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# Sociocultural adaptation and job satisfaction as mediators between cultural competence and intention to stay among Vietnamese workers in Taiwan

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This study employs a moderated mediation model to investigate the role of sociocultural adaptation and job satisfaction in the relationship between cultural competence and intention to stay. It also considers the moderating function of local language proficiency and length of residence. A survey was conducted among Vietnamese migrant workers employed in Taiwan's manufacturing industry under the labour export programme. This resulted in a valid dataset of 636 respondents, which was used to test the proposed hypotheses. The findings demonstrated that sociocultural adaptation and job satisfaction fully mediated the relationship between cultural competence and workers' intention to stay. Moreover, local language proficiency and length of residence were found to substantially strengthen the positive relationship between cultural competence and sociocultural adaptation, but not to moderate the association between cultural competence and job satisfaction. Theoretically, the study contributes to the literature on psychological and behavioural management by examining how migrant workers' job satisfaction and sociocultural adaptation are related to the association between cultural competence and intention to stay. Practically, the study addresses current concerns regarding the rate of job retention among migrant workers participating in labour export programmes. Its findings provide policymakers and employers with additional evidence to improve and effectively maintain their foreign labour force. It is recommended that both sending and receiving governments implement appropriate and effective management policies to manage the low-skilled foreign labour force.

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## Introduction

By the late 1980s, Taiwan's economy had expanded rapidly in most sectors due to the development of industries and services, economic reconstruction, and educational advancement; this resulted in a shift in work values and an imbalance in human resources. In order to solve the labour shortage problem, the government permitted foreigners to work in Taiwan (Li et al. 2018; Lai 2019) in the manufacturing, construction, healthcare, agriculture, forestry, fishery and animal husbandry, and domestic sectors. Many Taiwanese firms have recruited substantial numbers of workers from Southeast Asia (Li et al. 2018). By the end of 2019, Taiwan had 718,058 foreign workers, coming mainly from four countries: Indonesia (276,411 workers, accounting for 38.49% of the total figure), Vietnam (224,713; 31.29%), the Philippines (157,487; 21.93%), and Thailand (59,445; 8.28%). Furthermore, Taiwan is one of the top four destinations in Asia, followed by Japan, South Korea and Malaysia for Vietnamese low-skilled workers employed under the labour export programme. Every year since 2013, approximately half of all Vietnamese migrant contract workers have gone to work in Taiwan (Nguyen and Sundar 2021). Although Vietnam accounts for the second largest number of aggregate migrant workers in Taiwan, few studies of this labour force have been conducted. In addition, the majority of published studies on Vietnamese labour migrants have adopted qualitative research methods (Lai 2019; Hoang 2016, 2020), with little quantitative research focusing on this population.

Taiwan has produced various legal documents to improve foreign workers' legal rights and benefits (Taiwan Ministry of Labor (2020)). The government also has policies in place to support foreign workers when they face difficult situations such as psychological issues, illegal contract termination, change of employer, health problems, etc. In addition, the government carefully manages employers and brokerage companies to ensure that they respect and abide by the labour laws and regulations relating to foreign workers, through strict procedures for license applications, and serious penalties for any violations, including extremely high fines, license withdrawal, and so on (Deng et al. 2021). However, the rate of migrant workers fleeing their jobs is still a serious problem in Taiwan, with Vietnamese workers displaying a higher tendency for this than those from other countries (Hoang 2020; Nguyen and Sundar 2021). Previous research revealed that a significant number of Vietnamese contract workers returned to Vietnam before their contracts ended (Hoang 2020). The key question here is what causes migrant workers to become undocumented and, as a result, subject themselves to the many potential problems associated with this status. Some studies have investigated the factors that can affect foreign worker turnover and the numbers fleeing their jobs. These include debt burden due to high brokerage fees, financial problems, unpleasant working conditions, exploitation, maltreatment, work-life conflict, and job burnout (Nguyen and Sundar 2015; Hoang 2016, 2020). Nevertheless, there is still a paucity of research examining the impact of cultural and social competencies on the intention to stay (ITS) of migrant low-skilled workers, with remarkably few studies focusing on Vietnamese workers. This study discusses the research questions (RQs) set out below in order to identify the possible mediating and moderating effects of certain factors that might explain the mechanisms underpinning the relationship between social-cultural skills and job retention among migrant workers in Taiwan:

RQ1: Is cultural competence (CQ) associated with the ITS of migrant workers, and if so, how does this relationship with sociocultural adaptation (SCA) and job satisfaction (JS) function?

RQ2: What roles do local language proficiency and length of residence play in the association between CQ and SCA and CQ and JS?

Cultural quotient, also known as cultural competence or cultural intelligence, is generally abbreviated as CQ in most research publications (Bücker et al. 2014; Earley and Mosakowski 2016; Bakhshi 2019; Segev et al. 2022). CQ is defined as an individual's ability to function effectively in situations characterised by cultural diversity (Earley and Ang 2003; Ang et al. 2007). Research on CQ has demonstrated that it is a distinct ability that can account for significant performance variation in intercultural contexts. By way of contrast, sociocultural adaptation (SCA) entails gaining culture-specific skills and the capacity to handle daily life, such as interacting with strangers and understanding work-life balance expectations (Ward and Kennedy 1999). SCA is based on behavioural adjustments associated with how well an individual adapts to a new community. The ultimate determinant of SCA is the demonstration of culturally competent behaviours (Furnham and Bochner 1986). Wilson et al. (2017) discovered that, in addition to migration motivations and job and life satisfaction, SCA accounted for further variance in new migrants' intention to stay (ITS) in host countries, so the relationship between SCA and intention to remain in employment is likely to be established.

Searle and Ward (1990) described SCA as one dimension of acculturation. It explains how people absorb new values, norms, and behaviour, and how likely they are to feel comfortable adjusting to the host cultural environment (Taušová et al. 2019). Cross-cultural adaptation assists foreign workers in accommodating and assimilating to a new culture. In addition, existing research has given a great deal of attention to the subject of JS, as this is associated with a wide range of work-related issues (Aziri 2011). Stamps (1997) referred to JS as an indication of a person's feelings about their job. It is a psychological function that individuals experience in relation to the many aspects of their work (Kalleberg, 1977). Previous studies, from both cross-sectional and longitudinal perspectives, have consistently shown that JS is a strong predictor of turnover intentions (Li et al. 2020; Rubenstein et al. 2018). In most cases, job dissatisfaction activates employees to leave their job at some point or other. Culturally intelligent workers interact effectively with people from diverse cultures and take the initiative in social integration, improving their psychological well-being at work and making them more likely to maintain their employment in the host nation. Nevertheless, empirical research has not paid much attention to SCA and JS as mediators in the link between CQ and ITS.

