

How do Remote Workers Perform during COVID-19 Lockdowns? Examining Professional Isolation, Cynicism and Psychological Hardiness

Abstract

Purpose – With the spread of COVID-19, governments have initiated lockdown procedures and forced organizations to switch to remote working. Employees working remotely in isolated and confined situations are experiencing great stress and uncertainty. This study aims to investigate how remote workers perform during lockdowns.

Design/methodology/approach – Drawing on social information processing theory, this study developed and tested hypotheses linking professional isolation, cynicism and task performance. This study was comprised of 497 remote workers in the financial industry in China.

Findings – The findings revealed that professional isolation is positively related to cynicism and cynicism is negatively related to task performance. Cynicism mediates the relationship between professional isolation and task performance. The results indicated that psychological hardiness moderated the mediation effect of professional isolation on task performance through cynicism.

Practical implications – This research offers implications for managers and practitioners on reducing employees' feeling of isolation through effective communication, collaboration and support via online platforms and preventing and reducing cynicism by introducing clear organizational policy and practice to balance job demands and job resources. Meanwhile, managers can develop commitment, control and challenge components of employees' psychological hardiness to enhance job performance.

Originality – This study extends the remote working literature in a crisis situation and fills the gap in the cynicism literature by understanding the role played by cynicism for remote workers. The current study also adds to the literature by highlighting the importance of psychological hardiness for remote workers during the pandemic.

Keywords: COVID-19, remote working, professional isolation, cynicism, psychological hardiness, task performance

Introduction

With the advancement of technology in recent years, researchers have been continually discussing the accelerating changes in work practices and identifying the benefits and challenges of remote working (Bentley *et al.*, 2016; Collins *et al.*, 2016). Remote working is also referred to as teleworking, telecommuting, e-working, or flexible work arrangements (Morgan, 2004). Remote working is defined as a flexible work arrangement in which employees work remotely from their offices or production facilities, employees have no direct contact with colleagues but can connect with them via technology (Di Martino and Wirth, 1990).

No one foresaw such an abrupt pandemic-driven shift in work patterns during the COVID-19 outbreak. In a bid to slow the spread of COVID-19, governments around the world have initiated lockdown procedures to advise or even force organizations to limit business activities and switch quickly to remote working (Smith and Barrett, 2020). In particular, knowledge workers (e.g., employees working in financial sectors) have been most likely to transit to remote working during the pandemic. They specialize in more theoretical or abstract knowledge (Frenkel *et al.*, 1995), involving a low level of standardization and a high degree of freedom in working methods and practices, and are able to work almost anywhere and anytime (Pyöriä, 2005). As the outbreak began in China, it is important to gain evidence on how employees have performed there under COVID-19 isolation conditions.

The increasing number of remote workers who interact with colleagues and customers using different technologies has exerted physical and psychological demands during the pandemic (Collins *et al.*, 2016). Although technology enables work collaboration through video and teleconferencing via web applications and technologies, lack of social contact and face-to-face communication among employees in the virtual environment has been reported to cause feeling of professional isolation (e.g., Chamakiotis *et al.*, 2013). Professional isolation is a situation when a remote worker experiences the perception of being ignored, which could negatively impact upon their well-being and performance, increase loneliness, reduce job satisfaction and may result in social and emotional distress (Marshall *et al.*, 2007; Mulki and Jaramillo, 2011).

A number of empirical studies of organizational behaviors and in the field of human resources have investigated the antecedents and outcomes of remote working, such as the professional aspects of autonomy, competence and career prospects (Richardson and McKenna, 2014; ter Hoeven and van Zoonen, 2015), affective aspects of emotion, job satisfaction and

organizational commitment (Anderson *et al.*, 2015; Kelliher and Anderson, 2010; Vega *et al.*, 2015), and aspects of social relationships and support (Collins *et al.*, 2016; Sewell and Taskin, 2015). Some researchers have claimed that remote working with more flexibility, job autonomy and better work-life balance enhances workers' wellbeing, job performance, job satisfaction and reduces turnover (e.g., Bailey and Kurland, 2002; Kelliher and Anderson, 2010; ter Hoeven and van Zoonen, 2015). Others, however, have argued that professional isolation may disproportionately leave remote workers out of the loop in office interactions (e.g., Grant *et al.*, 2013; Vega and Brennan, 2000), consequently causing psychological and physical stress (Golden *et al.*, 2008) and hindering their job engagement and performance (Collins *et al.*, 2016; Xanthopoulou *et al.*, 2009). Research found that remote workers may engage in work activities during non-working hours, blurring the boundaries between work and home (Tietze and Musson, 2005) and leading to work intensification (Kelliher and Anderson, 2010), therefore working from home may not be considered as a favorable option for certain employees in terms of employee well-being associated with work intensification. The negative effects of long-term work intensification also raise questions over the adoption of working from home for organizations. Given that the existing literature on remote working in relation to employees' outcomes is inconsistent and not conclusive (Charalampous *et al.*, 2019), the mixed results indicate that remote working studies are not fully evaluated and deserve more attention (Vega *et al.*, 2015). Particularly in the situation of COVID-19 lockdowns, previous research on remote working may lack of contextual relevance, there is an urgent call for research on the impact of remote working in isolated situations on employees' job performance.

