

Employee isolation and telecommuter organizational commitment

Telecommuters' organizational commitment

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Wendy Wang

*Department of Information Management Technology and Computer Science,
Trident University International, Cypress, California, USA*

Leslie Albert

*School of Information Systems and Technology, San Jose State University, San Jose,
California, USA, and*

Qin Sun

*Department of Marketing, David Nazarian College of Business and Economics,
California State University, Northridge, California, USA*

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Abstract

Purpose – In light of the increasing popularity of telecommuting, this study investigates how telecommuters' organizational commitment may be linked to psychological and physical isolation. Psychological isolation refers to feelings of emotional unfulfillment when one lacks meaningful connections, support, and interactions with others, while physical isolation refers to physical separation from others.

Design/methodology/approach – An online survey was used to collect data from 446 employees who telecommute one or more days per week.

Findings – The results of this study indicate that telecommuters' affective commitment is negatively associated with psychological isolation, whereas their continuance commitment is positively correlated with both psychological and physical isolation. These findings imply that telecommuters may remain with their employers due to perceived benefits, a desire to conserve resources such as time and emotional energy, or weakened marketability, rather than emotional connections to their colleagues or organizations.

Practical implications – Organizations wishing to retain and maximize the contributions of telecommuters should pursue measures that address collocated employees' negative assumptions toward telecommuters, preserve the benefits of remote work, and cultivate telecommuters' emotional connections (affective commitment) and felt obligation (normative commitment) to their organizations.

Originality/value – Through the creative integration of the need-to-belong and relational cohesion theories, this study contributes to the telecommuting and organizational commitment literature by investigating the dynamics between both psychological and physical isolation and telecommuters' organizational commitment.

Keywords Organizational commitment, Telecommuting, Employee isolation, Employee well-being

Paper type Research paper

Introduction

With the increasingly open access to information technologies, mobile devices, and ubiquitous Internet connectivity, employees can work from any location, including client sites, homes, cafes, and airports. Although work conducted outside of employer-provided spaces has been known by many names (e.g., telecommuting, telework, virtual work, remote work, and distributed work arrangements), this study adopts the term “telecommuting” coined by Nilles (1994) and defines it as working anywhere other than the organization's primary office(s) for at least some portion of an employee's working hours. As the office is rapidly expanding beyond the cubicle, telecommuting, whether full or part-time, is becoming the new norm. According to a recent study on the future of the workplace, many of the 1,000 hiring managers surveyed believed up to 38 percent of their full-time staff would be hired or transitioned to working remotely within the next decade (Upwork, 2019). The latest statistics provided by GlobalWorkplaceAnalytics.com (2018) shows 4.3 million employees (3.2 percent



of the workforce) work at least half their hours from home. Since 2005, the number of telecommuters has grown by 140 percent, nearly 10 times faster than the rest of the workforce. It is expected that about 70 percent of workers will work remotely at least five days a month by 2025 (Molla, 2019).

Despite its growth, telecommuting is often viewed as a double-edged sword. On the one hand, it offers employees many potential benefits over traditional work arrangements: better work–life balance, schedule flexibility, job satisfaction, autonomy, and reduced travel time (Fay and Kline, 2012; Golden, 2006; Golden and Veiga, 2005; Grant *et al.*, 2013; Leonari *et al.*, 2010; Morganson *et al.*, 2010). On the other hand, telecommuting may be associated with negative effects such as psychological and physical isolation. Psychological isolation is a feeling that one is disconnected from others, lacking desired social and influential network connections, and “that the need for support, understanding, and other social and emotional aspects of interaction are not fulfilled” (Diekema, 1992; Golden *et al.*, 2008, p. 1412). Numerous studies suggest that psychological isolation can be highly detrimental for employees, leading to undesirable outcomes such as job dissatisfaction, high turnover rates, and even poor health (Bartel *et al.*, 2012; Gainey *et al.*, 1999; Golden and Veiga, 2005; McCloskey and Igbaria, 2003). Physical isolation refers to telecommuters’ physical separation from their colleagues (Bartel *et al.*, 2012). Physically isolated employees tend to believe they are less respected in their organizations and possess fewer career advantages than their collocated peers. These employees may also need to actively manage their organizational image to dispel on-site colleagues’ and managers’ suspicions that they are “loafing” when not physically in the office by making themselves available around-the-clock via information communication technologies (ICTs) (Hamilton, 2002; Leonari *et al.*, 2010). This perpetual availability undermines telecommuters’ schedule flexibility and work–life balance. Thus, physically isolated telecommuters tend to feel frustrated and untrusted, prone to loneliness, and have poorer organizational identification and an inability to maintain meaningful relationships with coworkers (Cooper and Kurland, 2002; Golden and Veiga, 2005; Fay and Kline, 2012; McCloskey and Igbaria, 2003).

