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**COPING WITH PERCEIVED ABUSIVE SUPERVISION IN THE  
WORKPLACE: THE ROLE OF PARANOIA**

BARBARA C. LOPES <sup>1</sup>  
CAROLINE KAMAU <sup>2</sup>  
RUSI JASPAL <sup>3</sup>

<sup>1</sup> Corresponding Author: CINEICC, Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra, Rua do Colégio Novo, P-301-802 Coimbra, Portugal.

<sup>2</sup> Birkbeck, University of London, Malet Street, London, United Kingdom, WC1E 7HX, UK;

<sup>3</sup> De Montfort University, Faculty of Health and Life Sciences. The Gateway, Leicester, United Kingdom, LE1 9BH, UK.

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### **Abstract**

Two studies (a cross-sectional survey of 90 UK workers and an experiment with 100 UK workers) examined the cognitive and behavioral effects of abusive supervision. Both studies confirmed the hypothesis that workers who experience abusive supervision show paranoia and this makes them more prone to a type of cognitive error called the “sinister attribution error”. This is where workers misattribute innocent workplace events such as tripping over something or hearing colleagues laughing to malevolent motives such as wanting to harm or mock them. Study 1 also showed that abusive supervision is associated with lower wellbeing. Perceived organizational support buffers these effects, and this is associated with workers making less sinister attribution errors, thereby protecting wellbeing. Study 2 explored the role of contextual cues by exposing workers to images of abusive supervision. This increased their paranoia and contributed to workers making sinister attribution errors when they were asked to interpret workplace events. Moreover, depending on the types of contextual cues, workers were more likely to express intention of workplace deviance after thinking about past experiences of abusive supervision. We recommend that corporate ethical responsibilities include training managers and workers about the negative cognitive and mental health effects of abusive supervision.

*Key words:* Abusive supervision; paranoia; perceived organizational support; sinister attribution error; wellbeing; workplace deviance; aggression.

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## **Introduction**

Having an abusive supervisor makes workers more likely to drink more alcohol (Bamberger & Bacharach, 2006); feel powerless (Bies & Tripp, 1998); have lower self-esteem (Burton, James & Hoobler, 2006); feel paranoid (Chan & McAllister, 2014; Kramer, 2002); feel emotionally exhausted (Grandey, Kern & Frone 2007); have lower job satisfaction and wellbeing (Mathieu et al., 2014; Thoroughgood, Tate, Sawyer & Jacobs, 2012) and other negative outcomes (e.g., Brees et al., 2014; Harvey et al., 2014; Kerman et al., 2016; Martinko et al., 2013) such as behaving unethically or deviantly by stealing workplace items or sabotaging organizational goals (e.g., Mawritz et al., 2012; Mayer et al., 2010; Michel et al., 2015). A compelling idea in the literature is that abusive supervision has negative effects on employees' thinking and mental health because abusive supervisors make workers more paranoid (Chan & McAllister, 2014; Kramer, 2002). What is not known, however, is whether workers carry their past experiences of abusive supervision into current paranoid attributions and whether this can be induced by having workers witnessing abusive supervision in action among others. We suggest that such workers develop a "paranoid" attributional style, predisposing them to think that even innocuous actions by their supervisor are abusive or malevolent. This "paranoid" attributional style is then thought to be associated with workers' intentions to engage in workplace deviance and aggression as ways of retaliation. This article therefore uses organizational and clinical theories to examine how abusive supervision is connected with paranoia and other cognitions, also examining whether the negative effects of past abusive supervision persist even when the abusiveness is currently induced by exposing workers to images of abusive supervision in action.

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Paranoia is a clinically significant feature of some mental disorders but there is a growing field of research into paranoia within the general population (e.g., Freeman, 2007; Freeman, McManaus, Brugha, Meltzer et al., 2011) and in employees (Chan & McAllister, 2014; Kramer, 1999, 2001, 2002). In organizational theories, paranoia is associated with an attributional bias called the sinister attribution error (Kramer, 1999, 2001, 2002). Our approach in this article is innovative because we combine theories from clinical psychology and psychiatry (e.g., Ellis, 1985; Freeman, 2007; Freeman, Evans, Cernis, Lister et al., 2014) with theories from organizational science (Kramer, 1999, 2001, 2002; Chan and McAllister, 2014) using both cross-sectional and experimental methods lacking in this sub-field. We apply the ABC model (A = Antecedents/Activating Events; B= Beliefs and C= Consequences), a cognitive-behavioral model (Ellis, 1985) to the workplace context to examine how abusive supervision as a situational context activates workers' paranoid thoughts that are then associated with workers' lower wellbeing and an increase in workers' intentions to engage in workplace deviance (see Figure 1). The ABC model has not been applied to the workplace context and instead has been used in clinical settings (see Freeman, 2007). Therefore, we offer a new theoretical step within the abusive supervision literature. In this case, the activating event (A) is abusive supervision and the beliefs (B) are paranoia. The ABC model takes an information processing approach in explaining how antecedent factors (e.g., memories of abuse, Lopes, 2011) activate paranoia that is maintained through information processing errors e.g., the sinister attribution error. We argue that this sustains paranoia by preventing workers from gathering data disconfirming their paranoia or by perpetuating negative behaviors e.g., workplace deviance and aggression with negative consequences that further confirm the paranoia. Following the ABC model, we will examine (1) whether abusive

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supervision is an antecedent of workers' paranoia; (2) whether past experiences of abusive supervision exacerbate current paranoid cognitions e.g., sinister attribution errors such as interpreting innocuous supervisor behaviors as abusive or malevolent; (3) the consequences for workers' intentions to engage in deviant behaviors such as theft or aggression; and (4) the occupational health consequences for workers.

-Figure 1-

## **Theoretical Foundations and Hypotheses**

### *Abusive supervision and paranoia*

Paranoia is characterized by suspicion, distrust and emotional surveillance, all of which can arise in workplaces in response to certain realities such as computer surveillance and monitoring of workers through CCTV, remote management software and other ways (Kramer, 1999, 2001, 2002; Mason, Stevenson & Freedman, 2014). Employee paranoia is defined as "heightened and exaggerated distrust that encompasses an array of beliefs, including organizational members' perceptions of being threatened, harmed, persecuted, mistreated, disparaged, and so on, by malevolent others within the organization" (Kramer, 2001, p. 3). In clinical theories, paranoia is said to be a biologically and a psychologically adaptive response to situational and cognitive demands, and this view of paranoia as an adaptive response is echoed in the organizational literature (Kramer, 1999, 2001, 2002).

Paranoia is assessed on a continuum ranging from mild thoughts that are not unusual (e.g., feeling suspicious about other people's thoughts or intentions) to more severe, unusual thoughts (e.g., the delusion that one's thoughts are being controlled by an external force, or that there is a grand conspiracy) commonly seen in psychiatric populations (see Freeman et al., 2005 for an hierarchy of paranoid thoughts). Many

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people without a mental disorder have *some* degree of paranoia (Freeman, 2007), with 23% of UK workers feeling that people are against them, and 10% feeling controlled by an outside force (Lopes, Kamau & Jaspal, 2018). In our studies, we assess paranoia using measurement methods commonly used in clinical settings, which constitutes a new contribution to the abusive supervision literature.

Paranoia is of growing interest to abusive supervision researchers because paranoia is a reaction to power differentials between leaders and employees (Korsgaard, Brower & Lester, 2014; van Prooijen & van Lange, 2014). Workers lower down the hierarchy have significantly more paranoia symptoms than supervisors and managers (Lopes et al., 2018). To a paranoid person the world is an unsafe place and therefore suspicions about others are a psychological defense protecting the self (Gilbert, 2001, 2002). In fact, paranoia is maladaptive in heightening negative emotional states such as anxiety, fear and distrust and in producing a problematic schema that monitors excessively the social environment for threats (Freeman, 2007), inducing feelings of persecution (Bentall, Kinderman & Kaney, 1994). This can explain why abusive supervision reduces workers' wellbeing – we propose that abusive supervision is associated with workers' paranoia, which is associated with negative emotional states including low wellbeing.

In organizations, paranoia is thought to be a defensive strategy that protects workers in contexts where they feel uncertainty about what a supervisor's behavior actually means (Kramer, 1999), after major organizational changes such as mergers or acquisitions (Slowinski, Rafii, Tao, Gollob, Sagal & Krishnamurthy, 2002; Stahl, Larsson, Kremershof & Sitkin, 2011) and in workplaces with heightened stressors (Colligan & Higgins, 2006). Paranoia can also emerge in response to changes in an employee's relationships with others (McKnight, Cummings & Chervany, 1998), if

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the employee has an inappropriate sense of entitlement (Harvey, Harris, Gillis & Martinko, 2014; Martinko, Harvey, Brees & Mackey, 2013) and where there is little reciprocity of trust (Vanneste, Puranam & Kretschmer, 2014). Under such circumstances, workers can develop delusions about being under computer surveillance, particularly if they have a rudimentary understanding of workplace technologies (Mason et al., 2014).

Abusive supervision increases workers' paranoia (Chan & McAllister, 2014; Harms & Spain, 2015) but little is known about whether past experience of abusive supervision creates a psychological context in which workers evaluate their current supervisors from a paranoid lens. We argue that abusive supervision can also be cued by witnessing other people's experiences of an abusive supervisor and this activates paranoid schemata. Abusive supervision can include verbal or non-verbal hostility, derogatory comments, temper outbursts, intimidation, withholding information, humiliation, etc. (Keashly, 1998; Thoroughgood et al., 2012). Although abusive supervision is by no means the norm in occupational settings (Tepper, 2007), it is nevertheless detrimental when it does occur (Bies & Tripp, 1998) and we suggest that past experiences of abusive supervision continue to influence workers' future thinking by establishing a psychological context that increases information processing errors.

