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Abusive supervision and psychological capital: A mediated moderation model of team member support and supervisor-student exchange

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Citation

RESEARCH ARTICLE

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Abusive Supervision and Psychological Capital: A Mediated Moderation Model of Team Member Support and Supervisor-Student Exchange

Abstract   Embedded in higher educational settings, this study examines the relationship between abusive supervision and psychological capital and the mechanism through which abusive supervision and team member support interact to influence psychological capital with supervisor-student exchange mediating the interaction with psychological capital. Data collected from 222 graduate students in six Chinese universities supports our mediated moderation model: abusive supervision negatively relates to psychological capital and supervisor-student exchange mediates the positive moderating effect of team member support on the relationship between abusive supervision and psychological capital. Theoretical and practical implications of these findings are discussed.

Keywords   abusive supervision, psychological capital, team member support, supervisor-student exchange, mediated moderation

1   Introduction

Recent years have witnessed burgeoning studies focusing on destructive leadership behaviors in the workplace. Abusive supervision, a typical

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manifestation of destructive leadership, has been extensively explored by organizational behavior scholars (e.g., Aryee, Chen, Sun, and Debrah, 2007; Hoobler and Hu, 2013; Lian, Ferris, and Brown, 2012a; Liu, Xiao, Liu, and Liu, 2014; Tepper, 2000, 2007; Tepper, Carr, Breaux, Geider, Hu, and Hua, 2009; Tepper, Moss, Lockhart, and Carr, 2007; Zellars, Tepper, and Duffy, 2002). Tepper (2000) defines abusive supervision as "*subordinates' perceptions of the extent to which their supervisors engage in the sustained display of hostile, verbal and non-verbal behaviours excluding physical contact.*" Behavioral descriptors include threatening to cause the subordinate to lose employment, withholding needed information, aggressive eye contact, the silent treatment and humiliating or ridiculing subordinates in front of others (e.g., Duffy, Ganster, and Pagon, 2002; Keashly, 1997; Tepper, 2000, 2007). Previous studies have documented that abusive supervision exerts negative effects on subordinates' working attitudes, psychological well-being, and job performance, as well as physical health, and also results in subordinates' deviance and turnover (Aryee et al., 2007; Harvey, Stoner, Hochwarter, and Kacmar, 2007; Hoobler and Hu, 2013; Lian et al., 2012a; Tepper, 2000; Tepper et al., 2009; Tepper et al., 2007). Understandably, abusive supervision is a serious social problem in various organizations, and its ubiquity in the workplace and negative effects on subordinates and organizations warrant sustained scholarly inquiry.

Although existing research expands our knowledge of abusive supervision, it is limited in several important ways. First, previous studies have only addressed certain types of social relationships in which abusive supervision is embedded. Most research on abusive supervision has been conducted in the workplace where a formal employment relationship between the supervisor and subordinate exists. However, abusive supervision is a common but thorny social issue that may exist beyond formal employment relationships (Tepper, 2007). Therefore, existing studies are not enough to explicate the phenomenon of abusive supervision in other social relationships such as the supervisor-student relationship in a higher educational setting. Second, previous studies are limited regarding motivational and cognitive outcomes of abusive supervision. We know from prior research that abusive supervision is negatively related to subordinates' attitudinal outcomes (e.g., job satisfaction, organizational commitment) and it also yields negative behavioural outcomes (e.g., workplace deviance, retaliation). However, we have few ideas about what role abusive supervision plays regarding

subordinates' cognition and motivation. Although Chan and McAllister (2014) have theorized the relationship between abusive supervision and subordinates' cognition by contending that abusive supervision results in paranoid arousal and paranoid cognition, few researchers have empirically examined the linkages between abusive supervision and subordinate cognition and motivation. Third, previous studies are limited in explaining the mediated mechanisms underlying the relationship between abusive supervision and its outcomes. Most existing research investigates the mediating effect from the perspective of subordinates' perception of organizational injustice (e.g., Aryee et al., 2007). Nevertheless, social exchange theory (Blau, 1964) suggests that the reason why abusive supervision is linked to subordinates' negative outcomes is that abusive supervision, as a negative supervisor-subordinate interaction, violates the mutual reciprocity principle within an organization. Few studies have investigated mediated mechanisms from the perspective of social exchange. Fourth, most studies on abusive supervision have little on the provision of coping strategies. Although many researchers have called for the development of coping strategies to help victims deal with abusive supervision (e.g., Duffy, Ganster, and Pagon, 2002; Tepper, 2007; Tepper et al., 2007; Yagil, 2006), few studies have provided abused subordinates with effective suggestions on how to cope with abusive supervision.

To bridge the above gaps, the present study embeds its research context in a higher educational setting to examine the effect of abusive supervision on graduate students' psychological capital (Luthans, Avey, Avolio, Norman, and Combs, 2006), the moderating role of team member support in the relationship between abusive supervision and psychological capital, and the mechanism through which supervisor-student exchange mediates the interacting effect of abusive supervision and team member support on psychological capital. Accordingly, we developed a mediated moderation model (Baron and Kenny, 1986; Edwards and Lambert, 2007; Muller, Judd, and Yzerbyt, 2005; Preacher, Rucker, and Hayes, 2007) on the basis of social support theory (Cohen and Wills, 1985) and social exchange theory (Blau, 1964), to jointly examine team member support as the moderator and supervisor-student exchange as the mediator. Through this mediated moderation model, we aim at unveiling the mechanism of how social support helps graduate students deal with the negative effects of abusive supervision and how supervisor-student exchange explicates this

influencing path. Figure 1 illustrates the mediated moderation model we propose to interpret the relationship between abusive supervision, psychological capital, team member support, and supervisor-student exchange.
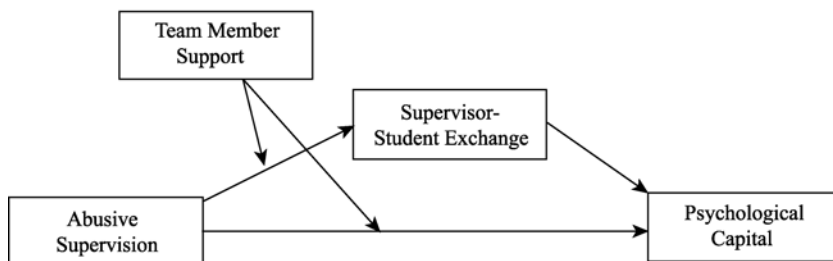
Figure 1   The Mediated Moderation Model between Abusive Supervision and Psychological Capital