This research draws on the theoretical backgrounds of cultural intelligence, motivation and adaptation, integrated with psychological and behavioural models from previous studies, in an attempt to fill the gaps in the existing literature. It introduces a moderated mediation framework to explore the links between cultural factors in the behavioural outcomes found among Vietnamese migrant workers employed in Taiwan under the labour export programme. The study investigates the mediating role of SCA and JS on the relationship between CQ and the intention of Vietnamese blue-collar workers to remain employed in Taiwan. It also explores the moderating effects of local language proficiency and length of residence (LOR) on this mechanism. This research represents a further contribution to studies examining the situation of low-skilled workers under the labour export programme, and adds to the literature in some critical ways. Its theoretical contribution lies in the exploration of the important impact of acculturative and adaptive abilities such as CQ and SCA, and behavioural factors such as JS, on migrant workers' ITS. This research reveals how SCA and JS act as mediators between CQ and ITS. The findings also shed light on the moderating effect of local language proficiency and LOR in the relationship between CQ and migrant labourers' intention to stay, as they foster the acculturation process in a new environment. In terms of

management, this research suggests that the policymakers and employers of both the sending and receiving governments need to have appropriate and effective management policies in place to manage the foreign workforce.

### Related literature and hypothesis development

**Cultural competence and intention to stay.** Earley and Ang (2003) were the first to introduce the term “cultural intelligence”, which they explained as the ability of individuals to work effectively in a cross-cultural environment. CQ refers to the capability of people to interact and communicate effectively with those with different traditions and beliefs (Earley and Ang 2003). It is a distinct ability that explains substantial performance differences in intercultural settings (Ang et al. 2015). CQ has been conceived of as a multidimensional construct of metacognitive, cognitive, motivational, and behavioural competencies, and can be characterised as involving an awareness of one’s own culture, an understanding of the dynamics of difference, an appreciation and acceptance of difference, the development and application of cultural knowledge, and the celebration of cultural diversity (Earley and Ang, 2003; Ang et al. 2007; Ang and Van Dyne 2008; Van Dyne et al. 2012).

ITS is defined as the probability of an individual remaining in his or her present position at work (Cowden et al. 2011; Cowden and Cummings, 2015). In other words, it is perceived as the “estimated likelihood of continued membership in an organisation” (Price and Mueller 1981). In this study, ITS refers to Vietnamese workers’ willingness to remain with their organisation for the present and other tenures under their labour contract. It is the converse of turnover intention, which consistently demonstrates a negative relationship to actual turnover (Kim et al. 1996). As a positive aspect of work behaviour that represents the willingness of employees to keep working for their organisation and their commitment to it, ITS can contribute significantly to improving employee retention management (Uraon 2017). It helps organisations avoid adverse effects caused by staff turnover (Cymbal et al. 2022) such as the cost of replacing and training new employees, or the loss of social and human capital (North et al. 2013).

Cultural skills are considered a key set of abilities for foreign labourers dealing with feelings of social exclusion during their time working abroad (Thomas et al. 2015). Migrant workers with a high level of CQ are presumed to be able to stay and work happily with people from different traditions of beliefs, lifestyles, customs, values, languages, and religions, or from different political and social backgrounds. They can reduce their levels of uncertainty and anxiety while living and working in a different cultural context (Earley and Ang 2003; Ang et al. 2007; Bücken et al., 2014). Thus, CQ is a crucial capacity for anyone working abroad or in a different environment from their place of residence (Earley et al. (2006); Genkova et al. 2021). Klafehn et al. (2008) argued that conflicts and disagreements arising from cultural differences are one of the determinants of employees’ intention to leave. Previous studies have revealed the influence of CQ on ITS or turnover intention, both directly (Haniefaa and Riani 2019) and indirectly, through mediating factors such as JS (Almazrouei and Zacca 2021), or cross-cultural adjustment (Akhal and Liu, 2019).

**The mediating role of sociocultural adaptation.** Previous studies have demonstrated that SCA is predicted by CQ (Ward and Kennedy 1999; Ang et al. 2007; Bücken et al. 2014; Thomas et al. 2015; Ozer 2017; Jyoti and Kour 2015, 2017), but also simultaneously related to ITS (Takeuchi et al. 2002; Bhaskar-Shrinivas et al. 2005). The current study attempts to investigate the

relationship between CQ and ITS, along with the role of SCA as a connecting factor in this relationship.

Ward and Kennedy (1999, p.661) defined SCA “in terms of behavioural competence” and stated that it is “strongly influenced by factors underpinning culture learning and social skills acquisition.” The term refers to outcomes that connect individuals to their experiences in their new society. SCA can be divided into three domains: social interaction, community engagement, and ecological adaptability (Wilson et al. 2017). The theoretical underpinnings of these domains have been drawn from aspects of culture and social learning theory (Furnham and Bochner 1986). As SCA is situated within a culture-learning framework and involves behavioural skills, it has generally been suggested that foreigners tend to terminate their work abroad earlier than planned due to poor adjustment and performance (Takeuchi et al. 2002). Although CQ and SCA both relate to an individual’s capabilities for intercultural adaptation in novel settings, these constructs are distinguished in several respects. CQ focuses on a person’s comprehensive abilities during cross-cultural adaptation in metacognition, cognition, motivation and behaviour (Earley and Ang 2003, 2006). It measures an individual’s capability to understand, act and manage effectively in culturally diverse settings. On the other hand, SCA is based on behavioural adjustments associated with how well an individual fits into a new community. This includes an individual’s competence in being able to function well on the job and adapt to everyday living conditions, and also interact with local people to maintain well-being and a work-life balance in the new environment (Ozer 2017; Ward and Kennedy 1999).

People from different cultures perceive values differently, resulting in different perspectives and behaviours (Bunce 2021). During the process of adapting to their host countries, expatriates may encounter many culture-related barriers arising from language, values, and acculturation strategies (Wang and Xing 2018). Lacking in cross-cultural competence, foreign workers may find it a challenge to adapt to their new environment and may experience feelings of unease, frustration, stress, and confusion (Wang et al. 2014). Research into various immigrant groups has revealed that CQ positively influences cross-cultural adjustment and adaptability (Jyoti and Kour 2015, 2017). Individuals who possess high CQ are culturally competent, with the cognitive, behavioural and motivational skills necessary to collaborate well with individuals from diverse cultures and adjust to unfamiliar situations (Ott and Michailova 2018).