Given the many potential issues associated with psychological and physical isolation, it is imperative to understand how they influence employees and their organizations. However, few studies have examined psychological and physical isolation together or considered how they interact with employees’ telecommuting experiences. In particular, the relationships between physical and psychological isolation and telecommuting employees’ commitment to their organizations are not well understood (Buss, 1991; Gainey *et al.*, 1999; Golden *et al.*, 2008; Ozelik and Barsade, 2011).

Organizational commitment is tied to many desirable outcomes, for example, employee job performance, motivation, involvement, and organizational citizenship behaviors (Jacobs, 2008; Jønsson and Jeppesen, 2012; Khan *et al.*, 2010; Lu *et al.*, 2016; Luchak and Gellatly, 2007; Meyer *et al.*, 2002; Meyer and Allen, 1991; Nazir *et al.*, 2016; Saks, 2006; Schoemmel and Jønsson, 2014). While there are various conceptualizations of organizational commitment, this study adopts Meyer and Allen’s (1991) definition, which includes three dimensions: affective, normative, and continuance (Kanter, 1968; Meyer *et al.*, 2002). Affective commitment refers to an employee’s emotional connection, identification, and involvement with the organization and has been shown to be associated with a desire to remain with and contribute to the greater whole (Golden, 2006; Jønsson and Jeppesen, 2012; Nazir *et al.*, 2016; Ohana and Meyer, 2016; Wang *et al.*, 2010). Normative commitment reflects an employee’s loyalty and felt obligation to remain with the organization out of a sense of responsibility, shared norms, or reciprocity for organizational investments in the individual and may be emotional or instrumental (Jacobs, 2008; Johnson and Chang, 2006; Jønsson and Jeppesen, 2012; Meyer and Allen, 1991; Nazir *et al.*, 2016). Continuance commitment is purely instrumental, driven by economic exchanges, and represents an employee’s desire to remain

with the organization due to perceived benefits, lack of attractive alternatives, or high switching cost (Meyer and Allen, 1991; Thye *et al.*, 2014).

There are researchers who exclude normative commitment from their evaluations of organizational commitment as some studies found it strongly correlated with affective commitment and identified commonalities in normative and affective commitments' antecedents and consequences (Jönsson and Jeppesen, 2012; Wang *et al.*, 2010). However, other studies have found sufficient differences between affective and normative commitment to include both as separate constructs (Jönsson and Jeppesen, 2012). Therefore, in this study we include all three dimensions to present a comprehensive view of the relationship between these two types of isolation and telecommuters' organizational commitment.

This study makes several contributions to research and practice. First, by focusing on telecommuters – a unique and understudied population, this study extends the literature on organizational commitment. Second, through the application of the need-to-belong and relational cohesion theories to examine the connection between both telecommuters' psychological and physical isolation and their affective, normative, and continuance commitment to their organizations, this study provides new insights to telecommuting literature. Third, it offers suggestions as to how practitioners may offset the issues associated with psychological and physical isolation and telecommuters' organizational commitment.

The remainder of the paper is organized into three sections. The first section discusses the study's theoretical foundations and hypotheses development. The second section describes the data collection, statistical analysis, and research findings. The final section discusses the contributions and limitations of this study, as well as its practical implications.

Theory and hypotheses

This study applies the need-to-belong theory (Baumeister and Leary, 1995) and relational cohesion theory (Thye *et al.*, 2014) to gain a better understanding of the dynamics between psychological and physical isolation and telecommuters' organizational commitment. The need-to-belong theory (Baumeister and Leary, 1995) suggests that human beings possess an innate desire to cultivate and maintain positive, reliable, and meaningful relationships with others. These relationships are critical to the mental, emotional, and even physical well-being of human beings. Forming meaningful relationships requires ongoing, pleasant interactions with others who share reciprocal affective concern and expectations of continued interpersonal bonds (Bowlby, 1958; Kessler, 2013; Maslow, 1943). The need-to-belong theory can explain how telecommuters' physical and psychological isolation may limit their ability to form affective and normative connections to their coworkers.

Relational cohesion theory explains how individuals may form emotional connections to organizations from their emotional attachments to other individuals within the organization (Thye *et al.*, 2014). According to this theory, the process of creating person-to-organization ties begins with frequent and positive social exchanges among individuals. Social exchanges between members of organizations start out as benefit-seeking (instrumental) or uncertainty-reducing efforts and over time positive exchanges arouse positive interpersonal affect. Under certain conditions (e.g., the existence of persistent network connections, opportunities to select exchange partners, recognition of organizational membership, and larger network embeddedness), this positive affect between individuals may then be transferred to the organization. As a result, individuals attribute the positive connections they have with some organizational members to all organization members, even to those with whom they have no interaction, which leads to organizational-level commitment behaviors such as intentions to stay, gift-giving, and effort sharing (Lawler and Yoon, 1996; Thye *et al.*, 2014). Relational cohesion theory focuses on how an individual's power within a network (their likelihood of obtaining positive exchanges) and network density (how connected he/she is to others

within a network) can influence positive exchange frequency and thus play a role in the formation of positive interpersonal and organizational affect (Thye *et al.*, 2014).