This study uniquely contributes to the literature on abusive supervision and psychological capital in the following aspects. Introducing a definition of abusive supervision into the advising relationship sheds light on Tepper's (2007) argument that abusive supervision is a significant social problem that exists in a myriad of social relationships. It also helps us to expand the research context for abusive supervision. As well, through testing the relationship between abusive supervision and psychological capital, we can better understand how abusive supervision influences individual cognition and motivation, and show that abusive supervision in the advising relationship engenders potential negative effects on graduate students' future development. This also expands the understanding of psychological capital by identifying the negative antecedents of psychological capital during the social interacting process. Furthermore, this study enhances our knowledge of coping strategies for abusive supervision by recognizing the positive moderating role of team member support. Team member support may act as an important component in helping victims to deal with abusive behavior from supervisors. Finally, this study delineates a more comprehensive map of the mechanism underlying the relationship between abusive supervision and its outcomes. We are able to see from this study that the quality of exchange between the supervisor and subordinate plays an important role in explaining why team member support exerts a positive moderating effect on the relationship between abusive supervision and psychological capital.

2   Theoretical Foundation and Hypotheses

2.1   Abusive Supervision in the Advising Relationship

In a higher educational setting, the advising relationship refers to the particular "employment relationship" between a supervisor and his/her graduate students, which is similar to the relationship between a supervisor and his/her subordinates in the workplace. Embedded in this advising relationship, graduate students assist their supervisors in research tasks and complete their own studies under the guidance of their supervisors. Consequently, students are able to develop their own academic research ability, which facilitates their future career success (Schlosser, Knox, Moskovitz, and Hill, 2003). Meanwhile, students also receive economic compensation from their supervisors for their contributions to research projects and this compensation helps them support their studies financially (Schlosser et al., 2003). These positive supervisor-student interactions benefit both the supervisor and his/her students.

However, in recent years, certain quantitative studies have documented that abusive supervision may also occur in advising relationship (Goodyear, Crego, and Johnston, 1992; Moskowitz and Rupert, 1983). Building on the definition of abusive supervision (Tepper, 2000), we define abusive supervision in an advising relationship (or "abusive advising") as graduate students' perceptions of the extent to which their supervisors engage in sustained displays of hostile verbal and non-verbal behaviors excluding physical contact. Manifestations of abusive advising include public criticism, loud and angry tantrums, silent treatment to students, etc. In graduate education, supervisors are expected to help their students to establish a solid foundation of academic knowledge and research skills in a healthy psychological environment. Most supervisors do well in guiding their students to achieve excellent academic performance. Nevertheless, there are also some supervisors who engage in abusive behaviors in interactions with their students. They publicly criticize their students, continually bring up students' mistakes and sometimes refuse to speak to their students. Understandably, abusive advising is likely to exert negative effects on students' psychological well-being (Nelson and Friedlander, 2001), such as increasing self-doubt, psychological anxiety, distress, as well as emotional exhaustion, which finally causes students' academic performance to decline. From this

perspective, abusive supervision in an advising relationship is a non-nurturing behavior in graduate education (Brown, Trevino, and Harrison, 2005).

2.2   Psychological Capital for Graduate Students

Psychological capital, a derivation from the positive psychology movement, refers to "*one's positive appraisal of circumstances and probability for success based on motivated effort and perseverance*" (Luthans, Avolio, Avey, and Norman, 2007, p.550). It represents a common underlying capacity that is essential to the individual's motivation, developing, cognitive processing, success striving and resulting performance (Peterson, Luthans, Avolio, Walumbwa, and Zhang, 2011). Specifically, building on the theories of work motivation (Stajkovic, 2006), positive psychology (Snyder and Lopez, 2002), social cognition (Bandura, 1986, 1997) and agency (Bandura, 2008), psychological capital is operationally defined as a higher-order core construct composed of four important positive psychological resources: efficacy, optimism, hope, and resiliency (Luthans et al., 2006; Luthans, Avolio, et al., 2007). People who possess rich psychological capital have high confidence to take on challenging tasks and invest the necessary efforts to perform well; have positivity-oriented attributions and future expectations; can set goals, identify ways of achieving them, and persevere towards those goals; and bounce back from failure and adversity quickly (Luthans, Youssef, and Avolio, 2007).

Psychological capital, like economic capital, is a type of resource that is invested and leveraged for a future return (Luthans et al., 2006). In congruence with the conservation of resources theory (Hobfoll, 2002; Wright and Hobfoll, 2004), the investment in psychological capital is an accumulation of psychological resources for future success. People are motivated to acquire, foster and maintain important resources connected to psychological capital to achieve successful performance outcomes in the future (Peterson et al., 2011).

Psychological capital plays an essential role in the growth of graduate students. On the one hand, psychological capital helps graduate students deal with stress and perform well academically during their graduate studies. Psychological capital works as a buffer to students' stress and therefore enhances students' psychological well-being (Riolli, Savicki, and Richards, 2012). It also enhances students' GPA through improving their effectiveness and efficiency. On the other

hand, psychological capital, like the more well recognized human and social capital, contributes to graduate students' future career success. Graduate students who possess rich psychological capital are more likely to engage in positive job searching behaviors, even when they are facing adversity in the job market (Chen and Lim, 2012) and are likely to take a more active part in the future job tasks (Luthans et al., 2006; Luthans, Youssef, and Avolio, 2007). Therefore, investing in psychological capital during their graduate studies is likely to enhance their future career success.

2.3   Abusive Supervision and Psychological Capital

Malleability is the most distinguishing feature of psychological capital because it is "state-like" and "open to change" (Luthans, Avolio, et al., 2007; Peterson et al., 2011). Drawing on social cognition theory (Bandura, 1986, 1997) and social information processing theory (Salancik and Pfeffer, 1978), recent empirical studies have demonstrated that psychological capital may change depending on working contexts, including leadership style, organizational climate, and social support from colleagues (e.g., Luthans, Norman, Avolio, and Avey, 2008; Norman, Avolio, and Luthans, 2010; Walumbwa, Luthans, Avey, and Oke, 2011; Walumbwa, Peterson, Avolio, and Hartnell, 2010). Among these context factors, leadership style exerts the most prominent effect on subordinates' psychological capital, as repeated feedback from leaders may greatly enhance or decrease psychological capital (Peterson et al., 2011). Some positive leadership behaviors, such as authentic leadership, is likely to facilitate psychological capital establishment (Walumbwa et al., 2011), whereas negative leadership behaviors, such as abusive supervision, may hinder the accumulation of psychological capital.

