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Fakultät für
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The Impact of Cultural, Psychological and Family Factors on Expatriate Family Adjustment.

Inaugural Dissertation submitted to the Faculty of Psychology at the University of Basel in partial fulfilment of
the requirements for the degree of Doctor of Philosophy

by

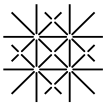
Marnie Reed

from Melbourne, Australia

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Approved by the Faculty of Psychology at the request of:

Prof. Dr. Jens Gaab

PD. Dr. Yoon Phaik Ooi

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Dean of the Faculty of Psychology



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Statement of Scientific Integrity

I hereby declare that I have written this thesis independently without the help of third parties and without using any tools other than those specified. Sources used are marked as such. The manuscripts published or submitted for publication in journals were created in collaboration with the co-authors and have not been published elsewhere by any of the participants, submitted for publication, or submitted to any other examination authority as a qualification work.

These are the following manuscripts:

- **Study I:**

Adjustment in Third Culture Kids: A Systematic Review of the Literature.

- **Study II:**

Family Cross-Cultural Adjustment: A Mixed-Methods, Multi-Informant
Study of Expatriates in Switzerland.

- **Study III:**

Exploring resilience as a mediator and moderator in the relationship between cultural
intelligence and sociocultural adjustment: A study of expatriates in Switzerland.

Signature

Date

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Abstract

With an increasing number of expatriates relocating overseas for work, and a large percentage of whom move with a dependent family, it is essential to identify factors that contribute to positive adjustment in expatriate individuals and families. Adjustment is important to the success of expatriate assignments as the inability or failure of a family member to adjust is one of the most common reasons for failed assignments. Consequences of failed assignments are significant, with job loss, divorce, mental health problems, addiction and financial difficulties cited as some of the potential negative outcomes.

The first aim of this thesis was to understand the current scope of literature on adjustment in expatriate children (also referred to as Third Culture Kids or TCKs). The second aim was to understand the role of cultural, psychological and family factors contributing to sociocultural adjustment in expatriate individuals and families in Switzerland. To address the first aim, a systematic literature review was conducted using only studies which collected data directly from TCKs during their relocation period. For the second aim, qualitative and quantitative data were collected from expatriate families in Switzerland who had relocated for employment purposes. Quantitative data were collected via online questionnaires comprising of demographic data and validated measures of cultural, psychological, and family factors. For the qualitative study, a sub-sample of families from the quantitative study were randomly selected to participate in an online, semi-structured interview.

Study I used a systematic search across eight databases to identify peer-reviewed journal articles fitting our eligibility criteria. Studies fulfilling the criteria were assessed for the quality of their methodology before data were abstracted, coded and synthesised. Study II utilised a mixed-methods, multi-informant approach to investigate factors contributing to sociocultural adjustment in expatriate families. The quantitative study used multiple regression analysis to determine the contribution of psychological, cultural and family factors in expatriate child ($n= 138$) and parent ($n= 126$) cross-cultural adjustment. Using data from family interviews ($n=8$), the qualitative study utilised a content analysis approach with coding conducted with the software Max QDA. In the final step of Study II, results from both studies were mixed to determine if findings converged or diverged. In Study III, we first conducted a multiple regression analysis to determine the contribution of cultural intelligence (CQ) and resilience in predicting sociocultural adjustment in expatriate parents ($n=126$). Second, we

tested resilience as both a mediator and moderator in the relationship between CQ and sociocultural adjustment.

In Study I, a number of publications demonstrated the role of cultural, psychological, family, and demographic/environmental factors in TCK adjustment. Results were summarised and the implications for these findings and future directions indicated. In Study II, the quantitative results indicated that resilience, acculturative stress and cultural intelligence predict cross-cultural adjustment in expatriate families. Our qualitative results generally converged with quantitative findings, with the exception of family functioning. In Study III, results showed that resilience and cultural intelligence both significantly predicted sociocultural adjustment. Further analyses found that resilience partially mediated the relationship between CQ and sociocultural adjustment, however, the moderation analysis was not significant.

Findings from these studies have implications for developing targeted prevention and intervention programmes to improve sociocultural adjustment in expatriate children, parents and families focusing on increasing stress management, resilience-building skills, cultural intelligence, host culture language and agreeableness with moving. The findings also have theoretical implications for developing a model of child and family adjustment and understanding mediating factors in sociocultural adjustment.

1. Introduction

Due to increasing globalisation of businesses, a growing number of skilled migrants and expatriates move overseas for employment purposes (Kerr et al., 2016). While traditional expatriates moved with a temporary work contract before returning home, there is now a growing trend of self-initiated expatriates seeking out jobs for themselves for an indefinite time period and sponsoring their own relocation (Shaffer & Wan, 2020). With an estimated 87 million expatriates worldwide in 2021 (Finaccord, 2018), approximately half of whom relocate with a partner and children (Caligiuri & Bonache, 2016), understanding sociocultural adjustment is important for a growing number of families and businesses.

