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Proactive personality and cross-cultural adjustment: Roles of social media usage and cultural intelligence

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ABSTRACT

Proactive personality has been theoretically defined as a natural disposition that determines the manner in which an individual responds to social environmental changes. However, in cross-cultural context, knowledge about the role of proactive personality and its boundary conditions in expatriate cross-cultural adjustment remains limited. To address the gaps, this study aims to investigate whether and how proactive personality accounts for variance phenomena in expatriate cross-cultural adjustment with intervention of boundary conditions. A survey was conducted in three public universities in China, and 247 informative responses were obtained for hypothesis testing analysis. Results reveal that proactive personality contributes to expatriate cross-cultural adjustment. This contribution occurs through the conduit of cultural intelligence (CQ). CQ partially mediates the relationship between proactive personality and academic adjustment but fully mediates that between proactive personality and social adjustment. Moreover, social media usage for gathering information negatively influences the relationship between proactive personality and CQ. Implications and future research directions are discussed as well.

Introduction

Cross-cultural adjustment refers to the extent of expatriate psychological comfort and acquaintance with various aspects of a foreign environment during international expatriation (Black, Mendenhall, & Oddou, 1991; Huff, Song, & Gresch, 2014). It has been identified as an important factor that underlies expatriate survival and success in a foreign environment (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005; Chen & Lin, 2013; Earley & Peterson, 2004; Khilji, Davis, & Cseh, 2010). However, developing the ability for cross-cultural adjustment remains a great challenge for expatriates because of the uncertainties and risks related to living in a foreign environment (Caligiuri, 2000a; Koveshnikov, Wechtler, & Dejoux, 2014). Accordingly, scholars paid increased attention to the exploration of potential antecedents that may affect expatriate cross-cultural adjustment (Koveshnikov et al., 2014; Lee, Li, & Wu, 2018; Wechtler, Koveshnikov, & Dejoux, 2015). For instance, the literature has examined the role of personality factors in cross-cultural settings and presented them as key factors related to expatriate adjustment (Klimstra, Crocetti, Hale, Fermani, & Meeus, 2011; Caligiuri, 2000a, 2000b; Ang, Van Dyne, & Koh, 2006). As a disposition to initiate changes and enact behaviors to influence the environment (Bateman & Crant, 1993), proactive personality drives individuals to challenge the status quo and improve the current circumstances rather than passively accept roles (Parker, Williams, & Turner, 2006; Rodrigues & Rebelo, 2013; Wang, Cullen, Yao, &

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Li, 2013). The literature has indicated that proactive personality should be positively related to cross-cultural adjustment. However, few studies have empirically investigated the explanatory mechanisms and boundary conditions, under which the influence of proactive personality may be strengthened or weakened.

The literature has proposed that the psychological process can be a potential underlying mechanism in explaining how proactive personality is related to cross-cultural adjustment (Lee & Sukoco, 2010; Ward & Fischer, 2008). Several scholars, for example, suggested that personality can affect cross-cultural behaviors through the primary psychological process, such as cultural intelligence (CQ) (Earley & Ang, 2003; Lee & Sukoco, 2010; Ward & Fischer, 2008). CQ, which refers to an individual's competence in effectively engaging with a culturally diversified environment, has been presented as an effective conduit whereby cross-cultural adjustment occurs (Lee & Sukoco, 2010; Ward & Fischer, 2008). As contented by Black et al. (1991), expatriates must cognitively and emotionally reach congruence with the values, norms, and attitudes rooted in their host culture to appropriately adapt to the new environment. This requirement pushes expatriates to acquire the necessary new cultural knowledge, integrate into the host cultural assumptions, and behave in a culturally appropriate manner (Nolan & Morley, 2014). This condition indicates that CQ can be an important psychological process in bridging proactive personality and cross-cultural adjustment.

In addition, person–environment (P–E) fit theory (Edwards, 1996) highlights the importance of the congruence of personal and environmental attributes (Nolan & Morley, 2014; Selmer, 2005). The theory contends that individual performance is derived from the relationship between the person and his/her environment and not separately from each other (Jiang & Gu, 2015). Recently, the emergence of information technology, such as social media, has greatly affected individuals' social and information environments (Chung & Koo, 2015). Social media networks (e.g., Facebook and Twitter) have become increasingly important portals that affect the trait-related performances of an individual and change the actual and virtual worlds of expatriates during their international assignments (Hsu, Tien, Lin, & Chang, 2015; Hu, Gu, Liu, & Huang, 2017). Scholars examined the relationships between personality characteristics (e.g., openness, extraversion, and neuroticism) and social media usage (Hamburger & Ben-Artzi, 2000; Marshall, Lefringhausen, & Ferenczi, 2015; Song, Cho, & Kim, 2017). However, the existing findings about the role of social media usage on individual performance remain inconsistent (Li & Tsai, 2015; Kirschner & Karpinski, 2010). Particular trait-related outcomes may occur when proactive individuals are involved in the use of social media for specific purposes. Accordingly, unveiling the role of social media usage for proactive expatriates can help uncover the underlying mechanisms of processing cross-cultural adjustment (Takeuchi, 2010).

To address the cited gaps, we aim to develop a research framework to explore the influencing mechanism of proactive personality and cross-cultural adjustment in the higher education context. Indeed, international college students have become the main and quickly increasing population of international expatriates. For example, China has become the largest destination in Asia for international students with the total number of international students increasing from 110,844 in 2004 to 492,185 in 2018 (Ministry of Education, People's Republic of China, 2019). These international students normally face problems that are similar to those of other expatriates when exposed to cross-cultural settings. However, in contrast with other expatriates, international students not only face the challenge of social adjustment but also adjustment in academic requirements, instructional styles and methods, and classroom activities. In this regard, we followed Gong and Fan (2006) to investigate the mediating role of CQ in the relationships among proactive personality, cross-cultural academic adjustment, and social adjustment. Moreover, basing on P–E fit theory, the present study tests the moderating role of informational and socializing social media usage in the aforementioned mediating mechanism.

Literature review and hypothesis development

Person–environment fit and cross-cultural adjustment

An expatriate's cross-cultural adjustment is often fraught with unexpected setbacks and risks, which may lead to feelings of anxiety and uncertainty (Bücker, Furrer, & Peeters Weem, 2016; Gudykunst, 1998; Malek & Budhwar, 2013; Sit, Mak, & Neill, 2017). The successful management of these feelings is strictly associated with individual's cultural competence and exerts profound influences on personal performance in cross-cultural adjustment (Bücker, Furrer, & Lin, 2015; Earley & Ang, 2003; Gong & Fan, 2006; Lee et al., 2018). Conceptualized as a multifaceted construct, cross-cultural adjustment has been identified into various facets due to its disciplinary focus. In acculturation research, scholars identified three facets of cross-cultural adjustment, namely, psychological, socio-cultural, and work adjustment (Froese, Peltokorpi, & Ko, 2012; Koveshnikov et al., 2014). Similarly, the research on expatriates has proposed general environment, work, and interaction as the three facets of cross-cultural adjustment with host country nationals (Peltokorpi & Froese, 2012; Wechtler et al., 2015). In international education management research, two relative facets of adjustment are identified, namely, social and academic (Gong, 2003). Considering the complexity of cross-cultural adjustment, Gong and Fan (2006) differentiated the cross-cultural adjustment of international students into two facets, namely, academic and social adjustment. The former refers to expatriates' adjustment to academic requirements, instructional styles and methods, and classroom activities, whereas the latter refers to expatriates' efforts to establish and maintain interpersonal relationships with superiors and peers in non-academic activities that typically occur in a foreign environment.