The need-to-belong theory describes people's innate desire to have positive emotional connections with others, to feel accepted, and to be recognized as part of a team. While this theory does overlap somewhat with relational cohesion theory, its focus is different. The need-to-belong theory provides insights into why employees need to form meaningful and lasting relationships with their coworkers. The relational cohesion theory explains how positive affect and commitment stemming from these individual-level relationships may be transferred to a wider network of individuals to create organizational commitment. Together, these two theories provide a valuable lens through which we may examine the role of psychological and physical isolation in telecommuters' relationships with their colleagues and their organizations. Thus, both theories are used to provide a theoretical foundation for this study.

Hypotheses development

According to the need-to-belong theory, employees will seek out opportunities to interact with colleagues, participate in joint projects to reaffirm team status and acceptance, and to go "the extra mile" to contribute to the organization in order to fulfill their need for meaningful connections. Such efforts may engender trust, positive affect, and reciprocity among coworkers and create a sense of belonging. Relational cohesion theory suggests that these positive emotional connections between individuals may be extended to the larger network, which in turn leads to affective commitment (emotional attachment) and normative commitment (sense of embeddedness and responsibility) to the organization (Lawler and Yoon, 1996; Thye *et al.*, 2014).

When telecommuters experience psychological isolation, they feel out of touch, disconnected, and less likely to seek out the frequent interactions with their coworkers necessary to create positive emotions, leaving their need for interpersonal connections and a sense of belonging unfulfilled (Golden *et al.*, 2008). Without positive connections to colleagues, telecommuters' sense of organizational belonging, embeddedness, and obligation are likely to erode, weakening their affective and normative commitment to the organization. (Morganson *et al.*, 2010; Mulki *et al.*, 2009; Thye *et al.*, 2014). Therefore, we hypothesize:

- H1. Psychological isolation is negatively associated with telecommuters' affective commitment to the organization.
- H2. Psychological isolation is negatively associated with telecommuters' normative commitment to the organization.

Unlike affective and normative commitment, continuance commitment is based on value maximization and is thus instrumental rather than emotional. Continuance commitment occurs when employees feel that they must remain with the organization due to the benefits their employers provide (e.g., seniority, schedule flexibility, autonomy, and compensation) or the lack of comparable employment alternatives (Meyer and Allen, 1991). According to the relational cohesion theory and studies of interpersonal networks, one benefit of remaining with an organization is the maintenance of an individual's power and density in personal and professional networks as both may influence employment opportunities, salary growth, and career development (Durbin and Tomlinson, 2010; Grant *et al.*, 2013; Langford, 2000; Michael and Yukl, 1993; Wolff and Moser, 2009). Network connection types vary, with some being expressive through the offering of emotional and social support. These networks are largely friendship-based and may develop informally. Other networks are instrumental and purposely formed to facilitate information exchange and career advancement (Durbin and Tomlinson, 2010). Telecommuters experiencing psychological isolation may struggle to form

expressive network connections as these relationships require trust and affective connection (Grant *et al.*, 2013). Further, they may also feel disconnected from their organizational and professional colleagues and lack the confidence necessary to build the formal, instrumental networks needed for career mobility and uncertainty reduction. According to Durbin and Tomlinson (2010), employees without these networks will have fewer alternative employment opportunities than employees with strong networks, thus we suggest here that this decreased marketability may be associated with an increase in telecommuters' continuance commitment:

H3. Psychological isolation is positively associated with telecommuters' continuance commitment to the organization.

The need-to-belong theory suggests that people are social by nature, and frequent, repeated interactions are essential to fulfilling their need for emotional connections to others and to develop a sense of acceptance (Baumeister and Leary, 1995; Buss, 1991; Gaaney *et al.*, 1999). Failing to meet this need can lead to negative consequences such as depression, anxiety, and psychological isolation. Baumeister and Leary call out the importance of being near others stating, "...mere proximity is a potent factor in relationship formation. ..." (1995, p. 501), yet physical isolation greatly limits telecommuters' opportunities for direct contact (Bartel *et al.*, 2012). Although computer-mediated communication tools provide opportunities to interact with others, they cannot provide "the human touch" that occurs when two people see each other face to face or foster spontaneous, informal interactions between colleagues (Crampton, 2001, 2002; Golden and Veiga, 2005; Golden *et al.*, 2008; Smith and Rupp, 2002). Thus, the interactions that telecommuters do have make it difficult to establish interpersonal bonds (Kiesler and Cummings, 2002), leaving their need for meaningful emotional connections to others unfulfilled. With the assistance of advanced ICTs, telecommuters can work effectively and productively, yet collocated peers might still perceive them as unreliable and loafing during the workday. Such perceptions motivate managers and on-site coworkers to compensate for telecommuters' absence with increased communications using ICTs (Marsh and Musson, 2008; Golden, 2006; and Leonardi *et al.*, 2004). To manage their image, telecommuters feel compelled to stay perpetually connected and available to meet the organization's demands. Telecommuters' around-the-clock connectivity, or at least colleagues' expectations regarding their availability, may leave telecommuters feeling overly controlled, unaccepted, untrusted, and psychologically isolated (Leonari *et al.*, 2010). Therefore, we propose:

H4. Physical isolation is positively associated with telecommuters' psychological isolation.

