be relevant social norms that may influence the relationship between attitudes and intentions to comply or resist MST policies and practices. These perceived ethical climate dimensions function as social norms because they provide individuals with information about what classes of behaviours are likely to be rewarded and what classes are likely to be ignored or punished in their organizations.

According to Victor and Cullen (1988), organizations with strong caring ethical climates emphasize the importance of friendship, team performance and cohesiveness, and social responsibility. Hence, employees in organizations with a strong caring ethical climate should be less likely to form MST compliance/resistance intentions on the basis of their attitudes than employees in organizations with a weak caring climate. In other words, due to the focus on benevolence towards others, caring ethical climate was expected to evoke a 'benefit of the doubt' phenomenon in which people would be more likely to comply regardless of their surveillance attitudes. We would expect employees in organizations with a strong caring ethical climate to recognize their organization's focus on employee well-being. Thus, employees should be willing to reciprocate. In the case of forming intentions to comply with MST, those exposed to highly caring ethical climates may decide to not act upon their attitudes if those are not in line with company expectations. This implies that the link between attitudes and resistance to MST would be strong only in a climate perceived as uncaring.

Hypothesis 6. Caring ethical climate moderates the relationship between attitudes and intentions to resist MST policies and practices such that the relationship would be stronger in uncaring climates.

Social norms that develop in rules-oriented ethical climates emphasize the importance of acting upon rules that are based on moral principles and professional codes. Therefore, rules-oriented ethical climates stress the importance of following established organizational policies as well as laws that are in line with organizational moral codes and policies (Victor & Cullen, 1988). As a rules-oriented ethical climate communicates to employees that they are supposed to behave in line with rules and corporate regulations at all times, employees should be less likely to feel they can act or form intentions on the basis of their attitudes and personal beliefs. Rules-oriented ethical climates should thus also weaken the effect of personal attitudes and beliefs on the strength of intentions: when employees feel more strongly bound by moral codes and rules, they should be less likely to act (or form intentions) upon their positive or negative attitudes. Hence, a strongly rules-oriented ethical climate was expected to weaken the relationships between attitudes and MST behavioural intentions. For example, in a strongly rules-oriented ethical climate, social pressures to follow the rules would reduce the relationship between organizational commitment and compliance.

Hypothesis 7. Rules orientation moderates the relationship between attitudes and intentions to resist MST policies and practices such that strongly rules oriented climates weaken the relationship between attitudes and intentions to resist MST policies and practices.

In instrumental ethical climates, individuals focus on behaviours that primarily serve their own self-interests as well as the narrow fiduciary interests of their organization to the extent that the two are aligned. The strength of an ethical climate geared towards instrumental objectives communicates that personal and corporate instrumental objectives are of high importance. As a consequence, employees in organizations with a strong instrumental climate know that they are supposed to act in line with the strong norms to enhance individual and corporate profits. Hence, in strong instrumental climates employees should be less likely to act on the basis of their attitudes or beliefs. Instead, employees are likely to have a clear idea of what norms are, and should thus, in strong instrumental climates, be less likely to act in accordance with their attitudes than they would in less instrumental climates. Strong instrumental climates are centred on employees acting in the way they feel will obtain the strongest rewards, regardless of consequences or moral values. Hence, in a strongly instrumental climate a *quid pro quo* phenomenon might occur in which individuals would comply with organizational MST policies in expectation of fiduciary rewards or other benefits of compliance. Thus, we predicted that the link between attitudes and compliance would be stronger in non-instrumental ethical climates.

Hypothesis 8. Instrumental ethical climate moderates the relationship between attitudes and intentions to resist MST policies and practices, such that the relationship between attitudes and intentions to resist is stronger in non-instrumental ethical climates.

Method

Participants and design

In conducting this study, we used a cross-sectional, correlational design. A power analysis revealed that approximately 250 respondents would be needed to reach .80 power in a multiple regression model with four or five predictors. Because managerial perspectives towards MST policies and practices might substantially differ from non-managerial perspectives, only non-supervisory employees were recruited for participation in this study. Generally, respondents had an opportunity to win a raffle incentive that ranged from \$50 to \$250.

Similarity of subsamples

To ensure that responses from our five different subsamples could be combined for purposes of regression analysis, we began by conducting a confirmatory, multi-group structural equation modelling analysis of scale scores in the five different subsamples using the AMOS structural equation programme with generalized least-squares estimation. We used a procedure similar to multi-group confirmatory factor analysis, but focused on the conformity of an overall path model rather than on the factor structure of indicators of different constructs. Our analysis followed the template provided by Bollen (1989) for multi-group analysis. Results of the multi-group analysis indicate there were no differences between the subsamples.² Hence, we combined all subsamples in order to test our hypotheses.

² For detailed results of the multi-group CFA, please contact the first author.

Table 1 shows characteristics of the samples obtained through the five different recruiting methods.

Table 1. Demographic characteristics of subsamples

	Recruiting method/Sample source				
	Opt-in e-mail (small prizes)	Opt-in e-mail (large prize)	Opt-in topical e-mail list	Snowball sample	Paper-and- pencil survey
Size of sample (total $N = 257$)	$N = 66$	$N = 96$	$N = 37$	$N = 21$	$N = 37$
Response rate	16.5%	24%	N/A	N/A	41%
Mean age in years	31	35	44	28	(Mode: 35–44)
Gender*					
Female (total $N = 160$)	70%	69%	54%	62%	41%
Male (total $N = 91$)	16%	30%	46%	38%	57%

*Percentages do not add to precisely 100% because of missing data.