The literature has indicated that P–E fit theory can serve as an appropriate theoretical lens to illustrate cross-cultural adjustment because it unveils the mechanism of how individuals achieve the purpose of cross-cultural adjustment in a complex, culturally diversified environment. P–E fit theory emphasizes two approaches for individuals to achieve cross-cultural adjustment, namely, supplies–values (S–V) fit and demands–abilities (D–A) fit (Edwards, 1996; Kristof, 1996). The core mechanism that underlies the S–V fit is the cognitive comparison between the perceived amount and quality of environmental attributes and individual interests, motives, and expectations (Edwards, 1996). Cross-cultural adjustment can be regarded as the first privileged expectation for

individuals who are exposed to a foreign environment. The core mechanism that underlies the D–A fit is the cognitive comparison between perceived environmental demands and individual abilities (Edwards, 1996). The theoretical framework indicates that individuals should develop their cross-cultural ability (e.g., CQ) to meet the demands of the environment for the purpose of cross-cultural adjustment. Accordingly, the theory emphasizes that P–E fit is a function of the interaction between individual and environmental characteristics (Gilbreath, Kim, & Nichols, 2011). In addition, this perspective suggests that individuals have to leverage on their personal proactivity and environmental resources (e.g., social media) to meet the purpose of fitting with the environment and achieving cross-cultural adjustment. This interaction-oriented approach is consistent with our research questions to understand the moderating and mediating mechanisms that affect individuals with proactive personality to achieve cross-cultural adjustment.

Proactive personality

As a personal characteristic, proactive personality refers to an individual's disposition to engage in active role orientations by initiating change and affecting the environment (Bateman & Crant, 1993). Individuals with proactive personality are relatively unconstrained by situational forces, scan for opportunities, show initiative, and take actions (Crant, 2000). Thus, proactive people show strong dispositional tendency not to be hindered by their environment, but to take initiative to shape the environment to which they are exposed (Loi, Liu, Lam, & Xu, 2016). When confronted with obstacles, proactive people demonstrate sufficient persistence until they reach their desired outcomes (Harvey, Blouin, & Stout, 2006). In this view, proactive personality appears to function more efficiently to help individuals achieve their goals when they are exposed to a new and challenging environment.

Ample evidence indicates that proactive personality is positively related to task behavior (Bergeron, Schroeder, & Martinez, 2014), career adaptability (Jiang, 2017; Tolentino et al., 2014), employee creativity (Kim, Hon, & Lee, 2010), career success and satisfaction (Seibert, Crant, & Kraimer, 1999; Seibert, Kraimer, & Crant, 2001), and job performance (Thompson, 2005). Proactive personality has been denoted to benefit an individual's learning and personal performance. Further, personality attributes have been found to be significant indicators in cross-cultural environment to develop individual's cultural intelligence. For instance, openness to experience, agreeableness and extraversion have been identified to be positively associated with cultural intelligence (Ang et al., 2006, 2006; Presbitero, 2016, 2018). The important findings suggest that proactive personality may also contribute to personal performance because of its nature of proactivity. However, little research contributed to unveiling its functions in cross-cultural settings and correlations with an individual's cross-cultural capability. In particular, how this significant individual disposition is related to cross-cultural capability (e.g. cultural intelligence), thereby influencing cross-cultural adjustment, is still under less investigation and needs more empirical studies.

In addition, although proactive personality is less constrained by situations (Locke & Latham, 2004), the evaluation of such a personality should be regarded as incomplete if such situational forces are not considered (Thompson, 2005). Bateman and Crant (1993) argued that proactive personality should not be necessarily considered to derive favorable and desirable outcomes. A few studies have examined situational forces, such as job autonomy (Fuller, Hester, & Cox, 2010), job creativity requirement, and supervisor support (Kim et al., 2010). However, potential moderators (e.g., social media) should be further explored, given that these moderators can amplify or attenuate the effects of a proactive personality on the individual's cultural intelligence and cross-cultural adjustment.

Cultural intelligence

Cultural intelligence (CQ) refers to an individual's ability to carry out effective interaction with people from a culturally different background (Earley & Ang, 2003). As a relatively new construct, CQ demonstrates its enormous potential to explain expatriates' cross-cultural effectiveness and performance. Furthermore, it unveils the underlying mechanism why expatriates succeeded, whereas others failed in a cross-cultural environment (Hu et al., 2017, Hu, Liu, & Gu, 2018; Kim & Van Dyne, 2012; Thomas, Elron, Stahl, Ekelund, & Ravlin, 2008). Likewise, evidence suggests that individuals with higher levels of CQ have a more complex perception of the environment. Thus, they are able to shape the environment to which they are exposed compared with individuals with lower levels of CQ (Ang et al., 2007; Thomas, 2006).

Regarded as a quantitative continuum of capability that effectively deals with cross-cultural problems and enhances task performance effectiveness, CQ has been divided into various specific dimensions by scholars from various perspectives and understandings (Ang et al., 2007; Presbitero, 2016). For example, Thomas (2006) specified three dimensions for CQ, namely, knowledge, mindfulness, and behavioral ability. In addition, the author also introduced mindfulness as a key component that links knowledge to behavioral ability. Afterward, two dimensions for measurement of the construct were advocated, namely internalized cultural knowledge and effective cultural flexibility (Bücker et al., 2015). Ang et al. (2007) conceptualized CQ into four dimensions, namely meta-cognitive, cognitive, motivational, and behavioral CQ. Meta-cognitive CQ refers to an individual's consciousness to acquire and comprehend culture-related knowledge and effectively control his/her own cognitive process (Chua, Morris, & Mor, 2012). This dimension occupies the central position in the conceptualization of CQ and functions as cognitive self-regulation, abstraction of specific knowledge, focus of cognitive resources and disadvantage compensation (Thomas et al., 2008). Cognitive CQ is based on specific knowledge about the values, conventions, norms, and practices of a foreign country (Earley & Ang, 2003). Individuals with high cognitive CQ comprehend similarities and differences within a culturally diversified context (Brislin, Worthley, & MacNab, 2006). The motivational form focuses on functioning effectively in a cross-cultural environment. Thus, individuals with high levels of motivational CQ demonstrate strong interest, intrinsic motivation, self-efficacy, and confidence in dealing with cross-cultural encounters (Ang & Van Dyne, 2015; Bücker et al., 2016; Huff et al., 2014; Ng & Earley, 2006). Finally, behavioral CQ reflects an

individual's ability to demonstrate appropriate behaviors, while interacting with other people from diverse cultural backgrounds (Earley & Ang, 2003). We followed the four dimensions of CQ proposed by Ang et al. (2007) because the four dimensions of the construct were widely accepted and empirically supported to exhibit satisfactory reliability and validity across contexts (Groves & Feyerherm, 2011; Hu et al., 2017, 2018; Huff et al., 2014).

Differentiated from other forms of intelligence that focus on a single cultural context (Brislin et al., 2006), CQ is recognized as a state-like malleable variable and can be developed from international experiences or training programs (Hu et al., 2017; MacNab & Worthley, 2012; Ng, Dyne, & Ang, 2009; Ng, Van Dyne, & Ang, 2009). Empirical evidence indicates positive relationships between CQ and cross-cultural adjustment (Groves & Feyerherm, 2011; Lee & Sukoco, 2010). Further, scholars have identified that CQ is positively associated with personality dimensions (Presbitero, 2016, 2018). However, to the best of our knowledge, there is no prior empirical study researching the relationship between proactive personality and CQ. Given the significance of CQ for international expatriates, more empirical studies are required to further explore how proactive personality relates to CQ, especially outside of the western countries.