Relational cohesion theory emphasizes the importance of interaction frequency for organizational commitment, suggesting that frequent and positive interpersonal interactions could lead to stronger affective relations with colleagues and organizations. As an individual's interaction frequency increases, his or her network power (likelihood of successful exchanges), network density (number of network connections), and capability to choose exchange partners also increase. These positive interactions generate positive emotions, which are associated with affective and normative commitment to the organization.

Physical proximity is an important contributor to the development of these emotional connections. Collocated employees enjoy both formal and informal exchanges during the workday. Spontaneous and informal interactions, in particular, are helpful in forming affective connections between colleagues, but such interactions are limited for telecommuters due to their physical isolation (Bartel *et al.*, 2012). Telecommuters' interchanges with colleagues are typically limited to planned events mediated by various technologies (e.g., video teleconferencing, phone, and email). Informal and serendipitous interactions are rare, telecommuters do not accidentally bump into colleagues by email or drop by for a quick chat via teleconference. Further, telecommuters may be hesitant to initiate informal chats with

their colleagues, fearing they will be perceived as loafing or as having excessive amounts of free time to chat. Such reductions in informal interactions lower the likelihood of successful exchanges for telecommuters (i.e., their network power) and may limit the number of network contacts they can establish and maintain. Further, the interactions telecommuters have may be limited to those colleagues willing and able to connect through technology-enabled methods, thus their ability to choose exchange partners declines as the time away from colleagues increases.

Some telecommuters consider the reduction of informal interactions a positive side effect of physical isolation as it means fewer unplanned disruptions. However, fewer interactions may also increase telecommuters' reliance on ICTs to manage how they are perceived by colleagues and to maintain the perceived legitimacy of their work arrangements. Telecommuters may use ICTs to appear to be always available, for example, setting their chat status to "in a meeting," while at the same time, intentionally disconnecting from the office to reclaim mental space to focus on their work (Leonari *et al.*, 2010). The expectation that telecommuters be perpetually connected and available blurs the demarcation between work and personal time, leaving them feeling distracted and frustrated. This may lead to further reduced interaction frequency, sense of network embeddedness and responsibility to coworkers, and ultimately lessen telecommuters' affective and normative commitment to the organization. Therefore, we argue:

- H5. Physical isolation is negatively associated with telecommuters' affective commitment to the organization.
- H6. Physical isolation is negatively associated with telecommuters' normative commitment to the organization.

Telecommuters' continuance commitment to the organization stems from a desire for value maximization; employees remain with the organization due to perceived benefits, lack of attractive alternatives, or high switching cost (Meyer and Allen, 1991; Thye *et al.*, 2014). Golden (2006) suggests that many physically isolated telecommuters find remote work beneficial as it allows them to conserve more resources than does collocated work. Monetary resources are conserved through a reduction in travel and work attire costs. Temporal resources are conserved through reduced commute times and workplace distractions while improved schedule flexibility permits greater work–life balance. Telecommuting may also conserve mental and emotional energy by allowing remote employees to control the frequency, duration, and timing of interactions with colleagues (Golden, 2006). Recent surveys suggest that younger generations in particular value these benefits and are unlikely to leave an organization that permits remote work for one that does not, even for an increase in pay (Clarendon, 2018; Wilkie, 2017). From this perspective, physical isolation may be viewed by some telecommuters as a positive aspect of remote work. Indeed, some telecommuters leveraged technology to disconnect from the office to preserve their schedule flexibility and reduce interruptions (Leonari *et al.*, 2010).

The physical isolation of remote work does come with a price in terms of career and professional development. By not being physically present, telecommuters lack organizational visibility and informal communication with colleagues, which can leave them feeling "out of the loop" and limit their opportunities for professional development, networking, informal learning, and mentoring (Golden and Veiga, 2005). The lack of face time at the workplace may even undermine collegial trust, which in turn reduces telecommuters' internal networks and marketability (Kurland and Cooper, 2002; Dolan, 2011; Fay and Kline, 2012; Grant *et al.*, 2013; McCloskey and Igbaria, 2003). Furthermore, the few connections telecommuters have with the organization are often through their direct supervisors on whom they must rely to communicate their contributions to the organization (Elsbach and Cable, 2012). Unfortunately, their relationships with superiors can become significantly less

positive (in terms of trust and affect) as telecommuters' physical isolation increases (Reinsch, 1997), which may lead to poor performance evaluations, fewer advancement opportunities, and reduced marketability (Kurland and Cooper, 2002). Whether telecommuters purposely leverage their physical isolation to improve their schedule flexibility and productivity or struggle to overcome its potentially detrimental effects on their organizational visibility and career advancement, prior studies suggest that physical isolation may be positively related to telecommuters' continuance commitment. Thus, we hypothesize:

H7. Physical isolation is positively associated with telecommuters' continuance commitment to the organization.