Its central location in Europe, high-quality education (Federal Statistics Office, 2021), competitive salaries (International Labour Organization, 2021) and a stable political environment, makes Switzerland one of the most desirable places for expatriates to live (InterNations, 2021). Despite its many advantages, Switzerland is consistently ranked as one of the most difficult countries for expatriates to make friends and settle in (InterNations, 2021) potentially putting expatriates in Switzerland at risk for adjustment difficulties which can include job loss, marital problems, mental health issues, alcoholism, school problems and bullying (Cole & Nesbeth, 2014; McNulty, 2012). Therefore, there are wide-reaching benefits for individuals, families and businesses in understanding factors that contribute to positive adjustment.

2. Theoretical Background

2.1. Adjustment

Expatriate adjustment is a well-researched area due to the key role that it plays in successful overseas assignments. Expatriate adjustment is defined as a complex process of change in various domains in response to a new environment and culture (Haslberger et al., 2014). In research, adjustment has been measured by constructs such as well-being, levels of satisfaction with self and the environment, psychological and emotional comfort, and the degree of fit and effectiveness between the person and their environment (Black & Stephens, 1989; Dawis & Lofquist, 1984; Haslberger & Brewster, 2009; Taft, 1988). Although earlier theories (e.g., Berry, 1997; Searle & Ward, 1990) provided structure for understanding adjustment, they do not capture the complexities of this

process. More recent models, such as the 3-D Model of Adjustment (Haslberger et al., 2014), offer a more holistic and complex view of adjustment by proposing an interplay between internal and external dimensions, several domains, which occur in the context of time. The term cross-cultural adjustment refers to a combination of psychological and sociocultural adjustment and is useful for understanding expatriate experiences. Psychological adjustment can be measured through indicators of well-being and mental health, such as internalising (i.e., depression and anxiety) or externalizing symptoms (behaviour problems), stress and self-esteem (Pollard & Lee, 2003). Sociocultural adjustment can be competence and mastery of behaviours, emotions and cognitions fitting to the host culture (Haslberger, 2005). These two types of adjustment will be discussed in the following sections.

2.1.1. Psychological Adjustment

Psychological adjustment refers to subjective well-being and is synonymous with positive mental health (Ruggeri et al., 2020). According to the World Health Organization (2022), positive mental health comprises of a state of well-being in which an individual can cope with stressors, make a contribution to society, work productively and realises their own abilities. In expatriate populations well-being has been studied more often in relation to the expatriate and their spouse and less so in children and families. While expatriate well-being is impacted by organisational support from both host and home organisations (De Paul & Bikos, 2015), spouse well-being relates more to stress, social support and feeling secure and comfortable in one's environment (Herleman et al., 2008). Although there is limited data on expatriate child and adolescents, studies suggest that a number of factors impact well-being, such as family bonds, age, length of time at school, quality of the adolescent/parent relationship and the ability to make friends (Ittel & Sisler, 2012; McKeering et al., 2021; Pittman & Bowen, 1994).

Families also influence one another's well-being by means of crossover and spill over effects, whereby positive or negative emotions are transferred between individuals or across domains, and this effect has been evidenced in expatriate populations (Sterle et al., 2018; Takeuchi et al., 2002). For example, partner adjustment and well-being has been shown to impact expatriate adjustment (Bhaskar-Shrinivas et al., 2004; Shaffer & Harrison, 2001), expatriate well-being (van der Zee et al., 2005), expatriate job satisfaction (Ali et al., 2003), expatriate job performance (van Erp et al., 2014), family cohesion, family communication and family adaptability (Ali et al., 2003).

2.1.2. Sociocultural Adjustment

Sociocultural adjustment is defined as competence and mastery of behaviours, emotions and cognitions which are fitting to the host culture (Haslberger, 2005). Based on data from expatriates, Black et al.'s (1991) model of adjustment proposes the existence of several types of adjustment, such as work, interaction and general adjustment and identifies factors impacting adjustment, such as pre-departure training, previous international experience, individual skills and organisational factors; however, recent models have attempted to capture the complex nature of adjustment and include more contextual factors, the interaction of internal and external dimensions, and recognise that adjustment is not a linear process (Haslberger et al., 2014). Although these models are applicable to expatriate adults, they do not apply to children or families and such a model would need to consider factors such as crossover and spill over effects, childhood developmental trajectories and effects of the family system on adjustment.