Social media usage

Social media is defined as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and allow the creation and exchange of user-generated content" (Kaplan & Haenlein, 2010, p. 61). It is disseminated worldwide and exerts tremendous influences on information-sharing and relationship-building among individuals, communities, and societies in the virtual world (Ngai, Tao, & Moon, 2015; Zolkepli & Kamarulzaman, 2015). As a ubiquitous platform, social media has seeped into people's daily lives with over 4.2 billion registered users (Chung & Koo, 2015). In addition, massive efforts have been made to explore their uses and gratifications (Roy, 2009; Sundar & Limperos, 2013). However, scholars have reached incongruent conclusions in their research work about either positive or negative effects of social media usage (Cheon, Choi, Kim, & Kwak, 2015; Hu et al., 2017; Kirschner & Karpinski, 2010). For instance, social media networks are found to be positively related to interpersonal interactions, individual word-of-mouth, social capital, involvement in community activities, and psychological well-being (Bagozzi, Dholakia, & Pearo, 2007; Cheon et al., 2015). In comparison, social media usage is also found to be negatively associated with social adjustment and academic performance (Wohn & LaRose, 2014; Kirschner & Karpinski, 2010).

To obtain a relatively comprehensive picture of social media, scholars differentiated social media usage into two categories of objectives (i.e., socializing and information) to explain people's involvement in social media (Hsu et al., 2015; Hughes, Rowe, Batey, & Lee, 2012). Informational usage refers to users' gathering or spreading of specific information to solve related problems (Lee & Ma, 2012). Accordingly, the interaction aspect of social media focuses on establishing and maintaining interpersonal relationships (LaRose, 2009). Further, researchers have discovered that social media usage with different purposes is driven by two value orientations (Chung & Koo, 2015; Wang, 2010). Specifically, when users use social media for information purposes, they are driven by utilitarian value, which focuses on individuals' cognitive readiness (Hu et al., 2017). In contrast, the socializing usage of social media is driven by hedonic value orientation, which focuses on individuals' emotional appreciation (Wang, 2010).

Hypothesis development

Fig. 1 illustrates the proposed model and hypotheses of this research.

Proactive personality and cultural intelligence

The perspective of the P–E fit involves the matching of an individual's values, goals, and needs with environmental demands and

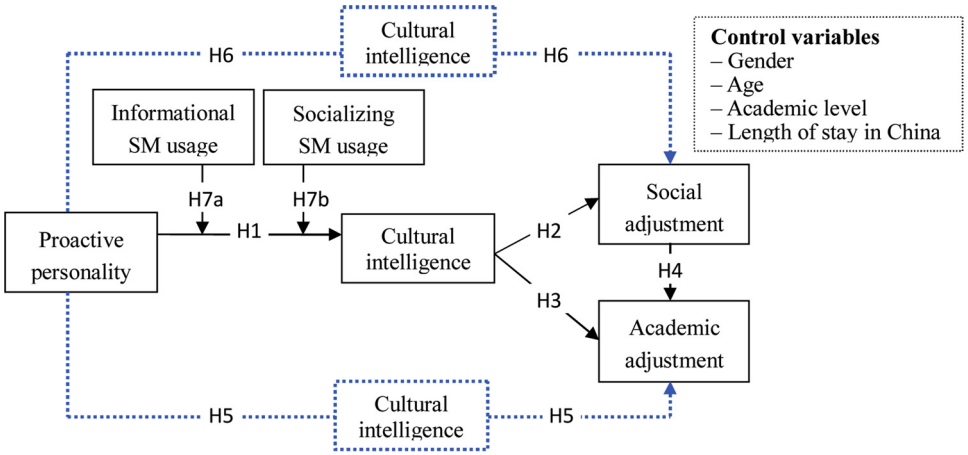

Fig. 1. Proposed research model.
Note: The dotted line refers to two mediation effects of cultural intelligence.

culture (Afsar, Badir, & Khan, 2015; Van Vianen, De Pater, Kristof-Brown, & Johnson, 2004; Kristof, 1996). Regarded as one of the goals in a foreign environment, cross-cultural adjustment requires proactive individuals to develop their ability to match the demands of the environment. This notion is framed by P–E fit theory as the D–A (demands–ability) approach to achieve the purpose of fitting with the foreign environment.

First, when exposed to a foreign environment, individuals are confronted with psychological depression, loneliness, and even trauma, which are triggered by cultural shock and conflicts (Dao, Lee, & Chang, 2007; Lee & Rice, 2007; Sawir, Marginson, Deumert, Nyland, & Ramia, 2008). Individuals with higher levels of proactive personality are more likely to engage in proactive behaviors than those with lower levels of proactivity (Seibert et al., 2001). Evidence has shown that individuals with proactive personality are more frequently engaged in identifying opportunities and initiating learning activities to effect environmental change and fit with the new environment (Bateman & Crant, 1993; Jr. & Marler, 2009). This finding indicates that driven by their natural disposition, proactive individuals tend to be more self-conscious to learn about foreign cultural knowledge, such as values, traditions, and norms, thus enhancing their metacognitive and cognitive CQ (Ang & Van Dyne, 2015). Facilitated by the mastery of increased cultural knowledge, proactive individuals feel more confident to socialize with local people and address cultural challenges. This psychological change is conducive to fostering proactive individuals' motivational CQ (Leung & Chiu, 2010). Furthermore, proactive individuals demonstrate sufficient capability to behave appropriately during cultural encounters by facilitating cultural consciousness, cultural knowledge, and strong motivation, which enhances their behavioral CQ (Hu et al., 2017).

In addition, individuals with proactive personality are more likely to expand their social networking to effect and fit with the new environment (Thompson, 2005). This aspect is deemed important by proactive individuals who are living far from their home countries and exposed to a foreign environment with numerous uncertainties (Hu et al., 2018). During the process of maintaining and establishing a new social network, proactive individuals initiate more interactions with peers, seniors, and experts from diverse cultural backgrounds. Expanded social networks benefit proactive individuals through increased social capital, which offers further social support and resources to aid proactive individuals in developing their cultural capability, that is, CQ (Jr. & Marler, 2009; Thompson, 2005). The literature also depicts that the proactivity of individuals contributes to personal performance (Crant, 2000; Zhou & George, 2001).

Based on the previous statement, we hypothesize that

H1. Proactive personality is positively related to CQ.

Cultural intelligence and cross-cultural adjustment

According to P–E fit theory, individual capability is vital for expatriates to fit adequately with their environment. CQ has been proven to be an essential ability, which allows individuals to effectively engage in culturally diverse settings (Earley & Ang, 2003).

Individuals with high levels of meta-cognitive CQ are deemed to effectively control their cognitive process (Chua et al., 2012) and proactively search for tactful strategies to cope with challenging foreign encounters (Gong & Fan, 2006). Ang et al. (2007) argued that a high level of meta-cognitive CQ helps individuals make isomorphic attributions and interpret the behaviors of their counterparts from the perspective of actors. This notion allows both parties to better comprehend one another and establish an improved interpersonal relationship. This phenomenon contributes to improved cross-cultural adjustment between individuals.