Research methods

Survey instrument

An online survey was used to collect data from working professionals who telecommute at least one day a week. The dependent variables, three dimensions of organizational commitment (i.e., affective commitment, normative commitment, and continuance commitment) were measured with a 10-item, seven-point Likert scale, ranging from strongly disagree to strongly agree (Meyer and Allen, 1991) with questions such as "I do not feel like part of the family at my organization," "I owe a great deal to my organization," and "I feel that I have too few options to consider leaving this organization." A five-item scale was adopted from Golden *et al.* (2008) to measure the extent of psychological isolation experienced with questions such as "I feel left out on activities and meetings that could enhance my career." Physical isolation was measured by a single item – the number of days per week telecommuters work physically separated from coworkers (Bartel *et al.*, 2012). Five control variables were included based on the extant literature due to their relevance to organizational commitment and desire to telecommute: gender, number of children (Mokhtarian *et al.*, 1998), how long the employee has telecommuted, and the employing organization's sector (for-profit or non-profit) (Bartel *et al.*, 2012; Cooper and Kurland, 2002).

Data collection

The online survey was conducted by Qualtrics Consumer Panels (QCP). Using QCP provided several benefits. First, researchers may specify criteria for subject selection. This enabled data collection from a targeted population – professionals who telecommute. Second, QCP recruits subjects from a wide range of industries, company sizes, and professions providing improved generalizability of the study's findings. Third, subject responses are anonymous, thus removing concerns regarding disclosure of personally identifiable information or respondent fears of employer confidentiality or reprisals. Subjects are compensated for their participation in QCP surveys based on survey length and specificity of selection criteria.

In total, 500 responses were collected for this study. After initial review of the data, 54 responses that met one or more of the following criteria were removed: 1) survey completion time was under 30 seconds, suggesting a lack of respondent effort; 2) the respondent did not complete the survey thoughtfully or in good faith (e.g., all Likert questions scored as Strongly Agree, even reverse coded items); or 3) the response was incomplete. The final sample included responses from 446 subjects for a valid response rate of 89.2 percent.

Participant profile

Among the 446 participants, 44.2 percent were between 25–35 years old, 28.5 percent between 36–45 years old, 16 percent between 46–55 years old, 6.1 percent below 25 years old, and 5.2

percent above 55 years old. Females comprised 62.8 percent of the participants, males 37.2 percent. Most respondents had at least Associate degrees (72.6 percent) and 27.4 percent possessed high school diplomas. One-third of respondents had no children (36.9 percent), about half had either one or two children, and 15.5 percent had more than two children.

Regarding the respondents' employment background, 49.3 percent had 1–5 years of working experience, 44.6 percent worked for more than five years, and only 6.1 percent had less than one year of work experience. Most respondents worked at for-profit organizations (74.4 percent), 32 percent worked for large firms with over 500 employees, 28 percent worked at medium-sized firms with 100–500 employees, while about 40 percent of respondents worked for small firms with less than 100 employees. In addition, respondents worked in different industries: 16.8 percent in health care, 13.5 percent in education, 11 percent in manufacturing, 8.5 percent in marketing and sales, 6.1 percent in finance, 3.8 percent in biotech-pharmacy, and 3.4 percent in housing. The remaining respondents did not specify the industries in which they were employed and simply marked "Other."

Data analysis and results

Confirmatory factor analysis (CFA) was performed to examine the dimensionality of the constructs. The measurement items indicate high correlations and are representative of each underlying construct as all factor loadings are above the benchmark value of 0.65 in [Table I](#) ([Hair et al., 2010](#); [Pedhazur and Schmelkin, 1991](#)). The average variances extracted (AVE) were all above 0.50, with affective commitment at 0.77, normative commitment at 0.53, continuance commitment at 0.70, and psychological isolation at 0.62 ([Table I](#)), indicating acceptable convergent validity ([McDonald and Ho, 2002](#)). All latent constructs used in the hypothesized model possess acceptable reliability ([Table II](#)) with Cronbach's Alpha values ranging from 0.75 to 0.84 ([Churchill, 1979](#)). In addition, the square root value of AVE per factor (from 0.73 to 0.88) is more than the inter-factor correlations (from 0.12 to 0.67), the constructs are considered to have adequate discriminant validity ([Fornell and Larcker, 1981](#)). Harman's single factor score was run to test for the common method bias, the result indicates that a single factor extracted contributes to 31.37 percent of the total variance, far lower than the recommended 50 percent ([Podsakoff et al., 2012](#)); hence, common method bias was not identified in this study.