Abusive supervision in advising relationships may negatively affect graduate students' psychological capital. Abusive supervision undermines students' efficacy. Social cognition theory (Bandura, 1986) indicates that social evaluation exerts significant influence on the foundation and development of efficacy. Negative evaluation from leaders or peers may decrease efficacy (Duffy, Ganster, and Pagon, 2002). Abusive supervisors are those who make negative comments about their students and criticize students publicly. In addition, abusive supervisors often remind students about their past mistakes and failures and tell

students their thoughts or feelings are stupid. This negative feedback from an abusive supervisor is likely to undermine students' efficacy.

Abusive supervision reduces graduate students' hope. Hope is generalized to include an individual's will power and strategic plans for achieving their goals (Snyder et al., 1991). Abusive supervising is likely to increase students' self-doubt (Brown et al., 2005) and results in decreased motivation for research tasks. Thus, abusive supervision reduces students' willpower to successfully execute academic undertakings. Additionally, some supervisors also withdraw necessary information for the completion of research tasks, which blocks students from finishing their work.

Abusive supervision decreases graduate students' optimism. Optimism can be developed through modeling (Peterson, 2000). However, abusive supervision exerts negative modeling effects on students' optimism. Influenced by their supervisor, students may also appraise the things around them from a negative perspective. In addition, embedded in a study environment filled with negative appraisal and lack of trust in fulfilling research tasks, students may develop avoidance coping strategies when they face difficulties and challenges, inhibiting positive expectations. Thus, abusive supervision engenders negative effects on students' optimism.

Finally, abusive supervision also undermines graduate students' resiliency. Resiliency is built up through people's positive beliefs about reality and life (Coutu, 2002). Social support, such as encouragement from leaders and peers, may increase students' resiliency. However, abusive supervisors may ridicule students and make negative comments, even when students face challenges or setbacks in their academic research. As a result, students may lose confidence in conducting research projects and even give up on research tasks. It becomes harder for them to bounce back from failures and adversity. On the basis of the literature on abusive supervision and psychological capital, and the arguments presented herein, we propose the following hypothesis.

Hypothesis 1. Abusive supervision negatively relates to the psychological capital of graduate students.

2.4   The Moderating Role of Team Member Support

Social support is generalized to be defined as social resources that people

perceive to be accessible or that are actually provided to them by actors in either formal support groups or informal helping relationships (Cohen, Gottlieb, and Underwood, 2000). It consists of two dimensions: emotional support and instrumental support (Cohen and Wills, 1985). Emotional support pertains to the provision of understanding and caring behaviors (e.g., encouragement, comfort), whereas instrumental support pertains to the provision of services and assistance to deal with specific problems. Many studies indicate that social support, when the source of it is independent from that of stress, yields cross-domain buffering effects on subordinates and enhances their health and psychological well-being (Beehr, Farmer, Glazer, Gudanowski, and Nair, 2003; Cranford, 2004; Duffy, Ganster, and Pagon, 2002).

Support from members of the same research project team may buffer the negative effects of abusive supervision on graduate students' psychological capital. Graduate students, who have conflicts with their supervisor in the process of completing research projects, may seek support from their peers or research team members (Nelson and Friedlander, 2001). Team member support is a third party support in the relationship between the abusive supervisor and the victimized student, and its source is independent of the abusive supervisor, who is the source of stress. Understandably, perceived team member support may help students to deal with negative effects of abusive supervision (Hobman, Restubog, Bordia, and Tang, 2009; Ray and Miller, 1994).

The buffering effect of team member support on the negative relationship between abusive supervision and graduate students' psychological capital could be manifested in two aspects. First, perceived emotional support from research team members could help the abused student to relieve stress, recover from psychological burnout, and rebuild their confidence, hope, optimism and resilience for research tasks. When graduate students suffer from abusive supervision, they may feel highly stressed and depressed, resulting in decreased confidence and optimism regarding their research competency. The willpower for them to successfully execute research tasks could also be reduced. However, encouragement and comfort from team members could help these abused students establish their efficacy to successfully complete specific research tasks, maintain an optimistic attitude towards their academic studies, and strengthen their hope for their future research life (Bandura, 1986; Brissette, Scheier, and Carver, 2002; Salancik and Pfeffer, 1978). With team members' support, abused

students may also be more likely to bounce back from feelings of failure due to negative comments and ridiculing behavior (Coutu, 2002).

Second, perceived instrumental support from research team members could help victimized students to successfully deal with specific research tasks that enhance their psychological capital. Sometimes, supervisors perpetrate abusive behavior because of the students' unsuccessful execution of research tasks (Tepper, 2007). With help from team members, these students could perform better which may lessen negative appraisals and criticisms from their supervisor (Yagil, Ben-Zur, and Tamir, 2011). As well, the successful execution of research tasks also facilitates the construction of graduate students' psychological capital, for successful experience on specific tasks helps the development of psychological capital (Luthans, Youssef, and Avolio, 2007). Successful experience especially enhances students' confidence and a desire to repeat this experience may develop a stronger motivation to perform research tasks well in the future as well as expanding their knowledge of pathways to improve performance. Although emotional support and instrumental support both benefit psychological capital, they also interplay with each other to yield synergetic effects in constructing psychological capital. Based on the literature of social support and psychological capital, as well as the arguments presented herein, we propose the following hypothesis.

Hypothesis 2. Team member support moderates the negative relationship between abusive supervision and graduate students' psychological capital, such that this negative relationship will be weaker for graduate students receiving high team member support, compared to those receiving low team member support.