Individuals with high levels of cognitive CQ can make comparisons among cultures and understand cultural similarities and nuances (Brislin et al., 2006). This capability provides individuals with psychological preparation and a sense of comfort as they adjust to the new environment. Motivational CQ directs an individual to focus his/her attention and energy on cross-cultural situations that are driven by intrinsic motivation and self-efficacy (Bandura, 1995; Deci & Ryan, 1985). In addition, high-intrinsic motivation and self-efficacy contribute to individual perseverance, which thereby enable individuals to overcome cultural difficulties and better adjust to the new environment (Epel, Bandura, & Zimbardo, 1999). Behavioral CQ demonstrates an individual's verbal and nonverbal ability to behave appropriately when interacting with others from diverse cultural backgrounds. In other words, individuals with high levels of behavioral CQ are conscious of selecting culturally appropriate behavior repertoires. Furthermore, they are sufficiently flexible to be comfortable in cross-cultural interactions, which facilitate better cross-cultural adjustment.

In summary, we contend that CQ largely contributes to an individual's cross-cultural adjustment. Empirical studies have also shown that CQ is positively correlated with cross-cultural adaptation (Ang et al., 2007; Ward & Fischer, 2008). As a special group of expatriates, international students encounter nearly the same dilemmas as other expatriates in various cross-cultural settings. Given higher levels of CQ, international students can afford to establish more associations with locals. In addition, they can develop a better appreciation of the educational systems of the foreign environment, such as academic requirements, classroom organizations, instructional styles and methods, and classroom activities. In this vein, this attribute contributes to their academic adjustment and allows them to concentrate on and carry out academic activities (Gong & Fan, 2006; Parker & McEvoy, 1993). In addition, students with higher levels of CQ are deemed more capable of establishing and maintaining interpersonal relationships with their superiors and peers to facilitate the conveniences of living in a foreign environment. Further, Gong and Fan (2006) presented that an individual's academic adjustment can be affected by her/his social adjustment. This indicates that social adjustment could be an effective predictor for academic adjustment in cross-cultural environment as well. On the basis of such information, the following hypotheses are presented:

H2. An individual's CQ is positively related to academic adjustment.

H3. An individual's CQ is positively related to social adjustment.

H4. An individual's social adjustment is positively related to academic adjustment.

Mediating role of cultural intelligence

Several streams of research suggest that proactive personality is positively related to motivation to learn, activity involvement, career engagement, work adaptation and individual creativity (Jiang, 2017; Kim et al., 2010; Major, Turner, & Fletcher, 2006; Yang, Yan, Fan, & Luo, 2017). In light of complexity of a foreign environment, cross-cultural adjustment requires international students to leverage on their proactivity to take actions to meet with requirements of social and academic environments. Individuals with proactive personality not only take initiatives to improve current circumstances, but also capture every opportunity to learn and adapt to the environment they are exposed to (Crant & Bateman, 2000; Dikkers, Jansen, de Lange, Vinkenburg, & Kooij, 2010). Based on the evidences that propensity of proactive personality positively influences individual's psychological changes and learning process, we contend that proactive personality contributes to individual's cultural intelligence, and thereafter, cross-cultural social adjustment and academic adjustment.

As a promising stream in the fields of cross-cultural studies and management, CQ holds a key position in predicting individual's performance in a cross-cultural environment (MacNab & Worthley, 2012). In the conceptual model of CQ proposed by Ang and Van Dyne (2008), CQ is regarded as a proximal predictor rather than a distal antecedent that influences individual performance (Kim & Van Dyne, 2012; Ang & Van Dyne, 2008). A body of evidence also confirmed the role of CQ in mediating the relationships among the Big Five personality dimensions (Ang & Van Dyne, 2008), multicultural experiences (Hu et al., 2017), work experience (MacNab & Worthley, 2012), living abroad (Triandis, 2008) and cross-cultural adjustment (Ward & Fischer, 2008), performance (Huber & Lewis, 2010; Lee & Sukoco, 2010), and leadership (Kim & Van Dyne, 2012; Ng, Dyne et al., 2009, 2009b).

Our research model focuses on predicting the cross-cultural adjustment of proactive individuals. Thus, we followed the nomological framework proposed by Ang and Van Dyne (2008) that includes the distal and proximal predictors of cross-cultural adjustment. To achieve cross-cultural adjustment, individuals with proactive personality are assumed to firstly rely on increased cross-cultural knowledge repertoires based on learning activities. In this context, people observe, reflect, practice, and finally transform to their increased CQ (Kim & Van Dyne, 2012). In turn, CQ influences an individual's final effectiveness of cross-cultural adjustment. Thus, as a relatively distant predictor, proactive personality influences the cross-cultural adjustment of individuals by exerting impacts on proximal cross-cultural capabilities. Taking the perspective of distinguishing the proximal and distal predictors that influence cross-cultural adjustment, we postulate that CQ is a more proximal predictor that mediates the relationship between proactive personality and cross-cultural adjustment.

Accordingly, from individual difference perspective, researchers have distinguished individual differences into state- and trait-like constructs (Ang et al., 2006). As trait-like individual difference, proactive personality remains stable and not likely to have direct connections with specific situations and tasks. However, CQ is regarded as a state-like construct that demonstrates an individual's capability of effectively dealing with cross-cultural issues. In effect, trait-like individual differences have been examined to be more indirect to outcomes than state-like individual differences. Earley and Ang (2003) further distinguished trait-like individual differences from state-like individual differences as follows: "In the broader nomological network of cultural intelligence, personality characteristics are conceptualized as antecedents or causal agents of cultural intelligence" (p. 160). This indicates that trait-like differences may influence an individual's performance and effectiveness via state-like individual differences.

Evidence suggested that CQ can be regarded as a mechanism to explain why proactive personality works positively on people's effectiveness in terms of performance and psychological health (Kim & Van Dyne, 2012). In the cross-cultural environment, CQ has also been identified by prior research as an effective mediator during the process of adjusting to a foreign environment (Hu et al., 2017; Schmidt, Hunter, & Outerbridge, 1986). Accordingly, we contend that international students with proactive personality (a distal factor) should develop their CQ (a proximal factor). In turn, CQ contributes to their academic and social cross-cultural adjustment. Based on cited conceptual arguments and previous empirical research, we hypothesize that

H5. CQ mediates the relationship between proactive personality and academic adjustment.

H6. CQ mediates the relationship between proactive personality and social adjustment.

Moderating role of social media usage

In essence, P–E fit theory demonstrates the premise that individual-level outcome is the result of the interplay between personal and environmental attributes (Edwards, 1996). In other words, in more complicated cross-cultural environment with unexpected uncertainties, an individual's behavior, cognition, and attitudes are influenced by factors that are intrinsic and extrinsic to personal characteristics (Hu et al., 2017). However, interaction responses between individual differences and situational factors are overlooked and become particularly important for solving the existing problems in the cross-cultural environment.

With regard to the paradigm of P–E fit theory, individuals with proactive personality tend to seek for opportunities, show initiatives, and take actions to make changes by leveraging conducive environmental factors. In this manner, they develop their cross-cultural competency (e.g., CQ) and fit with the foreign environment to which they are exposed (Bergeron et al., 2014; Locke & Latham, 2004). Among the environmental factors, social media networks are depicted as environmental supplies from the S–V fit perspective within the theoretical framework of P-E fit theory, such that proactive individuals can apply them for communications and information attainment (Cheon et al., 2015). Relevant research has also identified the relationships between social media usage and personality, particularly the Big Five (Annisette & Lafreniere, 2017; Forest & Wood, 2012). Contrary to the Big Five that plays a dominating role in making changes to the environment, proactive personality interacts with social media to develop CQ as a response

to the challenges and risks brought by the novel environment. In the light of two values that drive the usage of social media (i.e., utilitarian and hedonic), we propose that the two dimensions of social media usage interact with proactive personality through various mechanisms.