Previous research has shown that the acculturation and assimilation process of Vietnamese migrant residents in Taiwan takes time, and that interpersonal interactions enhance their sense of ‘cultural belonging’ (Cerulo 1997; Li and Hsu 2017). Throughout the process of cultural adaptation, Vietnamese migrant workers in Taiwan faced both benefits and challenges. Because Vietnamese comprise one of Taiwan’s largest communities of foreign residents, it is advantageous for Vietnamese workers to engage in Vietnamese cultural events. Vietnam and Taiwan share some traditions and practices, which is advantageous. Many aspects of the host society, such as Confucian values, weather, cuisine, landscape, religion and rituals, are familiar to Vietnamese. In contrast, Vietnamese workers face obstacles such as perceived discrimination, a lack of social activities for migrant workers, financial difficulties, living arrangements, a language barrier and different economic, legal and political systems, all of which can hinder their adaptation to Taiwan.

Social exchange theory (Blau 1964) has been employed to explain workers’ social and cultural perceptions regarding job attitude. This theory argues that a positive atmosphere and working environment motivates employees better than any other factors, and provides a theoretical foundation for discussing

migrant workers' SCA, in terms of both its psychological and its sociocultural dimensions. A number of studies have pointed to the strong influence of social and cultural adaptation and adjustment on the withdrawal cognition of expatriates (Bhaskar-Shrinivas et al. 2005; Ang et al. 2007; Froese et al. 2012). This research proposes that low-skilled migrant workers who cannot adapt to a different sociocultural environment are more likely to withdraw from their assignment, either by quitting, fleeing from their job to become undocumented workers or returning home. On the other hand, individuals with a high level of CQ are better able to adapt effectively to their sociocultural environment (Ang and Van Dyne 2008), and this is critical to increasing their ITS. Based on the above discussion, the following hypothesis was proposed.

H1. SCA mediates the relationship between CQ and ITS.

**Mediating role of job satisfaction.** The positive association between CQ and ITS has been indicated in some earlier work, yet the mediators of this relationship have not received much attention. Previous studies have revealed that social and cultural adaptation have a significant influence on JS (Kifle et al. 2016; Wang and Jing 2018; Almazrouei and Zacca 2021). Moreover, JS has been found to be associated with job-related behaviour such as ITS and/or turnover intention (Scanlan and Still 2019; Skelton et al. 2020; Zito et al. 2018). The current study explores the role of JS as a mediator in the relationship between CQ and ITS, in an effort to provide further explanations of the mechanisms underlying this relationship.

Locke (1969, 1976) defined JS as the pleasurable emotional state resulting from achieving or facilitating the achievement of an individual's job values. JS has also been identified as a psychological function that individuals experience regarding the various facets of their work (Kalleberg, 1977). JS is popularly viewed as one of the most decisive factors in determining an employee's feelings about their job, and is the most studied of the factors that lead to employee turnover (Tian-Foreman 2009; Biron and Boon 2013). It is widely regarded as the best indicator when it comes to reducing absenteeism and increasing employee job retention (Rezvani et al. 2016). Sheridan et al. (2019) found that work frustration positively influences turnover intention. JS is closely associated with work-related outcomes. Satisfied employees tend to be more productive, creative, and committed to their employers. In contrast, negative treatment tends to elicit a negative response or a poor reaction (Stock et al. 2016).

JS has been characterised as having both extrinsic and intrinsic dimensions (Locke 1976; Kalleberg 1977; Stamps 1997; Spector 1997). From a psychological perspective, JS is often thought to relate to such elements as task environment, compensation, communication, and social relations in the workplace (Spector 1997). During the acculturation process, the interaction of different cultures may lead to difficult situations involving misunderstanding, perceived discrimination, and conflict, which may in turn cause psychosocial problems among workers, including low JS. In this case, culturally intelligent workers are likely to accommodate themselves to other people's perspectives in order to prevent conflicts resulting from cultural differences. This can help them retain their well-being at work, and thus increase their motivation for continuing their employment in the organization. The two-factor theory proposed by Herzberg et al. (1959) explains the different mechanisms behind resignation and retention in the workplace. This further clarifies the concept of JS by highlighting the hygienic and motivational factors that also contribute, one way or another, to employee retention. Motivating factors are associated with positive issues such as occupational

achievement, professional appreciation, development opportunities, etc. When individuals are motivated in their work by the majority of both intrinsic and extrinsic factors, they are likely to persist in their profession. In addition, social exchange theory (Blau 1964) asserts that employees display a positive attitude and make significant contributions at work when they are satisfied with their job. Prior research has confirmed the mediating role of JS in relationship models, including work-related behaviour and ITS (Li et al. 2020). In cross-cultural settings, JS arises from successful adaptation and adjustment to overseas job requirements and from the effective development of interpersonal relationships with local people in the host country (Shaffer and Harrison 1998). In their study, Almazrouei and Zacca (2021) found that JS fully mediated the relationship between CQ and turnover intention. The current research consolidates existing literature on the relationship between CQ and ITS by identifying JS as a mediator in this relationship. Specifically, it proposes that JS is positively influenced by CQ and, in turn, determines workers' ITS. Thus, the following hypothesis was put forward:

H2. JS mediates the relationship between CQ and ITS.