Following the work of Kramer (1999, 2001, 2002), Chan and McAllister (2014) developed a theory combining clinical and organizational perspectives to explain how abusive supervision increases workers' paranoia and other aversive emotional states (such as fear or anxiety). Chan and McAllister (2014) suggest that it is a bi-directional relationship, meaning that experiencing abusive supervision is associated with having more paranoia and being more paranoid is associated with more perceptions of abusive supervision. Thus, workers start to think that their



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supervisors are trying to harm or persecute them (e.g., getting them fired) as a psychological defense that protects workers by keeping them alert and wary about their supervisor's intentions. This surveillance thinking is the “*better to be safe than sorry*” rule (Gilbert et al., 2005) in paranoia. Consequently, the worker's heightened state of paranoia can increase perceptions of supervisory abuse where there are none. Drawing on these theories and the ABC model (Ellis, 1985) we will examine whether abusive supervision is associated with paranoia and surveillance thinking.

Although we cannot test a bi-directional relationship between abusive supervision and paranoia statistically, we acknowledge this point as a conundrum within cognitive models of paranoia (e.g., Combs et al., 2007, and the ABC model in figure 1). Paranoid schemata actively filter information from social contexts by focusing on threatening information, thus providing distorted and paranoid explanations for ambiguous social situations without evidence for them. Hence, it may well be that paranoia acts as a lens in the workplace (Chan & McAllister, 2014), leading to more perceptions of supervisory abuse and vice-versa. Ultimately, though, we argue that there are outcomes that are separate concepts from the bi-directional cycle e.g., workers making sinister attribution errors, intending to engage in workplace deviance and having lower wellbeing. In light of the ABC model (Ellis, 1985) we argue that the activating event (abusive supervision) is associated with paranoia as a psychological defense that in turn influences workers' cognitions. Based on the previous argument, we hypothesize that:

**Hypothesis 1:** Workers who experience abusive supervision show increased paranoid thoughts.

*Abusive supervision, paranoia and sinister attribution errors*

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According to cognitive models (e.g., Combs et al., 2007), paranoia is maintained by paranoid schemata that influence information processing in social contexts. They activate particular socio-cognitive processes that distort social information to confirm the core beliefs of persecution (Freeman, 2007). People with persecutory delusions tend to make decisions using less evidence (*i.e.* the “jumping to conclusions” bias, Freeman, 2007) and to manifest a different attributional style *i.e.* a “*personalizing*” bias in which they tend to blame others for negative outcomes as a way of protecting the self from low self-esteem and depreciative self-attributions (Bentall, Kinderman & Kaney, 1994). Another attributional process commonly associated with workplace paranoia is the sinister attribution error (Fenigstein & Vanable, 1992; Kramer, 1994). It is a worker’s tendency to interpret their supervisor’s behavior as abusive or malevolent even when it is innocuous because paranoia is associated with information processing errors created in context or from past experience, suggesting that past experiences of abusive supervision can activate paranoia and raise the risk of information processing errors that can eventually become part of a worker’s core belief system (Kramer, 1994). Such attributional styles are also associated with deviant behaviors such as aggression and with an hostile attributional style, which can perpetuate paranoia and also instigate further acts of abusive supervision (Martinko, Sikora & Harvey, 2012). Based on the previous argument, we hypothesize the following:

**Hypothesis 2:** Paranoia is associated with workers making sinister attribution errors – workers interpret their supervisor’s behaviors (even if innocuous) as abusive or malevolent.

*Abusive supervision, paranoia and poor wellbeing*

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Leadership styles that are abusive have a negative impact in organizations by raising staff turnover, lowering workers' performance and placing strain on the relationships between managers and subordinates (Hansen et al., 2015; Palanski et al., 2014; Tepper, 2007). Tepper (2007) suggested that a comprehensive model of undesirable managerial behaviors is needed and some empirical research also suggests that abused workers report greater role conflict, more job and life dissatisfaction, stronger intentions to quit their jobs and more psychological distress than their non-abused counterparts (Ashforth, 1997; Duffy et al., 2002; Keashly et al., 1994). Chan and McAllister (2014) argue that one of the strategies used by workers experiencing abusive supervision is to intend to display aggressive behaviors as retaliation against the supervisor (Brees et al., 2014). Aggression is a well-known coping response (Buss & Perry, 1992) but it can be harmful when connected to paranoia (Lopes, 2011) because paranoia induces antagonistic forms of anger such as shouting or arguing (Freeman, 2007) and paranoia can prevent a worker from accepting that a supervisor's action has an innocent explanation, thus straining the supervisor-employee relationship (Kramer, 2001; Chan & McAllister, 2014). The interactions thus become either insecure-avoidant or conflict-inducing (Lopes & Pinto-Gouveia, 2012).

Moreover, the worker's coping methods can increase the risk that the supervisor will react in a way that confirms the worker's paranoia (Chan & McAllister, 2014) and the worker allocates heavy cognitive resources to finding evidence of perceived threats (Chan & McAllister, 2014), jeopardizing his/her wellbeing (Bowling & Michel, 2011; Mathieu, Neumann, Hare & Babiak, 2014); potentially inducing burnout (Grandey, Kem & Frone, 2007); negative perceptions of organizational safety (Zohar, 2002); negative health behaviours (Bamberger & Bacharach, 2006); lower self-esteem (Burton & Hoobler, 2006); employee strain

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(Harvey, Stoner, Hochwarter, & Kacmar, 2007) and high blood pressure (Wager, Fieldman & Hussey, 2003).

However, some workers who experience abusive supervision do not necessarily manifest decreased wellbeing. Therefore, we argue that paranoia is the missing link between abusive supervision and workers' wellbeing because paranoia is associated with poorer mental health (e.g., Lopes, 2011). Hence, our study proposes to bridge the gap in evidence about why abusive supervision is associated with lower employee wellbeing. We hypothesize that:

**Hypothesis 3:** Abusive supervision and paranoia are associated with lower employee wellbeing.

#### *The moderating role of perceived organizational support*

Supervisors can increase the productivity and commitment of their workforce by upholding an ethical leadership style involving positive interactions and a supportive approach (Rhodes & Eisenberger, 2002; Yang, 2014). Employee intentions to quit relate to perceived organizational and supervisory support (Shoss, Eisenberger, Restubog & Zagenczyk, 2013) and job performance is highly correlated with workers' perceptions about how well their supervisor appreciates them (Rhodes & Eisenberger, 2002; Xu, Raymond & Ngo, 2016; Yang, 2014). Employees are thus more committed and perform better when they receive enough organizational and supervisor support.

We propose that abusive supervision has the worst consequences for employees when supervisor and organizational support are low. Organizational and supervisory support may therefore buffer against perceived abusive supervision because the relationship between abusive supervision and negative emotions is largely mediated by the psychological climate (e.g., hostile and unethical, Mawritz et al.,

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2012); the worker's personalities (Brees et al., 2014); worker's paranoid interpretations of the perceived abusive supervisor's behavior (Chan & McAllister, 2014) and the presence of perceived organizational support (Kernan, Racicot & Fisher, 2016; Mayer et al., 2012). Therefore, we postulate that organizational support weakens the positive relationship between abusive supervision on paranoia and hypothesize that:

**Hypothesis 4:** Perceived organizational support moderates the effect of abusive supervision on paranoia, such that high perceived organizational support weakens the positive relationship between abusive supervision and paranoia.

#### *Abusive supervision and workplace deviance*

Another notable negative consequence of abusive supervision is workplace deviance by employees suffering from abusive supervision (Detert et al., 2007; Mitchell & Ambrose, 2007; Thau, Bennett, Mitchell & Marrs, 2009). They start to engage in unethical and deviant behaviors violating the organization's norms and code of values as a form of retaliation (Demirtas & Akdogan, 2015; Mayer, Kuenzi & Greenbaum, 2010; Mitchell & Ambrose, 2007) due to lack of trust (Xu, Raymond & Ngo, 2016). Workplace deviance can include corporate fraud, theft, bullying and harassment, revenge, withholding effort on the job, drug or alcohol consumption at work, and violence (Bennett & Robinson, 2000, Mitchell & Ambrose, 2007). There are two types of deviance: organizational deviance involves acts such as stealing or withholding information from the organization, and interpersonal deviance e.g., harassing or verbally abusing supervisors or other workers (Alexander, Rutherford & Boles, 2011; Mitchell & Ambrose, 2007). Such behavior is often directed towards supervisors rather than other workers (Alexander, Rutherford & Boles, 2011; Mitchell

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& Ambrose, 2007).

Mawritz, Mayer, Hoobler, Wayne and Marinova (2012) argue that how employees react to abusive supervision depends on social context. They found that interpersonal workplace deviance increases as abusive supervision increases, and this relationship is moderated by an hostile social context. Michel, Newness and Duniewicz (2015) likewise found that a context of aggressive organizational norms increases the effects of abusive supervision on workplace deviance. In short, the climate presented by an organization seems to be an important determinant of workers' behavioral responses to abusive supervisors (Mayer, Kuenzi & Greenbaum, 2010; Taylor & Marshall, 2014). This can explain why some workers become deviant after experiencing abusive supervision while others do not.