2.5   The Mediating Role of Supervisor-Student Exchange

Social exchange theory (Blau, 1964) works as a theoretical foundation in analyzing people's psychological conditions and their behavior through the entire interpersonal interacting process (Konovsky and Pugh, 1994; Tekleab, Takeuchi, and Taylor, 2005). Leader-member exchange (LMX), one of the most important social exchanges within an organization, denotes exchange behaviors between leaders and followers (Cropanzano, Prehar, and Chen, 2002; Graen and Uhlbien, 1995). The supervisor and the subordinate engage in different exchange

behaviors in terms of different qualities of LMX. In low-quality LMX, material exchange is ubiquitous: subordinates try to meet their job requirements and to fulfill obligations to their supervisors; simultaneously, they receive payment as compensation and possibly further economic rewards based on their job performance. Both supervisor and subordinate emphasize the instant return of favors with exact equity, and overlook psychological exchanges. However, in high-quality LMX, exchanges between the supervisor and the subordinate consist of psychological exchange as well as material exchange, such as mutual trust, respect, and obligation toward each other (Graen and Uhlbien, 1995). Through an entire high-quality LMX exchange phase, both supervisors and subordinates conform to the principle of mutual reciprocity over a long time span (Gouldner, 1960).

Drawing from the perspective of "theory borrowing" (Whetten, Felin, and King, 2009), we apply social exchange theory to supervisor-student interactions, and propose supervisor-student exchange. Supervisor-student exchange is a special LMX: graduate students work with their supervisor to complete research projects and in reciprocity receive some economic compensation. They also obtain research experience benefiting their academic career. Prior research on LMX has contended that LMX affects subordinates' psychological conditions and behaviors tremendously (Cropanzano, Prehar, and Chen, 2002; Masterson, Lewis, Goldman, and Taylor, 2000). Thus, supervisor-student exchange could also play an important role in graduate students' psychological states and behaviors. Embedded in a high-quality supervisor-student exchange, graduate students may try their best to successfully execute research tasks and simultaneously receive positive appraisal and trust from their supervisor. High-quality supervisor-student exchange may help these students grow and thrive more quickly in terms of research ability as well as develop the psychological ability to deal with negative emotions. Successful experiences on research projects and positive encouragement, appraisals, as well as trust from their supervisor may enhance their efficacy, hope, optimism, and resiliency. However, few positive psychological interactions between supervisors and subordinates exist in low-quality supervisor-student exchange: supervisors and subordinates may limit their communications to their research projects; supervisors may seldom provide positive feedback and may show limited trust in their students. It is hard in these circumstances for students to cultivate rich

psychological capital. Thus, the quality of supervisor-student exchange is positively associated with students' psychological capital.

However, abusive supervision violates the mutual reciprocity principal in social exchange and exerts negative effects on supervisor-student exchange (Gouldner, 1960; Mitchell and Ambrose, 2007). During interactions between the supervisor and students, students must first have positive psychological and material expectations of their supervisors connected to their research efforts. Abusive behavior over a sustained period may evoke students' emotional exhaustion and negative attitudes toward their research projects. From their perspective, abusive behavior from their supervisor violates the relational and psychological contract between themselves and their supervisor (Morrison and Robinson, 1997). As a result, they may engage in low-quality exchange behaviors, such as decreased trust and expectations of their supervisors, negative attitudes towards research tasks, estrangement from their supervisor, or avoidance of direct contact with their supervisor. After perceiving students' low-quality exchange behaviors, supervisors may be more likely to engage in less high-quality exchange behaviors: less encouragement, trust, and positive feedback to students, more negative appraisals, silent treatment, and even public criticism. Hence, supervisor-student exchange could mediate the negative relationship between abusive supervision and graduate students' psychological capital.

The presence of team member support could buffer the negative effect of abusive supervision on supervisor-student exchange. In light of social support theory (Cohen et al., 2000; Cohen and Wills, 1985), social support from a third party could mitigate the negative relationship between two focal actors. Victimized graduate students may engage in negative exchange behaviors during interactions with their supervisor. However, after receiving psychological and instrumental support from research team members, they may be more likely to improve the quality of exchange behaviors proactively. Direct research help from research team members could facilitate better performance on research tasks. Encouragement could support the development of confidence to successfully execute research tasks. This support may also indirectly encourage students to deal with abusive behavior proactively, such as communicating the negative effects of abusive supervision to their supervisor face to face. Their supervisor may then realize that their behavior towards these students is inappropriate and

may reduce their abusive behavior and provide more positive feedback and encouragement, resulting in a better quality of exchange behaviors. This buffering effect would then be transferred to students' psychological capital through supervisor-student exchange. Thus, team member support may buffer the negative effects of abusive supervision on supervisor-student exchange, and furthermore, supervisor-student exchange may mediate the positive moderating effects of team member support on the relationship between abusive supervision and psychological capital. The literature of abusive supervision, LMX, team member support and psychological, as well as the arguments presented herein suggest the following hypothesis.

Hypothesis 3. The positive moderating effect of team member support on the relationship between abusive supervision and graduate students' psychological capital is mediated by supervisor-student exchange. Specifically, team member support reduces the decrease of psychological capital triggered by abusive supervision through reducing the decease of the quality of supervisor-student exchange.

3 Methodology

3.1 Participants and Procedure

Participants in this study were graduate students from six Chinese universities located in three different cities—Beijing, Shanghai, and Changsha. To recruit participants, we contacted the graduate student affairs office in each university to obtain a list of names of graduate students. We then sent a recruitment advertisement to graduate students through internal email systems. This advertisement included a short introduction to the purpose of our study, the details of the procedures for participating in the study and the compensation (a notebook, valued at 20 yuan). We also guaranteed the anonymity and confidentiality of the information participants provided in this study. After we received consent, we supplied participants with an envelope including a cover letter, a questionnaire, and a return envelope for each survey. Participants were asked to seal the completed questionnaires into the return envelope and submit them to our researchers.

In order to reduce potential common method variance bias (Podsakoff, MacKenzie, Lee, and Podsakoff, 2003), we used a multi-stage study design with three-wave questionnaire surveys. In the first survey, we measured students' perceptions of abusive supervision and team member support, as well as collected the demographic information of participants. Approximately three months later, we assigned our second survey questionnaire to measure supervisor-student exchange. In the third survey, approximately one week following the completion of the second survey, we measured psychological capital.

Of the 343 students who consented to participate in our study, 257 students completed the first wave survey (75% response rate). Among these, five questionnaires were unusable because of missing data. In the second wave survey, 235 students completed questionnaires (91% retention rate) and 222 students completed questionnaires in the third wave survey (94% retention rate). Therefore, the overall response rate in this study was 65%. 56% of participants were male graduate students and the average age for all participants was 25.22 (SD=2.75). 21% of participants were working on their doctoral degree and had working experience. Participants' specializations included management, economics, finance, laws, politics, and decision science.