Spouse or partner adjustment is integral to a successful assignment, and failure of a partner to adjust is the most frequently cited reason for an assignment failure (Haslberger & Brewster, 2008; Sterle et al., 2018). The challenges associated with partner adjustment are often greater than those of the expatriate, as partners have more contact with the host culture but receive less support (Andreason, 2008). Partners experience challenges, such as family responsibilities, social isolation, insufficient time with their partner, loss of support networks, changes in work status and uncertainty about the future (Copeland & Norell, 2002; Sterle et al., 2018). In addition, job loss and professional identity loss for the partner is common with 60% working before but only 21% working after relocation (Caligiuri & Bonache, 2016; Copeland & Norell, 2002). And despite being perceived as beneficial for adjustment, partner career support is often lacking and of a poor quality (McNulty, 2012). Factors associated with positive partner adjustment include open-mindedness, emotional stability, family cohesion and adaptability, support from the company, more agreeableness with moving and strong social support networks in the host country (Ali et al., 2003; Copeland & Norell, 2002).

Expatriate children, often referred to as Third Culture Kids (TCKs), are children 'accompanying one's parent(s) into a country that is different from at least one parent's passport country(ies) due to a parent's choice of work or advanced training' (Pollock et al., 2010, p.44). From growing up abroad, TCKs have a number of strengths, such as accepting cultural differences, having stronger family relationships, speaking multiple languages and being open-minded (Moore & Barker,

2012; Lam & Selmer, 2004). Conversely, relocation can be experienced as a severe stressor, beyond the control of TCKs who often have no or little choice in the decision (Vercruyssen & Chandler, 1992). Growing up in multiple cultures and moving regularly can have adverse effects on TCKs, such as increased academic stress, difficulty building and maintaining friendships, identity confusion, lack of a sense of belonging and ongoing grief related to saying goodbye (Lijadi & van Schalkwyk, 2014; Moore & Barker, 2012; Weeks et al., 2009). However, many factors can aid positive adjustment in TCKs including self-efficacy, social skills, family support, language ability, younger age, smaller cultural distance, family cohesion, expatriate parent work satisfaction, emotional stability and secure attachment style (de Sivatte et al., 2019; Ittel & Sisler, 2012; Weeks et al., 2009).

Family adjustment is a complex and positively influenced by factors such as family flexibility (Rosenbusch & Cseh, 2012), organisational support, a positive perception of moving (Shah et al., 2021) and a sense of adventurousness (Caligiuri et al., 1998). Family adjustment may also be conceived as a balance between demands (stressors and strains) and capabilities (resources and coping), as outlined in the Family Adjustment and Adaptation Response (FAAR) model (Patterson, 1988). In this model, the family system strives to maintain a balance in their functioning whilst going through cycles of adjustment, crisis and eventually adaptation. While existing literature clearly states that children and partners are essential for the success of international assignments through their impact on the expatriate (Goede & Berg, 2018; Shaffer & Wan, 2020), companies still underestimate the role of families and fail to provide adequate support (Kupka et al., 2008).

2.2. Cultural Factors Impacting Adjustment

2.2.1. Acculturation

Acculturation refers the process of change occurring when groups of individuals come into contact with another culture (Berry & Sam, 1997). The process involves participating in the host culture and learning new values, beliefs and behaviours, while simultaneously maintaining one's original cultural identity and relationships (Sam & Berry, 2006). Early theories of acculturation proposed four main strategies (assimilation, integration, separation and marginalisation) with the focus being on the fit between the host country culture and the ability of the individual to adapt (Berry & Sam, 1997); yet, more recent research suggests that acculturation depends on a multitude of factors including social interactions and attitudes (Ward & Geeraert, 2016), an individual's cultural

identity (Brannen & Thomas, 2010), the host country culture (Downie et al., 2004) and the cultural distance between host and home culture (Taušová et al., 2019).

Expatriates and their families can experience challenges during acculturation due to language, academic differences, stress, differing cultural expectations and challenges in the workplace (Brown, 2008; Gress & Shin, 2020; Kayama & Yamakawa, 2020; Thirlwall et al., 2021). Factors associated with increased acculturative stress include larger perceived cultural distance, poorer host language proficiency (Taušová et al., 2019), older age, female gender, personality traits, ineffective coping styles, experience of prejudice and discrimination, negative attitudes toward acculturation, low self-esteem and higher education level (Berry, 2006; Kim et al., 2019; Ward & Rana-Deuba, 1999).