Building on the ABC model and paranoia literature (e.g., Gilbert, 2001; Lopes, 2011), we argue that workers suffering from abusive supervision develop paranoia and this comes with rumination about possible ways of retaliating, promoting a desire for revenge and explaining intentions of workplace deviance. We therefore expect to find a connection between paranoia about a supervisor and intentions of workplace deviance in a context of aggressive cues from the supervisor and when the supervisor is behaving aggressively and in a context where the organization is unsupportive. This follows research by Mawritz et al. (2012) who found that the positive relationship between abusive supervision and interpersonal deviance is moderated by the presence of an hostile context.

We also propose that workers who witness other workers experiencing abusive supervision also become prone to sinister attribution errors and workplace deviance (Zoghbi-Manrique-de-Lara & Suarez-Acosta, 2014). We suggest that witnessing other workers' experiences of abusive supervision cues workers to think about their past

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experiences of abusive supervision, which will then be associated with an increase of paranoia, sinister attribution errors and of intentions of workplace deviance as retaliation. We hypothesize that:

**Hypothesis 5:** Witnessing abusive supervision experienced by others will lead to increased levels of paranoia, sinister attribution bias, and intentions of workplace deviance in workplace situations involving a supervisor.

## Study 1

### Method

#### *Participants*

The sample consisted of 90 current employees from 42 varied occupations in Suffolk and Leicestershire in the United Kingdom recruited through advertisements in their companies. Participants were 64 females with a mean age of 24 years ( $SD=10.33$ ), and 26 males with a mean age of 26 years ( $SD=9.36$ ). The overall age range of participants was 18-54 years. 8% of participants involved in the study reported having a mental health diagnosis of general anxiety disorder but none had psychosis or delusional disorders. There were no significant differences between these participants and those not reporting a mental health diagnosis. No incentives were given. To prevent possible social desirability effects participants' responses were treated with confidentiality and anonymity was maintained by assigning a participant code to the questionnaires. We did not request that participants record their names on questionnaires, and when seeking consent participants were informed that the study included questions about negative workplace experiences.

#### *Measures*

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For a detailed description of the measures and of their psychometric properties please see Table 1 of Appendix 1.

**Abusive supervision.** Abusive supervision was measured using the 15-item Abusive Supervision Scale (ASS; Tepper, 2000).

**Perceived organizational and supervisory support.** This was measured using the adapted 36-item Perceived Organizational and Supervisory Support Scale (POS) (Eisenberger et al., 2002).

**Paranoid cognitions or beliefs.** These were measured using an adapted multidimensional Paranoia Checklist Scale (PC) rephrased to ask participants about their paranoid thoughts concerning their supervisor(s) (Freeman, Garety, Bebbington, Smith, Rollinson & Fowler, 2005).

**Psychological wellbeing.** Wellbeing was measured using Ryff's (1995) 42-item Wellbeing Scale. In this study, we report only the means of positive relations, purpose of life, self-acceptance and personal growth because of literature about their connection with paranoid thinking (Freeman, 2007).

**Sinister attribution errors.** We adapted the Ambiguous Intentions Hostility Questionnaire (AIHQ) (Combs, Penn, Wicher & Waldheter, 2007) to measure the sinister attribution errors that participants made when appraising and providing explanations for ambiguous workplace situations involving a supervisor.

| Insert table 1 around here |

## **Results**

### *Normal distribution checks*

Table 2 below summarizes the descriptive statistics and correlations for study 1. A Kolmogorov-Smirnov test (K-S) was performed to test the normality of the distributions. Variables with skewed/kurtotic distributions were converted to a normal



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distribution through square root transformations and this achieved normal distributions for all affected variables except for paranoia frequency, hostility bias and aggressive behavior.

### *Correlations*

As expected, there were significant positive correlations between abusive supervision and all dimensions of paranoia. As expected, perceived organizational and supervisory support was negatively related to abusive supervision. All the dimensions of the sinister attribution error were strongly and positively related to the frequency of workers' paranoid thoughts about their supervisor. This suggested that the more frequently workers have paranoid thoughts about their supervisor, the more attributional biases they show in blaming innocent actions by their supervisor as intentionally hostile and malevolent. The correlations also show that the more frequently workers have paranoid thoughts about their supervisor, the more angry they feel and the more they intend to be outwardly aggressive. Sinister attribution errors also correlated strongly with abusive supervision (see table 2).

| Insert table 2 around here |

### *Prevalence of paranoid thoughts*

Echoing Freeman et al.'s (2005) findings in a general non-clinical population, we found that paranoid thoughts (ranging from more common perceptions of threat to conspiracy ideas and thoughts of control) are quite common in employees. Since this is a non-clinical population, in study 1, out of 90 participants 9% reported that once a week "I need to be on my guard against my supervisor" ( $M=1.90$ ,  $SD=1.30$ ); 3% reported that once a week "There is a possibility of a conspiracy against me at work

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*led by my supervisors”* ( $M=1.17$ ,  $SD=.64$ ); and 6% reported that once a week *“My actions and thoughts might be controlled by my supervisor at work”* ( $M=1.40$ ,  $SD=.72$ ). In study 2, the prevalence of delusions of control and conspiracy was higher than in study 1 and almost as common as the more trivial thoughts of potential threat from others. Out of the 100 participants 20% of participants reported that at least once a week *“I need to be on my guard against my supervisor”* ( $M=1.83$ ,  $SD= 1.02$ ); 25% reported that once a week *“I have a suspicion that my supervisor has it in for me”* ( $M=2.61$ ,  $SD=1.25$ ); 28% reported that once a week *“There is a possibility of a conspiracy against me at work led by my supervisors”* ( $M=2.85$ ,  $SD=1.28$ ); and 34% reported that once a week *“My actions and thoughts might be controlled by my supervisor at work”* ( $M=3.27$ ,  $SD=1.57$ ). These results extend those of Freeman (2007) showing that 5-6% of the general non-clinical population report delusions of persecution of mild severity by showing that, among workers thinking about their supervisors, some paranoia symptoms are actually more prevalent and occur as frequently as once a week.

### *Model testing*

Structural equation modeling tested hypotheses 1-3. The results showed that abusive supervision is associated with an increase in paranoia,  $\beta=2.08$ ,  $p<.001$ ; organizational and supervisory support is associated with a mild increase in paranoia,  $\beta=0.35$ ,  $p=.028$ , the interaction of abusive supervision and organizational and supervisory support is associated with a decrease in paranoia,  $\beta=-1.51$ ,  $p=.04$ . Paranoia is associated with an increase of sinister attributions,  $\beta=0.52$ ,  $p<.001$  that then is associated with a decrease in wellbeing,  $\beta=-0.41$ ,  $p<.001$ . There is good model fit, CFI=.99, RMSEA=.076 (just above the threshold of .06), *Chi-squared* ( $df=7$ ) =

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11.05,  $p=.14$ . Results showed that abusive supervision is associated with an increase of employees' levels of paranoia, which in turn is associated with an increase in sinister attribution errors and a decrease in wellbeing. Organizational and supervisory support interacts with abusive supervision and this is associated with a decrease in employees' levels of paranoia.

| Insert figure 2 around about here |

The fourth hypothesis that high organizational and supervisory support weakens the positive relationship between abusive supervision and workers' levels of paranoia was supported by moderation analysis. In the first hierarchical regression model, abusive supervision and organizational and supervisory support significantly predicted the variance in paranoid cognitions,  $F(2, 87) = 17.79, 9.28, p < .001, R^2 = 0.29$ . In the second hierarchical regression model, the interaction of abusive supervision and organizational and supervisory support significantly predicted the variance in paranoid cognitions with a larger  $R^2$  than the first model,  $F(3, 86) = 15.47, 7.47, p < .001, R^2 = 0.35$ , and the  $R^2$  change (0.06) was significant,  $p = .006$ . Figure 3 illustrates the moderation effect that used median splits of abusive supervision and organizational and supervisory support. This showed that organizational and supervisory support interact with abusive supervision to predict the variance in paranoid thinking. High abusive supervision is associated with an increase in workers' paranoia if they have low organizational and supervisory support. If organizational and supervisory support are high, high abusive supervision is associated with a decrease in paranoid cognitions.

| Insert figure 3 around about here |

## Study 2

### Method

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### *Participants*

100 employees from a variety of occupational contexts in Suffolk and Leicestershire in the United Kingdom were recruited through advertising in their companies. Participants were informed that they would view videos of interactions between managers and employees and that they would be asked to evaluate these interactions for the purpose of managerial training. The sample included 41 males and 58 females. Comparable to study 1, 10% of participants reported a diagnosis of general anxiety disorder but none had a psychotic or delusional disorder. There were no differences between the individuals that reported a mental health problem and those who did not. The mean age of participants was 22.51 years ( $SD = 6.92$ ), and the age range was 18–51.

### *Baseline measures:*

At the start of the experiment participants completed some baseline measures. For a detailed description of the measures and of their psychometric properties please see Table 1 of Appendix 1.

**Abusive supervision.** Participants completed the Abusive Supervision Scale (ASS) to measure their experiences and perceptions of abusive supervision (Tepper, 2000).

**Mood.** This was measured with the Positive and Negative Affect Scales (PANAS) (Watson, Clark & Tellegan, 1988).

### *Post-manipulation measures:*

After the experimental manipulation, participants were asked to complete measures while keeping the situations depicted in the videos in their minds and as if they were experiencing them as employees.

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**Sinister attributions errors.** We devised a short questionnaire called the Attributions Questionnaire for Supervisory-Related Behaviors (AQSRB), to measure the presence of cognitive biases when participants were attributing causes for situations involving the supervisor depicted in the videos.