We collected responses in four of these five cases via web-based surveying, and followed Stanton and Rogelberg's (2001) recommendations for ensuring high quality data from web-based samples closely. Web-based surveying seemed a particularly useful methodology considering the content of our study: an advantage of the web-based approach in comparison to more traditional paper-and-pencil approaches used in other studies is that the expected demographic characteristics of on-line samples include higher mean educational level and technology experience than in telephone or postal samples (e.g. GVU, 1998). We considered such knowledge and experience essential, because individuals who had no occupational exposure to information technology (e.g. agricultural labourers) would not have the relevant contextual knowledge to respond to the survey questions. Also, data collection in a single organization, with its prevailing culture, would probably not provide the level of variability needed to analyse responses to climate variables such as those described by Victor and Cullen (1988).

In the first three recruiting strategies shown in Table 1, 'double opt-in' e-mail list vendors were used to contact and request participation from potential respondents who had previously volunteered to receive e-mails pertaining to survey participation. In double opt-in lists, potential respondents express an interest to the list vendor in receiving e-mails about particular topics (in this case surveys). In the recruiting technique shown in the fourth column of Table 1 ('snowball sampling'), an e-mail message was sent out to a graduate student e-mail list server, requesting students to forward the message to their employed, adult acquaintances.

In the recruiting method shown in the last column of Table 1, a team of undergraduate research assistants distributed surveys to full-time employed, adult, non-students with whom they were personally acquainted. Postage paid return envelopes provided a method for these respondents to anonymously return their completed surveys to the researchers. A total of 90 surveys were distributed in this way. Table 1 shows calculated response rates for the three samples in which the exact number of distributed surveys was known. Please note that the Results section, below, describes a confirmatory analysis that we conducted to ensure that the correlative structures of the

samples obtained by these different recruiting methods were sufficiently similar to warrant combining them into a single sample.

Attitude measures

Cronbach's alpha internal consistency estimates for all scales are reported on the diagonal of Table 2.

Organizational commitment was measured using Allen and Meyer's (1990) scale for the measurement of affective and normative commitment. Sample items for affective commitment and normative commitment are 'I do not think that I could easily become as attached to another organization as I am to this organization' (affective) and 'One of the reasons I continue to work for this organizations is that I believe loyalty is important' (normative). Commitment items were measured using a 5-point Likert scale, ranging from *strongly disagree* to *strongly agree*.

Attitudes towards monitoring and surveillance technology policies and practices (hereafter called surveillance attitudes) were assessed with 14 items developed and pilot-tested specifically for use in the present study (see Appendix for a list of unpublished items used in this study). Our measure for the assessment of attitudes towards monitoring and surveillance policies and practices examines whether individuals feel their employer has the right to use various monitoring and surveillance technologies to monitor and report on both current employees and job applicants.

We used Mael and Ashforth's (1992) scale to measure organizational identification in this study (sample item: 'When someone criticizes this organization, it feels like a personal insult.'). A 5-point Likert scale was applied, with response options ranging from *strongly disagree* to *strongly agree*.

Perceived behavioural control and social norms measures

Personal control was measured using Greenberger and Strasser's (1986) personal control scale. A sample item of the personal control scale is 'How much influence do you have over the variety of tasks you perform?' A 5-point Likert scale ranging from *very little* to *very much* functioned as the response scale.

A self-report of experience with technology was measured using five items adapted from Stanton *et al.* (1994). Respondents were asked to indicate how much they knew about technologies such as local area networks, device drivers, and computer operating systems. Response options ranged from *a little* (1) to *a lot* (5).

The extent to which an organization's corporate climate is instrumental (sample item: 'In this company, people protect their interests above all else'), caring (sample item: 'What is best for everyone in the company is the major consideration here. '), or primarily rules-oriented (sample item: 'It is very important to follow the company's rules and procedures here') was measured using Victor and Cullen's (1988) scale for the assessment of ethical climate. For this construct, we again used a 5-point Likert scale with response options ranging from *strongly disagree* to *strongly agree*.³

³ Victor and Cullen's scale was originally designed to ascertain the predominant ethical climate type to which an organization belonged by identifying the highest score from the three subscales. In the present study, the three subscale scores were treated as separate measures under the assumption that organizations may comprise a mixed composite of instrumental, caring, and rules-oriented ethical climates. The instrumental subscale contained six items, the caring subscale five, and the rules-oriented subscale three items. Note that when using this scale, we did not intend to capture ethical climate in the aggregate (it would not have been feasible to do so since each of our respondents was from a different organization); instead we assessed individuals' perceptions of their company's ethical climates as a method of understanding the perceived norms for behavior in each respondent's work environment.