A review of the data revealed no significant outliers or influencers. Results from CFA show that all indicator variables have well explained their latent variables (χ^2 (df = 83,

Constructs	Items	Factor loading	AVE	Square root of AVE
Affective commitment (AC)	AC1	0.82	0.77	0.88
	AC2	0.82		
	AC3	0.84		
Normative commitment (NC)	NC1	0.69	0.53	0.73
	NC2	0.80		
	NC3	0.73		
	NC4	0.78		
Continuance commitment (CC)	CC1	0.83	0.70	0.84
	CC2	0.82		
	CC3	0.68		
Psychological isolation (PI)	PI1	0.78	0.62	0.79
	PI2	0.83		
	PI3	0.75		
	PI4	0.82		
	PI5	0.74		

Table I.
Factor loadings and
average variance
extracted (AVE)

$N = 446$) = 210.340, $p < 0.000$; NNFI = 0.924, GFI = 0.941, AGFI = 0.914, TLI = 0.939, CFI = 0.952, RMSEA = 0.062), with all satisfying the recommended threshold (Byrne, 1994; Hair *et al.*, 2010; Marsh *et al.*, 1996; Schreiber *et al.*, 2006).

The hypothesized model was tested using structural equation modeling (SEM) (see Figure 1). SEM allows not only simultaneous estimation of a measurement model that relates the items in each scale to the construct they represent but also a structural model that relates constructs to one another providing parameter values.

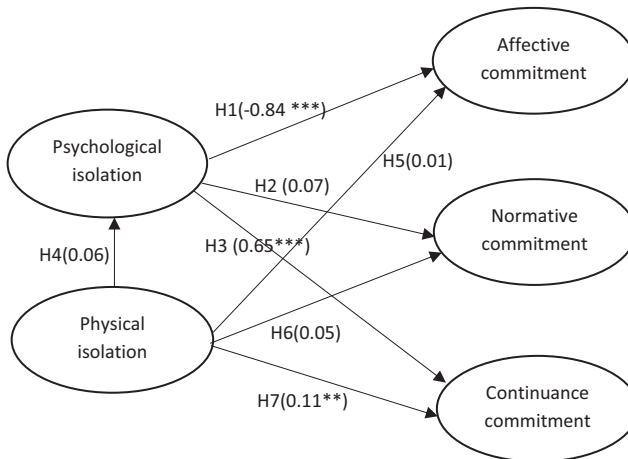
Based on the SEM results in Figure 1, psychological isolation is negatively related to affective commitment ($\beta = -0.84, p < 0.01$) and positively associated with continuance commitment ($\beta = 0.65, p < 0.01$). Hence, H1 and H3 are supported. However, psychological isolation is not related to normative commitment ($\beta = 0.07, p = 0.25$), so H2 is rejected. Physical isolation is not associated with psychological isolation ($\beta = 0.06, p = 0.27$), affective commitment ($\beta = 0.01, p = 0.82$), or normative commitment ($\beta = 0.05, p = 0.36$). Therefore, H4, H5, and H6 are not supported. However, physical isolation is positively associated with continuance commitment ($\beta = 0.11, p = 0.02$) confirming H7.

We also tested the robustness of the theoretical model by including the control variables. As shown in Table III, physical isolation is significantly correlated with gender, children, tenure, and teleLength (how long the employee has telecommuted), but is not correlated with psychological isolation. Psychological isolation, however, has a significant negative

	AC	NC	CC	PI
Affective commitment (AC)	0.81			
Normative commitment (NC)	0.12*	0.75		
Continuance commitment (CC)	-0.42**	0.20**	0.75	
Psychological isolation (PI)	-0.67**	0.12**	0.51**	0.84

Notes: ** Correlation is significant at the 0.01 level (two-tailed). The diagonal values are Cronbach's Alphas

Table II. Convergent and discriminant validity



Notes: *** significant at the 0.001 level (two-tailed); ** significant at the 0.05 level (two-tailed), and the values in the parentheses are standardized beta coefficients

Figure 1. Path estimates for the structural model

Table III.
Correlation analysis
results (*n* = 446)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Age												
2. Gender	0.07											
3. Marriage	0.12*	0.03										
4. Children	0.26**	0.08	0.356**									
5. Education	-0.05	-0.13**	0.06	-0.13**								
6. Tenure	0.34**	0.00	0.15	0.12*	0.09							
7. TeleLength	0.20**	0.01	0.08	0.18**	0.06	0.48**						
8. Profit	0.04	0.14**	-0.06	0.02	0.12*	-0.01	-0.03					
9. Psychological Isolation	-0.03	-0.04	-0.08	-0.08	0.06	-0.03	-0.04	0.03				
10. Physical Isolation	0.07	0.13**	0.10*	0.15**	-0.15**	0.12*	0.19**	-0.01	0.04			
11. Affective Commitment	0.00	0.08	0.07	0.07	-0.04	0.13**	0.08	-0.03	-0.67**	-0.03		
12. Normative Commitment	-0.02	0.04	0.08	0.04	-0.01	0.07	0.05	-0.01	0.09	0.04	0.13**	
13. Continuance Commitment	-0.05	-0.06	-0.169**	-0.04	-0.06	-0.01	0.06	0.01	0.50**	0.11*	-0.41**	0.20**

Notes: * denotes correlation is significant at the 0.05 level (two-tailed); ** denotes correlation is significant at the 0.01 level (two-tailed)

correlation with affective commitment ($r = -0.67$), a significant positive correlation with continuance commitment ($r = 0.50$). On the other hand, physical isolation is positively correlated with continuance commitment ($r = 0.11$). Therefore, the hypothesized relationships still hold when we include the five control variables in the model, thus validating the results of this study.