**Paranoid cognitions.** These were measured by combining the trait dimension of the frequency of paranoid thoughts of the Paranoia Checklist (PC) with a measure of state/contextual paranoia using an adapted version of the State Social Paranoia Scale (SSPS) (Freeman, Pugh, Green, Valmaggia, Dunn & Garety, 2007).

Participants were asked to indicate the likelihood and frequency of intending to engage in the following behaviors while imagining facing the supervisor depicted in the video:

**Submissive behaviors.** These were measured using a version of the Submissive Behavior scale (SBS) (Allan & Gilbert, 1997) adapted by rephrasing items to measure the workers' intentions to engage in submissive behaviors towards the supervisor in the video.

**Aggressive behaviors.** We adapted the Buss and Perry Aggression Questionnaire (AQ) (Buss & Perry, 1992) to measure the workers' intentions to engage in aggressive behaviors towards the supervisor in the video.

**Workplace deviance.** The Workplace Deviance Scale (WD) (Bennett & Robinson, 2000) measured the workers' intentions to engage in a range of deviant behaviors after viewing the video depicting abusive supervision.

### *Experimental Procedure*

Participants first completed the baseline measures (the Abusive Supervision Scale and the Positive and Negative Affect Scales) and then were randomly assigned

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to either the negative experimental condition (a 7:30 minutes video of a supervisor shouting at the employee) or to the positive experimental condition (a 7:30 minutes video of a supervisor behaving in a friendly and understanding manner towards the employee). Both videos depicted the same actors playing the roles of a supervisor and an employee. Participants were told as a cover story that the study asked them to view a “real” work scenario and that they had to discuss the behavior of the supervisor towards the employee for the purpose of managerial training. Just before the video started, participants were asked to imagine the situation in the video as if they were experiencing it themselves and as if the supervisor was their own supervisor. After having viewed the video, participants were given the post-manipulation measures (see above) and were then fully debriefed and thanked for their participation.

## **Results**

Table 3 below summarizes the descriptive statistics for study 2.

### *Manipulation Checks*

As expected, results in table 3 showed that the abusive supervision video led workers to make more sinister attribution errors (e.g., a higher personalizing bias) than the positive video condition. Similarly, as expected, the abusive supervision video led to a decrease in workers’ positive affect coupled with an increase in negative affect between times 1 (baseline) and 2 (post-manipulation). Conversely, the positive video condition produced an increase in positive affect coupled with a decrease in negative affect between times 1 (baseline) and 2 (post-manipulation). These results suggested that the experimental manipulation was effective; the two videos induced context-matching affect and attributions.

| Insert table 3 around here |

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### *Correlations*

Supporting previous research with clinical populations (see Lopes, 2011), paranoid cognitions correlated with both intentions of submission and with intentions of aggression towards the supervisor in the video. The frequency of paranoia about a supervisor was positively related to intentions of hostility  $r=.55$ ,  $p=.000$  and moderately related to intentions of anger  $r=.34$ ,  $p=.000$ , intentions of verbal aggression  $r=.23$ ,  $p=0.20$ , and to intentions of physical aggression  $r=.25$ ,  $p=.012$  towards the supervisor. This confirms previous evidence of a relationship between paranoia and aggression (Lopes, 2011). The same pattern was observed for state paranoia about the supervisor ( $r=.56$ ,  $p=.000$  with intentions of hostility;  $r=.40$ ,  $p=.000$  with intentions of anger and  $r=.31$ ,  $p=.002$  with intentions of verbal aggression and  $r=.33$ ,  $p=.001$  with intentions of physical aggression towards the supervisor, respectively). Frequency of paranoia about a supervisor and current paranoid thoughts about a supervisor were also both moderately and positively correlated with intentions of submissive behaviors towards the supervisor ( $r=.40$ ,  $p=.000$  and  $r=.43$ ,  $p=.000$ , respectively) thus supporting previous work that suggests that paranoia is correlated with both submission and aggression (Gilbert et al., 2005).

Consistent with a recent study by Michel et al. (2015) suggesting an association between workplace negative emotions such as anger and workplace deviance and abusive supervision, the results showed that the intention to engage in workplace deviance is highly and positively correlated with perceived abusive supervision ( $r=.49$ ,  $p=.000$ ) and with intentions of aggressive affect and behavior ( $r=.49$ ,  $p=.000$  with intention of hostility;  $r=.50$ ,  $p=.000$  with intention of anger;  $r=.45$ ,  $p=.000$  with intention of verbal aggression and  $r=.51$ ,  $p=.000$  with intention of

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physical aggression). Moreover as expected, the intention to engage in workplace deviance was also positively and significantly associated with paranoid cognitions ( $r=.39$ ,  $p=.000$  with the frequency of paranoid thoughts about the supervisor and  $r=.41$ ,  $p=.000$  with state social paranoid thoughts about the supervisor, respectively). There was a weak but statistically significant positive correlation between the intention to engage in workplace deviance and intentionality ( $r=.20$ ,  $p=.049$ ).

A MANCOVA was then conducted to test hypothesis 5 exploring whether there were main effects of the video conditions and abusive supervision on the following dependent variables: the socio-cognitive biases of intentionality, anger, self-blame, other-blame and the personalizing bias; the intention of submissive behavior score; the dimensions of the Aggression Questionnaire (i.e. intentions of physical aggression, verbal aggression, hostility and anger), the state social paranoia score as a measure of a worker's current paranoia about a supervisor, frequency of paranoia about a supervisor and intentions of engaging in workplace deviance. The experimental manipulation (the video condition) was inserted in the model as a between-subjects factor and abusive supervision at baseline as a covariate. The model was statistically significant  $F(1,98)=46.49$ ,  $p=.000$ . There was a significant effect of the video conditions (controlling for abusive supervision at baseline) on the socio-cognitive biases measured by the Attributions Questionnaire for Supervisory-Related Behaviors: ( $F(1,98)=138.75$ ,  $p=.000$ ,  $d=2.37$  for anger); ( $F(1,98)=70.36$ ,  $p=.000$ ,  $d=1.69$  for intentionality); ( $F(1,98)=105.43$ ,  $p=.000$ ,  $d=2.07$  for other-blame) and ( $F(1,98)=15.09$ ,  $p=.000$ ,  $d=.8$  for self-blame) and ( $F(1,98)=20.52$ ,  $p=.000$ ,  $d=.9$  for the personalizing bias, respectively).

Planned contrasts showed that, compared to workers who saw the positive supervision video, workers who viewed the abusive supervision video condition



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interpreted the supervisor's behavior in the video as more intentional ( $M=3.96$ ,  $SD=.90$ ) ( $p=.000$ , 95% *CI*) [1.33 , 2.15]; they were angrier ( $M=3.90$ ,  $SD=.93$ ) ( $p=.000$ , 95% *CI*) [1.85, 2.60] and were more likely to blame the supervisor for the negative outcomes ( $M=3.86$ ,  $SD=.85$ ) ( $p=.000$ , 95% *CI*) [1.49, 2.21] than the workers who viewed the positive supervision video ( $M=2.22$ ,  $SD=1.15$ ;  $M=1.68$ ,  $SD=.94$  and  $M=2.01$ ,  $SD=.94$ , respectively). As expected, workers who viewed the abusive supervision video showed a stronger personalizing bias ( $M=1.32$ ,  $SD=1.28$ ) ( $p=.000$ , 95% *CI*) [.95, 1.69] than workers who viewed the positive supervision video ( $M=.27$ ,  $SD=1.03$ ) ( $p=.000$ , 95% *CI*) [-.03, .56]. There were no other statistically significant main effects of the video conditions on the other variables.

Abusive supervision had a statistically significant main effect as a covariate on paranoid cognitions, intentions to engage on workplace deviance, verbal aggression and hostility. This meant that workers' past experiences of abusive supervision were significantly related to their intentions to engage in workplace deviance ( $F(1,98)=29.43$ ,  $p=.000$ ); verbal aggressiveness, anger and hostility ( $F(1,98)=8.20$ ,  $p=.005$ ;  $F(1,98)=11.16$ ,  $p=.001$  and  $F(1,97)=17.28$ ,  $p=.000$ , respectively), and to paranoia: both their current paranoia about a supervisor ( $F(1,98)=17.22$ ,  $p=.000$ ) and the frequency of their paranoia about a supervisor ( $F(1,98)=21.31$ ,  $p=.000$ , respectively). These results support hypothesis 5 suggesting that witnessing abusive supervision experienced by others is associated with an increase of workers' paranoia, and their intentions to engage in workplace deviance, hostility and aggression.

### *Model testing*

A new structural equation model was conducted to test further support for hypothesis 5. In this model the experimental condition was 'dummy-coded' (1,0

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where viewing the abusive supervision video =1 and viewing the positive supervision video = 0) and inserted in the model as a independent variable predicting the variance in paranoia and sinister attribution errors. Workers' past experiences of abusive supervision were inserted as a predictor of the variance in paranoia. Workers' past experiences of abusive supervision predicted significantly the variance in paranoia,  $\beta=0.39$ ,  $p<.001$ , paranoia also predicted significantly the variance in sinister attribution errors,  $\beta=0.24$ ,  $p=.001$ , and viewing the abusive supervision video led workers to make more sinister attribution errors than viewing the positive supervision video,  $\beta=0.65$ ,  $p<.001$ . There was no significant effect of the type of video a worker viewed on paranoia,  $\beta=-0.02$ ,  $p>.05$ . The model fit was good, with CFI=0.99, RMSEA=0.04, and *Chi-squared* ( $df=4$ ) = 5.01,  $p=.29$ . These results support hypothesis 5 and extend previous hypotheses by showing that workers' past experiences of abusive supervision are associated with current paranoid responses.

| Insert figure 4 about here |

## **General Discussion**

In this research, we set out to test the ABC Model (Ellis, 1985) and features of Chan and McAllister's (2014) model of abusive supervision in two empirical studies exploring how abusive supervision is connected with workers' paranoia, including paranoid responses, attribution biases and intentions to engage in workplace deviance. The first study examined the relationships among abusive supervision, paranoia, sinister attribution errors and wellbeing, and the second study was an experiment testing whether workers' past experiences of abusive supervision contribute to current paranoia, intentions of workplace deviance and sinister attribution errors in response to viewing current abusive supervision among other workers.