Table 2. Descriptive statistics and intercorrelations among study variables

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Aff. commitment	0.28	0.91	.85	.58	.19	.63	.46	.13	.46	-.37	.50	-.23	-.30	-.28	-.21	-.21
2. Norm. commitment	0.10	0.62		.65	.19	.42	.27	.24	.34	-.08	.42	-.14	-.23	-.22	-.12	-.35
3. Surveillance attitudes	-0.18	0.84			.90	.24	.20	.19	.13	.05	.20	-.23	-.61	-.41	-.40	-.30
4. Org. identification	0.63	0.81				.84	.46	.30	.42	-.10	.54	-.09	-.30	-.10	-.09	-.32
5. Personal control	0.42	0.89					.91	.21	.22	-.10	.26	-.02	-.25	-.07	-.01	-.16
6. Tech. experience	0.06	0.85						.91	.11	.10	.18	.11	-.16	.01	.08	-.29
7. Rules culture	0.71	0.89							.83	-.10	.62	-.16	-.31	-.07	-.12	-.29
8. Instrumental culture	-0.01	0.81								.79	-.11	.24	.15	.25	.15	.02
9. Caring culture	0.29	0.88									.83	-.24	-.24	-.18	-.18	-.36
10. Manipulate MST	0.03	0.99										.89	.50	.69	.69	.17
11. Accept MST	-0.06	1.05											.95	.51	.44	.44
12. Avoid MST	0.23	1.08												.93	.74	.15
13. Complain MST	0.03	1.08													.94	.13
14. Report co-workers	0.31	1.14														.92

Note. All correlations in excess of .11 are statistically significant; values in the diagonal report reliability estimates (Cronbach's alpha).

We were curious to ascertain the number and proportion of individuals who expressed strong intentions to resist organizational MST practices. We examined percentiles in the frequency distributions for the three resistance subscales. For intentions to manipulate or alter MST systems, 5% of respondents answered at the most extreme level (+2 on all subscale items), and 13% of the sample answered at a somewhat extreme level (average item score greater than or equal to +1). For complaining about MST, a less aggressive, but nonetheless active strategy of resistance, 9% responded at the most extreme level and 15% responded at a somewhat extreme level. For avoidance, the most passive strategy of resistance, 10% responded at the most extreme level and 21% responded at a somewhat extreme level. Thus, out of a sample of 257 individuals from different organizations, 50 to 75 of them expressed reasonably strong intentions to resist organizational use of MST systems in one or more ways.

Outcome measures

Outcome variables in this study were intentions to comply with or resist MST policies and practices. Because MST policies within organizations vary substantially in form and content (i.e. different technologies, different personnel policies, different degrees of publicity to employees), obtaining retrospective reports or making on-site observations of actual compliance and resistance behaviour would potentially suffer from memory biases, low base rates, or both. Prior research has indicated the viability of using intentions as a proxy for future organizational behaviour (e.g. Rogelberg *et al.*, 2001; Sheppard, Hartwick, & Warshaw, 1988). The 25 behavioural intention items for the present study were developed according to the strategy described by Ajzen and Fishbein (1980). Item content was derived from open-ended interview studies reported by Stanton and Weiss (2000, 2003). Item development was also guided by the literature on workplace deviance (e.g. Bennett & Robinson, 2000) and the literature on compliance with organizational policies (e.g. Hope & Pate, 1988; Hodson, 1991). These sources converged on the importance of including items that focused on active and passive forms of behaviour (e.g. sabotage vs. acceptance) and interpersonally-focused versus impersonally-focused forms of behaviour (e.g. reporting a non-compliant worker vs. modifying a computer's settings). An extensive, multi-stage programme of pilot testing and preliminary psychometric analysis was used to improve the quality of the items and remove poorly functioning items. A complete list of the items appears in the Appendix. Item and scale analyses for this criterion appear below.

Please note two important points about the scaling of our measures. First, as a side effect of the web-based data collection used in four of our samples, scale anchors were all centred on zero (for 5-point Likert scales, whereas three is the more usual centre point). Second, to simplify interpretation of the results, we oriented all of the criterion scales in the same conceptual direction: for all five scales, a higher value signifies greater resistance intentions and a lower value signifies lower resistance (i.e. higher compliance) intentions. This transformation had no effect on the complaint, avoidance, or manipulation-alteration scales because these scales were already oriented in the described way. For the acceptance and reporting co-worker subscales, however, it is important to remember how to interpret their means and correlations: a lower value signifies greater MST acceptance intentions or greater intentions to report workers who are non-compliant with MST policies, whereas a higher value indicates weaker intentions to accept MST or to report non-compliant workers. The reversed sense of these latter two subscales is evident in the consistently positive subscale intercorrelations in the lower right hand corner of Table 2.

Data analysis

In order to test our hypotheses, we conducted confirmatory multi-group structure equation modelling analysis and the following other statistical tests to examine our hypotheses: First, we analysed the criterion scale. All 25 of the items exhibited substantial variability (standard deviations between 1.14 and 1.26) and normal distributions (two items were slightly platykurtic). Respondents used all five of the scale points on all 25 items. Principal components analysis of the items revealed six eigenvalues in excess of 1.00, but the fifth (1.120) and sixth (1.003) eigenvalues would be expected by chance according to the criteria calculated by Lautenschlager (1989). A varimax rotation of a four-factor solution revealed a clean system of loadings that partitioned the items into behavioural categories: (1) complaint, avoidance, and escape behaviours geared towards the monitoring and surveillance systems;

(2) acceptance of and compliance with monitoring and surveillance systems; (3) manipulation and/or alteration of monitoring and surveillance systems and equipment; and (4) reporting non-compliant co-workers to organizational authorities. The first factor contained a sufficient number of items (11 items total), such that a further conceptual distinction was possible between complaint intentions and avoidance/escape intentions, so these items were divided into two separate though highly correlated ($r = .74$, $p < .001$) subscales. The resulting five behaviourally-categorized subscales were used as criteria to test our hypotheses.