Although the isolated remote working condition can be detrimental for employees' attitudes and behaviors, how employees respond to this may vary greatly. A number of studies have identified that psychological hardiness protects employees against stress (Bartone, 2000; Hystad, 2011). The way that psychological hardiness is more effective in isolated working situation is because it is proved to influence how employees interact with their environment and promote effective coping for stressful situations with individual effort (Maddi, 2002, 2005). Hardy attitudes generate employee's courage and motivation to face challenges by problem solving rather than by avoiding (Maddi, 2005). Thus, psychological hardiness is proposed as a characteristic that helps in reducing the effects of professional isolation on cynicism.

Social information processing theory avers that social beliefs, environmental conditions and

social relationships with others all impact individual perceptions, attitudes, and behaviors (Salancik and Pfeffer, 1978). Information derived from colleagues and the social environment influences the judgments and behaviors of employees in an organization. Drawing on social information processing theory, we argue that the physical absence of employees triggers negative emotions resulting in a significant impact on job performance due to the restriction of opportunities to socialize with colleagues and the difficulty of remaining connected. Much literature on professional isolation focuses on exploring an employee's interaction with colleagues, supervisors and team members, but there is limited evidence of its impact on job performance (Golden *et al.*, 2008). As such, it is vital to identify the role of professional isolation during the COVID-19 pandemic and speculate on how its effects on job performance might manifest themselves.

This paper contributes to the literature in three domains. First, the study responds to the call for more research on remote working in the crisis situation by investigating the impact of professional isolation and cynicism on task performance. Practically, this study suggests some positive management policies and practices to respond to the impact of remote working. Second, the study draws the underlying mechanism of the impact of professional isolation on task performance via a mediational pathway of employee cynicism. This fills the gap in the cynicism literature by extending understanding of the role played by cynicism for remote workers. Moreover, this study adds to the literature by highlighting the importance of psychological hardiness for remote workers during the pandemic. The conceptual model is shown in Figure 1.

Insert Figure 1 About Here

Literature Review and Hypothesis Development

Social information processing perspective (Salancik and Pfeffer, 1978) argues that individuals' attitudes are affected by their awareness of relevant and credible information in the social context and the expressed attitudes contribute to direct individuals' behaviors. This theory provides an explicit connection between social information and social environment in shaping employees' job attitudes and actions. Employees develop their attitudes, behaviors and beliefs by relying on cues from their interaction with colleagues in the working environment. The social

interactions provide cues and act as an importance source of information to influence employee's role perception and task performance (Chen *et al.*, 2013). During pandemic, there could be limited cues and signals given by colleagues due to the restricted social contact from remote working, and employees may miss important information from workplace. Working in the isolated situation, employees are more likely to develop a cynicism attitude by reacting to the limited information received, which could influence their action to perform the tasks. Previous studies (Chen *et al.*, 2013; Gajendran *et al.*, 2015; Madlock, 2013) have adopted social information processing theory in examining the remote working situation. Accordingly, this theory presents a guiding framework to investigate how employees perform by adapting cynical attitude to their isolated remote working environment.

Professional Isolation and Cynicism

A sense of isolation arises when valuable interpersonal relationships are absent or reduced, or when an individual's social relationships are disappointing and accompanied by diminished emotional feeling associated with a crisis (Aizenberg and Oplatka, 2019). Professional isolation is conceptualized as an individual's perception of isolation from both colleagues and organization at work (Marshall *et al.*, 2007). Previous studies have demonstrated that professional isolation is connected to a range of negative individual outcomes in terms of anxiety (Abraham, 2000), depression (Rich and Scovel, 1987), loneliness (Marshall *et al.*, 2007), burnout (Chen and Kao, 2012), and psychological and physical distress (Golden *et al.*, 2008). This suggests that professional isolation has a potential impact on employees' attitudes of negativity or indifference toward their jobs.

Primary research on cynicism defines it as a personality trait, or an attitude distinguished by a 'dislike for and distrust of others', or 'a generalized and specific attitude involving frustration, disillusionment, and negative feelings toward and distrust of a person, group, ideology, social convention, or institution or object(s)' (Andersson and Bateman, 1997, p. 450). However, the current study departs from the trait-based disposition and distrust view of cynicism and is guided instead by Maslach *et al.* (1996) in classifying cynicism as one aspect of the three-dimensional syndrome of burnout, and defining it as employees' callous, indifferent and cynical attitudes toward their job, colleagues and organization. We argue that employee's cynical attitude has been developed by lacking of social interaction and being ignored by the work place, not the set

of characteristics or qualities that form employee's unique personality.

Cynicism has been proposed as a negative attitude or emotion initiated by an individual's working experiences, such as excessive job stress, insufficient social support, increased organizational complexity, and limited communication with co-workers (Kocoglu, 2014). Studies have shown that professional isolation could limit employees' ability to develop strong interpersonal relationships, work-related success, or favorable reputation within their organization, and consequently increase job burnout and dissatisfaction (Golden *et al.*, 2008; Hitlan *et al.*, 2006). This assertion supports empirical findings of a positive association between the isolation dimension of alienation and cynicism (e.g., Abraham, 2000; Yıldız and Şaylıkay, 2014). Furthermore, Abugre (2017) revealed that social distance could cause cynicism among a majority of employees in an organization, particularly those who are not able to assess management's actions. As working from home increases social distance and reduces social interaction and support, the resulting professional isolation can produce cynicism.