First, we propose that social media usage for information acquisition negatively influences the relationship between proactive personality and CQ. Proactive individuals are frequently exposed to a foreign environment and driven by the natural propensity to overcome cross-cultural dilemmas and meet the demands of the new environment. Thus, driven by the disposition to initiate quick changes, take immediate actions, and shape the surrounding environment, they are prone to overly seek for information using social media to develop their CQ compared with less proactive individuals (Hu et al., 2017, 2018). However, verifying substantial amounts of information from multiple online resources requires the allocation of proactive people's sufficient resources. Attention, reflection, and efforts are required to differentiate loads of desirable information from irrelevant information. This exceeds the necessary supplies and quickly depletes individuals' processing ability, threatens control of situations, and eventually reduces proactivity to allocate sufficient resources for other experiences abroad that are meant to develop CQ (Edmunds & Morris, 2000; Swar, Hameed, & Reychav, 2017). Evidences have also identified that excess supplies from the environment may serve as interference hindering the fit between individuals and their environment (Edwards, 1996; Harvey et al., 2006).

In addition, when proactive individuals are overloaded by excess information acquired from social media usage, they are more unlikely to identify the necessary information to initiate changes. Furthermore, they are incapable of creating new ideas to cope with complex cross-cultural settings. In this regard, negative psychological effects occur over time, such as anxiety, stress, anger, and diminished decision-making quality (Edmunds & Morris, 2000; Eppler & Mengis, 2004; Lang, 2000; Ryff et al., 2006). These negative psychological changes impair individuals' self-confidence, perseverance, and behavioral intention to engage in international experiences for developing CQ (Lichtenstein & Brush, 2001; McKinley, Zhao, & Rust, 2000).

Based on the previous statement, we hypothesize that

H7a. Informational social media usage negatively moderates the relationship between proactive personality and CQ.

We further contend that socializing social media usage positively moderates the relationship between proactive personality and CQ. In the face of unexpected challenges and risks in a foreign environment, proactive individuals leverage their proactivity to overcome undesirable cultural encounters, such as cultural shock and conflicts (Misra, Crist, & Burant, 2003; Zhang & Goodson, 2011). Social media usage for socializing may partially attenuate certain negative effects, such as loneliness, stress, and other psychological disorders brought by cultural differences. In this regard, socializing social media usage incredibly facilitates social interactions and establishment of interpersonal relationships (Chung & Koo, 2015; Hu et al., 2018).

Thereafter, proactive individuals have established sound interpersonal relationships and communications with people from various cultural backgrounds. As such, they obtain additional support and acquire more cultural knowledge from peers and seniors by attending more cultural activities, which enhance metacognitive and cognitive CQ (Ang et al., 2007; Hughes et al., 2012). Given sufficient cultural consciousness and cultural cognition, proactive individuals gain a strong intrinsic motivation and behavioral capability to act appropriately in a culturally diversified environment (Ang & Van Dyne, 2015). In summary, socializing social media usage positively influences the relationship between proactive personality and CQ by mitigating an individual's negative psychological disorders and establishing interpersonal relationships to facilitate proactive people to develop CQ with the necessary psychological readiness and social support. Thus, we hypothesize that

H7b. Socializing social media usage positively moderates the relationship between an individual's proactive personality and CQ.

Methodology

Samples

We conducted a questionnaire survey in three Chinese public universities to examine the propositions with the assistance of the administrators from the three universities who engage in international education. A total of 400 questionnaires were distributed to international students selected at random with a guarantee that the research is only for academic purposes. After two weeks, reminder emails were sent and follow-up calls were made to the students to increase the survey response rate. Finally, 318 questionnaires were collected with a response rate of 79.6%. After deleting the disordered and unfinished questionnaires, a total of 247 valid responses were collected from the participants with 34 countries of nationality. Table 1 summarizes the respondents' demographic information.

Measures

All related and validated measures were reviewed and identified from existing SSCI journal papers. Before the delivery of the questionnaires, the English version of the questionnaire was evaluated by three international students who are studying for bachelor's degree, master's degree, and language programs. The wording of several questions was revised to cope with the status quo of international students in China. Thereafter, the initial English questionnaire was translated to Chinese and back-translated to ensure its accuracy in measuring the connotations of the Chinese context. Four academic researchers focusing on cultural studies reviewed the questionnaire to ensure the absence of semantic discrepancies compared with the original English version. All measures were assessed with five-point Likert scales, which ranged from "1 = strongly disagree" to "5 = strongly agree".

Table 1
Demographic information (N = 247).

Variable	Category	Frequency	Percent (%)
Age	≤20	113	45.75%
	21–25	99	40.08%
	26–30	27	10.93%
	≥31	8	3.24%
Gender	Male	125	50.61%
	Female	122	49.39%
Continent	Asia	126	51.01%
	Africa	78	31.58%
	Europe	3	1.21%
	North America	39	15.79%
	South America	1	0.40%
Educational level	Below Bachelor's	161	65.18%
	Bachelor's	68	27.53%
	Master's and above	13	5.26%
	Missing data	5	2.02%

Proactive personality was measured using a shortened version validated by Seibert et al. (1999). The version has six items with samples, such as "I am constantly on the lookout for new ways to improve my life" and "If I believe in an idea, no obstacle will prevent me from making it happen."

We measured CQ based on items adopted from Ang et al. (2007). Four dimensions of the construct were assessed with the following sample items: "I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me," "I know the cultural values and religious beliefs of other cultures," "I am confident that I can socialize with locals in a culture that is unfamiliar to me," and "I alter my facial expressions when a cross-cultural interaction requires it."

To measure the concept of cross-cultural adjustment, we referred to Gong and Fan (2006) to measure academic and social adjustment with five items each. The sample items for academic adjustment are as follows: "How well-adjusted are you to the academic requirements in your current school?" and "How well-adjusted are you to interact with your professors or instructors in academic activities?" The sample items for social adjustment are the following: "How well-adjusted are you in terms of interpersonal relationships in China?" and "How well-adjusted are you in terms of social gatherings in China?" The scales ranged from "not at all" to "very well" as an indication of an individual's adjustment status.

We adopted six items from Hughes et al. (2012) to measure social media usage with three items each for the two dimensions. The sample item for informational social media usage is "Social network is primarily for information," whereas the sample item for socializing social media usage is "I use social network to keep in touch with friends."

Several parameters, namely, the participants' age, gender, academic level, and length of stay in China, are limited to avoid potential confounding effects, which were found to be associated with CQ in previous literature (Ang et al., 2007; Tarique & Takeuchi, 2008; Tay, Westman, & Chia, 2008).

Data analysis

The convergent validities of all constructs were verified by assessing their factor loadings as well as their Cronbach's α, average variance extracted (AVE), and composite reliability (CR) values. In addition, the square root of the AVE was examined to ascertain the constructs' discriminant validities (Fornell & Larcker, 1981). Table 2 shows that the aforementioned results suggest overall good convergent validity of the measures. Table 3 shows the good discriminant validity of the measures. Table 4, namely cross-factor loading, shows each item's correlation with its construct (factor loading) and correlations with other constructs (cross-loadings).

We followed Harman's one factor test to examine whether common method bias exists in our research (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The results confirmed that eleven constructs have eigenvalues greater than 1.0, which accounts for 67.73%

Table 2
Convergent validity and reliability.