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The results of study 1 are consistent with previous research on leadership ethics by demonstrating the negative psychological effects of abusive supervision on workers' mental health and wellbeing (Yang, 2014). More specifically, the study showed that workers' experiences of abusive supervision are associated with higher levels of paranoia and sinister attribution errors, which in turn are associated with decreased psychological wellbeing. Study 2 found that paranoia and attributional biases are connected (i.e. sinister attribution errors and personalizing bias). These "paranoid" attributional biases are then accentuated by workers' witnessing other workers being abused by a supervisor and this is believed to prompt workers' own past experiences of abusive supervision as activating events that trigger workers' paranoid responses to current experiences of abusive supervision.

This suggests that the more severe workers' past experience of abusive supervision the worse their paranoia about a current (different) supervisor e.g., workers are more likely to think that the supervisor is laughing at them, circulating negative comments about them to other people, saying negative things about them behind their back, plotting against them and leading a conspiracy against them. Past experiences of abusive supervision also shape the extent to which workers interpret current supervisor's behavior from the lens of paranoia, such that they are more likely to make a type of attributional bias called sinister attribution errors (e.g., thinking that if they overhear the supervisors laughing they are laughing at them).

Past experiences of abusive supervision that are thought to be cued by having workers witnessing other workers experiencing abusive supervision are also associated with workers' stronger intentions of engaging in workplace deviance and aggression. Our study extends previous work (Shoss et al., 2013; Wang et al., 2011) by clearly demonstrating the important role of paranoia in this process. As Chan and

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McAllister (2014) have argued, and as we found, experiencing abusive supervision is associated with paranoia, which in turn can activate distorted cognitive processes among workers such as the sinister attribution error (Kramer, 1999). The present research also provides empirical support for an approach to understanding abusive supervision that combines organizational and clinical perspectives such as the ABC model; using this model we demonstrate how workers' past experiences of abusive supervision are associated with paranoia, attributional biases and negative outcomes such as lower wellbeing and intentions to engage in workplace deviance and aggression.

We also extend previous evidence that paranoia can undermine psychological wellbeing (Freeman, 2007) by showing the buffering role of organizational support. In other words, organizations can mitigate the harmful link between abusive supervision and paranoia by being supportive and taking action against abusive supervisors, supporting previous research about the importance of organizational support (Shoss et al., 2013; Eisenberger & Stinglhamber, 2011; Rhoades & Eisenberger, 2002; Xu, Raymond & Ngo, 2016; Yang, 2014). We also support evidence that organizational support works at tandem with supervisory support because perceived devaluation from a supervisor decreases perceived organizational support and decreases self-esteem (Ferris et al., 2009; Restubog, Bordia & Tang, 2007; Yang, 2014). We advance previous research findings (e.g., Shoss et al., 2013; Xu, Raymond & Ngo, 2016; Yang, 2014) by showing that contextual factors such as perceived organizational and supervisor support perform a protective function against workers' paranoia. In addition, these findings support wider evidence that social support serves an important psychological function of alleviating psychological distress (e.g., Jaspal, 2015). We suggest that organizational support protects workers

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against paranoia by facilitating “rational” interpretations when a supervisor’s behavior is ambiguous by helping workers believe that there is organizational justice to prevent the abusive supervisor from continuing to be abusive.

We extend previous abusive supervision research (e.g., Chan & McAllister, 2014; Palinski et al., 2015; Shoss et al., 2013; Zoghbi-Manrique-de-Lara & Suarez- Acosta, 2014) by showing in study 2 that workers can exhibit attributional biases when interpreting the behavior of an abusive supervisor even if the subject is another worker, and by showing that the workers’ past experiences of abusive supervision shape the lens through which they interpret abusive supervision experienced by other workers. This study further shows the strong link between the experience (or indeed witnessing) of abusive supervision and paranoia, supporting our application of the ABC model in suggesting that abusive supervision is an activating event of paranoia (Ellis, 1985). Our experiment showed that past and current experiences of abusive supervision contribute to workers’ intentions to engage in deviant behaviors, extending previous research (Shoss et al., 2013). Abusive supervision is associated with workers’ intentions to engage in deviant behaviors such as verbal aggression and hostility, which is consistent with previous research (Bowling & Mitchel, 2011; Mitchell & Ambrose, 2007; Tepper et al., 2009) that suggests that negative emotions in the workplace (e.g., anger) are related to workplace deviance such as stealing, sabotaging organizational goals, and so on (Mayer, Kuezin & Greenbaum, 2010; Michel et al., 2015). Our research builds on these previous findings by demonstrating that the intention to engage in workplace deviance is connected with both abusive supervision and paranoia, thus suggesting that workplace deviance may be a direct response to the perceived malevolence of the supervisor (that is, as a way of getting back at him/her) through the lens of paranoid thinking.

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### *Limitations*

One major limitation with the first study is that it is cross-sectional and the sample is relatively small and this may not represent the overall population of workers in the UK. Nevertheless, the prevalence of paranoia echoes other research e.g., Lopes et al. (2018), who assessed levels of paranoia in over 4,000 UK workers, and the sample represented the ethnic and occupational diversity of the UK workforce to an extent by including Leicestershire, a demographically diverse region of the UK. Future research should aim to increase statistical power by replicating these studies in larger samples.

Second, there may have been an under-reporting of paranoia by workers taking part in study 1, compared to study 2, perhaps due to social desirability concerns therefore future research should explore whether experimental methods that use scenarios can help overcome workers' concerns about social desirability. Third, although study 2 does allow us to confirm to some degree the causal effect of abusive supervision on paranoia, study 1 was cross-sectional and therefore it shows patterns of association. As a solution we encourage future abusive supervision research to employ a longitudinal experiment design that asks workers to complete weekly diaries.

### *Implications for Theory*

Our work advances current organizational theories about abusive supervision and workers' paranoia (see Kramer, 1998; Chan & McAllister, 2014) by showing that clinical methods of measuring paranoia should be used in organizational research. This is important because clinical perspectives emphasize the need to measure symptoms of paranoia in terms of their content, severity and frequency (e.g., weekly). We have shown with the help of clinical scales that paranoid thoughts characterized

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by delusions of a conspiracy and thoughts about being controlled by external forces are prevalent among a non-clinical population of workers, supporting a recent large study (Lopes et al., 2018). Our research shows that many workers frequently mistrust their managers (Kramer, 1998) and also think that their managers are actively plotting against them, laughing at them, or even that their managers are able to control their thoughts. This research also advances organizational theories about abusive supervision by showing that paranoia explains why some workers make sinister attribution errors and engage in intentions of workplace deviance; and that workers carry past experiences of abusive supervision into “paranoid” attributions about current supervisors. Our research shows by using a clinical perspective, the ABC model, that past experiences of abusive supervision are activating events of paranoia and other cognitions, thus advancing previous work done by Chan and McAllister (2014). It is also possible that there is a vicious circle in which abusive supervision activates paranoia that increases perceptions of abusive supervision, and this further increases paranoia, and so on.

### *Implications for Practice*

This research highlights the importance of workplaces adopting an ethical code of conduct (Demirtas & Akdogan, 2015; Hansen et al., 2015; Wu et al., 2014) to prevent supervisors from engaging in abusive supervision in the first place, and to have a disciplinary process for abusive supervisors. In cases where workers’ perceptions about abusive supervision are unfounded and compounded by paranoia, managers should be trained to deal with employees’ possible paranoia (Pucic, 2015) and they could role model positive behaviors by drawing from developmental theories about parenting behavior (Best, 2011). This is, of course, assuming that workers’

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paranoia is unfounded because if it *is* founded then the priority must be to eliminate the abusive supervision and to support workers by providing them with alternative supervisory support, as well as good levels of organizational support. Where workers are affected by experiences of past abusive supervision we recommend that mentors and managers help them develop more positive thoughts about supervisors “by example” – that is, by role-modeling what positive supervision looks like because that will reduce the risk of paranoia and attributional biases. In cases where a worker has suffered extremely from abusive supervision in the past, cognitive behavioral techniques can help them to develop more effective coping strategies in their future working life, thus helping them manage paranoid thoughts by ameliorating their distress and by replacing a paranoid pattern of thinking with a more “rational” pattern of thinking.