Based on social information processing theory, employees communicate with colleagues and use social information to develop their interpretation of the meaning, significance, variety and identity of the job (Salancik and Pfeffer, 1978). When facing uncertainty or new situations, individuals often have limited capacity in reaching and processing social information (Groth *et al.*, 2002; Salancik and Pfeffer, 1978). Interpersonal relationships and daily interactions directly and indirectly provide social cues through which individuals develop their attitudes and regulate their behaviors (Chen *et al.*, 2013). In an isolated remote working situation, the technology-mediated communication may be less effective in conveying the information that is crucial to the formation of interpersonal relationships (Madlock, 2012). There could be a lack of engagement opportunities, limited access to communication channels, time delays, and a lack of shared information among colleagues (Powell *et al.*, 2004). This may result in a reduction in emotions and feelings from employees who may adopt a negative attitude towards their job. Therefore, we assert that remote workers may feel professionally isolated, and the associated cynicism is expected to increase during COVID-19 pandemic lockdowns. Thus, we propose the following hypothesis:

Hypothesis 1: Professional isolation is positively related to cynicism.

Cynicism and Task Performance

Employees may perform tasks differently during COVID-19 pandemic lockdowns. Task performance is defined as the behaviors that directly relate to one's job description and contribute to organizational objectives, and has received greater attention in organizational literature (e.g., Hassan *et al.*, 2016; Khong *et al.*, 2017). Bakker *et al.* (2008) argued that employee cynicism could be negatively associated with performance, as employees with cynicism involved in a negative stress cycle are unwilling to seek support to change their situation.

Cynicism contributes to undesirable outcomes both at the individual level, such as excessive frustration, stress, anxiety and absenteeism, and at the organizational level, such as decreased levels of performance, organizational commitment, job satisfaction, and increased levels of turnover intentions (Abugre, 2017). Most studies have argued that cynicism negatively correlates with diminished effort and job performance because of frustration and disappointment in the workplace (e.g., Chiaburu *et al.*, 2013; Kim *et al.*, 2009). For instance, Bakker *et al.* (2004) studied human service professionals and concluded that the negative relationship between burnout dimensions and performance, i.e. exhaustion, is the most significant predictor of task performance, while cynicism is the most powerful predictor of contextual performance. Arslan (2018) indicated that when employees express negative attitudes at work, their performance, engagement and creativity are more likely to reduce. Abraham (2000) argued that cynical attitudes stem from employees' perception of a lack of trust, confidence and support in organization and influence employees' satisfaction, commitment and performance. Arslan and Roudaki (2019) investigated healthcare employees and concluded that organizational cynicism is adversely associated with workers' task performance, and the quality of patient care is consequently undermined.

According to social information processing theory, the lack of social influence shifts employee's attention to the negative aspects of work and leads employees to display reduced task performance. The cynical attitudes can influence employee's willingness to seek information, investment in time and energy and commitment to take responsibilities at work. Therefore, we contend that the greater level of cynical attitude an employee possesses, the poorer the task performance they exhibit. Thus, we hypothesize that:

Hypothesis 2: Cynicism is negatively related to task performance.

Mediating effect of Cynicism on Professional Isolation and Task Performance

Previous literature reviewed suggests that psychological isolation is positively associated with cynicism, which in turn hampers employee task performance. Psychological isolation disengages employees from work and reduces their behavioral adaptation in the face of the lack of interaction with and social support from colleagues in remote working environments (Collins *et al.*, 2016; Golden *et al.*, 2008). Psychological isolation also thwarts the sharing and transferring of material, social, and cognitive resources between coworkers, thus jeopardizing employees' effort levels, work attitudes, and productivity.

Social information processing theory (Salancik and Pfeffer, 1978) asserts that social beliefs, environmental conditions and social relationship with others all impact individual perceptions, attitudes and behaviors. Employees communicate with colleagues and use social information to develop their interpretation of the meaning, significance, variety and identity of their jobs (Salancik and Pfeffer, 1978). Through limited social relationships with colleagues and almost zero physical proximity to the company, the dearth of real-time and real-place supervisory and organizational support forces employees to confront tasks and work challenges on their own most of the time. Consequently, employees are less able to regulate their work patterns normally like they were before the COVID-19 pandemic lockdowns. The isolated employee is more likely to miss out the important information from social sharing, and is less willing to take on job responsibilities. This makes it difficult for employees to adapt to their job requirements and may increase potential work-related conflicts with others more often. Hence, employees are then less able to fulfil the demands of their job and, needless to say, to meet the expectations of traditional job performance appraisals. Bakker *et al.* (2008) determined that cynicism mediates the relationship between job resources and performance indicating that work conditions influence performance particularly through cynicism. Additionally, Chiaburu *et al.* (2013) found that cynicism is associated with various undesirable outcomes including decreased performance, and this negative outcome is identified as the consequence of professional isolation (Marshall *et al.*, 2007). To conclude, when communication is lacking, confusing or inefficient, the cynical attitude may occur, which in turn leads to employee's unwillingness to make efforts to perform at work. It is expected that psychological isolation lowers employee task performance through cynicism. Thus, we hypothesize that:

Hypothesis 3: Cynicism mediates the relationship between professional isolation and task

performance.