2.2.2. Cultural Intelligence

Cultural intelligence (CQ) has gained increasing attention as being an important factor in sociocultural adjustment. CQ consists of several components: cultural knowledge, such as declarative knowledge and awareness of one's own culture or behaviour; cultural skills, such as adaptability and empathy; and metacognitive skills, such as transferring knowledge from specific to broader concepts of culture (Thomas et al., 2015). It enables individuals to function effectively in contexts of cultural diversity, such as being in the presence of different cultural values or nationalities (Ang & Van Dyne, 2015), and generally helps to reduce psychological stress related to cultural contexts (Leung et al., 2014). Based on models of general intelligence, theories of CQ outline several facets working together to form a general measure. The 4-factor model (Earley & Ang, 2003) outlines cognitive, behavioural, metacognitive and motivational factors, while the 3-factor model (Thomas et al., 2015) is similar but omits the motivational factor. In expatriate populations, CQ has been found to positively impact all five types (general, work, interaction, psychological and sociocultural) of cultural adjustment (see Leung et al., 2014). Further, individual facets of CQ have been linked to different aspects of cultural adjustment, with metacognitive and cognitive CQ linked to cognitive outcomes and motivational CQ linked to affective outcomes (Guðmundsdóttir, 2015; Ang & Van Dyne, 2015; Huff et al., 2014). Many antecedents of CQ have been identified to support positive adjustment, such as personality traits, being a multicultural individual, number of previous relocations, number of countries visited, international experience of parents and language ability (Ang & Van Dyne, 2015).

2.3. Psychological Factors Impacting Adjustment

2.3.1. Stress

Stress occurs for expatriates during overseas relocation and can negatively impact sociocultural adjustment and have serious consequences, such as mental health problems, divorce and premature termination of the assignment (Kempen et al., 2015; Lazarova et al., 2015). Commonly, stress follows a time-related pattern whereby levels increase prior to departure and during the first few months, and then decrease thereafter (Forster, 1997). Expatriates experience stress related to worries about their family's safety and adjustment, work-life balance and extended time away from home (Dang et al., 2021). And although family factors can increase expatriate stress, children can also act as a source of stress reduction and not having family may lead to more difficulties and feelings of loneliness (Dang et al., 2021). For expatriate partners, low self-esteem, not feeling valued, uncertainty about the future and social isolation are common sources of stress (Brown, 2008). Additionally, crossover effects of stress between the partner and expatriate occur (Forster, 1997), and relationship strains can occur due to conflicting demands between the expatriate and partner (Brown, 2008). TCKs experience stress in response to changing schools, making new friends, learning a language, academic stress and role confusion, as well as crossover effects from their parents (Lazarova et al., 2015; Mclachlan, 2007; Rosenbusch & Cseh, 2012; Weeks et al., 2009). Common stressors for expatriate families include cultural transition, making new friends, language difficulties, job stress and stability and being away from friends and family (Rosenbusch & Cseh, 2012). And as stress is associated with all five domains of adjustment, it should be anticipated and supported by companies to obtain best outcomes for families during relocation (Brown, 2008; Rosenbusch et al., 2015).

2.3.2. Resilience and Coping

Resilience and coping are central to positive adjustment as they explain why some individuals react constructively to challenges while others become overwhelmed. And although these terms are closely related, they differ in that resilience impacts the appraisal of an event, while coping refers to the strategies employed after an event has occurred (Fletcher & Sarkar, 2013). Highly resilient people are likely to employ effective coping strategies when faced with challenges, while those low in resilience will choose less-effective coping strategies, leading to different adjustment outcomes (Masten, 2001). Resilience is best defined as both a process and a trait. As a process, it refers to a

return to homeostasis after a stressful event through many shifts of adjustment between the person and environment (Fletcher & Sarkar, 2013). It is a motivational force that helps individuals to face challenges in stressful situations and bounce back from adversity (Vella & Pai, 2019). As a trait, it can be conceived as a pattern of Big Five personality characteristics or as personality characteristics such as self-esteem and hardiness (Friborg et al., 2005). Resilience plays a central role in overcoming stressors associated with relocation in expatriates and has been associated with better work adjustment and fewer withdrawal intentions (Davies et al., 2019). For partners, resilience plays a vital role in sociocultural adjustment and can be promoted through increasing social, family and organisational support (Botha et al., 2022). In families, resilience is defined as the capacity of the family, as a system, to withstand and rebound from adversity (Walsh, 2016) and is a significant predictor of adjustment (Izumi & Gullón-Rivera, 2018).

2.4. Family Factors Impacting Adjustment

Like any other family, expatriate families operate in a complex social system and interact to influence each other's behaviour (Kerr & Bowen, 1988). Crossover effects in expatriate families have been well-documented (see Sterle et al., 2018) and the adjustment and well-being of individual family members cannot be considered solely on an individual level. Family functioning is an important indicator of the quality of the family environment and has been linked to sociocultural and work adjustment in expatriate families (Caligiuri et al., 1998; van der Zee et al., 2007; Zaider et al., 2020). Healthy family functioning is defined as having clear communication, well-defined roles, good emotion regulation and healthy levels of cohesion (Epstein et al., 2003). Conversely, poor family functioning consists of disorganisation, poor communication, enmeshment or separation in relationships, poor emotion regulation and poor behavioural control. Family cohesion, an element of family functioning, refers to the amount of emotional bonding between family members, and it is an important factor in the success of family relocation outcomes (Forster, 1997). High levels of cohesion can positively impact stress, boost self-concept and alleviate mental health problems (Jhang, 2017; Zeng et al., 2021). For expatriate adolescents, family cohesion is particularly important, as those with better family bonds have reported fewer depressive symptoms, better school grades and higher persistence levels (Lucier-Greer et al., 2015). Additionally, family communication enables families to share experiences, problem solve and negotiate difficulties and has been associated with better outcomes during international assignments and better expatriate work adjustment (Caligiuri et al., 1998; Forster, 1997).