3.2   Measures

The inventories used in the three-wave surveys were in Chinese, but these inventories were originally constructed in English. To measure for equivalence in the Chinese and English versions, the conventional method of back translation (Brislin, 1980) was used to translate English inventories into Chinese, and back into English by different people who were proficient in both English and Chinese. Two authors and two professors in departments of management and organization examined the Chinese version of the questionnaire to ensure that the items were interpretable. The Chinese questionnaires were then test-piloted on 30 students in another study. On the basis of the feedback from the pilot study, we reworded some items in the questionnaires to improve interpretability. All variables in the questionnaire are listed below.

Abusive supervision. We measured students' perception of abusive supervision with a 10-item shortened version of Tepper's (2000) abusive supervision scale adapted by Mitchell and Ambrose (2007). Respondents indicated their answers on

a five-point Likert scale ranging from "1= he/she never uses this behavior" to "5= he/she uses this behavior very often." Sample items include "My supervisor makes negative comments about me to others," "My supervisor tells me my thoughts or feelings are stupid," and "My supervisor ignores or gives me the silent treatment." The Cronbach's alpha value of the scale is .91.

Team member support. Team member support was measured with a 4-item scale adapted from Amabile, Schatzel, Moneta, and Kramer's (2004) scale and Hobman et al.'s (2009) scale. The scale includes two dimensions of social support: instrumental support and emotional support. Respondents indicated their answers on a five-point Likert scale ranging from "1=strongly disagree" to "5= strongly agree." Sample items for instrumental support include "My team member always helps me figure out how to solve problems of the research project." Emotional support sample items include "My team member comforts and encourages me when I was criticized by my advisor for dissatisfaction with my academic performance." The Cronbach's alpha value of the scale is .89.

Supervisor-student exchange. We adapted Graen and Uhl-Bien's (1995) Leader-member exchange scale to measure supervisor-student exchange (Whetten, Felin, and King, 2009). Respondents indicated their answers on a five-point Likert scale ranging from "1=strongly disagree" to "5=strongly agree." Sample items include "My supervisor recognizes my academic potential and career development very well" and "I have enough confidence in my supervisor that I would defend and justify his/her academic perspectives if he/she were not present to do so." The Cronbach's alpha value of the scale is .87.

Psychological capital. Luthans's et al. (2007) 24-item scale was employed to assess graduate students' psychological capital. Respondents indicated their answers on a five-point Likert scale, ranging from "1=Not at all sure" to "5= Very sure." Since psychological capital consists of four dimensions (efficacy, optimism, hope and resilience), Luthans and his colleagues measure each dimension with 6 items equally. Sample items of efficacy include "I feel confident in analysing a long-term problem to find a solution"; that of hope include "At this time, I am meeting the goals that I have set for myself"; that of optimism include "I'm optimistic about what will happen to me in the future as it pertains to work"; and sample items for resilience include "When I have a setback at work, I have trouble recovering from it and moving on". The Cronbach's alpha value of the whole scale is .91.

We also controlled for participants' demographic factors, including age, gender, and current degree that the student is working on, in our study to avoid co-variance with independent and dependent variables.

3.3   Data Analysis

Psychological capital is operationally defined as a higher-order core construct composed of four important positive psychological resources (Luthans, Avolio, et al., 2007). To confirm the expected higher-order construct of psychological capital, we conducted a confirmatory factor analysis (CFA) by fitting the suggested model with six items for each factor (Harrington, 2008).

We employed Edwards and Lambert's (2007) approach to test our mediated moderation model. First, we examined the moderating effect of team member support on the relationship between abusive supervision and supervisor-student exchange (see Eq. (5) in Edwards and Lambert, 2007). Then, we estimated the effect of abusive supervision, team member support, the interaction of the two, and the mediator (i.e., supervisor-student exchange) on students' psychological capital (see Eq. (6) in Edwards and Lambert, 2007). After the first two steps, we substituted Eq. (5) into Eq. (6) and developed a larger equation to examine the first stage indirect effect and direct effect of our mediated moderation model. We inserted the estimates of the first two steps into this larger equation (see Eq. (19) in Edwards and Lambert, 2007) to examine whether the first stage indirect effect of abusive supervision on psychological capital through supervisor-student exchange significantly varies according to the level of team member support. Finally, we employed a bootstrap approach to examine the significance of the indirect effects (Preacher, Rucker, and Hayes, 2007). Following Edwards and Lambert's (2007) recommendation, we bootstrapped 1000 samples to obtain the bias-corrected confidence interval (2.5 and 97.5 percentiles establish the bounds of the 95% confidence interval). The size of each individual bootstrapped sample was equal to that of the original simple.

4   Results

4.1   Confirmatory Factor Analysis of Psychological Capital

CFA results support the hypothesized four-factor structure of psychological

capital. The chi-square score for the four-factor model is $\chi^2 = 531.07$, $df = 246$, p≤.01. CFI and TLI are .90 and .90 respectively, and RMSEA is .07. These fit indexes indicate that the four-factor model of psychological capital is significant.

To further investigate the structure validity of psychological capital, we conducted a competing model analysis. We tested multiple three- and two-factor models by combining various dimensions (i.e. efficacy, hope, resiliency and optimism) of psychological capital, as well as a single factor competing model in which all the 24 items were loaded onto one latent variable. As shown in Table 1, all the fit indexes of each model indicated that the fitness of the four-factor model was better than that of any other competing model. Hence, the four-factor (i.e., efficacy, hope, resiliency and optimism) model had good structure validity.

Table 1   Comparison of Psychological Capital Factor Structure

Models	Factors	χ^2	df	p value	CFI	TLI	RMSEA
Baseline Model 1	4 factors [a]	531.07	246	<.001	.90	.90	.07
Model 2	3 factors [b]	807.61	249	<.001	.81	.79	.12
Model 3	3 factors [c]	881.67	249	<.001	.79	.76	.12
Model 4	3 factors [d]	845.46	249	<.001	.80	.78	.12
Model 5	3 factors [e]	777.69	249	<.001	.82	.80	.10
Model 6	3 factors [f]	569.80	249	<.001	.89	.88	.07
Model 7	3 factors [g]	737.72	249	<.001	.84	.82	.10
Model 8	2 factors [h]	1006.22	251	<.001	.75	.72	.14
Model 9	2 factors [i]	1091.87	251	<.001	.72	.69	.14
Model 10	2 factors [j]	915.00	251	<.001	.78	.75	.12
Model 11	1 factors [k]	1140.40	252	<.001	.70	.67	.15

Notes. N=222.