Moderating role of Psychological Hardiness

Psychological hardiness is conceptualized as a personality composite of beliefs characterized by a strong sense of commitment, control and challenge that seem to protect individuals from the adverse influence of stress (Kobasa *et al.*, 1982). Commitment involves a propensity to actively seek engagement in all daily tasks (rather than alienation therefrom). Control is belief in an individual's ability to affect the course of a situation (rather than helplessness). Challenge implies that change and challenges are inherently meaningful and act as incentives for personal growth and development (Bartone, 2000; Maddi, 2002). A growing number of studies propose that psychological hardiness could affect how individuals perceive, interpret and cope with frustrating situations and enhance their resilience in response to the stress (Maddi, 2005). Cole *et al.* (2006) also argued that hardy individuals are optimists, they have more confidence in finding constructive values in their jobs and appraise stressful stimuli at work as a growth opportunity, which could help reduce levels of employee cynicism and emotional distress. Social cognitive theory indicates that individuals' cognition and behavior are not only shaped by environment and inner forces, but are also influenced by individuals' ability to engage in activities (commitment), regulate appropriate behaviors (control) and develop their knowledge and skills (challenge) (Bandura, 2001). We argue that employees with high levels of psychological hardiness take better advantage of isolated remote working environments and develop a diminished cynicism attitude to work in comparison with employees with low levels of hardiness.

Empirical research has emphasized that individuals with hardy dispositional characteristics possess versatility in perception, attitude and behavior, as well as having a high tolerance of uncertainty (Hystad *et al.*, 2011). A meta-analysis by Eschleman *et al.* (2010) revealed that hardiness is a unique and critical stress resiliency resource, negatively connected with stressors and passive coping, and positively associated with active coping and performance. In addition, Ayala Calvo and García (2018) viewed hardiness as a moderator in explaining the effect of structural empowerment (i.e. work environment) on burnout through psychological empowerment (i.e. work control) and argued that a moderate or high level of hardiness can help individuals improve their response to work environment, thus increasing psychological

empowerment and diminishing burnout symptoms. Consequently, we expect employees' psychological hardiness to play a moderating role in the effect of professional isolation on task performance via cynicism. For instance, employees with high hardiness believe they can control or influence the stress level imposed by their isolated situation. They have confidence in their ability to continue making great contributions to their work and organization, and they tend to interpret the unforeseen situation in a positive and constructive way, valuing the isolated environment as a more flexible and autonomous way of maintaining strong job performance and personal growth (Hystad *et al.*, 2011). Therefore, a high level of psychological hardiness can undermine the influence of professional isolation on cynicism. In contrast, employees with low hardiness show negative attitudes and more emotional debilitation under extraordinary conditions, which is often associated with cognitive and behavioral withdrawal and denial, such as avoiding or ignoring tasks (Eschleman *et al.*, 2010). Thereby, the influence of professional isolation on task performance through cynicism will be strengthened when individuals possess low psychological hardiness. Considered collectively, we believe that the higher the level of employee psychological hardiness, the more likely they will know how to cope with uncertain and isolated situations during COVID-19 lockdowns, thus reducing the influence of professional isolation on task performance through cynicism. Thus, we hypothesize:

H4: Psychological hardiness moderates the mediation effect of professional isolation on task performance through cynicism.

Method

Participants and procedures

Web-based questionnaires were used in this study to collect data which was constructed with the Bristol Online Survey platform. Due to the lockdown following the COVID-19 pandemic, the target subjects for this study were remote working from home. A web-based survey was considered to be the most effective approach for data collection under the coronavirus outbreak in China during the lockdown. Our sample consisted of employees from twelve financial organizations in the north of China. A list of participants was obtained through personal contacts of researchers. Participants on the list were contacted to ask for their help in finding participants who met the inclusion criteria. The data were collected from March to May 2020. An online consent statement outlining the requisite information such as the purpose,

process, privacy protection, and data security of the research was attached before the survey to strengthen the ethical conduct of online surveys and to ensure participants understand that they could withdraw at any time and were assured of response confidentiality. Participants were informed and asked to provide their consent to participate in this study. A total of 603 survey were completed, of which 497 were usable questionnaires, resulting in an overall response rate of 82%. Sixty-one percent of participants were female. Twenty-four percent were 18-29 years of age, 54% were 30-39 years of age, 15% were 40-50, and approximately 5% were over 50 years old. About 57% of the participants had a bachelor's degree and 34% had a master's degree. Thirty-two percent of participants had worked more than 10 years for their current company, 24% had worked for 1-3 years, 21% had worked for 6-10 years, and 13% had worked for 4-5 years. As the survey was conducted in China, a translation-back-translation procedure (Brislin, 1980) was followed to translate the English-based measures into Mandarin.

Measures

All study variables were based on original scale and were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Professional isolation was measured using seven items from Golden *et al.* (2008) ($\alpha = .75$). The scale measured participants' perceptions of the extent to which they felt they were left out of activities and meetings that could enhance their career. A sample item is "I miss out on opportunities to be mentored."