Constructs	Dimensions	Items	Cronbach's α	Loadings	CR	AVE
Proactive personality		6	0.799	0.654–0.760	0.858	0.503
CQ	Metacognitive	4	0.790	0.704–0.823	0.865	0.617
	Cognitive	6	0.837	0.699–0.830	0.881	0.553
	Motivational	4	0.748	0.687–0.803	0.844	0.575
	Behavioral	5	0.812	0.725–0.808	0.871	0.575
Cross-cultural adjustment	Academic	5	0.845	0.684–0.836	0.891	0.621
	Social	5	0.854	0.720–0.829	0.896	0.633
SM usage	Information	3	0.821	0.832–0.886	0.896	0.742
	Socializing	3	0.695	0.744–0.822	0.834	0.626

Table 3
Means, standard deviations (SD), and correlations.

Constructs	Mean	SD	1	2	3	4	5	6
PP	4.031	0.622	0.709	0.748				
CQ	3.526	0.547	0.457**					
AA	3.574	0.711	0.245**	0.232**	0.788			
SA	3.355	0.796	0.187**	0.295**	0.663**	0.796		
ISMU	3.447	1.038	0.107	0.067	0.227**	0.256**	0.861	
SSMU	3.490	0.922	0.071	−0.020	0.162*	0.082	0.504**	0.791

Notes: PP: proactive personality; CQ: cultural intelligence; ISMU: informational social media usage; SSMU: socializing social media usage; AA: academic adjustment and SA: social adjustment.
N = 247. The diagonal elements are the square roots of AVEs. *p < 0.05, **p < 0.01.

Table 4
Cross-loading for latent variables.

Items	PP	CQ-1	CQ-2	CQ-3	CQ-4	AA	SA	ISMU	SSMU
PP1	0.676**	0.326**	0.111	0.244**	0.170**	0.143**	0.222**	0.179**	0.088
PP2	0.700**	0.349**	0.182**	0.175**	0.243**	0.065	0.070	−0.023**	0.009
PP3	0.704**	0.322**	0.284**	0.138*	0.281**	0.230**	0.083	0.091**	0.064
PP4	0.732**	0.411**	0.195**	0.238**	0.196**	0.203**	0.098	0.096**	0.040
PP5	0.673**	0.332**	0.202**	0.235**	0.153*	0.172**	0.146*	−0.036**	−0.002
PP6	0.763**	0.339**	0.255**	0.188**	0.239**	0.228**	0.165**	0.150**	0.097
CQ1	0.466**	0.780**	0.326**	0.449**	0.298**	0.150*	0.181**	0.008**	0.028
CQ2	0.414**	0.805**	0.387**	0.350**	0.33**	0.119	0.066	−0.094**	−0.060
CQ3	0.403**	0.818**	0.299**	0.356**	0.344**	0.028	0.025	−0.013**	0.007
CQ4	0.252**	0.733**	0.301**	0.320**	0.353**	0.187**	0.178**	0.033**	−0.063
CQ5	0.244**	0.367**	0.738**	0.324**	0.291**	0.084	0.228**	0.028**	−0.099
CQ6	0.144*	0.273**	0.719**	0.258**	0.186**	0.059	0.103	−0.026**	−0.028
CQ7	0.254**	0.402**	0.735**	0.484**	0.297**	0.200**	0.221**	0.043**	−0.034
CQ8	0.235**	0.250**	0.817**	0.285**	0.275**	0.130*	0.265**	0.099**	−0.016
CQ9	0.180**	0.267**	0.734**	0.276**	0.25**	0.123	0.208**	0.036**	−0.062
CQ10	0.237**	0.300**	0.713**	0.224**	0.242**	0.116	0.127*	0.049**	−0.109
CQ11	0.277**	0.532**	0.290**	0.727**	0.262**	0.223**	0.204**	−0.082**	−0.051
CQ12	0.294**	0.381**	0.361**	0.777**	0.385**	0.152*	0.184**	0.040**	−0.047
CQ13	0.232**	0.332**	0.335**	0.793**	0.396**	0.195**	0.228**	0.069**	0.000
CQ14	0.084	0.207**	0.273**	0.731**	0.204**	0.165**	0.216**	0.123**	−0.010
CQ15	0.193**	0.271**	0.274**	0.278**	0.739**	0.167**	0.284**	0.183**	0.100
CQ16	0.289**	0.285**	0.259**	0.292**	0.771**	0.201**	0.246**	0.141**	0.046
CQ17	0.219**	0.416**	0.208**	0.379**	0.792**	0.114	0.105	0.013**	0.038
CQ18	0.185**	0.372**	0.276**	0.313**	0.738**	−0.048	0.007**	0.024**	0.047
CQ19	0.254**	0.271**	0.285**	0.290**	0.745**	0.092	0.123**	0.062**	0.084
AA1	0.357**	0.281**	0.248**	0.282**	0.191**	0.670**	0.428**	0.261**	0.094
AA2	0.362**	0.257**	0.207**	0.298**	0.210**	0.753**	0.475**	0.219**	0.131*
AA3	0.058	0.015	0.045	0.106	0.057	0.819**	0.508**	0.145**	0.084
AA4	0.121	0.028	0.079	0.160*	0.083	0.841**	0.566**	0.190**	0.182**
AA5	0.144*	0.090	0.097	0.151*	0.058	0.841**	0.616**	0.113**	0.146*
SA1	0.074	0.013	0.163*	0.209**	0.012	0.497**	0.738**	0.223**	0.091
SA2	0.173**	0.132*	0.203**	0.241**	0.133*	0.533**	0.804**	0.177**	0.050
SA3	0.157*	0.22**	0.265**	0.300**	0.252**	0.535**	0.817**	0.216**	−0.017
SA4	0.166**	0.101	0.203**	0.156*	0.175**	0.505**	0.800**	0.221**	0.089
SA5	0.174**	0.111	0.192**	0.190**	0.253**	0.562**	0.815**	0.184**	0.107
ISMU1	−0.015	−0.099	0.019	−0.012	0.037	0.172**	0.185**	0.882**	0.526**
ISMU2	0.137*	0.005	0.086	0.105	0.105	0.173**	0.228**	0.828**	0.238**
ISMU3	0.178**	0.061	0.032	0.063	0.168**	0.249**	0.257**	0.872**	0.527**
SSMU1	0.072	0.001	−0.019	0.009	0.069	0.162*	0.123**	0.570**	0.798**
SSMU2	0.050	−0.120	−0.109	−0.124	0.050	0.080	0.004**	0.271**	0.786**
SSMU3	0.047	0.067	−0.050	0.049	0.085	0.149*	0.078**	0.374**	0.786**

Notes: *p < 0.05 and **p < 0.01.
PP: proactive personality; CQ: cultural intelligence; ISMU: informational social media usage; SSMU: socializing social media usage; AA: academic adjustment and SA: social adjustment.

of the variance. The first construct explained 11.01% of the variance. Additionally, we assessed the common method bias by comparing the fit between the one-factor model and measurement model. The one-factor model showed a poor fit ($\chi 2$ (df) = 3640.866 (779)) and was inferior ($p < 0.01$) to the fit of the measurement model ($\chi 2$ (df) = 1802.511 (761)). Therefore, common method bias is not a serious concern in this study.

Table 5
Results of hierarchical regression analyses for mediation of cultural intelligence.