Finally, family characteristics such as having a positive perception of moving internationally, a healthy relationship between partners, being adventurous and flexible, having a sense of humour, making decisions together and being sociable have been associated with fewer adjustment difficulties in expatriate families (Caligiuri et al., 1998; Forster, 1997; Lazarova et al., 2015).

3. Aims of the Thesis

Through the following studies, this thesis aims to fulfil two main objectives. The first is to gain a comprehensive understanding of the current state of literature relating to adjustment in expatriate children and adolescents. The second is to investigate factors impacting adjustment in expatriate children, adults and families living in Switzerland.

3.1. Adjustment in Third Culture Kids: A Systematic Review of Literature. (Study I)

Despite the surge in literature on expatriate populations and the recent publication of several comprehensive literature reviews (e.g., Dang et al., 2021; Sterle et al., 2018; Tan et al., 2021), there still remains a significant gap in literature reporting on adjustment in expatriate children and adolescents. Further, much existing data on TCK adjustment has been either reported by a parent or teacher or collected retrospectively. The review aims to summarise and present all current literature on TCK adjustment that has been collected directly from expatriate children during the time of their relocation using robust methodologies. Furthermore, the review also includes a comprehensive view of external indicators, such as family functioning, demographic variables and environmental factors related to adjustment.

Research question. What is the current status of literature regarding adjustment of Third Culture Kids?

3.2. Family Cross-Cultural Adjustment: A Mixed-Methods, Multi-Informant Study of Expatriates in Switzerland. (Study II)

Current literature clearly indicates the importance of both adjustment and families in successful expatriate relocations (van der Zee et al., 2007). However, research does not clearly identify which factors are important for reducing adjustment difficulties in expatriate families. Better understanding of family adjustment would benefit both families as well as companies involved in overseas relocation and enable the development of more effective support. The goal of the current study was to obtain a comprehensive understanding of the factors impacting adjustment in expatriate

families in Switzerland. In expatriate rankings of the best places to live, Switzerland is simultaneously named as one of the top locations overall and also one of the most difficult places to settle into (InterNations, 2020). This implies that on one hand expatriates in Switzerland appreciate the many advantages that the country has to offer, but also experience difficulties related to adjustment. We used a mixed-methods, multi-informant design to investigate which factors impact expatriate family adjustment and also gain an understanding of the experience of relocating to Switzerland. The following research questions were developed to address the aims:

RQ 1. Do resilience, acculturative stress and family functioning predict child cross-cultural adjustment?

RQ 2. Do resilience, acculturative stress, cultural intelligence and family functioning predict parent cross-cultural adjustment?

RQ 3. From a family perspective, what is the experience of relocating to Switzerland?

RQ 4. How do findings from RQ 1–3 combine to give detailed insight into family cross-cultural adjustment?

3.3. Exploring Resilience as a Mediator and Moderator in the Relationship between Cultural Intelligence and Sociocultural Adjustment: A study of Expatriates in Switzerland. (Study III)

While both CQ, resilience and expatriate sociocultural adjustment are evidently related, the precise relationship between these variables is still unclear. As resilience has been identified as a mediating or moderating factor between numerous psychological variables and adjustment (e.g., Groarke et al., 2020; Ruiz-Párraga et al., 2015), the current study sought to test resilience as a mediator or moderator in the relationship between CQ and sociocultural adjustment. A more precise understanding of how these variables impact adjustment would enable the development of more effective support and training programmes for expatriates. Results also contribute to understanding the theoretical underpinnings of adjustment. The following hypotheses and exploratory research questions were developed to address these aims:

Hypothesis 1. Higher resilience and higher CQ will predict fewer sociocultural adjustment problems in expatriates.

Exploratory Research Question 1. Does resilience mediate the relationship between CQ and sociocultural adjustment?

Exploratory Research Question 2. Does resilience moderate the relationship between CQ and sociocultural adjustment?

4. Methods

4.1. Adjustment in Third Culture Kids: A Systematic Review of the Literature. (Study I)

The current study aimed to review all available English-language, peer-reviewed journal articles on the adjustment of TCKs (5–18 years) with data collected at the time of their relocation. We searched articles published from the beginning of time until December 2021 in nine different electronic databases: APA Psycinfo, PSYNDEXplus Literature, and Audiovisual Media, ERIC, MEDLINE, web of science, Scopus, SocINDEX and sociological abstracts. Excluded from our review were late adolescents (19–21 years), international students at the tertiary level, education migrants, high school exchange students, first- and second-generation immigrants and migrants, child and adolescent adoptees, military deployment of a parent without family, non-international relocation and repatriation.