### **Chinese proficiency and length of residence as moderators.**

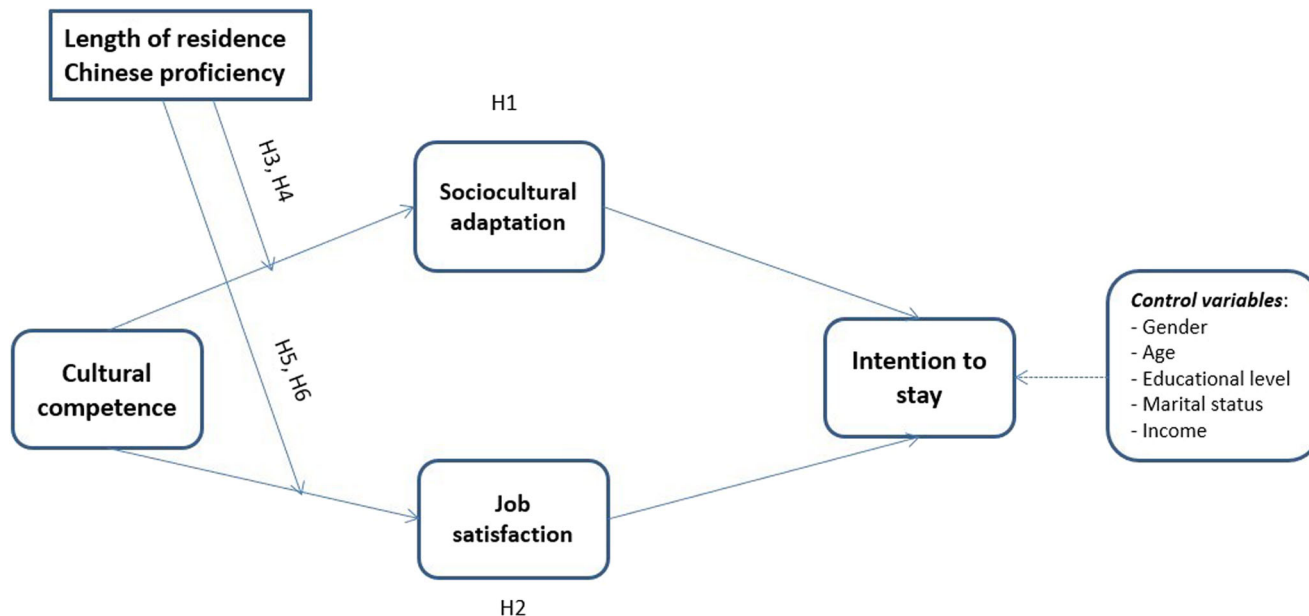
Knowledge of the local language is crucial as a means of communication, while length of residence is a major factor in helping migrant workers to experience and adapt to a new cultural environment. This study explores how Chinese language proficiency and length of residence facilitate the impact of CQ on SCA and JS among Vietnamese migrant labourers in Taiwan. Previous studies have found that a longer duration of residence in the host country helps expatriates adapt better, as it gives them more time to learn the language, integrate into the local environment, and acculturate themselves to its norms and values (Bhaskar-Shrinivas et al. 2005; De Castro et al. 2008). Newcomers were found to have lower JS in comparison to those who had experienced a longer LOR (Kifle et al., 2016). Expatriates with longer residence tend to have higher JS because, over time, they can reduce and alleviate the negative influence of such factors as language barriers and cultural misunderstanding through their progressive adaptation to the host society (Chuba 2016).

The impact of CQ on SCA and JS may be intensified when Vietnamese workers have better Chinese proficiency. Proficiency in the local language and communication skills are crucial for expatriates to be able to interact with local people, and thus facilitate their successful integration into a new environment (Aririguzoh 2022). They increase the opportunity for positive dialogue, enabling the collective management of emotions during socio-cultural integration and providing an effective means of communication for overcoming cross-cultural conflict (Harikkala-Laihinen et al. (2017)). Accordingly, culturally intelligent workers who can communicate in the local language are likely to adjust and adapt themselves better to a culturally different context.

Research has found that migrants who cannot speak the host country's language tend to have lower JS (Bloemen 2014). Foreign workers who cannot speak the local language are likely to face communication difficulties. They may feel isolated and challenged by having to expand their social network and communicate with local people (Wang and Jing 2018). It can be seen from the literature that in host countries, employers tend to give preferential treatment to workers with higher levels of local language skills (Hainmueller and Hopkins 2015). This may be one of the reasons why these workers experience more positive job outcomes and higher levels of JS.

In this study, we assume that culturally intelligent workers who possess better Chinese language proficiency and stay longer in





**Fig. 1 Research model.** Moderated mediation framework for analysing the relationship between cultural competence and intention to stay, with sociocultural adaptation and job satisfaction as mediators and Chinese language proficiency and length of residence as moderators.

Taiwan show higher levels of SCA and JS. Supported by the above discussions, we hypothesised the moderating roles of Chinese proficiency and LOR as follows:

H3. Chinese proficiency strengthens the positive relationship between CQ and SCA.

H4. LOR strengthens the positive relationship between CQ and SCA.

H5. Chinese proficiency strengthens the positive relationship between CQ and JS.

H6. LOR strengthens the positive relationship between CQ and JS.

**Control variables.** Previous studies have found a relationship between demographic factors and JS and ITS (Huang et al. 2016; Bhaskar-Shrinivas et al. 2005; Ang et al. 2006; Lyu et al. (2022); Woodworth 2017). Marital status has also been found to have a spillover effect on expatriate job attitude (Bhaskar-Shrinivas et al., 2005). Both men and women may experience a negative psychological reaction that can affect job retention when they have to leave their home and family to work in an unfamiliar environment. In addition, extrinsic motivation (Maslow 1954; Herzberg et al. 1959; Blau 1964) points to the critical role of a financial factor in employee retention. One of the main motives that encourages foreign labourers to work abroad is the desire to achieve a better income than they can earn in their home country. In line with the theoretical assumptions and prior research referred to here, this study included gender, age, marital status, educational levels, and income as control variables representing possible alternative explanations for the outcomes.

Drawing on the theoretical background of the CQ (Earley and Ang 2003; Ang et al. 2007), Frederick Herzberg’s motivation theory (Herzberg et al. 1959), and social exchange theory (Blau 1964), integrated with psychological and behavioural models from previous studies, we developed a moderated mediation framework to test the proposed hypotheses. Figure 1 depicts the

influences of CQ on ITS through the mediating role of SCA and JS, as well as the contribution of moderators such as Chinese proficiency and LOR.

**Methodology**

**Sample and procedure.** The Vietnamese migrant workers included in this study work in Taiwan’s manufacturing sector on fixed-term temporary contracts governed by an agreement signed by both governments. They have little opportunity to obtain permanent residency or naturalised citizenship and they must return home at the end of their contract and/or length of permitted residence (Nguyen and Sundar 2021). Migrant workers are not allowed to change their employers without permission and must comply with their issued work permit’s scope and designated workplace (Workforce Development Agency 2020). A purposive sampling technique and cross-sectional research design were used to test the hypotheses. The study was based on a sample of 636 Vietnamese workers from different companies in Taiwan. With the assistance of brokers and representatives from Taiwanese companies, self-reported questionnaires were used to collect the data at brokerage agencies and factory dormitories.

**Pilot study.** The measures used in this research were originally all in English. To ensure the validity of the content, the questionnaire was translated into Vietnamese, using the simplest language style for ease of understanding. The translated version was checked by professional and bilingual experts with strong experience in conducting research. After any necessary revisions had been made, in line with the experts’ suggestions, backward translation was applied to ensure the accuracy of the question contents. A small group of workers was then engaged to check the transparency and simplicity of the language in the questionnaire. To ensure the respondents would be able to understand all the questions in the survey, we made revisions based on advice from the members of this group, clarifying anything which they found confusing, and following their recommendations on wording and on any questions they thought the participants might feel uncomfortable answering.

The researchers conducted a pilot test involving 64 respondents. The questionnaires were officially distributed and collected after Cronbach's alpha coefficient reliability test had shown acceptable levels for CQ (0.87), SCA (0.89), JS (0.82), and ITS (0.80).