	CQ	SA		AA	
Age	−0.096	−0.093	−0.068	−0.042	−0.028
Gender	0.001	0.107	0.107	0.017	0.016
Length of stay in China	0.035	−0.032	−0.041	−0.156*	−0.161**
Education level	0.167*	0.090	0.047	0.175*	0.152*
Proactive personality	0.474***	0.187**	0.064	0.269***	0.204**
CQ			0.260***		0.138*
R^2		0.053	0.105	0.105	0.119
ΔR^2			0.052***		0.015*
ΔF			14.006***		3.975*

N = 247. *p < 0.05, **p < 0.01, and ***p < 0.001. CQ: cultural intelligence; SA: social adjustment; AA: academic adjustment.

Results

Structural equation model analysis was conducted to test the proposed hypotheses. Consistent with H1, the results show that proactive personality is significantly positively related to CQ (β = 0.474, p < 0.001). Thus, H1 is supported. Furthermore, CQ is significantly positively related to social adjustment (β = 0.277, p < 0.001), which supports H2. And CQ is also significantly related to academic adjustment (β = 0.224, p < 0.001). Thus, H3 is supported. And Meanwhile, we found that social adjustment is positively related to academic adjustment (β = 0.665, p < 0.001), which supports H4.

Moreover, Table 5 shows that when CQ is incorporated in the regression between proactive personality and academic adjustment, proactive personality remains significantly positively associated with academic adjustment (β = 0.204, p < 0.01). This finding confirms that CQ partially mediates the relationship between proactive personality and academic adjustment. However, when CQ is included in the regression between proactive personality and social adjustment, proactive personality is non-significantly positively associated with social adjustment (β = 0.064, p > 0.05). That is, this result proves that CQ fully mediates the relationship between proactive personality and social adjustment. Thus, H5 and H6 are both supported.

Further, we also tested the potential mediation effect of social adjustment between cultural intelligence and academic adjustment. The analysis result indicates that social adjustment fully mediates the relationship between cultural intelligence and academic adjustment. Table 6 shows the final result.

In addition, H7a predicts that informational social media usage negatively moderates the relationship between proactive personality and CQ. The interaction between informational social media usage and proactive personality is negatively related to CQ (β = −0.124, p < 0.05), which supports H7a. Conversely, H7b predicts that socializing social media usage positively moderates the relationship between proactive personality and CQ. However, the interaction between socializing social media usage and proactive personality is non-significant (β = 0.099, p > 0.05). Therefore, H7b is not supported. Simple slope analysis, as shown in Fig. 2, confirms the negative moderating effects of informational social media usage on the relationship between proactive personality and CQ.

Discussion

The current research proposes a model that examines the mediating role of CQ between proactive personality and cross-cultural adjustment. Furthermore, the study investigates the moderating role of two dimensions of social media usage on the relationships between proactive personality and CQ. Regression analysis supports the hypothesized relationships among proactive personality, CQ, and cross-cultural adjustment. That is, proactive personality is positively associated with CQ and cross-cultural adjustment. The findings are consistent with those of previous studies, which demonstrate that individual dispositional characteristics influence CQ and cross-cultural adjustment (Earley & Ang, 2003; Gong & Fan, 2006; Mak & Tran, 2001).

Table 6
Results of hierarchical regression analyses for mediation effect of social adjustment.

	Academic adjustment		
Age	−0.030	−0.031	0.029
Gender	0.045	0.034	−0.039
Length of stay in China	−0.136*	−0.148*	−0.128**
Education level	0.137	0.123	0.092
CQ	0.033	0.224***	0.043
Social adjustment			0.653***
R^2		0.082	0.468
ΔR^2		0.050	0.386
ΔF		13.089***	174.946***

N = 247. *p < 0.05, **p < 0.01, and ***p < 0.001. CQ: cultural intelligence.

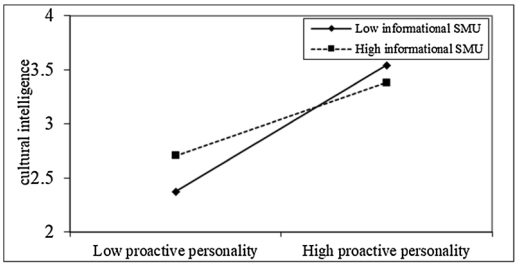

Fig. 2. Moderating effect of informational social media usage on the relationship between proactive personality and cultural intelligence.

Interestingly, CQ partially mediates the relationship between proactive personality and academic adjustment, whereas it fully mediates the relationship between proactive personality and social adjustment. First, these valuable findings are consistent with those of prior research, which illustrate that personality characteristics are "trait-like" individual differences. In addition, CQ is a malleable "state-like" condition, where more distal differences work on individual performance through the intervening role of CQ (Ang et al., 2006). Second, these findings uncover the working mechanisms of CQ on proactive personality, academic adjustment, and social adjustment. In this manner, CQ is identified as one of alternatives through which proactive individuals adjust to an academic environment and is the only conduit for individuals to adjust to their social environment. In addition, social adjustment is identified as an effective conduit through which CQ exerts its effects on academic adjustment. This research finding is interesting and unexpected since, to the best of our knowledge, there is no prior research illustrating how cultural intelligence functions on academic adjustment. In the current research, social adjustment is found to fully mediate the relationship between cultural intelligence and academic adjustment. This interesting result could be explained through the perspective of P-E fit theory which indicates that when individuals perceive fit to the organization and environment, they tend to demonstrate more efforts and efficiency to improve work performance (Afsar et al., 2015; Shen, Li, Sun, & Zhou, 2018). In the same token, proactive individuals with higher levels of cultural intelligence tend to have more capability for social adjustment to the cultural environment (Thomas et al., 2015). In this vein, they are presumed to show more positive perceptions of fit to the cross-cultural environment. And this psychological readiness motivates them to improve their academic performance with more investment of efforts, thereby demonstrating higher level of academic adjustment.

Importantly, we uncover the moderating role of informational social media usage. Consistent with our hypothesis, finding suggests that informational social media usage negatively moderates the relationship between proactive personality and CQ. This result indicates that the overuse of social media for information purposes may hamper cultivation of proactive individual's CQ during the process of their cultural experiences. Nevertheless, we find that socializing social media usage exerts no impacts on the relationship between proactive personality and CQ, which is different from our hypothesis.

Two potential reasons can explain the non-significant moderating effect of socializing social media usage on the relationship between proactive personality and CQ. First, maintaining close ties after establishing relationships through social media usage is costly and consumes large amounts of time and energy (Ahlstrom and Bruton, 2010). This notion indicates that social media usage may overwhelm an individual's proactivity to reserve limited resources and allocate sufficient resources for individual's CQ. Second, scholars have presented empirical evidence, which indicates that individuals with proactive personality may overreact when socializing with others through social media networks. Proactive people are more likely to over-respond to the established ties compared with other groups because they tend to be more active and eager to control every situation. This tendency easily triggers a wide range of psychological effects, such as excessive self-confidence, over-evaluation of one's proactivity, underestimation of external risks, and exaggeration of one's sense of control over activities (Anderson, Forsgren, & Holm, 2002; Lichtenstein & Brush, 2001). Finally, this tendency offsets the positive influence exerted by socializing social media usage, which thereby exerts no effect on the relationship between proactive personality and CQ.

Theoretical and practical implications

The present study makes several key theoretical contributions to the literature.

First, the research extends the nomological network of proactive personality research. Although a spate of evidence indicates its active role orientation in affecting individual behaviors and performance (Kim et al., 2010; Seibert et al., 2001; Thompson, 2005), a paucity of studies exist concerning whether and how proactive personality functions on an individual's cultural competence and adjustment to cross-cultural environment. The current research provides additional evidence that trait-like individual differences (e.g., proactive personality) are related to cross-cultural adjustment through proximal variables (e.g., CQ). This notion enriches the literature on the performance of individual characteristics in a cross-cultural environment. Additionally, these findings are consistent with those of previous research (Ang & Van Dyne, 2008; Earley and Ang (2003).