Five items from Schaufeli *et al.* (1996) were adopted to assess individual cynicism. A sample item is "I have become more cynical about whether my work contributes anything." ($\alpha = .85$). Psychological hardiness was measured by six items from Cole *et al.* (2006). The scale measured the participants' perception of the extent to which they were in control of most things that happen in relation to their work. A sample item is "Despite setbacks, I remain committed to accomplishing job tasks." ($\alpha = .90$). Task performance was measured using five items from Begall *et al.* (2020). The scale was used to assess individual work performance. Sample items are "I was able to plan my work so that I finished on time." and "I was able to do my work efficiently." ($\alpha = .91$). The demographic information was measured by age, gender, education level and length of service.

Two variables, the percentage of salary cut and the number of days per week participants

were working from home during the COVID-19 outbreak, were included as control variables. As coronavirus outbreak has substantial impact on Chinese economy, a wide range of industries has been severely affected by the pandemic (Vasiev *et al.*, 2020). To survive in the crisis situation, many organizations either imposed a salary cut or made some employees redundant. The percentage of salary cut was operationalized as the ratio of the fall in payment the participants received compared with before the COVID-19 outbreak divided by the payment received before COVID-19. Moreover, participants were also asked to provide the number of working days per week they were working from home during the COVID-19 outbreak. The current literature on remote working has largely generated from a situation where remote working was only occasionally or infrequently (Wang *et al.*, 2020). In an unusual situation of pandemic, employees could be required to work full-time remotely, which might affect the research findings. Therefore, we argue that both the percentage of salary cut and the number of working days per week participants were working from home during the COVID-19 outbreak may have an impact on participants' psychological well-being as well as their perception about how they could handle their life and work. Therefore, in testing the proposed model, we controlled for the two variables.

The percentage of salary cut was measured by one item which is "What's the percentage of payment cut compared with the payment before COVID-19?" The score was coded 1 for no change, 2 for less than 5%, 3 for cut by 5-10%, 4 for cut by 11-19%, 5 for cut by 20-49%, and 6 for cut by 50% and above. Days of working from home per week was measured by one item which is "How many working days per week you are working from home during COVID-19 outbreak?" The score was coded 1 for one day, 2 for two days, 3 for three days, 4 for four days, and 5 for the whole week.

About 74% of participants had no salary cut, 8.7% had a salary cut by less than 5%, 5.6% by 5-10%, 3.8% by 11-19%, 3.6% by 20-49%, and 4.2% by 50% and above. About 48% of participants were working from home for the whole week. Thirteen percent of participants were working four days from home, 16% three days, 12% two days, and about 11% one day. Table 1 shows the average scores of cynicism and task performance for each of the control variable groupings. In addition, a T-test was conducted to compare the means of cynicism and task performance between male and female. The average cynicism score is 2.51 for male and 2.49 for female. The average task performance score is 3.68 for male and 3.79 for female. The result of

T-test showed no significant difference between male and female in cynicism, $t(495) = .276, p = .78$, and task performance, $t(495) = -1.78, p = .08$.

Insert Table 1 About Here

Results

A four-factor measurement model was evaluated using confirmatory factor analysis (CFAs). The four-factor model yielded an adequate fit for the data, $\chi^2(143, N = 497) = 568.89$, comparative fit index = .92, root mean square error of approximation = .08, and standardized root mean square residual = .05. This four-factor model produced a good fit to the data compared to all the alternative factor structures.

The means, standard deviations, and correlations for the study variables are shown in Table 2. The square root of the average variance extracted (AVE) was used to test for discriminant validity of each construct. As shown in Table 2, the square root of AVE for each construct was greater than the correlations between that construct and other constructs (Fornell and Larcker, 1981). Correlation results in Table 2 showed that the percentage of salary cut was positively correlated with professional isolation and cynicism, but negatively correlated with psychological hardiness and task performance. The correlation results also showed that the number of days working from home per week during the COVID-19 outbreak was positively correlated with workers' professional isolation.

Insert Table 2 About Here

Examination of direct and indirect effects

Structural equation modeling with *Mplus* software (Muthén and Muthén, 2012) was used to test the proposed model. Figure 2 shows the overall structural model results. Hypothesis 1 posited that professional isolation is positively related to cynicism. As shown in Table 3,

professional isolation had a significantly positive relationship with cynicism ($\beta = .29, p < .01$), thus supporting Hypothesis 1. Hypothesis 2 postulated that cynicism is negatively related to task performance. The results in Table 3 showed that the relationship between cynicism and task performance was significantly negative ($\beta = -.20, p < .01$). Therefore, Hypothesis 2 was supported.

Hypothesis 3 posited that professional isolation was negatively related to task performance through cynicism. As shown in Table 3, professional isolation positively affects cynicism and then cynicism negatively affects task performance. This indicates cynicism play an inconsistent mediating role, also known as the suppression effect. Unlike consistent mediating effect, the sign of the direct and indirect effect of the independent variable on the dependent variable is opposite in suppression effect (MacKinnon et al., 2000; Shrout and Bolger, 2002). In suppression, it is not necessary to have initial bivariate association between the independent variable and the dependent variable (Hayes, 2009; Kenny and Judd, 2014; MacKinnon et al., 2000). Indirect effects were tested with 95% bootstrap confidence intervals using 1,000 bootstrap samples. As shown in Table 4, the indirect effect ($a \times b$) was $-.04$ ($SE = .02, p < .05$). Furthermore, the 95% confidence interval for the indirect effect of professional isolation on task performance via cynicism supported a significant mediated effect (CI $[-.08, -.01]$). As shown in Table 3, the direct effect (c') was $.08$ ($SE = .06, M4$) which is greater than the total effect (c) which was $.04$ ($SE = .06, M3$). In addition, the indirect effect ($\beta = -.04$, Table 4) has a sign that is opposite to that of the total effect. Followed by the suppression effect mediation guidelines by Rucker et al. (2011), Hypothesis 3 was thus supported.