Discussion

This study applies the need-to-belong and relational cohesion theories to explore how psychological isolation and physical isolation impact telecommuters' commitment to their organizations. The findings suggest that telecommuters experiencing psychological isolation tend to feel less emotionally attached to their organizations (affective commitment), as both theories predict. However, the results do not find support for a negative relationship between physical isolation and affective commitment. As employees can feel isolated even while working side by side with their colleagues, it is possible that psychological isolation is more strongly associated with telecommuting employees' emotional connections to their coworkers and organizations than is physical isolation. Recent studies suggest that the widespread use of computer-mediated communication tools may explain the increased feelings of isolation among collated workers (Roser *et al.*, 2018). It could also be that many telecommuters self-select to work away from their colleagues, treasuring their alone time, and thus do not mind psychological isolation due to physical separation.

This study also finds that both psychological and physical isolation are positively associated with telecommuters' continuance commitment in this study. "Out of sight, out of mind" is very real for telecommuters as they do not have as many bonding opportunities with peers and managers as collocated employees do (Kurland and Bailey, 1999), and the lack of visibility can reduce their potential work opportunities (Hamilton, 2002). As a result, psychologically or physically isolated telecommuters either have, or perceive themselves as having, low network power and density and thus weakened marketability. Such perceptions could encourage them to remain in their current positions due to their limited number of comparable employment alternatives. It is also plausible that some telecommuters have strong continuance commitment to their organizations because of the benefits they enjoy from working remotely.

This study provides no evidence that increases in psychological or physical isolation among telecommuters would lead to a reduction in their normative commitment. Telecommuters who possess established normative commitment due to their tenure or identification with the organization may be able to retain their sense of responsibility and organizational embeddedness even while being distant from their coworkers. However, telecommuters with low normative commitment who already lack a sense of belonging and team membership may not perceive it a loss in organizational attachment stemming from psychological or physical isolation.

Relation cohesion theory suggests that physical isolation can have a negative impact on telecommuters' ability to maintain meaningful relationships with their colleagues. However, the findings from this study do not provide evidence that physical isolation is correlated with psychological isolation. Given the widespread availability of rich, synchronous communication media, it is possible that telecommuters can overcome distance and psychological isolation through technologies that provide interaction quality comparable to face-to-face meetings. Also, some telecommuters, particularly those who are introverted, may prefer to work separate from their colleagues, cherishing the distance from others rather than feeling psychologically isolated because of it.

This study contributes to the literature by suggesting it is psychological isolation that is associated with telecommuters' interpersonal and affective bonds with colleagues, challenging the presumption that greater physical isolation reduces affective commitment.

Also, it extends the telecommuting literature on organization commitment and employee isolation by suggesting that for telecommuters, continuance commitment may not be connected to interaction frequency or affective relations to colleagues, but rather attributable to the benefits of remote work or to telecommuters' lack of comparable employment opportunities.

Practical implications

The results of this study suggest that telecommuters who experience psychological isolation feel less emotionally connected (affective commitment) to their organizations and tend to remain (continuance commitment) out of a desire to conserve resources or due to limited employment alternatives rather than a sense of connection or obligation to the organization. As affective and normative commitment are positively related to many desirable work outcomes (Meyer *et al.*, 2002), organizations should consider pursuing measures that cultivate greater affective and normative commitment in their remote workforce. For example, organizations may implement team-building activities that create opportunities for telecommuters and collocated employees to interact more frequently, formally and informally, and across hierarchical lines (Grant *et al.*, 2013). Increasing training, supervisor support, and opportunities to partake in decision-making for telecommuters may further improve both affective and normative commitment (Nazir *et al.*, 2016). Organizations could also invest in and encourage the frequent use of teleconferencing and other rich communication media to more closely mimic face-to-face and affect-building interactions.

Managers should also consider efforts aimed at shifting telecommuters' continuance commitment toward normative commitment. Although challenging, this shift may be possible given that both normative and continuance commitment possess instrumental/utility-based motivations to stay with the organization (Lu *et al.*, 2016). According to Meyer and Allen (1991), continuance commitment is a need to remain with the organization due to perceived benefits, high switching costs, or lack of equivalently valuable alternatives, whereas normative commitment is the felt obligation to stay due to organizational investments or a sense of reciprocity. By addressing the factors that lead to need-based continuance commitment (e.g., result of perceived weak internal network power and density, strained employee/superior relations, and poor organizational visibility), employers should engender a sense of organizational embeddedness, reciprocity, and obligation among telecommuters (normative commitment). For example, organizations could invest in multichannel communication technologies to increase interactions between telecommuters and their colleagues, strengthen telecommuters' network power and density, and reduce their reliance on supervisors for organizational visibility. Organization could further build telecommuters' sense of obligation by maximizing the benefits they receive from remote work, such as preserving their schedule flexibility, increasing hours spent telecommuting, and trusting them to work autonomously. Organizations can also promote a sense of organizational responsibility by fostering a culture that allows all employees to speak up regarding workplace issues. For telecommuters specifically, online surveys may ensure that their voices are as recognized as those of collocated employees, thereby increasing their sense of responsibility and connectedness to the organization.