Second, the findings also enrich the literature on CQ conceptualization (Ang & Van Dyne, 2015). The study contributes to the literature by empirically examining the essential cultural construct outside western countries with samples from China. In addition, the study unveils the underlying mechanism on which CQ mediates the relationships between proactive personality and cross-cultural adjustment. CQ is suggested to be an effective conduit through which proactive personality functions on cross-cultural adjustment.

Moreover, the results suggest that CQ fully mediates the relationship between proactive personality and social adjustment but partially mediates that between proactive personality and academic adjustment. In addition, the research results indicate that CQ contributes to academic adjustment through the channel of social adjustment in cross-cultural settings. The finding is in line with prior research indicating that social adjustment contributes to academic adjustment (Gong & Fan, 2006). This contribution also fills the void of prior research and unveils the mechanism how CQ exerts positive effects on academic adjustment. The results are interesting and expand our understanding about the various functioning mechanisms of CQ in the cross-cultural environment and thus contribute to the literature on CQ research.

Third, our study complements previous studies on individual differences, cross-cultural adjustment, and CQ by combining the IT-contingent view to investigate the moderating role of social media usage. The two dimensions of social media usage are found to differently influence the relationship between proactive personality and CQ. Specifically, informational social media usage exerts a negative influence on the relationship, whereas socializing social media usage exerts no effect. These key findings extend previous cross-cultural studies using dispositional and environmental approaches by revealing the interactive mechanism between social media usage and individual differences. These interesting results contribute to the first trials of combining cross-cultural studies with the information management literature.

Apart from the main findings, the present research has significant practical implications for expatriates as well as business and educational practitioners.

First, our findings demonstrate that individuals with proactive personality have better cross-cultural adjustment abilities and are more likely to develop CQ compared with those with low level of this trait. Hence, practitioners should assess employees' proactive personality while selecting expatriates for international businesses. As such, cross-cultural adjustment is vital to the completion of a successful work or learning performance.

Second, practitioners should fully acknowledge the active role of CQ in cross-cultural settings, which has been identified as a key capability in managing culture-related issues and cross-cultural adjustment. Educational training programs or cross-cultural activities are encouraged to help expatriates increase intercultural contacts, learn foreign cultures, and cultivate cultural consciousness. These skills can contribute to expatriates' CQ and thus facilitate their international experiences. Furthermore, the research indicates that CQ contributes to academic adjustment via social adjustment. In this regard, any measures to improve social adjustment would exaggerate the effects of CQ on academic learning activities. And social adjustment should be highlighted as a priority concern in expatriate's international experiences.

Third, practitioners should be fully aware of the two dimensions of social media usage, which play different roles in a cross-cultural environment. They should particularly consider the fact that social media usage may not adequately match with proactive individuals. The underlying reason behind this notion is that the overuse of social media for information purposes may exhaust large amounts of time and energy from proactive individuals and trigger psychological disturbances, which decreases the benefits brought by their proactivity in cross-cultural activities.

Limitations and future areas of research

Except for the contributions the research makes, the current study also has several limitations, which should be taken into consideration for cautious generalization of the research findings and future research direction.

Primarily, the research only proposes CQ and social media usage as the intervening mediator and moderator, respectively, of the cross-cultural adjustment process. Other plausible alternatives that can influence the individual cross-cultural adjustment process should be considered. In addition, socializing social media usage was found to exert no effect on the relationship between proactive personality and CQ. This finding partially contradicts that of a past research, which argued that socializing social media usage positively impacts the relationship between multicultural experiences and CQ, whereas informational social media usage does not strengthen such a relationship (Hu et al., 2017). In light of such conflicting findings, additional empirical research is required to further examine the roles of social media usage by groups with different characteristics in cross-cultural environments.

Second, the cross-sectional design approach does not preclude another order of assumption. The proposed relationships and research findings only suggest that the variables are associative and correlative, yet not causal. Regarding this limitation, future longitudinal or experimental research should be considered to corroborate the notion that causal links exist among variables.

Finally, the research sample might be another limitation to this research. The samples in the survey mostly originate from Asian and African countries, which may limit the generalization of the findings across countries or other parts of the world. Self-reported data and responses derived from a single source may prompt the issue of potential common bias. However, the opposite is true in the current research. Hence, using additional data from multiple sources may benefit future research.

Conclusion

This study is one of the first trials that combined the fields of cross-cultural studies with information management by investigating how proactive personality impacts individual cross-cultural adjustment with the intervention of ubiquitous social media. The findings indicate that proactive personality is positively associated with individual cross-cultural adjustment through the mediation of CQ. Social media usage for informational purpose is found to mitigate the positive effects of proactive personality on CQ. The results clearly demonstrate the underlying mechanism of how proactive personality functions on individual cross-cultural adjustment and unveil the interaction effects of boundary conditions triggered by social media usage with proactive personality on CQ. Aside from the contributions of this work, this paper intends to encourage scholars to apply research approaches in interdisciplinary fusion

analytics to further explore new solutions to cross-cultural issues.

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Appendix

Items of Measures

Proactive personality
I am constantly on the lookout for new ways to improve my life.
Nothing is more exciting than seeing my ideas turn into reality.
I excel at identifying opportunities.
I am always looking for better ways to do things.
If I believe in an idea, then no obstacle will prevent me from making it happen.
I can spot a good opportunity long before others.
Cultural intelligence
I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.
I am conscious of the cultural knowledge I apply to cross-cultural interactions.
I check the accuracy of my cultural knowledge as I interact with people from different cultures.
I know the legal and economic systems of other cultures.
I know the rules (e.g., vocabulary, grammar) of other languages.
I know the cultural values and religious beliefs of other cultures.
I know the marriage systems of other cultures.
I know the arts and crafts of other cultures.
I know the rules for expressing nonverbal behaviors in other cultures.
I enjoy interacting with people from different cultures.
I am confident that I can socialize with locals in a culture that is unfamiliar to me.
I am sure I can deal with the stress of adjusting to a culture that is new to me.
I enjoy living in cultures that are unfamiliar to me.
I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.
I use pause and silence differently to suit different cross-cultural situations.
I vary the rate of my speaking when a cross-cultural situation requires it.
I change my nonverbal behavior when a cross-cultural situation requires it.
I alter my facial expressions when a cross-cultural interaction requires it.
Cross-cultural adjustment
Academic cross-cultural adjustment
How well adjusted are you to your schoolwork?
How well adjusted are you to the academic requirements in your current school?
How well adjusted are you to your professors' teaching styles?
How well adjusted are you to the instructional methods in China?
How well adjusted are you to interacting with your professors or instructors in academic activities?
Social cross-cultural adjustment
How well adjusted are you to interacting with Chinese in nonacademic activities?
How well adjusted are you to interpersonal relationships in China?
How well adjusted are you to being associated with Chinese?
How well adjusted are you to talking to Chinese?
How well adjusted are you to social gatherings in China?
Social media usage
Informational social media usage
I use social networks (e.g., Twitter and Facebook) to find and spread information.
Social network is primarily for information retrieval purposes.
I use social networks to keep abreast of current events.
Socializing social media usage
I use social networks to communicate with friends.
I use social networks because my friends do.
Social networks are primarily for socializing purposes.

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