**Measures.** The measurement scales used were mainly adapted and revised from earlier studies. CQ was measured using a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Other variables were graded using a 5-point Likert scale, ranging from 1 (not at all competent) to 5 (extremely competent) for SCA, and from 1 (strongly disagree) to 5 (strongly agree) for both JS and ITS. The internal reliability of the scales was confirmed through previous related studies, with Cronbach's alpha values for all the scales being greater than 0.70. In the current study, the Cronbach's  $\alpha$  values range from 0.84 to 0.89.

**Cultural competence.** A short version of the Cultural Intelligence Scale (Mini-CQS) developed by Ang et al. (2007) was adapted to measure CQ. The scale was composed of seven items; a sample item is, "I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds."

**Sociocultural adaptation.** SCA was measured using the Revised Sociocultural Adaptation Scale (SCAS-R) developed by Wilson et al. (2017). The scale used consisted of eight items that assessed SCA across the three domains of social interaction, community engagement, and ecological adaptability. Sample items are: "Building and maintaining relationships" and "Interacting at social events."

**Job satisfaction.** We adapted and revised scales developed by Depré et al. (1995), including five items that could be used to measure general JS. Two examples are: "Overall, I am satisfied with my current job" and "I think there are many other jobs which are better than mine."

**Intention to stay.** ITS was measured using four criteria developed by Kim et al. (1996). A sample item is, "Under no circumstances will I voluntarily leave this organisation."

The study also took into consideration Chinese proficiency and LOR as moderators in the relationships between CQ and SCA, and between CQ and JS. Respondents were asked if they could communicate in Chinese according to a range covering five levels, from "Not at all" to "Excellent." LOR was divided into less than three years, 3–6 years, 6–9 years, and more than 9 years.

**Common method variance.** In order to mitigate the effect of common method variance on the result interpretations, we employed certain remedies during the research design and the administration of the questionnaire. These included having carefully pre-validated scales, using reversed items, employing midpoints and different point scales for the measures, ensuring the survey's confidentiality, and protecting respondent anonymity (Podsakoff et al. 2003, 2012). In addition to the strategies just mentioned, Harman's single-factor test (Harman 1976) was conducted to check for common method bias. The results of the factor analysis gave a total variance for the single factor of 29.63%, which is well under 50% (Podsakoff et al. 2003), and therefore did not indicate significant variance. Thus, it is reasonable to conclude that common method bias was not a serious problem in the current study.

**Table 1 Demographic characteristics (N = 636).**

Demographic information	Frequency	Percent
Gender		
Male	407	64
Female	229	36
Age		
18–30	346	54.4
31–40	278	43.7
41–50	12	1.9
Over 50	0	0
Income		
Less than 24,000NTD	10	1.6
24,000NTD - Less than 30,000NTD	282	44.3
30,000NTD - 40,000NTD	306	48.1
Over 40,000NTD	38	6.0
Education level		
Primary	28	4.4
Secondary	190	29.9
High school	338	53.1
Vocational degree	63	9.9
Associate diploma	16	2.5
Bachelor	1	0.2
Marital status		
Single	245	38.5
Married	391	61.5
Chinese proficiency		
Not at all	13	2.0
Poor	288	45.3
Fair	279	43.9
Good	55	8.6
Excellent	1	0.2
Length of residence		
1–3 years	276	43.4
4–6 years	301	47.3
7–9 years	55	8.6
10–12 years	4	0.6
Over 12 years	0	0

## Findings

**Descriptive statistics and normal distribution test.** The sample comprised 407 males (64%) and 229 females (36%), and included 391 married workers (61.5%). A majority of the participants were between 18 and 30 years of age (54.4%), while there were 278 (43.7%) between the ages of 31 and 40, 12 (1.9%) between the ages of 41 and 50, and none over 50 years of age. Most of the group (338 workers, 53.1%) were educated to high school level. Normal distribution of the data was met, and multicollinearity was not present because all the variance inflation factors (VIFs) were less than 10 (Hair et al. 2019). Table 1 shows the profile of the survey sample (N = 636), covering gender, age, income, education, marital status, Chinese proficiency, and LOR in Taiwan, while Table 2 presents the descriptive statistics for the main variables used in the current study.

**Measurement model evaluation.** All Cronbach's alphas for inter-item consistency within each construct were greater than 0.70, indicating that the measures utilised were reliable. Furthermore, all composite reliability (CR) values were greater than 0.70, indicating construct reliability (Bagozzi and Yi 1988). Confirmatory factor analysis (CFA) was used to ensure that convergent and discriminant validity were both present. The loadings of all factors exceeded 0.5, which was above the acceptable threshold value (Hair et al. 2019). As shown in Table 3, convergent validity was also established, as all average variance extracted (AVE) estimates were greater than 0.50 (Hair et al. 2019).

**Table 2 Descriptive statistics of dependent and independent variables (N = 636).**

Variables	Min-Max	Mean	SD
CQ	3.0-7.0	5.01	0.66
SCA	1.0-5.0	3.18	0.60
JS	1.0-5.0	3.29	0.59
ITS	1.0-5.0	3.25	0.70

**Table 3 Measurement model (N = 636).**

Construct	Items	Standardized estimates	Cronbach's $\alpha$	CR	AVE
Cultural competence (CQ)	CQ1	0.737	0.876	0.877	0.506
	CQ2	0.781			
	CQ3	0.664			
	CQ4	0.654			
	CQ5	0.757			
	CQ6	0.717			
	CQ7	0.660			
Sociocultural adaptation (SCA)	SCA1	0.701	0.893	0.892	0.509
	SCA2	0.730			
	SCA3	0.740			
	SCA4	0.761			
	SCA5	0.731			
	SCA6	0.766			
	SCA7	0.625			
	SCA8	0.640			
Job satisfaction (JS)	JS1	0.793	0.868	0.868	0.568
	JS2	0.778			
	JS3	0.763			
	JS4	0.742			
	JS5	0.687			
Intention to stay (ITS)	ITS1	0.746	0.835	0.836	0.560
	ITS2	0.727			
	ITS3	0.722			
	ITS4	0.796			

In addition, as can be seen from Table 4, the CFA measurement model (fit indices: CMIN/df <3, RMSEA <0.08, Comparative Fit Index (CFI) >0.90, Incremental Fit Index (IFI) >0.90) indicated an acceptable level of fitness. As shown in Table 5, all correlations between each pair of constructs were lower than the square root of the AVE, implying sufficient discriminant validity.