### *Future Directions*

Building on the longitudinal experimental design that we suggested earlier as a method of future research to test the causal effects of abusive supervision on paranoia, attributional biases and workplace deviance, the longitudinal design in future research will help clarify whether there is a bidirectional relationship between abusive supervision and paranoia. Future research should explore whether workers who are already paranoid are more likely to perceive their supervisor as abusive. Future research should also explore, in more detail, how positive images of supervision ameliorate the effects of abusive supervision because we found that these images increased workers’ positive emotions and reduced the risk of sinister attribution errors. Future research should clarify, for example, whether workers reporting to two or more managers benefit psychologically if one of the managers is non-abusive. Finally,



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future research should explore whether workers respond differently to high levels of organizational support, depending on their beliefs about the psychological contract, perceived organizational justice, blame and cynicism. Future research should explore whether, for some workers, the dissonance between high organizational support and an abusive supervisor actually makes them more likely to make sinister attribution errors and engage in workplace deviance because it makes them feel more strongly that their psychological contract has been breached. Future research should also explore whether perceived organizational justice explains how different workers react to abusive supervision even when organizational support is high. An organization might be generally supportive to a worker in many ways but it might not deal with an abusive supervisor in a way that makes the worker feel that justice has been done therefore, if blame for not dealing with an abusive supervisor is leveled against the organization as a whole this is likely to predict counterproductive behavior (Mayer, Kuezin & Greenbaum, 2010; Shoss et al., 2013).

### *Conclusions*

Abusive supervision activates paranoid symptoms among workers. Paranoia is, in turn, associated with workers evaluating their supervisor from a paranoid lens, yielding attributional biases (sinister attribution errors) in which workers interpret their supervisor's actions as hostile or malevolent. Workers' past experiences of abusive supervision shape this paranoid lens. The more workers have experienced abusive supervision in the past the more likely they are to show paranoia, make sinister attribution errors about a current supervisor, and the more they intend to retaliate to abusive supervision with anger, hostility and deviant behavior such as withholding job effort or sabotaging organizational goals. High levels of

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organizational and supervisor support moderate the association between abusive supervision with paranoia, and this is associated with an improvement in workers' wellbeing. When workers have past experiences of abusive supervision, positive supervision also reduces current levels of paranoia. This research shows the benefits of marrying organizational and clinical theories, and highlights the usefulness of clinical methods of measuring paranoia in abusive supervision research. This research also demonstrates the usefulness of positive, supportive leadership and organizational support, in helping workers cope with abusive supervision.

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**Table 1: Detailed description of the measures used in Study 1 and Study 2**

Study 1		
Measures	Acronym	Description and Psychometric Properties
Abusive Supervision Scale (Tepper, 2000)	ASS	15-item scale that measures perceptions and experiences of abusive supervision. The scale includes items such as "My supervisor puts me down in front of others". Participants indicated their agreement on a scale from 0 to 6, and a higher score indicated greater perceived abusive supervision. Internal consistency was high: $\alpha=.94$ .
Perceived Organizational and Supervisory Support (Eisenberger et al., 2002)	POS	36- item scale that was adapted to measure perceptions of both organizational and supervisory support. The scale included items such as "My supervisor would ignore any complaint from me". Participants indicated their agreement on a scale from 0 to 6, and a higher score indicated greater perceived organizational and supervisory support. Internal consistency was acceptable: $\alpha=.74$ .
Paranoia Checklist (Freeman et al., 2005)	PC	34-item multi-dimensional scale that is used to measure the frequency, conviction and distress of paranoid thoughts. The scale was adapted by rephrasing the items to relate to a workplace environment involving a supervisor. Items of these scales are both clinical e.g. delusional thoughts "I can detect coded messages about me from my supervisor" and non-clinical e.g. thoughts of suspicion "I have a suspicion that my supervisor has something in for me". Participants indicated frequency and conviction of these thoughts on a scale from 0 to 5, and ranked the thoughts in order of distress from 0 to 4. Higher scores indicated higher frequency, conviction and distress, respectively. The internal reliability for the frequency, conviction and distress sub-scales were excellent, $\alpha=.92$ , $\alpha=.98$ , and $\alpha=.98$ respectively.
Ryff's Wellbeing Scale (Ryff, 1995)	WB	42-item scale that measures six dimensions of wellbeing, namely autonomy, environmental mastery, purpose in life, self-acceptance, positive relations and personal growth. Examples of the scale include "I tend to worry about what other people think of me" (autonomy) and "When I look at the story of my life, I am pleased with how things have turned out" (self-acceptance). Internal consistency was acceptable, $\alpha=.69$ .
Ambiguous Intentions Hostility Questionnaire (Combs, Penn, Wicher & Waldheter, 2007)	AIHQ	The AIHQ is a questionnaire that taps into the socio-cognitive biases of paranoia by looking at the attributions people make of ambiguous social scenarios. The adapted scale is composed of 15 ambiguous workplace scenarios involving a supervisor. Participants are asked to think of their supervisors when reading the scenarios. For each scenario there were three 5-point Likert response questions that tapped into the attributions of blame (BB), intentionality (IB), as well as anger (AB) and two open ended questions that tapped into hostility (HB) attributed to participants responses in a 5 point Likert scale ranging from 1= not at all hostile (accidental) to 5=very hostile (with purpose) and aggressive behaviour (ABB) attributed to participants responses in a Likert response score ranging from 1 =not at all aggressive, for answers such as the participant stating they would do nothing, to 5 =very aggressive, which includes a response of the participant stating physical retaliation. An example of an ambiguous workplace scenario is "You've been looking for a promotion, when you see an opportunity arise you tell your supervisor you are thinking of applying. At the interview you see that he/she forgot to pass your work reference onto the managing director". The higher the mean scores of blame biases, intentionality and hostility biases for all 15 scenarios the more sinister attributions are made to explain the supervisor's behaviors in the situations. In the current study, the amended AIHQ shows high internal consistency, with Cronbach alpha coefficients reported for the IB of .91, AB .92, BB .93, HB .89. Moreover, similarly to the original AIHQ (Combs et al., 2007), the blame, anger and intentionality biases were highly inter-correlated ( $r=.95$ , $p<.001$ for the blame bias and anger bias and $r=.89$ , $p<.001$ for the blame bias and intentionality bias and $r=.79$ , $p<.001$ for the intentionality bias and anger bias, respectively).
Study 2		
Measures	Acronym	Description and Psychometric properties
Positive and Negative Affect Scales (Watson, Clarke and Tellegan, 1988)	PANAS	A 20 item-scale that is used to measure positive and negative affect in the present moment. This scale consists of a number of words that describe different feelings and emotions, such as "interested" and "alert". Participants indicate the extent to which they were experiencing each of the feelings and emotions on a scale from 1 to 5. A composite score of positive affect is calculated by adding up the scores on the positive and negative adjectives. Internal reliability was good, $\alpha=.88$ for the Positive Affect sub-scale and $\alpha=.87$ for the Negative Affect sub-scale.
Attributions Questionnaire for Supervisory Related Behaviors	AQSRB	4-item short questionnaire devised by the authors to measure socio-cognitive biases that participants show when appraising and attributing causes for (1) a positive interaction between a supervisor and an employee and (2) a negative interaction between the same supervisor and employee with the supervisor being abusive towards the employee. Participants were asked to respond to the questions while imagining themselves in the position of the employee and the supervisor being their supervisor in the video. The scale tapped into (1) anger, (2) self-blame, (3) other-blame and (4) intentionality on the part of the supervisor. Participants indicated the extent to which they would engage in each of these emotions and attributions. The other-blame score was subtracted from the self-blame score to yield a personalizing bias score measuring a tendency to blame other people for negative outcomes rather than chance or the circumstances (Bentall, Kinderman and Kaney, 1994). Positive mean scores indicate a tendency to personalize the events and to attribute the blame to the supervisor instead of to oneself or the situation. Negative mean scores represent a tendency to internalize the events and attribute the blame to oneself. The scale had good internal reliability, $\alpha=.85$ . Validity was established by looking at the correlations between the personalizing bias score and the blame bias of the Ambiguous Intentions Hostility Questionnaire: $r=.75$ , $p<.001$ and the intentionality biases of both questionnaires $r=.90$ , $p<.001$ .
State Social Paranoia Scale (Freeman, Pugh, Green, Valmaggia, Dunn & Garety, 2007).	SSPS	20-item scale that is used to measure state and contextual paranoid thoughts during the experimental conditions. This scale was adapted to measure state persecutory thoughts towards the supervisor after viewing the videos of an abusive or a supportive supervisor. The scale included items such as "My supervisor is trying to make me upset". Participants indicated agreement on a scale from 1 to 5, and a higher score indicated higher levels of state social paranoia. The adapted scale manifested good internal reliability, $\alpha=.82$ .
Submissive Behavior Scale (Allen & Gilbert, 1997)	SBS	16-item scale that was adapted to measure intentions to engage in submissive behaviors towards the supervisor depicted in the video.. The scale included items such as 'I will tell my supervisor that I am wrong even though I know I'm not.' Participants rated the frequency of each behavior on a scale from 0 to 4, and a higher score indicated a higher intention of submissive behaviors towards the supervisor. Internal reliability for the scale was excellent, $\alpha=.89$ .
Aggression Questionnaire (Buss & Perry, 1992)	AQ	29-item scale used to measure intentions to engage in aggressive behaviors and emotions focusing on dimensions of physical aggression, verbal aggression, anger, and hostility. This scale was adapted to measure intentions to engage in aggressive behaviors towards the supervisor depicted in the video. Participants indicated the extent to which each they would engage in the thoughts or behaviors described in the statements on a scale from 1 to 7. The scale included items such as 'If the supervisor I work with were to hit me, I would hit him/her back' (physical aggression). High scores on this scale indicate higher intention of aggression across the different dimensions. Internal reliability was good, $\alpha=.89$ for physical aggression; $\alpha=.84$ for verbal aggression; $\alpha=.84$ for anger, and $\alpha=.91$ for hostility.
Workplace Deviance Scale (Bennett & Robinson, 2000)	WD	24-item scale that measures intentions to engage in interpersonal and organizational workplace deviant behaviors. Participants indicated the frequency of these behaviors on a scale from 1 to 7. The scale included items such as 'I have intentionally worked slower than I could have worked'. Following Lee and Allen (2002), the authors calculated a single composite score for workplace deviance. A high score indicates high levels of intention to engage in workplace deviance. Internal consistency was excellent, $\alpha=.90$ .