Second, we conducted exploratory factor analyses to examine the factor structure of our independent variables.⁴ Next, we tested our main effect hypotheses (Hypothesis 1–3) by examining the beta-weights and overall R^2 that resulted from regressing our predictor variables as a group on each of the five criterion variables.

Third, we completed tests of our moderator hypotheses. Counting affective and normative organizational commitment separately, there were five attitude variables. As described above, there were also five outcome variables. Note that as a consequence, 100 moderator tests were conducted, all of them using hierarchical regression, entering the individual main effects first, and then the multiplicative interaction term. Based on Kromrey's and Foster-Johnson's (1998) recommendations, raw score analyses were used instead of centred analyses, so variables in our interaction terms were not centred. Given power problems with moderated multiple regression detailed by Aguinis (1995) and others (it is particularly difficult to detect multiple interaction effects in a single equation), it seemed prudent to test each pair of interacting predictors with each criterion variable in a separate regression equation to avoid inflating Type II error. In contrast, however, conducting a number of separate tests for each hypothesis would tend to inflate Type I error (a Bonferroni correction would dictate $p < .002$; see Cohen & Cohen, 1983, p. 167). As a compromise position and in recognition of the exploratory nature of our behavioural control/social norms hypotheses, we adopted a moderately stringent $p < .01$ criterion for the omnibus delta R -squared test of each moderation effect.

Results

Descriptive results

Table 2 shows means, standard deviations, and zero-order correlations among all variables included in this study.

Hypothesis tests of attitude variables (Hypotheses 1–3)

Table 3 summarizes the results of our hypothesis tests of attitude variables.

Overall, surveillance attitudes and affective organizational commitment were the strongest predictors of compliance and resistance intentions. Normative commitment and organizational identification had generally weaker or non-significant relationships, which implied the possibility of moderator effects for these predictors. Taking into account the scale orientation described above, the signs of all reported beta weights were in the predicted directions and consistent across all five dependent measures with one exception described below in the test of Hypothesis 3.

As indicated in Table 3, affective organizational commitment predicted employees' behavioural intentions on all of the dependent variables except reporting non-compliant co-workers (Hypothesis 1a). As predicted, higher levels of affective

⁴ For detailed results of the exploratory factor analyses conducted on the independent variables, please contact the first author.

Table 3. Beta weights for attitude variables: organization commitment, surveillance attitudes, and organizational identification

Predictor	Dependent variable: Intentions to . . .				
	Alter or manipulate MST	Accept or comply with MST	Avoid or escape MST	Complain about MST	Report non-compliant co-workers
Affective org. commitment	-.27**	-.14**	-.29***	-.26**	.15
Normative org. commitment	.01	-.01	-.07	.04	-.29***
Surveillance attitudes	-.20**	-.56***	-.40**	-.39**	-.22***
Organizational identification	.14	-.09	.23**	.15 [†]	-.24**
Overall R^2	.10***	.42***	.24***	.19***	.21***

Note. $N = 253$. All dependent variables scaled such that higher values signified greater intended resistance to MST on the part of the respondent.

$p = .05$, * $p < .05$, ** $p < .01$, *** $p < .001$.

commitment indicated lower intentions to resist MST. Thus, the prediction of Hypothesis 1a that individuals' affective commitment to their organization would predict their behavioural intentions towards their organizations' MST practices and policies was supported. The prediction that individuals' normative commitment would predict MST compliance intentions was only partially supported (Hypothesis 1b). In fact, the only intention predicted by normative organizational commitment pertained to the reporting of non-compliant co-workers. Inspection of the zero-order correlations among the predictors and the outcomes suggested that the relatively small relations between normative commitment and the outcome measures was obscured by overlap between normative commitment and the two most closely related predictors, affective commitment and organizational identification.

Surveillance attitudes predicted all of dependent variables in the expected direction (Hypothesis 2), lending support to the hypothesis.

Organizational identification predicted employees' intentions to avoid or escape the monitoring system, complain about the system (note: $p = .05$), and to report non-compliant co-workers, it did not predict the remaining two dependent variables (Hypothesis 3). Counter to our predictions, higher organizational identification corresponded to greater intentions to (1) complain about MST, and (2) to avoid coming under surveillance or monitoring.

Moderators of the relationship between attitudinal antecedents and compliance intentions towards monitoring and surveillance (Hypotheses 4–8)

For each of our moderator hypothesis, we predicted a two-way interaction between a particular behavioural control/social norms variable and any of the attitude variables in a regression on the compliance/resistance criteria. In each case the hypothesis stated a general prediction about a moderating influence (such as personal control) and its interaction with the attitude variables to predict intentions to comply with MST.

Table 4 shows all of the statistically significant interactions, sorted by the hypothesized moderator variable.

Notably, all five of the perceived behavioural control/social norms variables had at least one interactive effect. Notable in its absence, affective organizational commitment apparently had no interactive effects with the perceived behavioural control and social norms variables.