The review management tool COVIDENCE (Covidence, 2021) was used to screen studies, with two independent study team members screening papers for title and abstract, full text, and quality control and extraction phases. Studies were assessed for quality using the Joanna Briggs Institute's critical appraisal tools (Critical-Appraisal-Tools – Critical Appraisal Tools | JBI, n.d.) and 14 studies were abstracted using the Matrix Method (Garrard, 2020). Using pre-defined codes (psychological, sociocultural, family and demographic/environmental factors), we extracted predictors of adjustment organised into the four categories. Results from nine quantitative and one mixed-methods study were abstracted with significant results reported with given correlation coefficients and *p* values. In addition, four qualitative and one mixed-methods study were abstracted using a thematic synthesis approach allowing for themes to be abstracted using thematic headings (Thomas & Harden, 2008).

4.2. Family Cross-Cultural Adjustment: A Mixed-Methods, Multi-Informant Study of Expatriates in Switzerland. (Study II)

Data were collected from a longitudinal project on sociocultural adjustment and well-being in expatriate children and parents in Switzerland. Participants were recruited through social media,

expatriate associations, international schools and multi-national companies in Switzerland. Inclusion criteria were children aged 7–17 years, parent’s employment was the primary reason for the family’s relocation to Switzerland, medium to high household income levels and sufficient English to participate. Exclusion criteria were having one Swiss parent, refugee status, foreign exchange students and insufficient English language to participate. Both parents and children gave consent to participate and families received gift vouchers for participating in each study. Please refer to the published protocol for full details (Ooi et al., 2022).

In the quantitative study, one parent and one child from each family completed an online questionnaire taking approximately 15–20 minutes. Participants included 138 children (40.5% aged 7–12 years, 59.5% aged 13–17 years) and 126 parents (mean age = 47 years) living in Switzerland. The survey consisted of validated questionnaires to measure resilience, acculturative stress, cultural intelligence, family functioning, sociocultural adjustment and well-being. A full list of measures and their properties can be found in Appendix D. Hierarchical linear regression analyses were conducted using SPSS Statistics Software version 28, with a significance level of $p < .05$ (two-tailed). The covariates child age, agreement with relocating, length of time in Switzerland and German language proficiency were entered into Model 1, and the study variables resilience, acculturative stress, cultural intelligence and family functioning entered into Model 2.

For the qualitative study, a random sample of participants from the survey were invited to take part in a family interview lasting approximately 50 minutes. Interviews were conducted online via Zoom – recordings will be deleted at the end of the study. Families ($n=8$) had an average of **three** international relocations and lived in Switzerland for an average of 7 years (range = 1–12 years). A list of interview questions can be found in Appendix E. Content analysis was used to analyse the qualitative interviews as it is appropriate for triangulating qualitative and quantitative data and can be used to elaborate on quantitative findings (Kansteiner & König, 2020). After transcription, family interviews were imported into MAXQDA version 2020 for coding. A codebook for deductive coding was developed using themes from the predictor and outcome variables in the quantitative study and codes reflecting questions in the surveys. All interviews were coded independently by one member of the study team and one research assistant. Discrepancies were discussed and resolved by another member of the study team.

The mixed-method part of the study used a concurrent triangulation design, whereby qualitative and quantitative data were collected and analysed simultaneously after which results were triangulated and then finally interpreted (Castro et al., 2010). This design is useful for cross-validating studies and expanding quantitative results with qualitative data (Creswell & Plano Clark, 2017).

4.3. Exploring Resilience as a Mediator and Moderator in the Relationship between Cultural Intelligence and Sociocultural Adjustment: A study of Expatriates in Switzerland. (Study III)

Data for this study were derived from the same longitudinal study on sociocultural adjustment and well-being as Study II (see above). Participants included 126 parents, who were 70% female, had a mean age of 46 years and had been in Switzerland for an average of 4.5 years. The study variables were sociocultural adjustment (Sociocultural Adaptation Scale – Revised; Wilson et al., 2017), cultural intelligence (Short-Form Cultural Intelligence Scale; Thomas et al., 2015), and resilience (Adult Resilience Measure; Resilience Research Centre, 2018). In addition, age, gender, language proficiency, length of time in Switzerland and whether they had undertaken cultural training were used as control variables. A full list of measures can be found in Appendix B.

Analyses were performed with the SPSS Statistic Software version 28 and the “PROCESS” macro, v4 (Hayes, 2022). Hierarchical multiple regression analysis was used to determine the amount of variance in sociocultural adjustment, which is predicted by CQ and resilience. All reported p-values are two-tailed and set at $p < .05$. To examine the mediating and moderating role of resilience, we respectively used the PROCESS macro models 4 and 1, v4 (Hayes, 2022) in SPSS using bootstrapping estimates ($n = 5,000$) with bias-corrected 95% confidence interval (BCa 95%, CI).