Insert Table 3 About Here

Insert Table 4 About Here

Examination of moderated mediation effects

All variables were centered (by subtracting the means) prior to the analysis of conditional indirect effect to reduce nonessential collinearity from testing moderated relationships (Aiken *et al.*, 1991; Cohen *et al.*, 2003). Control variables were included in the equation. Hypothesis 4 postulated that the indirect effect of professional isolation on task performance via cynicism is conditioned on the levels of employee psychological hardiness. Before we tested Hypothesis 4, we first examined the moderation effect. As can be seen in Table 3, psychological hardiness moderated the relationship between professional isolation and cynicism ($\beta = -.28, p < .01, M2$). Figure 3 shows the graph with the interaction effect to better depict the form of interactions of psychological hardiness. The graph was plotted following the procedures suggested by Aiken *et al.* (1991). One standard deviation above and below the mean were computed to capture both high and low psychological hardiness. The result in Figure 3 showed that workers with lower psychological hardiness experienced a significant increase in their cynicism when their professional isolation increased, whereas workers with high psychological hardiness had a slight decrease in cynicism when their profession isolation increased.

Table 4 reports the results for testing moderated mediation effects. We conducted simple slope tests for the moderator. The simple slopes are high vs. low for the moderator (high and low in path a) for the conditional indirect effect testing using the bootstrap confidence interval. Results in Table 4 show that a path for high psychological hardiness was insignificant ($\beta = .08, n.s.$) and for low psychological hardiness was significant ($\beta = .49, p < .01$). The indirect effect of professional isolation on task performance through cynicism was insignificant at high psychological hardiness ($ab = -.02, 95\% \text{ CI } [-.06, .02]$), but significant at low psychological hardiness ($ab = -.10^{**}, 95\% \text{ CI } [-.16, -.04]$). The difference in indirect effect between high and low moderators supported Hypothesis 4 (difference = $.08^{**}, 95\% \text{ CI } [.02, .14]$).

Insert Figure 2 and 3 About Here

Discussion

This study draws insights from social information processing theory as a theoretical foundation upon which to investigate how remote workers perform in relation to professional

isolation and cynicism during the COVID-19 outbreak. Social information processing perspective (Salancik and Pfeffer, 1978) argues that employees adapt their attitudes and behavior to the social environment. This social environment provides cues that employees use to interpret the situations. The involuntary remote working environment during pandemic could shape the perception of employees and affect employees' behaviors in their work. When employees feel isolated and perceive the lack of social cues from interpersonal interactions and poor exchange relationships with colleagues, they adopt indifferent or negative attitudes toward their job and organization. We conclude that perceived professional isolation among remote workers triggers their cynicism attitudes toward the meaningfulness of the job and the value of the organization, and in turn results in decreased task performance. Results of the moderation role of psychological hardiness in the relationship between professional isolation and task performance through cynicism support the propositions that although cynicism is expected to emerge from worker perceptions of isolated work environment characteristics and social interactions, these perceptions are filtered through the lens of personality, namely psychological hardiness, to affect individual work performance.

Although social information processing theory provides great insight in this study, there are still some limitations to consider. This theory posits that social information and social environment could shape employees' attitudes and actions, but there's lack of consideration on the specific context. With little or no control of the work environment during the stressful COVID-19 crisis, employees may have different responses to the social context. Social influence and social connections may have different meanings during COVID-19 lockdowns when employees work in the isolated situation. Moreover, employees' attitudes and behaviors may depend on their interpretation of the social environment and their past experience, or may be influenced by other factors caused by pandemic situation, such as stress. Therefore, given the uniqueness of the COVID-19 situation, this study may only limit the scope on how isolated environment affect employees' task performance through cynicism based on social information processing theory.

Theoretical implications

The primary theoretical contribution of this study is that it extends knowledge of how professional isolation among workers impedes work performance by embracing perspectives on

social information processing. While research has proposed that remote working arrangements provide employees with more flexibility and a better balance of work and family life, what has been missing is research that moves beyond the work and family relationships to work performance in an isolated work context. Research has shown that cynicism is related to lower satisfaction, decreased commitment, reduced performance, and increased intention to quit (Abraham, 2000; Chiaburu *et al.*, 2013; Lee and Sukoco, 2010). This study treats psychological isolation as a consequence of a unique set of work events with employees' own connotations and interpretations of working remotely. In extending the research on remote working, we focused on employees living under lockdown in China. We found that psychological isolation is positively associated with cynicism. The results correspond with the previous research findings of Golden *et al.* (2008) and Hitlan *et al.* (2006) who argued that professional isolation elicits cynicism when remote workers' ability to build or maintain healthy interpersonal relationships is restricted. Similar findings were revealed by Kocoglu (2014); that cynicism could be triggered by insufficient social support, increased organizational complexity, and limited communication with co-workers. While previous studies provided some evidence to support the benefits of remote working, our findings confirm that professional isolation perceived by remote workers is a strong antecedent contributing to cynicism. Our results also extend social information processing theory on the impact of limited social cues and an isolated social environment on employees' negative attitudes.