[a] factor 1=Efficacy, factor 2=Hope, factor 3=Resiliency, factor 4= Optimism.

[b] factor 1=Efficacy & Hope merged, factor 2=Resiliency, factor 3= Optimism.

[c] factor 1=Efficacy & Optimism merged, factor 2=Hope, factor 3=Resiliency.

[d] factor 1=Efficacy & Resiliency merged, factor 2=Hope, factor 3= Optimism.

[e] factor 1=Efficacy, factor 2=Hope & Optimism merged, factor3=Resiliency.

[f] factor 1= Efficacy, factor 2= Hope & Resiliency merged, factor3= Optimism.

[g] factor 1= Efficacy, factor 2= Resiliency & Optimism merged, factor3=Hope.

[h] factor1=Efficacy & Hope merged, factor 2=Resiliency & Optimism merged.

[i] factor 1=Efficacy & Resiliency merged, factor 2=Hope & Optimism merged.

[j] factor 1=Efficacy & Optimism merged, factor 2=Hope & Resiliency merged.

[k] factor 1=Efficacy, Hope, Resiliency, Optimism merged.

4.2 Hypotheses and Testing Results

Table 2 shows descriptive statistics, correlations and Cronbach's alphas for all variables in this study. Of greatest interest, abusive supervision was negatively correlated to psychological capital ($r = -.29$, $p \leqslant .01$). Moreover, in Table 3, when controlled for age, gender and current degree, abusive supervision can still negatively predict psychological capital (Model 3, $b = -.25$, $p \leqslant .01$). Hence, Hypothesis 1 is supported.

Table 2   Means, Standard deviations, and Correlations among Study Variables

Variables	M	SD	1	2	3	4	5	6	7
1. Age	25.22	2.77							
2. Gender [a]	.56	.50	.29**						
3. Current Degree [b]	.21	.41	.61**	.24**					
4. Abusive supervision	1.58	.65	.04	.17*	.01	(.91)			
5. Team member support	3.61	.87	−.04	−.07	−.06	−.27**	(.89)		
6. Supervisor-student exchange [c]	3.50	.68	.04	.18**	.12	−.34**	.38**	(.86)	
7. Psychological Capital	3.64	.51	.09	.15*	.13	−.29**	.28**	.46**	(.91)

Notes. *N*=222, *$p < .05$ (2-tailed); **$p < .01$ (2-tailed).

[a] Gender: 0 = female; 1 = male.

[b] Current Degree: 0 = PHD student; 1 = Master student.

Hypothesis 2 predicts that team member support moderates the negative relationship between abusive supervision and graduate students' psychological capital. In order to reduce the potential collinearity between the interaction term and its component variables, we took Aiken and West's (1991) recommendation: we first centered the independent variable (abusive supervision) and moderator (team member support), and then constructed an interaction term by multiplying centered abusive supervision and centered team member support. We used Cohen and Cohen's (1983) step-up procedure for hierarchical regression to assess the moderating effect of team member support. As shown in Table 3, the interaction of abusive supervision and team member support is statistically significant (Model 4, b=.11, $p \leqslant .05$). Thus, we could conclude that graduate students' team member support positively moderates the relationship between abusive supervision and psychological capital.

Table 3 Hierarchical Regression for Hypotheses Testing

Variable	Psychological capital					Supervisor-student exchange		Psychological capital	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Intercept	3.64**	3.95**	3.40**	3.36**	2.63**	3.87**	3.23**	3.64**	2.36**
Age	-.00	-.00	-.00	.00	.00	-.02	-.01	-.01	.00
Current Degree	.15	.12	.15	.13	.08	.22	.19	.14	.07
Gender	.12	.18*	.19**	.17*	.11	.22*	.30*	.14	.07*
Abusive supervision		-.25**	-.20**	-.18**	-.12*		-.28**		
Team member support			.13**	.12**	.07		.23**		
Abusive supervision * Team member support				.11*	.08		.12*		
Supervisor-student exchange					.23**				.33**
R^2	.03	.13	.17	.19	.26	.04	.29	.04	.23
F	2.01	7.24	8.35	7.96	9.75	2.76	13.90	2.42	14.61
ΔR^2	.03	.10**	.05**	.02**	.06**	.04*	.25**	.04	.19**
ΔF	2.01	22.27**	11.27**	5.13*	16.65**	2.76*	24.12**	2.42*	49.46**

Notes. $N=222$, * $p \leq .05$ (2-tailed); ** $p \leq .01$ (2-tailed).

To examine this interaction in more detail, regression lines representing the relationship between abusive supervision and psychological capital were plotted, as presented in Figure 2, at high and low levels of team member support (Aiken and West, 1991). Consistent with Hypothesis 2, the slope of the relationship line between abusive supervision and psychological capital was greater when a graduate student had low team member support than that when he/she had high team member support. Hence, Hypothesis 2 is supported by our data.
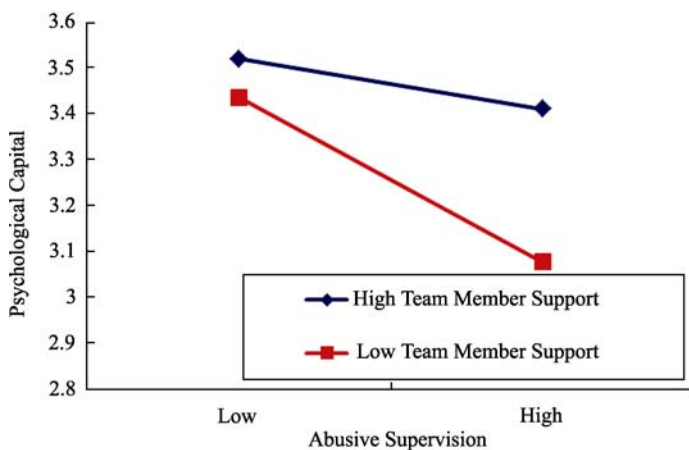

Figure 2 Interactive Effect of Abusive Supervision and Team Member Support on Psychological Capital