**Hypothesis testing**

*Mediating effect*

Direct effect: Before testing the moderated mediation model, a regression analysis was conducted to test the existence of a direct effect of CQ on ITS (Baron and Kenny, 1986). The result demonstrated that CQ had a positive association with ITS ( $\beta = 0.22, p < 0.001$ ). Then, other direct relationships in the model were tested using PROCESS Macro analysis (Model 9) (Preacher and Hayes, 2004). The results showed that CQ was positively related to SCA ( $\beta = 0.12, p < 0.001$ ) and CQ was positively associated with JS ( $\beta = 0.18, p < 0.001$ ). Furthermore, SCA was positively related to ITS ( $\beta = 0.31, p < 0.001$ ), and JS had a positive association with ITS ( $\beta = 0.57, p < 0.001$ ).

To test H1 and H2, the PROCESS Macro (Model 9) in SPSS was conducted to analyse multiple mediating effects. A bootstrap analysis resamples the data to estimate standard errors and determine a confidence interval using the bootstrapped sampling distribution. If the 95% confidence intervals do not include zero, the mediating effect is deemed significant (Cheung and Lau, 2008). The results indicated that SCA ( $\beta = 0.04, LLCI = 0.0154,$

**Table 4 Model fit of measurement model.**

Model fit statistics	Observed value
CMIN/df	2.922
CFI	0.937
RMSEA	0.055
IFI	0.937
TLI	0.929
$\chi^2$	715.788
df	245
p	0.000

**Table 5 Construct correlation matrix.**

Latent Constructs	JS	CQ	SCA	JR
JS	<b>0.754*</b>			
CQ	0.352	<b>0.712*</b>		
SCA	0.471	0.286	<b>0.713*</b>	
ITS	0.691	0.257	0.543	<b>0.748*</b>

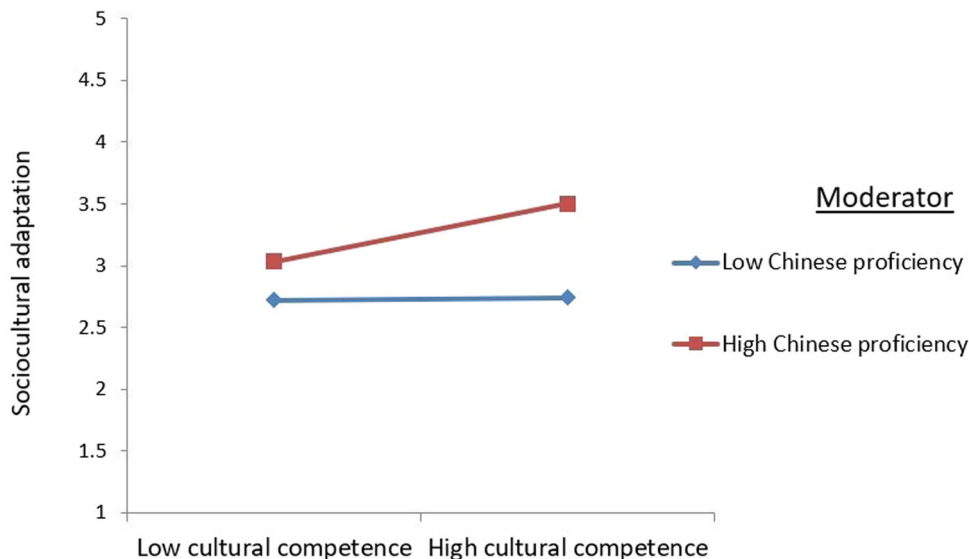
\*Square root of AVE (in bold)

ULCI = 0.648) and JS ( $\beta = 0.10, LLCI = 0.0653, ULCI = 0.1471$ ) mediated the relationship between CQ and ITS, confirming H1 and H2. The results of the PROCESS analysis revealed no direct effect of CQ on ITS ( $\beta = 0.01, p > 0.05$ ), indicating that SCA and JS fully mediated the association between CQ and ITS.

*Moderating effect.* Results of the PROCESS analysis indicated that the interaction between CQ and Chinese proficiency ( $\beta = 0.11, SE = 0.05, t = 2.30, p < 0.05, LLCI = 0.0165, ULCI = 0.2099$ ) positively affected SCA, supporting H3. Similarly, the interaction between CQ and LOR ( $\beta = 0.17, SE = 0.05, t = 3.07, p < 0.01, LLCI = 0.0603, ULCI = 0.2738$ ) positively affected SCA, confirming H4. On the other hand, the interaction between CQ and Chinese proficiency ( $\beta = 0.06, SE = 0.05, t = 1.14, p > 0.05, LLCI = -0.0407, ULCI = 0.1538$ ), and LOR ( $\beta = -0.02, SE = 0.05, t = -0.35, p > 0.05, LLCI = -0.1268, ULCI = 0.0881$ ) did not significantly affect JS, rejecting H5 and H6. Figure 2 and Fig. 3 present the interaction plots.

*Moderated mediation effect.* The omnibus test of the conditional indirect effect reflected in the index of moderated mediation of CQ on ITS indicates that Chinese proficiency ( $LLCI = 0.0051, ULCI = 0.0764$ ) and LOR ( $LLCI = 0.0084, ULCI = 0.0993$ ) significantly moderated the indirect association of CQ on ITS through the mediating role of SCA. The results of the hypothesis testing are summarised in Table 6.

In addition, the results from ANOVA indicated that there were no significant differences between male and female workers ( $F(1, 634) = 0.76, p > 0.05, \eta^2 = 0.001$ ) or in levels of education ( $F(5, 630) = 0.59, p > 0.05, \eta^2 = 0.0004$ ) in ITS. In contrast, there were significant differences in relation to marital status ( $F(1, 634) = 13.64, p > 0.001, \eta^2 = 0.02$ ), where married workers ( $M = 3.33$ ) had a higher ITS than single workers ( $M = 3.12$ ), age ( $F(2, 633) = 6.38, p < 0.01, \eta^2 = 0.02$ ), and income levels ( $F(3, 632) = 6.33, p < 0.001, \eta^2 = 0.03$ ) in ITS. Pairwise comparisons among the means were conducted using Tukey's HSD to control for inflated type I error. The result revealed that there was a significant mean difference in ITS between the 18-30 age group ( $M = 3.17, SE = 0.04$ ) and the 31-40 age group ( $M = 3.34, SE = 0.04$ ). In a similar vein, for income, there was a significant mean difference between the 24,000-30,000 NTD income group ( $M = 3.15, SE = 0.04$ ), the 30,000-40,000 NTD income group



**Fig. 2 Moderating role of Chinese language proficiency.** Chinese language proficiency strengthens the positive relationship between cultural competence and sociocultural adaptation.



**Fig. 3 Moderating role of length of residence.** Length of residence strengthens the positive relationship between cultural competence and sociocultural adaptation.