Personal control as a moderator (Hypothesis 4)

Only the interaction between personal control and surveillance attitudes was significant. The configuration of this ordinal interaction was in the expected direction: individuals with high levels of personal control exhibited a stronger connection between their surveillance attitudes and their intentions to report non-compliant workers. Notably, the only moderated relationship for personal control occurred with the reporting of non-compliant co-workers as a dependent variable, which may indicate that active compliance behaviours such as the reporting of those who are not acting in line with policies and regulations may form a different class of behaviours than those behaviours geared towards breaking or circumventing rules.

Technology experience as a moderator (Hypothesis 5)

Technology experience moderated the relationship between normative commitment and acceptance/compliance intentions, and between normative commitment and intentions to complain about MST. Technology experience also moderated the relationships between organizational identification and intentions to report non-compliant co-workers. All of these ordinal interactions had the expected configuration. Again, the reporting of non-compliant co-workers, an active form of supporting organizational rules and policies, was predicted by an interaction term that predicted none of the other outcome variables.

Ethical climate as a moderator

In Hypotheses 6, 7, and 8, we predicted that individuals' perceptions of the prevailing ethical climate in their workplace would moderate the relationship between attitudinal variables and compliance intentions. Three aspects of ethical climate were assessed separately: caring ethical climate, rules-oriented ethical climate, and instrumental ethical climate.

Caring ethical climate (Hypothesis 6)

In accord with the hypothesis, a moderating effect was found in which the negative relationship between surveillance attitudes and intentions to alter MST equipment was stronger in an environment where corporate culture was perceived as uncaring. A similar effect occurred when the criterion variable was avoiding/escaping MST. In the case of reporting non-compliant workers, however, the effect was reversed: when corporate culture was caring, respondents' commitment and identification correlated more strongly with their intentions to report non-compliant employees. In uncaring corporate cultures there was no relationship between commitment or identification and intentions to report non-compliant workers. Similarly to the results obtained for personal control and technology experience, behavioural intentions geared towards breaking the rules, such as altering or avoiding MST equipment were predicted by a different pattern of interaction effects than behavioural intentions geared towards the active support of existing company rules (e.g. the reporting of non-compliant co-workers).

Table 4. Moderator tests for perceived behavioural control/social norms variables

Control/Norms (moderator)	Attitude	Dependent variable	$\Delta R^2, p$	Hypothesized configuration
Personal control	Surveillance attitudes	Report non-compliant workers	$\Delta R^2 = .04, p < .001$	Yes
	Normative commitment	Accept/Comply w/MST	$\Delta R^2 = .05, p < .001$	Yes
	Normative commitment	Complain about MST	$\Delta R^2 = .04, p < .005$	Yes
Caring climate	Organizational identification	Report non-compliant workers	$\Delta R^2 = .02, p < .01$	Yes
	Surveillance attitudes	Alter/Manipulate MST	$\Delta R^2 = .04, p < .001$	Yes
	Surveillance attitudes	Avoid MST	$\Delta R^2 = .02, p < .01$	Yes
	Normative commitment	Report non-compliant workers	$\Delta R^2 = .02, p < .01$	No
Rules-oriented climate	Organizational identification	Report non-compliant workers	$\Delta R^2 = .03, p < .005$	No
	Surveillance attitudes	Accept/Comply w/MST	$\Delta R^2 = .02, p < .01$	Yes
	Surveillance attitudes	Alter/Manipulate MST	$\Delta R^2 = .03, p < .01$	No
	Surveillance attitudes	Report non-compliant workers	$\Delta R^2 = .04, p < .001$	Yes
Instrumental climate	Surveillance attitudes	Avoid MST	$\Delta R^2 = .03, p < .001$	Yes
	Surveillance Attitudes	Complain about MST	$\Delta R^2 = .03, p < .001$	Yes

Note. Detailed results describing all beta-weights for both main and interaction effects tested in this study are available from the first author upon request.

Rules-oriented ethical climate (Hypothesis 7)

As described in Table 4, rules-oriented climate interacted with surveillance attitudes in the prediction of three of the five outcome variables. Rules-oriented corporate climate moderated the relationship between surveillance attitudes and compliance with MST as well as intentions to report non-compliant co-workers. However, both of these ordinal interactions contradicted the hypothesized configuration: the relationship between surveillance attitudes and the outcome variable was strongest when the culture was rules-oriented and weakest when it was not. Rules-oriented corporate climate also moderated the relationships between surveillance attitudes and intentions to alter MST. Here, the direction of the effect was in line with our hypothesis.

Instrumental ethical climate (Hypothesis 8)

As can be seen in Table 4, instrumental climate interacted with surveillance attitudes in the prediction of avoidance of MST and complaining about MST. As hypothesized, among individuals who rated their organization's culture as not strongly instrumental, the relationship between surveillance attitudes and compliance was strengthened. In contrast, a highly instrumental culture weakened the relationships between surveillance attitudes and avoidance or complaining about MST.

Discussion

The goal of the present study was to examine the influence of attitudes on intentions to comply with, or alternatively to resist, MST systems. Furthermore, we wanted to examine whether behavioural control and climate variables would moderate the relationship between attitudes and intentions.