In Hypothesis 3, we predicted that the positive moderating effect of team member support on the relationship between abusive supervision and graduate students' psychological capital is mediated by supervisor-student exchange. We assessed this mediated moderation effect with Edward and Lambert's (2007) recommendation. As presented in Table 3, team member support positively moderates the negative relationship between abusive supervision and supervisor-student exchange (Model 7, b=.12, $p \leqslant .05$); supervisor-student exchange is positively related to psychological capital (Model 9, b=.33, $p \leqslant .01$); when the interaction between abusive supervision and team member support, and supervisor-student exchange are entered into the regression model simultaneously, the positive moderating effect of team member support on the relationship between abusive supervision and psychological capital becomes insignificant (Model 5, b=.08, p>.05), while the positive effect of

supervisor-student exchange on psychological capital is significant (Model 5, $b=.23$, $p\leqslant.01$). Therefore, we preliminarily concluded that the positive moderating effect of team member support on the relationship between abusive supervision and graduate students' psychological capital is fully mediated by supervisor-student exchange.

We next examined whether the indirect effects of abusive supervision on psychological capital through supervisor-student exchange are significantly different at high and low levels of team member support (±1 *SD* around the mean). The estimates, shown in Table 4, indicate that the indirect effect of abusive supervision has a stronger negative indirect effect, through supervisor-student exchange, on students' psychological capital for those who receive lower level of team member support ($p = -.09$, $p\leqslant.01$) than for those who receive higher levels of team member support ($p = -.04$, $p\leqslant.01$). The indirect effects of abusive supervision are significantly different ([−.04]–[−.09] =.05, $p\leqslant.05$). Hence, Hypothesis 3 is supported.

Table 4   Analysis of Simple Effect

Team member support	P_{MX}	P_{YM}	Direct effects (P_{YX})	Indirect effects ($P_{YM}*P_{MX}$)	Total effects (P_{YX}+$P_{YM}*P_{MX}$)
Low	−.40**	.22**	−.18**	−.09**	−.27**
High	−.19**	.22**	−.04	−.04**	−.08
Differences	.21*	.00	.14	.05*	.19*

Notes. *N*=222, *$p \leqslant .05$ (2-tailed); **$p \leqslant .01$ (2-tailed).

P_{MX}= path from abusive supervision to the Supervisor-student exchange. P_{YM}= path from Supervisor-student exchange to Psychological capital. P_{YX}= path from abusive supervision to Psychological capital. Low = one standard deviation below the mean of team member support. High = one standard deviation above the mean of team member support.

5 Discussion

Embedded in a higher education setting, this study focuses on abusive supervision in the advising relationship and the mechanisms through which abusive supervision and team member support interact to predict psychological

capital, with supervisor-student exchange mediating the interaction of psychological capital. The study contributes to the abusive supervision literature through extending the research context to other social relationships and suggesting important mechanisms underlying the relationship between abusive supervision and its outcome variables, which also can be applied to abusive supervision research in managerial relationships.

Specifically, this study expands our knowledge of abusive supervision through examining abusive behavior in the advising relationship, a social relationship that extends beyond a formal employment relationship in the workplace. Similar to abusive supervision in the workplace, manifestations of abusive advising involve public ridiculing and criticizing, the silent treatment, and/or improperly assigning blame (Aryee et al., 2007; Tepper, 2000, 2007). However, abusive supervision in the advising relationship might also be a kind of "tough love" (Nifadkar, Tsui, and Ashforth, 2012). Sometimes, the supervisor perpetrates abusive behavior because of his/her high expectations of students in terms of their academic research ability. The supervisor expects his/her graduate students to grow and thrive quickly and produce excellent research (e.g., more top tier publications, more competitive on the job market) under his/her guidance. Behaving abusively is a way for him/her to push graduate students to work harder and achieve higher standards. From this perspective, abusive supervision in the advising relationship is an inappropriate expression of the supervisor's good intentions and high expectations.

By investigating the relationship between abusive supervision and psychological capital, this study delineates a more comprehensive map of the negative effects of abusive supervision. Existing studies have made great progress in identifying the negative outcomes of abusive supervision from attitudinal and behavioral perspectives. Our study demonstrates that abusive supervision also exerts negative effects on subordinates' cognition. Psychological capital, as one important manifestation of the individual's self-cognition (Luthans, Youssef, and Avolio, 2007), may be decreased by abusive supervision. Psychological capital plays a prominent role in the success of people: people with higher psychological capital have more positive expectations of their future, possess more self-confidence in overcoming difficulties, and have stronger will power and greater perseverance in pursuing their goals. Psychological capital enhances subordinates and students' performance and facilitates their future

career success (Peterson et al., 2011). Thus, both organizations and individuals invest in psychological capital to leverage future returns. The establishment of psychological capital is a long process, which demands a sustained investment. However, abusive supervision damages people's psychological capital in the short term for both subordinates in the workplace and graduate students who are starting their academic careers. Abusive supervision not only engenders immediate negative effects on organizations and people, but also exerts potential negative effects on organizations' performance and subordinates' or students' future career success. Organizations and higher education systems should strive to eliminate abusive supervision.

By examining the mediated moderation model between abusive supervision and psychological capital, this study unveils the role of social support from a third party in the relationship between abusive supervision and its negative outcomes and the mediating effect of supervisor-student exchange underlying the moderation model. Perceived team member support reduces the decrease of psychological capital triggered by abusive supervision. This result highlights the importance of seeking team member support in dealing with abusive supervision in the workplace as well as in other social contexts (Duffy, Ganster, and Pagon, 2002; Hobman et al., 2009). As well, perceived team member support also buffers the negative effect of abusive supervision on supervisor-student exchange, indicating that a third party social support helps to reduce the decrease of exchange quality between two focal social actors because of one actor's abusive behavior. Thus, we expand the understanding of social support by examining its prominent role in enhancing positive social interaction and improving social exchange quality.