5. Summary of Results

5.1. Adjustment in Third Culture Kids: A Systematic Review of the Literature. (Study I)

The extracted studies were primarily conducted in Asia and Europe and consisted of nine quantitative, one mixed-methods and four qualitative designs. The final categories for the outcome variables were determined to be psychological adjustment (well-being, stress, coping), sociocultural adjustment (culture shock, acculturative stress) and third culture identity (place identity, specific traits). The main findings of the extracted data are summarised below.

5.1.1. Demographic/Environmental Factors

Younger age, less frequent moves, longer time spent abroad, more family contact and stability predicted positive TCK adjustment.

5.1.2. Family Factors

Better adjustment was predicted by more closeness, cohesion and connectedness to extended family, as well as being more involved in decision-making and having stronger relationships.

5.1.3. Psychological Factors

A number of traits were associated with better TCK adjustment including open-mindedness, agreeableness towards the move, flexibility, higher self-esteem, increased emotional stability and acceptance of other cultures. Conversely, ambivalent attachment style and repatriation anxiety were related to poor TCK adjustment. Emotions were also related to adjustment with TCKs reporting grief, loss, excitement, disappointment and anticipation related to moving. Finally, identity development can be challenging for TCKs who need to incorporate many different cultures, values, places and relationships into their identity development.

5.1.4. Sociocultural Factors

One of the most prominent issues for TCKs was loss of friends which may lead TCKs to develop more superficial or casual relationships. Furthermore, better adjustment was predicted by positive relationships with teachers, local friends and friends left behind. Culture is another important aspect, and TCKs report that they can feel at home in the host country without integrating into the culture by being immersed in the international school culture. Although host country language can help adjustment, it is not considered to be as important as other factors for TCK adjustment. However, TCKs showed great interest in learning new languages and maintained skills in home culture language(s).

5.2. Family Cross-Cultural Adjustment: A Mixed-Methods, Multi-Informant Study of Expatriates in Switzerland. (Study II)

5.2.1. Quantitative Study Results

Regression analyses indicated that all four models of parent and child well-being and sociocultural adjustment were significant. Tables with regression coefficients can be found in Appendix F.

The model for child well-being explained 70% of variance, $F(6, 115) = 21.836, p < .001$, with the covariate age ($B = -.330, p < .001$) and predictor variables resilience ($B = .436, p < .001$) and

acculturative stress ($B = -.193, p < .01$) contributing significantly. Similarly, the model of child sociocultural adjustment explained 53% of variance, $F(6, 110) = 23.580, p < .001$, with the covariate age ($B = .390, p < .001$) and predictor variables resilience ($B = -.247, p < .001$) and acculturative stress ($B = .362, p < .001$) contributing significantly. For parents, the model for well-being explained 56% of variance, $F(7, 118) = 8.095, p < .001$, with only resilience ($B = .346, p < .001$) contributing significantly to the model. And last, the model for parent sociocultural adjustment explained 48% of variance, with the covariate German language ($B = .403, p < .001$) and the predictor variables acculturative stress ($B = -.241, p < .001$), resilience ($B = .296, p < .001$) and cultural intelligence ($B = .169, p < .05$) contributing significantly to the model.

5.2.2. Qualitative Study Results

Content analysis revealed details of the study variables from the quantitative study. Families experienced stress at different points of moving, and especially during the early phases of relocation when finding accommodation, settling in to school and work, following cultural rules and finding their way around. Acculturative stress occurred frequently in relation to German language difficulties and feeling like a foreigner. Some families also felt that they no longer fitted in in their home culture. To cope with challenges, families used resilience strategies, such as getting support from friends, neighbours and expatriate groups and using skills that they had acquired from previous moves. They also used cognitive strategies, such as acceptance, flexibility and managing expectations. Families demonstrated cultural intelligence in many areas, such as making comparisons between cultures, knowledge of social norms, willingness and ability to change behaviour to be culturally appropriate and being comfortable with people from different cultural backgrounds. Family functioning was viewed as important, and families expressed feeling very close to each other due to having no extended family nearby. Communication was important as were characteristics such as being flexible, adaptable and having a positive attitude towards moving. For sociocultural adjustment, families reported needing to adjust to many things, such as new jobs, family roles, school, language, social norms and friends. Most families did not find Switzerland difficult to adjust to and did not have a lot of trouble settling in.

5.2.3. Mixed-methods Study Results

From combining results from the quantitative and qualitative studies, we found that results converged on the measures of resilience, acculturative stress, cultural intelligence, language, age of

child and agreement with relocation. Regarding the variable family functioning, results from the qualitative and quantitative studies did not converge. Regression analyses found it was not a significant predictor of adjustment, However, the qualitative study found that this was an important factor that families discussed in detail. Similarly, results regarding the role of the length of time in Switzerland did not converge, with the quantitative analyses indicating it was not a significant contributor to the model, whereas family interviews suggest that adjustment becomes easier over time.