Surveillance attitudes and affective organizational commitment were consistently positively related to the outcome variables, while normative commitment and organizational identification had weaker or non-significant relationships with intentions to accept monitoring and surveillance systems. The moderator tests revealed that several of the proposed moderators impacted the strength of the relationship between the attitudinal predictors and employees' behavioural intentions to accept or resist monitoring and surveillance systems. Personal control moderated the relationship between surveillance attitudes and intentions to report noncompliant co-workers. Technology experience moderated the relationship between normative commitment and acceptance/compliance intentions, and between normative commitment and intentions to complain about MST. Technology experience also moderated the relationships between organizational identification and intentions to report non-compliant co-workers. Caring ethical climate moderated the relationship between surveillance attitudes and intentions to alter MST equipment and intentions to avoid/escape MST, but also moderated other relationships in a direction opposite to the initial hypotheses. Rules-oriented corporate climate moderated the relationships between surveillance attitudes and intentions to alter MST, and also moderated two other attitude-outcome relationships in a direction counter to our hypotheses. Instrumental climate interacted with surveillance attitudes in the prediction of avoidance of MST and complaining about MST.

Relevance for theory

Tests of the theoretical framework used in this study provided some support for the attitude components that were proposed on the basis of the theory of planned

behaviour (Ajzen, 1991), and a variety of results that fit the model for the perceived behavioural control and social norms components. In support of our integrated theory of planned behaviour as a theoretical framework for studying MST compliance intentions we found that proximal attitudes (e.g. attitudes towards MST) functioned as a particularly strong predictor of intentions to comply or resist. This finding also confirms results of Harper's (1995) qualitative sociological study, which emphasized the role of attitudes towards monitoring systems in employees' usage decisions about active badges.

Based on our integrated framework that used the theory of planned behaviour (Ajzen, 1991) and research on ethical decision making in organizations (Trevino & Victor, 1992; Trevino & Youngblood, 1990) we suggested that several influences would moderate the relationships between attitudes and intentions. Using Trevino's models of ethical decision making (Trevino & Victor, 1992; Trevino & Youngblood, 1990), we predicted that organizations' social norms as manifested in ethical climates would have such influence. As social norms pertain to employees' feelings about what 'right' behaviour constitutes of within an organization, we anticipated that the relationship between attitudes and intentions would be moderated by employees' perceptions of what is deemed acceptable.⁵ Our findings support theory of planned behaviour propositions pertaining to behavioural control: individuals tend to be more likely to act upon their attitudes if they feel they have the necessary control and knowledge to actually behave according to their attitudes.

Using ethical decision-making theories such as Trevino and Youngblood's (1990) and Victor and Cullen's (1988), we had also proposed caring ethical climate and rules-oriented ethical climate as moderators. However, for these two variables, more complex results emerged. In a highly caring ethical climate, the relationship between surveillance attitudes and intentions to alter or avoid MST was diminished. With reference to Victor and Cullen's (1988) work, a caring climate implies benevolent motives and relationships between and among managers and workers. We predicted, and the data supported the idea, that this would invoke a 'benefit of the doubt' phenomenon in which even negative surveillance attitudes would not evoke sabotage or avoidance of MST systems. In the case of intentions to report non-compliant workers, however, the effect was reversed. In an uncaring ethical climate the relationship between normative commitment and intentions to report non-compliant workers was weakened. Likewise, the relationship between organizational identification and intentions to report non-compliant workers was also weakened. Given the focus of Victor and Cullen's (1988) caring subscale on the 'good of all the people in the company', this counter-hypothesized finding is not surprising in retrospect. As an anonymous reviewer pointed out to us, it is also possible that the complexity of the findings for a caring ethical climate may be an indicator of the presence of higher level interactions.

The contingency described above hinges on which type of behaviour is under consideration. Different interactions occurred depending on whether one considered a resistance behaviour (i.e. altering or avoiding MST) versus a compliance behaviour (i.e. reporting a non-compliant co-worker). The same contingency occurred when considering rule-oriented ethical climate. Our prediction did not hold true

⁵ The notion that behavioral control and technology experience reflect what employees are able to do or can do based on their perceptions of their own personality, and that organizational norms reflect what employees are expected to do, or what they should do, was brought to our attention by a reviewer.

when considering compliance behaviours: in a rules-oriented ethical climate the links were strengthened between surveillance attitudes and intentions to accept MST or intention to report non-compliant workers. In contrast, the resistance behaviour worked the opposite way. Only in a weakly rules-oriented ethical climate was the connection between surveillance attitudes and 'sabotage' (i.e. altering or manipulating MST) strengthened.

Evidence from these data thus suggest that social constraints on behaviour function differently depending upon whether one considers a behaviour that breaks the rules versus a behaviour that supports the rules. Although personal control moderated the relationship between surveillance attitudes and intentions to report non-compliant co-workers, it did not function as a moderator between any of the other attitudinal variables and outcome intentions. Similarly, technology experience interacted only with organizational identification in predicting intentions to report non-compliant co-workers. Furthermore, the counter-hypothesized findings for caring climates as a moderator of the relationships between normative commitment, organizational identification, and intentions to report non-compliant co-workers further support that behaviours geared towards supporting organizational rules may be predicted by interaction effects different from those predicting behavioural intentions geared towards breaking rules. Supplemented by some future cross-validation evidence, these findings do support the idea that the ontogeny of compliance behaviours differs from that of resistance behaviours. Factors that strengthen the influence of antecedents for one class of outcome may diminish it for the other class of outcome. Theoretically, this may imply that more fine-tuned distinctions between behavioural intentions may enhance the predictive validity of ethical decision-making frameworks and theory of planned behaviour models geared towards compliance.