Employing social exchange theory, we also find supervisor-student exchange mediates the moderating effects of team member support on the relationship between abusive supervision and psychological capital. Subordinates or students who perceive   high team member support find the supervisor's abusive behavior less damaging to the exchange quality with their supervisor, which ultimately translates into less reduction of psychological capital. This result uncovers the mechanism underlying the relationship between abusive supervision and its outcome variables from a social exchange perspective. Abusive supervision is generalized to be a violation of the relational contract (Morrison and Robinson, 1997; Tekleab, Takeuchi, and Taylor, 2005) in the process of social interaction

and it breaks the exchange balance between two social actors, resulting in the low quality of the exchange relationship. Low exchange behaviors, such as low trust between social actors, few positive psychological interactions, and less encouragement, decrease psychological capital. Fortunately, team member support weakens the negative effect of abusive supervision on supervisor-student exchange, which in turn results in less reduction of psychological capital. This mediating mechanism contributes to our knowledge of the processes through which abusive supervision yields negative outcomes.

5.1   Practical Implications

Our results suggest important practical implications not only for higher education institutions but also for business organizations. For higher education, this study suggests that supervisors and administrators should pay attention to the potential damage of abusive supervision. Graduate study is the last systematic learning period before students start their academic careers. The supervisor plays an essential role in a student's psychological state, development of academic research ability, and self-cognition. However, abusive advising has negative effects on students' growing and thriving. Thus, supervisors should curb their abusive behavior when they interact with students and give more encouragement, support, and trust to develop students' psychological capital. Graduate institutions should provide effective training programs on emotional intelligence and interpersonal skills to supervisors, to eliminate abusive behavior. As well, the graduate education system could also develop a communication platform for supervisors and students to enhance information feedback.

  In terms of business organizations, this study implies that organizations that wish to enhance subordinates' psychological capital and further improve organizational performance, on the one hand, should invest in training that facilitates subordinates' human capital accumulation. With high human capital, subordinates tend to equip themselves with high psychological capital (Luthans, Youssef, and Avolio, 2007). On the other hand, these organizations should cultivate positive leadership styles (e.g., authentic leadership, transformational leadership) (Rego, Sousa, Marques, and Cunha, 2012; Walumbwa et al., 2011), control negative leadership behaviors within the organization and establish a high quality exchange relationship between supervisors and subordinates. Most

organizations focus on how to improve subordinates' psychological capital and overlook factors that damage psychological capital, which results in high costs and low efficiencies in constructing competitive human resources within an organization. Therefore, attention should be paid to curb abusive behavior. As well, high exchange relationships with supervisors that involve more trust and encouragement facilitates subordinates' psychological capital. Organizations should encourage more mutual interactions between supervisors and subordinates to build up a higher-quality exchange relationship. Furthermore, considering the buffering effects of team member support, organizations should also encourage mutual support among subordinates and establish a supportive climate (Luthans et al., 2008; Walumbwa et al., 2010). All positive actions within an organization could help subordinates to develop psychological capital and translates into good future performance.

5.2   Limitations and Future Directions

In spite of the contributions made by this study, it inevitably possesses several limitations. First, in terms of concept theorizing, this study contends that abusive supervision in an advising relationship is an inappropriate expression of a supervisor's "tough love". To some extent, the purpose of abusive supervision is to push students to achieve better academic performance. This argument indirectly implies that some positive effects may result from the supervisor's abusive behavior, so that students may perform better as a result of abusive supervision, motivating graduate students to improve their research abilities (Krasikova, Green, and LeBreton, 2013; Tepper et al., 2007). However, this study did not examine this potential positive effect of abusive advising, so cannot provide empirical evidence for this argument. Second, given the student sample data, this study has a limited external validity. Some researchers would argue that as this study is embedded in a higher education setting that the findings only apply to the relationship between supervisors and students, and is not applicable to business relationships. Nevertheless, in line with the principle of "theory borrowing" (Whetten, Felin, and King, 2009), this study finds some similarities between these two social relationships through clarifying the specificities of an advising relationship. Thus the variables of managerial research in this study could apply to higher education as well. Likewise, the findings could also be

used to explain the mechanisms underlying the relationship between abusive supervision and its outcome variables in the workplace. Third, although we used a multi-stage study design, all of the data was collected from a single source, resulting in the possibility of common method variance (Podsakoff et al., 2003). However, the interval between the first two surveys was three months which is long enough to control for common method variance (Kerlinger and Lee, 2000; Podsakoff et al., 2003; Spector, 2006). As well, existing studies have argued that self-reporting is the most appropriate way to assess perceptual constructs, such as the perception of abusive supervision and perceived team member support (Chan, 2009). Therefore, a self-reporting study design may be the most appropriate way to collect data.

   Given the limitations of this study, we suggest future directions for research on abusive supervision. First, we would replicate our study to test the robustness of our findings. Second, we know from this study that abusive supervision exerts a negative effects on people's self-cognition, manifested by a decrease in psychological capital. However, psychological capital is a general cognition of the self and surroundings (Luthans, Youssef, and Avolio, 2007), rather than a specific cognition. Recently, Chan and McAllister (2014) conceptualized that abusive supervision enhances paranoid cognition. But few studies have examined the specific cognitive outcomes of abusive supervision. Thus, future research could investigate how abusive supervision triggers peoples' specific cognitions and how these cognitions influence attitude and behavior. Additionally, in this study, we argue that the purpose of abusive supervision in an advising relationship is to push students to better performance in academic research. Is it possible for abusive advising to exert positive effects on students' performance? The answer is "yes". This is also one of the reasons why some supervisors are willing to perpetrate abusive behavior although they know this behavior may engender negative effects on students' psychological well-being. Thus, future research could try to explore the positive effects of abusive advising and processing mechanisms. Finally, future research should also examine mediating mechanisms between abusive supervision and its outcomes. Existing studies uncover some underlying mechanisms, such as injustice perception (Aryee et al., 2007), unsatisfied basic needs (Lian, Ferris, and Brown, 2012b) and LMX. However, all these explanations just unveil a small part of a huge "black hole" of mediating mechanisms. Further studies should employ cognitive, motivational,

and emotional perspectives to explain these unidentified mediating effects.

5.3   Conclusion

Invoking theories of social cognition, social support and social exchange, this study investigates the relationship between abusive supervision in higher educational settings and its negative effects on psychological capital, as well as the mechanisms through which abusive supervision and team member support interact to influence psychological capital through supervisor-student exchange. In examining this mediated moderation model with three-wave data collected from Chinese graduate students, we find that abusive supervision negatively relates to psychological capital; team member support mitigates the negative relationship; and supervisor-student exchange mediates the positive moderating effects of team member support. These findings contribute to the literature on abusive supervision and psychological capital and expand our understanding of why abusive supervision reduces psychological capital.

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