All in all, it is important for management to systematically shift organizational culture to one conducive to telecommuting success by adopting structures and policies that facilitate distributed work arrangements (DeSanctis and Monge, 1999; Leonari *et al.*, 2010; Rice and Gattiker, 2001). The negative assumptions toward telecommuting and the visibility-driven evaluation methods need to be changed to ensure that telecommuters feel trusted and not viewed as loafing by collocated employees. Telecommuters should also be publicly recognized for their accomplishments and receive equal opportunities for mentoring, training, and advancement.

Limitations and further research

This study surveyed 446 telecommuting professionals from diverse backgrounds to investigate how psychological and physical isolation may influence their commitment to their organizations. However, this study is not without its limitations. First, the survey did not include several potentially important control variables including telecommuters' salary, personality traits (e.g., introversion and extroversion), preexisting emotional bonds with colleagues, the extent of social and emotional support available outside of work, or other factors outside the organization's control (Grant *et al.*, 2013). More research is needed to understand how these factors influence telecommuters' perceived isolation and organizational commitment. Second, the survey did not ask respondents the number of organizations for which they work. Thus, it is possible that some subjects included in this study are e-lance (online freelance) workers employed in the "gig economy" and unlikely to feel a commitment to any one organization. Third, the study did not gather data regarding the types of communication technologies respondents use, and it is possible that telecommuters' physical isolation was attenuated by rich communication media – a possibility that should be explored in future research. In societies where people are highly connected through various types of technologies and social media, it is particularly relevant to investigate the relationship between technology use and feelings of isolation.

Fourth, the study did not survey telecommuters regarding their reasons or motivations for telecommuting. For example, some employees, perhaps those who are highly introverted, may prefer to work distanced from their colleagues and therefore feel isolation less intensely than as those employees who have no choice but to work remotely. Still others may choose to telework in order to increase their schedule flexibility and focus on their work away from the frequent disruptions often found in shared workspaces (Leonari *et al.*, 2010). Considering employee work location choice in future studies would further deepen our understanding of the relationship between telecommuters' isolation and their organizational commitment. Fifth, our sample is skewed toward a younger generation, with 44 percent of participants younger than 35 and over 50 percent of our respondents with five or fewer years of work experience. This is consistent with results from recent surveys that younger employees are not only more comfortable with remote work than their more senior colleagues, they are also more likely to demand work schedule flexibility, which only telecommuting can provide and actively seek positions that permit remote work (Clarendon, 2018; Wilkie, 2017). As such, our data may illustrate this generational preference for telecommuting and fairly represent today's remote workforce – an assertion that deserves further investigation.

In addition, survey respondents were compensated for their participation by QCP, which might bias the results as paid participants might be different from those who would participate without any incentive. Lastly, although this study suggests that gender, number of children, tenure, and the number of days per week spent telecommuting do not alter the relationship between telecommuters' physical and psychological isolation and employee commitment, findings suggest that they are related to physical isolation. Future studies should investigate how these different demographic factors impact telecommuters' work experiences.

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About the authors

Dr. Wendy Wang is the Associate Professor and Chair of Information Management Technology and Computer Science department at Trident University. She has a Ph.D. in Management Information System from the University of Mississippi with a minor in computer science. She has published in the proceedings of conferences and journals such as AMCIS, DSI, Journal of the American Society for Information Science and Technology, and International Journal of Enterprise Information Systems. Her research areas are: social media, text abstraction and extraction, health-care information systems, IT adoption, ERP implementation, telecommunication, and virtual organizations. Wendy Wang is the corresponding author and can be contacted at: wendy_phoenix@hotmail.com

Dr. Leslie Albert is an Associate Professor of MIS in the Lucas College and Graduate School of Business at San Jose State University. She earned her Ph.D. in Business Administration – MIS from the University of Oklahoma. She has published in Electronic Markets, Decision Sciences Journal of Innovative Education, Information Systems Journal, and Journal of Information Technology Research and in conference proceedings for AOM, AMCIS, and HICSS. Her research interests include consumer perceptions of cyber risk, online learning, online identity, telecommuting, and the use of social networking data in HR hiring practices.

Dr. Qin Sun is an Assistant Professor in David Nazarian College of Business and Economics at California State University, Northridge. Her research interests include country branding and destination branding, cross-cultural marketing, teaching innovation, mobile marketing, social media marketing, and business ethics. To date, she has published various articles in premier peer-reviewed journals such as Business Ethics: A European Review, Journal of Global Marketing, Marketing Education Review, Journal of Consumer Marketing, Journal of Brand Management, Journal of Customer Behaviour, Journal of Education for Business, International Journal of Internet Marketing and Advertising, and Journal of Electronic Commerce Research.

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