**Table 6 Summary of hypotheses testing.**

Hypotheses	Result
H1 SCA mediates the relationship between CQ and ITS.	Accepted
H2 JS mediates the relationship between CQ and ITS.	Accepted
H3 Chinese proficiency strengthens the positive relationship between CQ and SCA.	Accepted
H4 LOR strengthens the positive relationship between CQ and SCA.	Accepted
H5 Chinese proficiency strengthens the positive relationship between CQ and JS.	Rejected
H6 LOR strengthens the positive relationship between CQ and JS.	Rejected

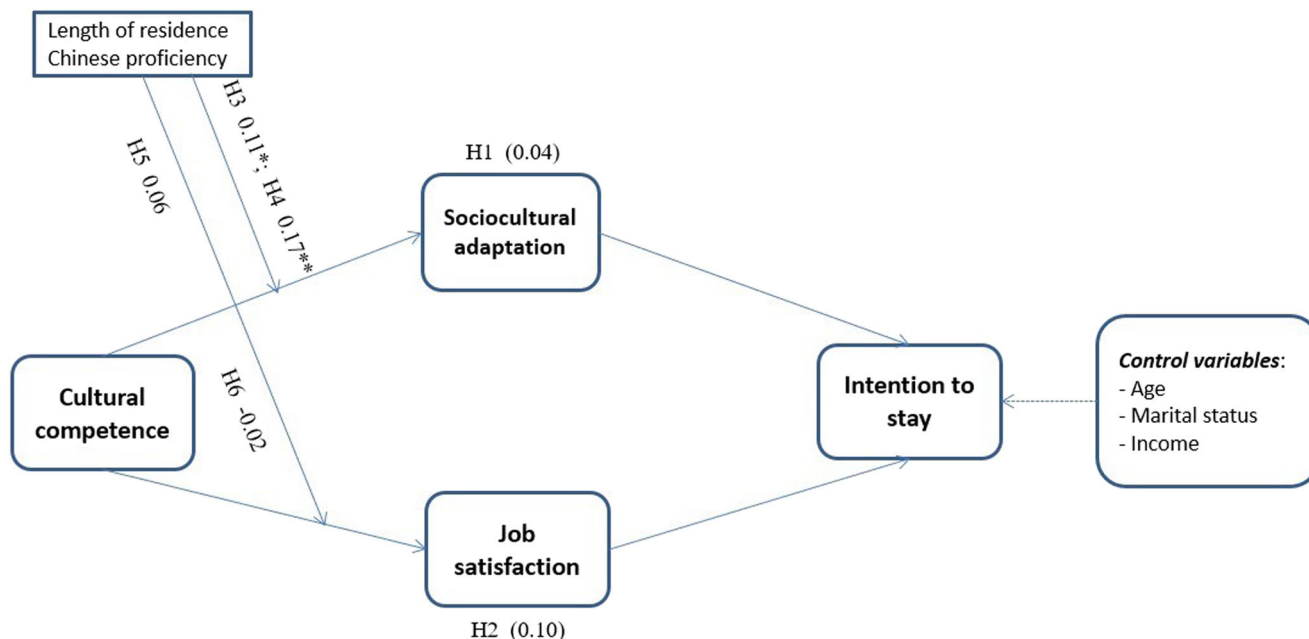
**Discussion and conclusion**

This study expands on the findings of previous research by examining the impact that social and cultural adaptability have on job motivation and work behaviour. The results indicate that acculturation competence is necessary for migrant workers to adjust to daily life in a new cultural context. The analysis of the moderated mediation model confirms the relevance of the mediating role of SCA and JS in the link between CQ and ITS. It also reaffirms the established moderating function of local language proficiency and LOR in the association between CQ and SCA.

The revealed mediating role of SCA aligns our investigations with the findings of other studies that have emphasized the impact of CQ on SCA (Hou et al. 2018; Almazrouei and Zacca 2021), and the positive association between SCA and ITS (Miller et al. 2019; Wang and Jing 2018; Almazrouei and Zacca 2021). Our study explored the way migrant workers who possess a high level of CQ adapt to the cultural norms and values of their new environment. It showed that individuals with greater levels of

( $M = 3.30, SE = 0.04$ ), and the over 40,000 NTD income group ( $M = 3.61, SE = 0.1$ ). This means that higher income workers have a higher ITS than lower income workers. The results model is shown in Fig. 4.





**Fig. 4 Results model.** Sociocultural adaptation and job satisfaction fully mediate the relationship between cultural competence and Vietnamese migrant workers' intention to stay. Chinese language proficiency and length of residence strengthen the positive relationship between cultural competence and sociocultural adaptation but do not moderate the association between cultural competence and job satisfaction. Note: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , coefficients for indirect effects are in parentheses.

SCA are often more effective in modifying their behaviours and social interactions (Guerrero, Rothstein (2012)). The relationship of CQ with JS was confirmed in our study, echoing previous research indicating that expatriates with high CQ exhibit higher JS in an international setting (Barakat et al. 2015). The current study also demonstrates that JS is positively related to ITS, and that it simultaneously mediates the relationship between CQ and ITS. This is also consistent with previous academic reports (Scanlan and Still 2019; Skelton et al. 2020; Zito et al. 2018). In line with the position of Stock et al. (2016), this research demonstrates that unpleasant psychological sensations on the job are likely to trigger a negative response. In contrast, career-satisfied individuals who feel valued, accomplished, and gratified are less likely to seek out new employment opportunities. The findings illustrate how JS is connected not only to other behavioural attitudes such as life satisfaction or job performance, but also to ITS and turnover intention (Scanlan and Still 2019; Skelton et al. 2020; Zito et al. 2018).

Furthermore, the moderating role of Chinese proficiency and LOR in the relationship between CQ and SCA is confirmed by our research. It was revealed once again that local language proficiency, LOR in a new society, cultural distance, and frequency of encounters with local people all play a role in SCA (Froese et al. 2012; Yu and Shen 2012). The results are consistent with the meta-analysis research conducted by Wilson et al. (2013), which indicated that cultural competencies such as language ability and host-nation interactions are related to SCA. It has been demonstrated before that workers with a high level of local language proficiency and a longer residence time will find it easier to adjust and adapt to their new environment (Bhaskar-Shrinivas et al. 2005; De Castro et al. 2008; Kifile et al. 2016; Chuba 2016). Because language proficiency is an essential tool in intercultural adaptation, it could be a potential resource for the improvement of social and cultural abilities, and may be either an antecedent or an enabler in social and cultural factors (Poort et al. 2021). However, our study indicated that Chinese proficiency and LOR did not moderate the positive relationship between CQ and JS, although previous studies

have found that local language proficiency positively affects JS (Bloemen 2014), and that older migrant workers have higher JS because they can reduce and eliminate over time the negative effects of issues such as language barriers (Chuba 2016).

