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How do Leader Emotional Displays Influence Employees' Information Security Effort?

Emergent Research Forum (ERF) paper

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Abstract

The leader has been considered important in influencing employees' behavior and performance. However, the research identifying the mechanism about the role of leader in the information systems (IS) security context is still scant. According to the Emotion as Social Information (EASI) theory, this study posits that emotional displays by leaders play a critical role in influencing employees' information security effort. Motivated thus, this study proposes that leader displays of happiness or anger towards organizational information security significantly influence employees' subsequent efforts on information security protection and employees' personalities (extraversion and openness to experience) moderate the process. In essence, this study sheds new light on the interaction effect between leader emotional display and employees' personalities on employees' information security effort. This study contributes to the IS security literature by unveiling the importance of leader emotional displays.

Keywords

Leader emotional displays, extraversion, openness to experience, information security effort

Introduction

Information security has become a critical organizational issue in recent years (Renaud et al., 2019), and employees play an important role in influencing organizational information security. It is an important issue to understand how to motivate employees to expend effort on information security protection. Previous research considers formal and informal controls to encourage employees to engage in security protective behaviors, such as security education, training, and awareness (SETA) (Posey et al., 2015), ethical work climate (Gwebu et al., 2020), and supervisor or upper management support (Hu et al., 2012), etc. Among these factors, the leader has been less investigated in IS security research. However, there is extensive leadership research suggesting the role of leader in influencing employees' behavior and performance. Identifying the mechanism about how the leader motivates employees' information security efforts provides an important contribution to IS security research.

Most previous research focuses on effects of managers' participation or involvement on employees' engagement in security behavior (Chan et al., 2005; Goo et al., 2014; Hu et al., 2012). For example, Hu et al. (2012) found that perceived management participation positively influences employees' subjective norms and perceived control over compliance. Although prior research has attempted to identify the role of the leader in the IS security context, there is less research exploring the impact of leader-follower interactions. Previous research has emphasized the importance of interaction between organization and employee in understanding employees' security behavior (Willison and Warkentin, 2013).

Motivated thus, we aim to investigate the influence of leader emotional displays (happiness vs. anger) on followers' security effort. Emotion as Social Information (EASI) theory suggests that leader emotional displays have an impact on followers' performance and this process is moderated by followers' information processing motivation and ability (Van Kleef et al., 2009; Wang and Seibert, 2015).

Our research provides an important contribution to the IS security research by introducing the crucial role of leader emotional displays in motivating employees' efforts on information security protection. By uncovering the critical impact of leader emotional displays, our research extends the research on leader-follower interactions and identifies how leader emotional displays influence employees' effort on information security protection and moderated by employees' personalities.

Literature Review

In the literature review, we summarize the findings of the role of leader and emotion in IS security research and then introduce the EASI theory and explain how to apply this theory in the IS security context.

Role of Leader in IS Security Context

Although the role of the leader has been identified as one of the important factors in organizational information security management, previous research lacks empirical estimation of the effect of leader on employees' security behavior or performance. For example, Chan et al. (2005) and Goo et al. (2014) regarded leader or supervisor support as components of information security climate which influences employees' security policy compliance. Hu et al. (2012) found that perceived management participation positively influences employees' subjective norms and perceived control over compliance. Guhr et al. (2019) and Humaidi and Balakrishnan (2015) investigated the positive effects of transformational leadership and transactional leadership on employees' information security compliance intention.

Role of Emotions in IS Security Context

Previous IS security research has emphasized the importance of emotions or affect in influencing employees' security behaviors. For example, D'Arcy and Lowry (2019) investigated the effects of positive and negative affect on employees' daily ISP compliance. D'Arcy and Teh (2019) found that employees' experience of frustration and fatigue arising from security-related stress might negatively influence employees' ISP compliance. Xu et al. (2020) and Xu et al. (2019) found that anger might lead to more computer abuse.