Ajzen and Fishbein's (1980) theories underscore the importance of attitudes in influencing behavioural intentions. The present study confirmed the first of these two linkages. Apparently, attitudinal variables such as organization commitment and surveillance attitudes play a role when employees form behavioural intentions to comply or resist their organizations' MST systems. Additionally, normative and personal constraints on behaviour such as prevailing ethical climate or prior technology experience influence how strongly attitudinal components relate to behavioural intentions. Thus, a framework integrating the theory of planned behaviour and components of ethical decision-making models was adequate for the prediction of employees' behavioural intentions as antecedents of organizational compliance behaviour. This study's results supported theory of planned behaviour's emphasis on specific or 'proximal' attitudes as predecessors of behavioural intentions. In particular, the proximal attitude (i.e. attitudes about organizational monitoring and surveillance) repeatedly showed the strongest relationships with the outcome variables, both in the simple regressions of attitudes on intentions, and in the more complex interactive relationships between attitudes, perceived control/social norms, and intentions.

The contra-hypothesized effects for two of the social norms posit, however, that a more domain-specific approach could improve the framework. Specifically, the distinctions that appeared between the interaction effects for compliance behaviours and the effects that appeared for resistance behaviours advocate that an improved framework should treat these separately. Further development of the integrative theory of planned behaviour/ethical decision-making framework may also benefit from considering the conceptual difference between essentially passive modes of response to MST (e.g. acceptance) versus more active responses such as altering the equipment.

Practical implications

For organizations, the results of this study have several implications. First, the base rate of employees forming intentions to resist MST practices and policies by escaping to non-company e-mail systems, altering equipment, and not reporting non-compliant co-workers seems substantial. Second, the acceptance of MST practices and policies is clearly influenced by a combination of personal evaluations and contextual factors. Organizations that find ways to enhance employees' affective commitment and organizational identification can decrease the likelihood of resistance and concomitantly increase compliance with MST. This introduces an interesting paradox, however, in that individuals with strong commitment and identification are unlikely to need monitoring or surveillance because their goals are essentially aligned with those of the organization anyway. The converse also holds: those individuals with low commitment and identification appear most likely to invent innovative strategies for circumventing MST. The happy medium may lie in encouraging and enabling caring and rules-oriented ethical cultures. Such cultures may allow for a range of attitudes among employees with differing control perceptions and technology backgrounds without promoting sabotage of MST systems. Third, it may be advisable for organizations to try to influence their employees' attitudes towards MST through appropriate training and communications. In many organizations, employees are monitored without receiving a thorough explanation of why MST systems and policies are being implemented. Procedural justice research has persuasively demonstrated that if employees are provided with adequate, sensitive explanations for organizational policies (e.g. pay cuts, Greenberg, 1990), they are more likely to comply with those policies. Therefore, organizations implementing different forms of MST may want to consider not only providing materials explaining the technologies and policies, but may also want to provide employees with opportunities to understand the rationale for MST system implementation. Fourth, we suggest on the basis of our *post hoc* analyses that organizations should also consider the instrumentality of their ethical climates as another significant antecedent to employee resistance. In other words, if employees feel the organization is focused largely on the fulfilment of selfish interests, they are unlikely to comply with MST policies and practices. Thus, organizations and managers may wish to structure organizational reward systems so that caring, team-oriented ethical behaviours are consistently praised and rewarded.

Limitations and future research

Several important factors limit the generalizability of the present study. First, the sampled demographic group, full-time workers with moderate to high degrees of education and convenient access to the internet, prevents generalization to populations with different characteristics (e.g. blue-collar workers). Other sampling biases may also have influenced our results in unpredictable ways. For instance, in the samples obtained through double-opt-in e-mail lists, the respondents had all requested receipt of recruiting messages and many had expressed willingness to participate in survey studies. In addition, the use of a cross-sectional design with self-report variables raises the possibility that some of the simple correlative relationships were inflated by common method variance. This may, for instance, have increased the beta weights on the attitude variables. Such inflation would not likely influence the non-linear effects detected in the moderator analyses.

In order to overcome these limitations and gain better insight into causal effects on reactions towards implemented MST practices, more field research, particularly quasi-experimentation and longitudinal work, is needed to investigate the impact of MST

systems on employee and organizational outcomes. While the focus of the present study was on the antecedents of intentions to comply with or resist MST, more insight is also needed into the perspectives of other stakeholders. For instance, management attitudes in regard to MST policies have not received sufficient research attention in the past. Through a combined understanding of the decision processes that lie behind MST implementations and the subsequent effects of these implementations on workers and workplaces, organizational researchers can help to design humane strategies for the use of MST that also help to promote overall organizational effectiveness.

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Appendix: Survey items

Attitudes towards monitoring and surveillance in organizations

Response format:

5-point Likert scale (*strongly disagree* to *strongly agree*).

Organizations like mine have the right to. . .