**Theoretical implications.** The current study contributes to the understanding of the relevance of psychological and behavioural factors to work attitude by demonstrating the roles of SCA and JS in mediating the impact of CQ on ITS among migrant workers. In addition, this research indicates that local proficiency and LOR have a moderating effect in strengthening the association between CQ and SCA, but not the relationship between CQ and JS. The results of the study carry some critical theoretical implications, as set out below.

First, our study addresses the positive relationship between CQ and ITS in considering the situation of low-skilled migrant labourers working in the manufacturing industry under the labour export programme. This work contributes to the literature and provides further insights into CQ and its crucial relationships with job behaviour in a cross-cultural context.

Second, the results support the idea of the existence of mediators in the association between CQ and ITS. This research serves as one of the pioneering works in addressing the full mediating role of SCA and JS in the relationship between CQ and ITS. The findings also provide insights for cultural management science with regard to job attitudes, specifically the ITS of migrant workers participating in the labour export programme. An unfamiliar environment and feelings of uncertainty, loneliness and isolation may put low-skilled migrant workers in a challenging situation, causing them to feel insecure, anxious, agitated or pessimistic. The findings show that people with a high CQ level are more likely to be able to cope with these conditions and minimise any negative consequences (Miller et al. 2019), thereby maintaining their well-being and improving their chances of remaining in their new surroundings.

Third, our study explores the moderating function of local language proficiency and LOR in the acculturation process by

strengthening the relationship between CQ and SCA. In contrast, their moderating effect is rejected in the association between CQ and JS.

Finally, the study offers a moderated mediation model that reveals the considerable involvement of social and cultural aspects in multiple connections regarding work attitude, which has rarely been discussed in previous research. In particular, it focuses on low-skilled migrant labourers working under the labour export programme who have received little attention in academic work.

**Practical implications.** The findings in this study offer valuable insights for management. The study can also benefit organisations challenged in various ways with problems relating to turnover.

First, it offers support to organisations in improving employee retention policies by focusing on CQ, SCA, and JS as direct and indirect determinants of ITS. Company leaders may use the findings as additional material for improving employee retention management practices.

Second, the study provides a foundation for appropriate changes to help reduce the number of workers who intend to leave their jobs, by creating more opportunities for a better cultural learning environment. The positive implications include the potential for both workers and employers to gain a better understanding of the predictive roles of CQ, SCA, and JS in relation to ITS, which may help improve organisational management and initiate new ways of dealing with foreign employees.

Third, one of the crucial contributions of this study for management is that it provides more evidence to policymakers seeking to plan strategies and take concrete steps to improve the lives of Southeast Asian migrant labourers in Taiwan. Cultural and social factors should receive more attention in the improvement and development of foreign labour management policies for increasing JS and reducing turnover. Furthermore, workers who are happy with their job tend to stay with their company for additional contracts. Creating better working conditions and an environment that makes foreign labourers more inclined to stay will help boost Taiwan's competitiveness compared to other labour markets in the Asia-Pacific region, such as Japan, Korea, Malaysia, and so on.

Fourth, the research findings provide brokerage agencies and employers in both Vietnam and Taiwan with more scientific evidence relating to workers in the labour export programmes, which should help them to develop more appropriate and effective policies for foreign worker management. Since SCA and JS have been shown to be essential mediators in the relationship between CQ and ITS, and to have a strong influence on workers' decisions not to change jobs, employers and governments need to have policies in place to improve these factors, such as appropriate training and forms of cultural exchange and other cultural-oriented activities.

Fifth, because the host country's language was found to be a crucial tool for learning, understanding, and adapting to local culture and improving communication at work, this study, along with other research findings, reaffirms the critical role of local language proficiency for those working in foreign countries. It also suggests that host communities should focus on developing a friendly multicultural environment, providing migrant workers with better support to adapt to the social and cultural environment, and giving them favourable opportunities to participate in local language training programmes. This can all aid in their SCA, helping them to survive better in their new environment, and thereby increasing their ITS. It is essential to assist foreign labourers to adjust to the local culture and to become more highly involved in their work.

Last but not least, LOR is also significant for workers as a way of gaining more experience and expertise in their working and

personal life. This research calls for an appropriate policy of residence extension for foreign workers, to allow them to have enough time to acculturate and adapt to their new working environment, and thus facilitate their chances of staying on with their employer for further work contracts.

#### **Limitations and recommendations for further studies.**

Although it offers a significant contribution to the field, this study is not immune to a few limitations. First, because it was not feasible to conduct a randomised sample, the researcher used the convenience sampling technique and applied a self-report questionnaire to measure all the constructs. Concerns exist regarding the accuracy of non-probability sampling due to socially acceptable biases. Although we made every effort in administering the survey questionnaire and employed the Harman one-factor test, common method bias could not be completely eliminated from the research findings. Further studies using a randomised sampling method and a 360-degree questionnaire to collect data from multiple sources may help mitigate this limitation. Second, cross-sectional data is another limitation; future studies should examine longitudinal data to accurately measure changes in individuals' perceptions of the constructs and relationships investigated in this research. Third, the study involved only Vietnamese labourers working in the manufacturing industry under the labour export programme agreed by Vietnam and Taiwan; for a broader perspective, more studies involving workers from different nationalities (e.g. Indonesian, Filipino, Thai) should be conducted. Finally, Vietnamese labourers working in other industries such as construction, domestic work, agriculture, forestry, and fishery are recommended. We suggest that future studies investigate our results further, considering groups of migrant workers from diverse professional, cultural and language backgrounds. It would also be helpful to conduct similar studies relating to undocumented foreign workers, to be able to use the findings to compare this group of workers to those working under a legal labour contract.

#### **Data availability**

The datasets generated or analysed during the current study are available in the Dataverse repository: <https://doi.org/10.7910/DVN/SY7RIZ> or upon reasonable request from the corresponding author.

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## Competing interests

The authors declare no competing interests.

## Ethical approval

A questionnaire survey used to collect data in our study basically asked about participants' perceptions of their abilities and psychological behaviours. Our institution's relevant body deemed ethical approval not required because the study was not medical research nor regarded human experimentation as stated in the Declaration of Helsinki. Moreover, all the respondents were 18 years old and over and agreed to answer our research questionnaire. The gathered information is strictly confidential and anonymous and is only used for research purposes.

## Informed consent

Informed consent was obtained from the participants by enclosing a letter containing a consent statement with the research questionnaire survey. Only respondents who agreed to participate in the study would go through all the questions of the survey, and they might stop at any time for any reason.

## Additional information

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