Willison and Warkentin (2013) argue that it is important to investigate the interaction between the organization and employee prior to the deterrence stage ("left of bang"). Leader displays of happiness and anger, as high arousal levels emotion (Russell, 2003), are most likely to arise in leader-follower interactions (Fitness, 2000; Van Kleef et al., 2009) and has not been investigated in IS security research. This study aims to explore which leader emotional displays will be effective in encouraging employees' effort on information security protection.

Emotion as Social Information Theory

There are two competing theoretical explanations about the impact of leader emotional display: task-information pathway and affective reaction pathway (Van Kleef et al., 2009). The task-information pathway explains that followers will take leader emotional displays as signs and pay attention to the meaning of leaders' emotion. Under the situation of leader displays of anger, followers will consider that their performance is inadequate and more effort is needed. In contrast, under the situation of leader displays of happiness, followers will think that things are going well and no more effort is needed. Following the task-information pathway, leader displays of anger will lead to more followers' effort.

The affective reaction pathway indicates that followers will be more likely infected by leaders' emotional displays and followers passively catch leaders' emotions. Leader displays of anger will elicit more negative affective reactions and leader displays of happiness will cause more positive affective reactions. Positive emotions "broaden people's momentary thought-action repertoires, widening the array of the thoughts and

actions that come to mind” (Fredrickson, 2001) (p. 220) and lead to more positive attitudes and citizenship behaviors (Avey et al., 2008). Following the affective reaction pathway, leader displays of happiness will lead to more followers’ effort.

EASI theory suggests that followers’ information processing motivation and ability determines which pathway will be effective (Van Kleef, 2008). For followers with high motivation and ability to thoroughly process information, they are more likely to adopt task-information pathway. In contrast, followers will be more likely to adopt affective reaction pathway. Previous research proposes that personalities, such as the need for structure (Neuberg and Newsom, 1993), and openness to experience (Kruglanski and Webster, 1996), are strongly correlated with information processing motivation and ability.

Research Model and Hypothesis

This paper investigates the effect of leader displays of happiness or anger towards organizational information security on employees’ subsequent efforts on information security protection and the moderation effects of employees’ personalities of extraversion and openness to experience. This study selects extraversion and openness to experience for two reasons. First, the Big Five set of personality traits have been widely used in IS security literature (Johnston et al., 2016; McCormac et al., 2017). Second, extraversion and openness to experience are regarded as a Plasticity meta-trait which are “are less risk averse and more open to engaging their environment and others in ways that yield potential rewards” (Johnston et al., 2016) (p.6). Our research model is described in Figure 1.

According to EASI theory (Van Kleef, 2008), employees with high motivation to process information will be likely to adopt the task-information pathway. In contrast, employees with low motivation to process information will be likely to adopt the affective reaction pathway. Previous research has empirically estimated the role of epistemic motivation, defined as “the extent to which team members desire to develop and maintain a rich and accurate understanding of situations (Kruglanski 1989)” (Van Kleef et al., 2009) (p.564), in influencing the relationship between leader emotional displays and team performance.

High extraversion indicates individuals tend to be more outgoing and sociable (Zhang, 2006). High openness to experience indicates that individuals are open-minded, imaginative and independent (Zhang, 2006). Individuals with high extraversion and openness to experience are more likely to engage in their environment and will tend to explore opportunities (Johnston et al., 2016). Previous research also argues that individuals with high openness with experience have high epistemic motivation which results in more deliberate information processing (Kruglanski and Webster, 1996).

Thus, we argue that employees with high extraversion and openness to experience will be likely to deliberately process information in the environment in order to get positive outcomes. Employees with high extraversion and openness to experience will be likely to adopt the task-information pathway rather than the affective reaction pathway. Under the situation of leader displays of anger, employees will consider that their security protection effort is inadequate. In order to reduce the discrepancy, employees are likely to expend effort on information security protection. Thus, leader displays of anger will result in more followers’ effort than leader displays of happiness when extraversion and openness to experience are high.