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**Table 2: Descriptives and Correlations of Study 1 variables after Square Root Transformations**

	<i>M</i>	<i>SD</i>	<i>Minimum</i>	<i>Maximum</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
FP <sub>SQ</sub>	25.75	9.10	18	76	-													
CP <sub>SQ</sub>	34.44	21.36	18	90	.44**	-												
DP	21.91	21.47	0	68	.39**	.17	-											
AS <sub>SQ</sub>	1.11	1.19	0	4.93	.54**	.18	.21*	-										
HB <sub>SQ</sub>	1.50	.60	1	4.13	.65**	.25*	.33**	.49**	-									
IB	2.40	.88	1.07	5	.56**	.11	.26*	.46**	.64**	-								
BB	2.68	.83	1.11	5.24	.47**	.11	.34**	.48**	.59**	.79**	-							
AB	2.70	.89	1	5	.52**	.24*	.25*	.46**	.65**	.55**	.58**	-						
ABB	1.65	.41	1	3.20	-.29**	-.22*	-.34**	-.17	-.16	-.12	-.14	-.03	-					
WA	29.33	5.86	13	41	-.35**	-.16	-.28**	-.21*	-.23*	-.15	-.27*	-.21*	.60**	-				
WPG	32.43	5.62	17	42	-.34**	-.23*	-.10	-.17	-.33**	-.26*	-.24*	-.34**	.45**	.47**	-			
WPR	32.43	6.22	18	42	-.42**	-.27*	-.25*	-.30**	-.24*	-.16	-.20	-.26*	.55**	.63**	.63**	-		
WPL	31.39	5.70	18	41	-.34**	-.31**	-.08	-.25*	-.28**	-.30**	-.32**	-.43**	.42**	.53**	.62**	.58**	-	
WSA	28.50	6.19	16	42	-.23*	-.07	-.21*	-.17	-.12	-.17	-.26*	-.24*	.54**	.77**	.53**	.69**	.59**	-
POS	111.47	17.26	67	148	-.18	-.07	-.04	-.28**	-.32**	-.25*	-.21*	-.18	-.13	.13	-.05	-.011	-.02	-.03

<sup>sq</sup>Variable under square root transformation; \*\* $p < .01$ ; \* $p < .05$ ;

FP – Frequency of Paranoid Thoughts; CP – Conviction of Paranoid Thoughts; DP – Distress of Paranoid Thoughts; AS – Abusive Supervision; HB – Hostility Bias; IB – Intentionality Bias; BB – Blame Bias, ABB – Aggressive Behavior Bias; WA-Well-being Autonomy; WPG – Well-being: Personal Growth; WPR- Well-being: Positive Relations; WPL- Well-being: Purpose of Life; WSA – Well-being: Self-Acceptance; POS - Perceived Organizational and Supervisory Support.

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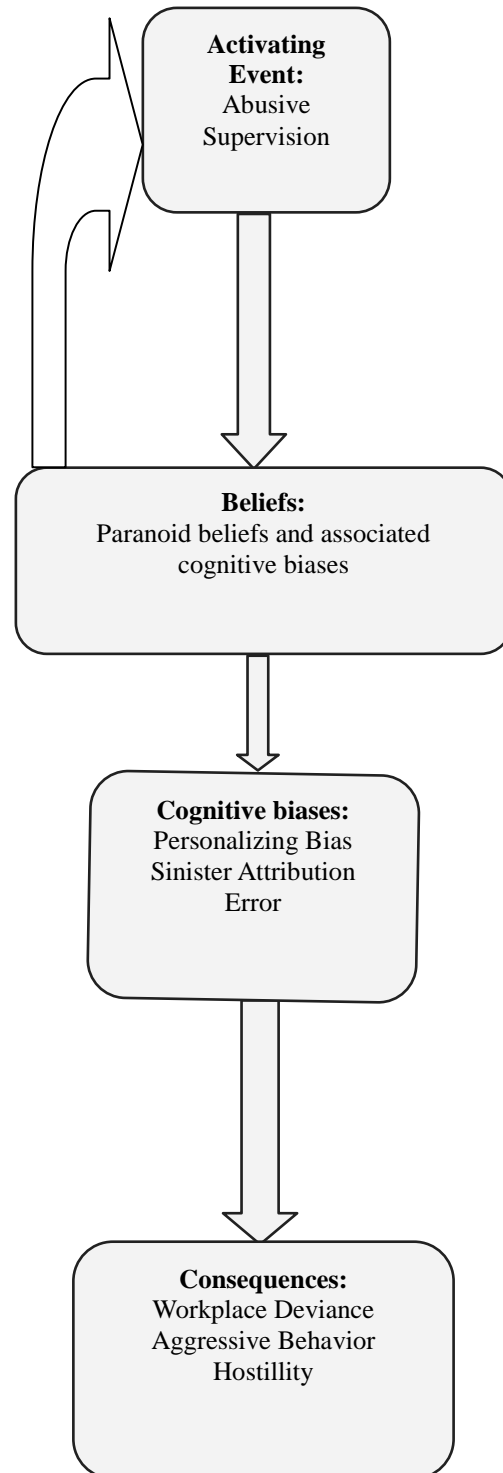
**Table 3: Descriptives of Study 2**

Variables	Negative video condition: Cue (n=50)				Positive video condition: No Cue (n=50)			
	<i>M</i>	<i>SD</i>	<i>Minimum</i>	<i>Maximum</i>	<i>M</i>	<i>SD</i>	<i>Minimum</i>	<i>Maximum</i>
AS	1.46	.57	1	4.07	1.41	.58	1	3.73
SSP	45.18	12.59	25	84	45.08	10.56	27	71
FP	27.37	12.96	18	77	26.78	10.77	18	68
IB	3.96	.90	2	5	2.22	1.15	1	4
AN	3.90	.93	1	5	1.68	.94	1	4
SB	2.54	1.18	1	5	1.74	.83	0	4
OB	3.86	.85	2	5	2.01	.94	0	4
PB	1.32	1.28	-1	4	.27	1.03	-2.70	2
SUB	24.24	10.90	3	53	21.86	10.70	1	43
PA	19.18	11.27	4	55	17.60	8.44	9	40
VA	14.06	6.64	5	32	12.02	6.19	4	27
ANG	16.60	8.52	6	49	14.54	6.85	7	35
HOS	20.06	11.96	8	55	17.72	10.06	8	45
WD	57.98	25.79	28	124	50.76	24.99	22	143

*AS – Abusive Supervision; SSP- State Social Paranoia; FP – Frequency of Paranoid Thoughts; IB – Intentionality Bias of the Attributions Questionnaire for Supervisory Related Behaviors; AN- Anger of the Attributions Questionnaire for Supervisory Related Behaviors; SB – Self-Blame of the Attributions Questionnaire for Supervisory Related Behaviors; OB- Other – Blame of the Attributions Questionnaire for Supervisory Related Behaviors; PB – Personalizing Bias of the Attributions Questionnaire for Supervisory Related Behaviors; SUB- Submissive Behaviors; PA – Physical Aggressiveness; VA – Verbal Aggressiveness; ANG – Anger; HOS – Hostility; WD – Workplace Deviance;*

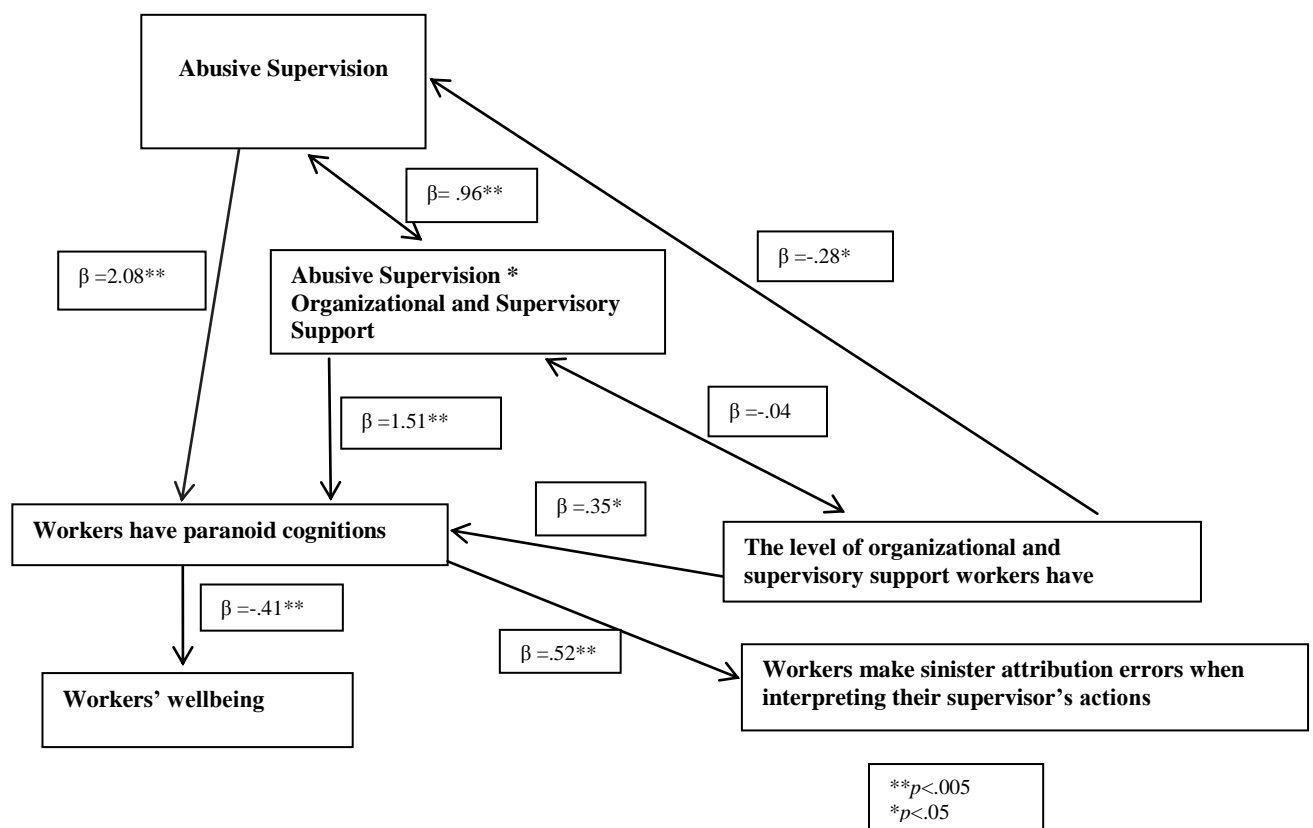
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**Figure 1. ABC Model of Abusive supervision, Paranoia and Workplace Deviance**