- (1) . . . keep logs of employee telephone calls.
- (2) . . . record employees' telephone conversations.
- (3) . . . use video-cameras to monitor employee's activities on the job.
- (4) . . . remotely monitor computer usage.
- (5) . . . track the web sites being visited by employees.
- (6) . . . keep logs of who sends e-mail to whom.
- (7) . . . monitor the contents of e-mail messages.
- (8) . . . use the internet to administer employment tests to job applicants.
- (9) . . . use the internet to conduct background checks on job applicants.
- (10) . . . track the location of employees within company facilities.
- (11) . . . track the location of employees using company vehicles.
- (12) . . . use fingerprint scanners or other biometrics in place of ID cards.
- (13) . . . transmit employee records to insurance companies.
- (14) . . . transmit employee records to government agencies.

Intentions to comply with monitoring and surveillance technology

Response format:

5-point Likert scale (*strongly disagree* to *strongly agree*).

Item	DV/Outcome
(1) If my company implements an e-mail monitoring system, I will try to find a way to keep my mail private, for instance, by changing settings on my computer.	Alter or manipulate MST
(2) If my company decided to use a video monitoring system, I would be willing to alter the systems' settings to make sure I cannot be video monitored.	Alter or manipulate MST
(3) If my company implements a system to keep track of employees computer activities (number of keystrokes, programmes logged on to etc.), I will change my computer settings to make this monitoring activity impossible.	Alter or manipulate MST
(4) If my company implements an e-mail monitoring system, and I knew how to circumvent it, I would show my co-workers how to do that.	Alter or manipulate MST

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270 *Christiane Spitzmüller and Jeffrey M. Stanton*

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| (5) | If my company implements a video monitoring system, I will encourage my co-workers to alter the system so that none of use can be monitored. | Alter or manipulate MST |
| (6) | If my company implements a system to keep track of employees' computer activities (number of keystrokes, programmes logged on to etc.), and I know how to change the computer settings to circumvent this monitoring activity, I will show my co-workers how to do that. | Alter or manipulate MST |
| (7) | If my company implements an e-mail monitoring system, I will accept this policy and not try to circumvent it. | Accept or comply with MST |
| (8) | If my company implements a video monitoring system, I will not try to circumvent being monitored. | Accept or comply with MST |
| (9) | If my company implements a system to keep track of employees computer activities (number of keystrokes, programmes logged on to etc.), I will accept this company policy and make no efforts to prevent my company from keeping track of my computer activities. | Accept or comply with MST |
| (10) | If my company implements an e-mail monitoring system, I will encourage my colleagues to accept this policy and not try to circumvent it. | Accept or comply with MST |
| (11) | If my company implements a video monitoring system, I will ask my co-workers to not try to circumvent being monitored. | Accept or comply with MST |
| (12) | If my company implements a system to keep track of employees' computer activities (number of keystrokes, programmes logged on to etc.), I will encourage my co-workers to accept this company policy and to make no efforts to prevent my company from keeping track of my computer activities. | Accept or comply with MST |
| (13) | If my company implements an e-mail monitoring system, I will stop using the company system if I can and use another e-mail service instead (such as hotmail, yahoo etc). | Avoid or escape MST |
| (14) | If my company implements a video monitoring system, I will try to avoid the rooms and spaces that are monitored by the system. | Avoid or escape MST |

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Employee compliance 271

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| (15) | If my company implements a system to keep track of employees' computer activities, (number of keystrokes, programmes logged on to etc.), I will try to use my own computer or a shared company computer so that I cannot be monitored. | Avoid or escape MST |
| (16) | If my company implements an e-mail monitoring system, I will encourage my co-workers to stop using the company system if they can and use another e-mail service instead (such as hotmail, yahoo etc). | Avoid or escape MST |
| (17) | If my company implements a video monitoring system, I will encourage others to try to avoid the rooms and spaces that are monitored by the system. | Avoid or escape MST |
| (18) | If my company implements a system to keep track of employees' computer activities, (number of keystrokes, programmes logged on to etc.), I will encourage my colleagues to try to use their own computers or shared company computers so that they cannot be monitored. | Avoid or escape MST |
| (19) | If my company implements an e-mail monitoring system, and my co-workers try to fool the system by using other computers or programmes, I will report this to the responsible supervisor. | Report non-compliant co-workers |
| (20) | If my company implements a video monitoring system, and my colleagues try to avoid the system by altering it or tampering with the equipment, I will report this to the responsible supervisor. | Report non-compliant co-workers |
| (21) | If my company implements a video monitoring system, I will complain about it with my supervisor and/or with the department responsible for the implementation of the new system. | Complain about MST |
| (22) | If my company implements a system to keep track of employees' computer activities, (number of keystrokes, programmes logged on to etc.), I will criticize the system in discussion with my supervisor and the responsible department. | Complain about MST |
| (23) | If my company implements an e-mail monitoring system, I will encourage my co-workers to complain with their supervisors and with the responsible department. | Complain about MST |

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272 *Christiane Spitzmüller and Jeffrey M. Stanton*

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| (24) | If my company implements a video monitoring system, I will encourage my co-workers to critically discuss the system with our supervisor and the responsible department. | Complain about MST |
| (25) | If my company implements a system to keep track of employees' computer activities, (number of keystrokes, programmes logged on to etc.), I will encourage my co-workers to complain with supervisors and with the responsible department about the system. | Complain about MST |

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