In contrast, employees with low extraversion and openness will be likely to adopt affective reaction pathway. Leader displays of happiness will result in more followers’ effort. Under the situation of leader displays of happiness, employees will perceive this happiness and will subsequently be influenced to experience happiness (“catch happiness”), which leads to their positive affective reactions. Employees with positive emotions are likely to extend their scope of thinking and attention and to engage in more information security protection activities. Thus, we propose that:

H1: Leader displays of anger lead to more employees’ information security effort than do leader displays of happiness when employees’ extraversion (H1a) or openness to experience (H1b) is high.

H2: Leader displays of happiness lead to more employees’ information security effort than do leader displays of anger when employees’ extraversion (H2a) or openness to experience (H2b) is low.

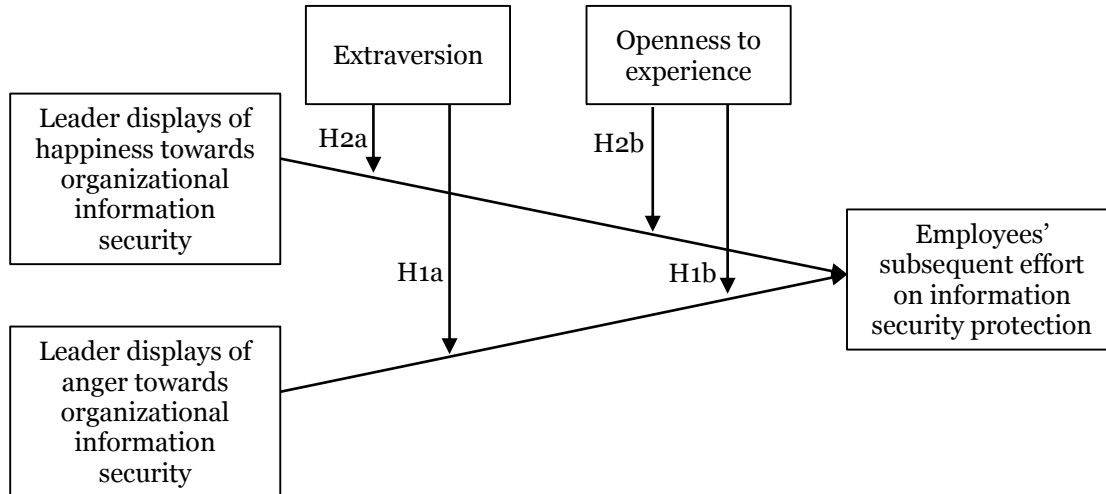


Figure 1. Proposed Research Model

Proposed Research Method

We plan to conduct a lab experiment at a large university in the southeastern US. Participants will be randomly assigned to one security-related task which will be trained and supervised by one team leader. Participants will be assigned to sit in front of the computer monitor in the room. Following the approach of (Van Kleef et al., 2009), leaders who appear on the screen will express happiness or anger by means of facial expressions and bodily postures. In the condition of happiness displays, leaders will describe the current security status and task requirements with an enthusiastic and upbeat tone of voice and smile frequently. In the condition of anger displays, leaders will describe the current security status and task requirements with an angry and irritable tone of voice and look stern. After that, participants will be asked to complete the task. After the task, they will complete a questionnaire including the measurement of extraversion, openness to experience, and demographic information.

Conclusion

This paper identifies how leader emotional displays influence employees' efforts on information security protection. Previous research has attempted to explore the role of the leader in the IS security context, the mechanism about the interactions between leader and follower is not clear. Given the research gaps identified, we strive to identify how leader displays of happiness and anger towards organizational information security influence employees' efforts on information security protection and the moderating effect of extraversion and openness to experience. This paper contributes to IS security behavior research and provides important guidance to motivate employee's information security effort.

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