Second, by incorporating social information processing theory, this study provides compelling theoretical evidence of the role of cynicism in explaining how and why professional isolation relates to task performance. Our findings have broadened our understanding of how remote workers perform over and above what is already known from prior studies. Specifically, this study provides further insight into the relationship between professional isolation and task performance by introducing cynicism as a mediator during COVID-19 pandemic lockdowns. We add nuance to this discussion by demonstrating that the dynamics between social interactions and task performance show that isolation is essentially a barrier to access to information and resources. We contribute to the literature on remote working by investigating how cynicism serves as a mediating mechanism to reduce the quality of employee task performance during lockdowns. Such findings bolster the literature on relational schemas because employees' perceived professional isolation provides a roadmap for their work performance in relation to

their new work environment.

Finally, our findings reveal that psychological hardiness moderates the indirect effect of cynicism on the relationship between professional isolation and task performance. The results corroborate the findings of Hystad *et al.* (2011) and Cole *et al.* (2006), who argued that high psychological hardiness could impact employees' interpretations of difficult situations. The results further confirm the social cognitive theory (Bandura, 2001) that employees' cognition and behavior are influenced by their perceptions of control and challenges. In other words, psychological hardiness helps employees cope with isolated situation during the COVID-19 outbreak and reduces the impact of professional isolation on task performance through cynicism. It is noteworthy that the moderation effect of psychological hardiness illustrates the complexities of employee work performance in remote working settings and sheds light on the remote working literature.

Practical implications

The COVID-19 pandemic-related professional isolation and remote working can be great challenges for organizations. This study offers some implications for managers and HR practitioners. First, this study reveals that professional isolation is negatively related to task performance through cynicism. This result provides practical significance for managers seeking to handle employees' feeling of professional isolation while remote working. The fundamental principle is to help employees stay connected and maintain good interpersonal and work relationships while working remotely to limit their feelings of isolation. Managers need to be more proactive in involving remote workers in online interpersonal and workplace activities. Promoting effective collaboration and communication through advanced technology and engaging remote workers in core organizational activities seem imperative. Employee engagement programs can be introduced via online platforms, such as social engagement spaces (online communities), weekly news roundups, fun competition events and staff support surveys, among others. Social support networks among employees could reduce their perceptions of isolation and increase their confidence in conducting tasks by working through challenges, addressing problems, and building team cohesion. When employees experience greater work-based social support and stronger integration with their organization, their sense of work isolation should be lower, leading to a stronger sense of organizational identification and higher

job satisfaction (Marshall *et al.*, 2007).

Apart from the suggestions to limit employees' perceptions of isolation, managers could also consider reducing the impact of cynicism to improve job performance. It is worth to emphasize the importance of not overlooking the early signs of employee's cynicism, as high cynicism can be counterproductive and making it difficult to manage (Neves, 2012). Managers should actively make efforts to prevent cynicism by introducing clear organizational policy and practice to balance job demands (e.g., work pressure, excessive workload and work-family conflict) on employees with job resources needed to deal with these demands (e.g., flexibility and autonomy, supervisory and organizational support and performance feedback). For instance, organizations could provide mental and well-being training to alleviate employees' emotional and psychological distress caused by remote working during the pandemic. To avoid high cynicism, supportive managers could allocate manageable workloads, clarify task expectations, communicate openly with employees and provide timely and constructive performance feedback (Bang and Reio Jr, 2017). Granting enough flexibility and autonomy and avoiding micromanagement could convey a sense of trust in remote working environments, which might contribute to reduced cynicism and greater job performance.

Furthermore, given that psychological hardiness could be developed rather than inborn (Ayala Calvo and García, 2018) and hardy employees are more likely to cope with stressful and uncertain situations than unhardy ones, managers could design hardiness training programs to improve employees' resilience and reduce stress levels. Moreover, as hardiness entails three underlying dimensions of commitment, control and challenges, managers could develop hardiness further by implementing effective strategies. First, managers can increase the commitment component of hardiness through idealized influence by creating a sense of organizational identity among employees and proactively engaging them in organizational process (Mazzetti *et al.*, 2019). Second, managers can enhance the control dimension of hardiness by building employees' confidence in their ability to control and cope with difficult situations. A hardy organizational culture could boost employees' self-efficacy to control their job and work environment. Third, the challenge component of hardiness could be enhanced by managers' inspirational motivation (Mazzetti *et al.*, 2019). Managers should set up an example to develop their own hardiness and encourage employees to identify the positive side of challenge and respond to crises more effectively. Employees should be made aware that change is

inevitable in a crisis, rising to the challenge and increasing their hardiness could help them cope with difficult situations.