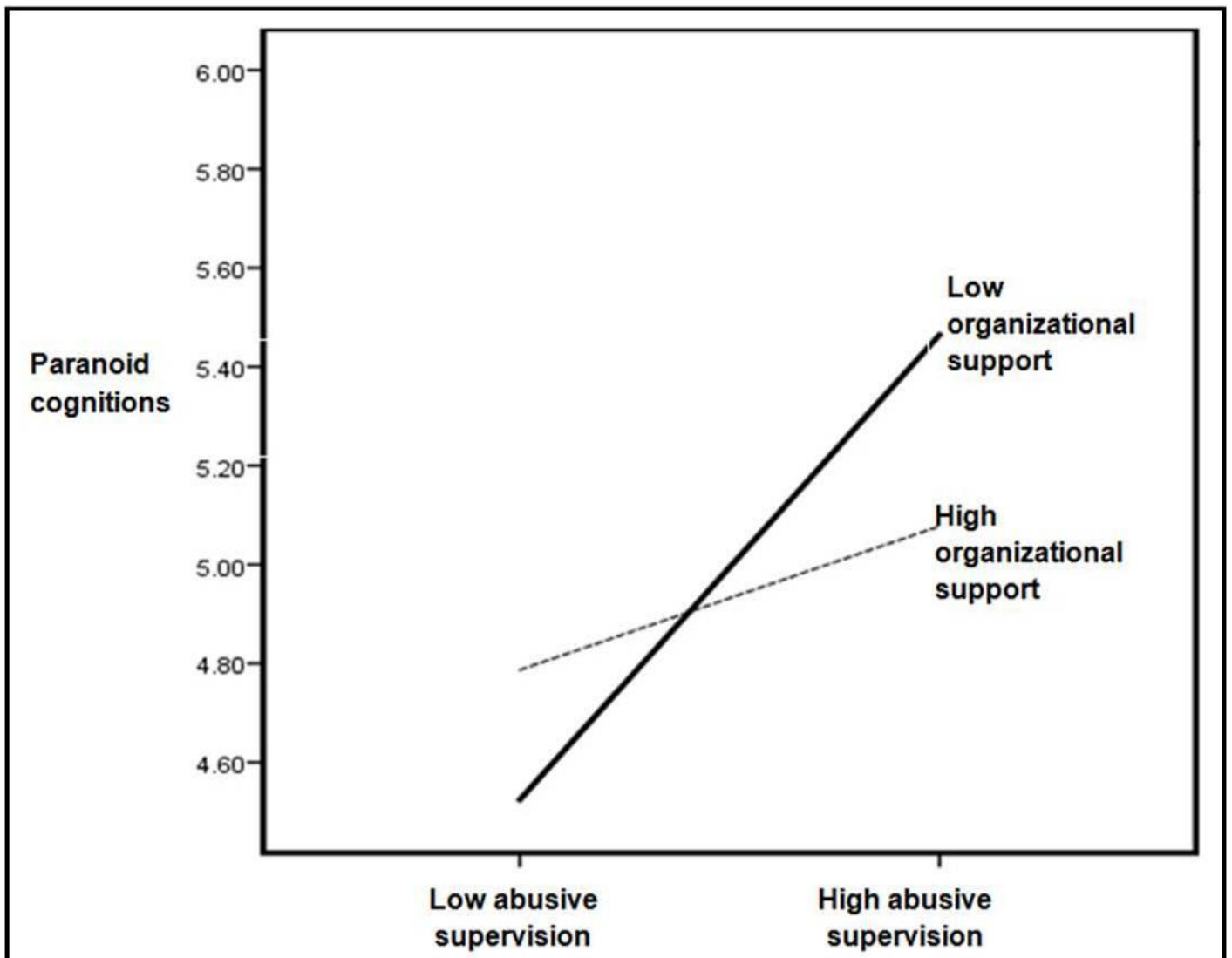
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**Figure 2. SEM model depicting the relationships between abusive supervision, paranoid cognitions, perceived organizational support and the sinister**

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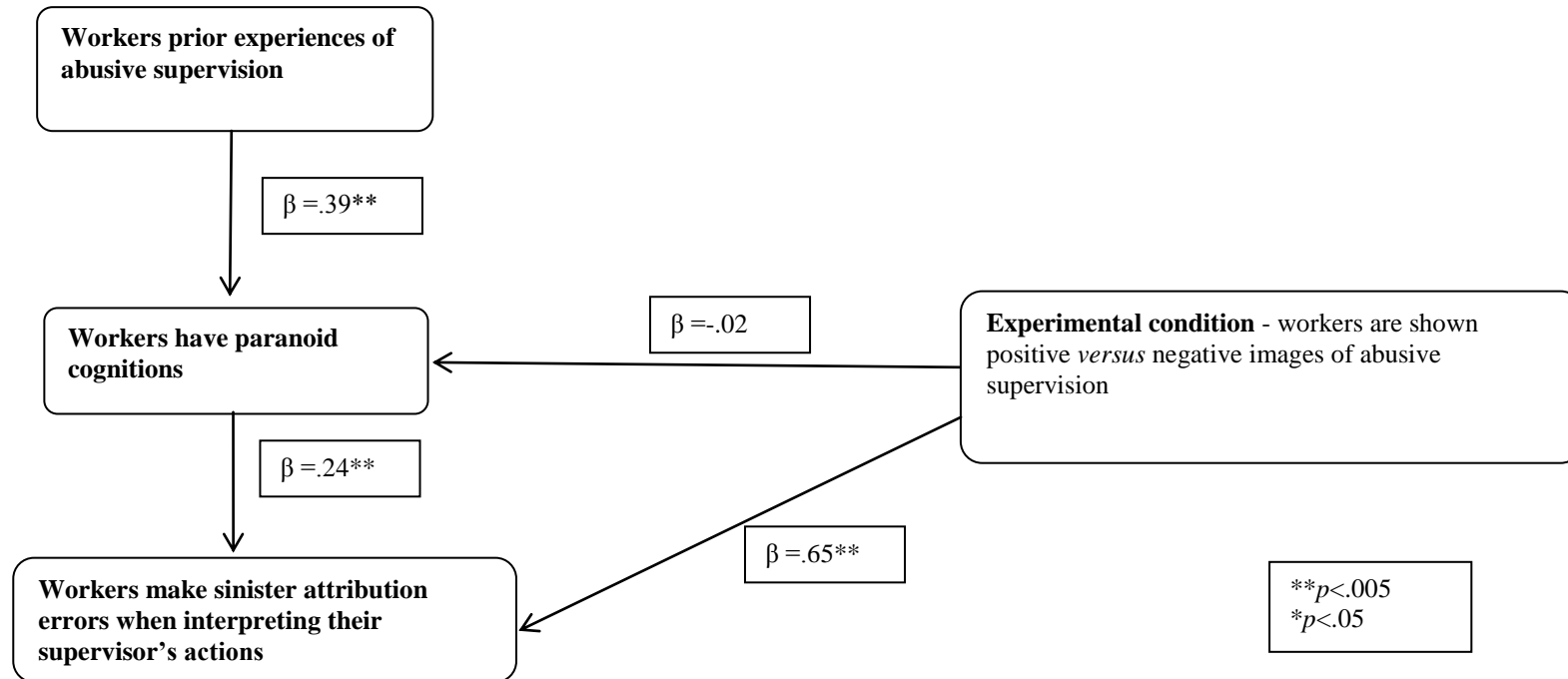
**attribution errors and wellbeing.**



**Figure 3. Graph depicting the amount of paranoid cognitions depending on levels of abusive supervision and organizational support.**

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**Figure 4. SEM model depicting the relationships between experimental condition of cuing of abusive supervision, perceived abusive supervision, paranoid cognitions and sinister attribution errors.**

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