Limitations and Future research

This research has several limitations which could provide directions for future studies. First, as we limited the data by focusing on the financial industry in China, it may not be possible to generalize our findings to other industries. Hence, it would be useful to collect larger samples to compare different industries in which knowledge workers and remote working are involved. Future studies are also suggested to gather comparative data from different countries to investigate how remote working impacts employee performance during and after pandemic lockdowns.

This study investigated remote workers who did not choose to work from home as a result of flexible working design provided by their companies, but were forced to do so because of the pandemic. Compared with typical working from home prior the pandemic, we were not able to rule out the possible influence of workers' fear of job loss or salary cut due to the economic consequences of COVID-19. Although we have controlled for the percentage of salary cut and the number of working days per week in the data analysis, future research on remote working may need to take into consideration that the results of this study may be confounded by other effects of the pandemic. Especially when the pandemic generates great stress for employees, such as feel isolated, worry about the health conditions, financial pressure, job security, and the like, which is more likely to influence the data quality and research findings. More specifically, there might be large difference in employee's task performance between those who have home schooling and childcare responsibilities and those who do not have it. Working parents face great challenges in balancing work and family roles during COVID-19 outbreak. The impact of work-home interference on task performance might also be different by gender. Thus, future investigations could focus more on how other remote working challenges impact on individual outcomes.

Additional work might explore the mediating role of psychological hardiness. Though psychological hardiness is conceptualized as a personality composite which is believed to be stable over time. It is possible that one may weaken his or her psychological hardiness after perceiving isolated from both colleagues and organization at work for a long time. In addition to

investigating psychological hardiness as a moderator, future study may further explore the impact of professional isolation on psychological hardiness with longitudinal data. In a longitudinal study, this would be a case of mediation effect of psychological hardiness on the relationship between isolation and task performance.

Furthermore, all variables measured in this research were based on the individual level. The impact of organizational level variables, such as supervisory and organizational support, could be examined further in the future. The remote working literature indicated that employees could feel ignored or forgotten given reduced face-to-face interaction with colleagues and supervisors (Sewell and Taskin, 2015), and supervisors may trust employees less when they do not meet them regularly in the office (Tietze and Nadin, 2011). However, during the COVID-19 outbreak, almost all knowledge workers have conducted their work remotely, and their work relationships with colleagues and supervisors may be different from the existing evidence. Organizational support, such as technology and training support, is also worth further consideration, as it may contribute to increased job performance and reduced work stress in remote working.

In addition, this study adopts a cross sectional survey method and future research could be conducted through a longitudinal study for more comprehensive insights. Employees may have different attitudes and perceptions towards professional isolation and work tasks in different stages of remote working. In the early stage, the strong ambiguity and feelings of uncertainty may lead to a higher perception of isolation, however once employees have adapted to the change and developed new skills and coping strategies, the sense of isolation could be reduced. Moreover, the long-term effect of the pandemic is still unknown. Remote working could become the new norm in work arrangements and is worthy of future investigation.

Conclusion

Employees experienced significant physical and psychological distress in isolated remote working environment during pandemic, and the lack of social information appears to be one of the primary mechanisms through cynicism which indirectly influence employees task performance. Relevant coping strategies that may be conducive to reduce employees stress could be explored to achieve greater performance among employees. Despite the numerous studies on remote working, previous research may lack of contextual relevance. We believe that this study adds value to the research on remote working in a crisis situation by examining the impact of

professional isolation and cynicism on task performance and suggesting psychological hardiness as an important characteristic for employees to face challenging situation with courage and motivation. Therefore, we assert that the findings of this study make a contribution to the existing literature on cynicism, psychological hardiness and task performance.

Note

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

Disclosure statement

The authors declare that they have no conflict of interest.

There is no financial interest in the research.

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Appendix A. Measurement variables

Construct	Items	Factor loading	Statistics
Professional Isolation	1. I feel left out on activities and meetings that could enhance my career.	.70	KMO = .67 AVE = .70 $\alpha = .75$
	2. I miss out on opportunities to be mentored.	.70	
	3. I feel out of the loop.	.55	
	4. I miss face-to-face contact with coworkers.	.68	
	5. I feel isolated.	.50	
	6. I miss the emotional support of coworkers.	.66	
	7. I miss informal interaction with others.	.64	
Cynicism	1. I have become less interested in my work since I started this job.	.82	KMO = .82 AVE = .66 $\alpha = .85$
	2. I have become less enthusiastic about my work.	.87	
	3. I just want to do my job and not be bothered.	.75	
	4. I have become more cynical about whether my work contributes anything.	.78	
	5. I doubt the significance of my work.	.76	
Task Performance	1. I was able to plan my work so that I finished on time.	.87	KMO = .86 AVE = .80 $\alpha = .91$
	2. I kept in mind the work results I needed to achieve.	.86	
	3. I was able to set priorities.	.87	
	4. I was able to do my work efficiently.	.87	
	5. I managed my time well.	.80	
Psychological Hardiness	1. Despite setbacks, I remain committed to accomplishing job tasks.	.79	KMO = .85 AVE = .78 $\alpha = .90$
	2. When necessary I am willing to work extra hard.	.80	
	3. When a problem occurs at work, I am usually able to deal with it.	.85	
	4. I am in control of most things that happen to me at work.	.82	
	5. I enjoy facing new challenges at work.	.79	
	6. I am able to cope with unexpected problems at work.	.83	