5.3. Exploring Resilience as a Mediator and Moderator in the Relationship between Cultural Intelligence and Sociocultural Adjustment: A Study of Expatriates in Switzerland. (Study III)

5.3.1. Multiple Regression Analysis

Results from the multiple regression analysis supported our first hypothesis. CQ and resilience accounted for 21% of the variance in sociocultural adjustment $F(2, 118) = 22.73, p < .001$, with higher levels of cultural intelligence ($B = .21, p < .001$), resilience ($B = .44, p < .001$) and German language proficiency ($B = 2.97, p < .001$) significantly predicting better sociocultural adjustment, therefore supporting Hypothesis 1.

5.3.2. Resilience as a Mediator or Moderator of Sociocultural Adjustment

We used the PROCESS Model 4 (Hayes, 2022) to test if resilience mediates the relationship between CQ and sociocultural adjustment. The total effects model for CQ and sociocultural adjustment was significant $F(6, 119) = 9.81, p < .001, R^2 = .33$, with higher CQ indicating better sociocultural adjustment. The mediation model was also significant $F(7, 118) = 14.75, p < .001, R^2 = .47$ and explained 47% of variance in sociocultural adjustment. The indirect effect of the mediation was significant [$b = .16, 95\% CI (.073, .260)$] indicating the effect of CQ on sociocultural adjustment as mediated by resilience. However, the direct effect of CQ on sociocultural adjustment was also significant [$b = .19, 95\% CI (.009, .368)$], albeit to a smaller degree, indicating a partial mediation effect, indicating partial support for Hypothesis 2.

We then examined if resilience serves as a moderator in the relationship between cultural intelligence and sociocultural adjustment using the PROCESS Hayes Model 1. The overall model was statistically significant, $F(8, 117) = 13.12, p < .001$, and accounted for 47% of the variance. However, the interaction effect was not significant $F(1, 117) = 1.41, p > .05$, indicating that resilience did not

moderate the relationship between CQ and sociocultural adjustment. Therefore, Hypothesis 3 was not supported.

6. Discussion

With increasing numbers of expatriates moving overseas, and more than half of those with a partner or dependent children, there is a clear need to understand how to support positive adjustment in this population. The studies presented in this thesis were undertaken with two aims: the first was to understand what current literature tells us about factors impacting expatriate child adjustment (Study I), and the second was to better understand factors that predict adjustment in expatriate children, parents and families (Studies I, II and III). The following section will discuss the results in relation to children, parents and families in the context of previous research and our key findings, and the Swiss experience for expatriates will also be addressed. Then, the implications for future research and practical applications will be addressed, before noting strengths and limitations of the studies and drawing final conclusions.

6.1. Expatriate Child Adjustment

From the literature review (Study I), many demographic and sociocultural factors were reported as significant predictors of TCK adjustment. However, many studies have not been repeated, therefore limiting the validity of findings. Nonetheless, several variables which are important to TCK adjustment are evident across a number of studies and will be highlighted in the discussion.

First, Studies I and II both indicated the key roles of psychological factors in TCK adjustment and well-being. Stress and resilience were significant predictors of sociocultural adjustment and well-being in Study II, and children also shared in the family interviews that stress was a common occurrence during relocation, due to learning social norms, difficulty with language, leaving friends and adjusting to a new school; nevertheless, they also used many strategies to cope with these challenges and shared that they could apply what they learned from previous moves to the next one. Second, Studies I and II suggest that age was a significant predictor of adjustment, with older children and adolescents finding it more difficult to adjustment than younger ones (McKeering et al., 2021; Vercruysse & Chandler, 1992). In our qualitative study, children explained that they were more aware of relocation and leaving friends when they were older and that when they were young it was not so difficult; therefore, parents, schools and relocation companies should consider that extra support may be needed during and after relocation for older children and teens. Third, language was highlighted in

our qualitative study and in the review (Miyamoto & Kuhlman, 2001) as playing an important part in adjustment. During family interviews children described feeling stressed due to not understanding or being able to speak (Swiss) German, which impacted how they interacted in the community (e.g., access to activities) and the ability to form relationships. For children, language was particularly linked to adjustment in the context of school, with children in local schools experiencing difficulties when not understanding the teacher and not being able to communicate with other students and make friends. Conversely, children and parents in the international school reported relative ease with making friends and settling in, and it is likely that having a common language played a role in this. Finally, family factors were indicated as impacting child adjustment and will be discussed in the section on family adjustment.

6.2. Expatriate Parent Adjustment

From Studies II and III, a number of factors were identified that play an important role in parent adjustment. First, in line with previous research (e.g., Brown, 2008), acculturative stress is a common experience during relocation and it impacts adjustment. Parents found it challenging to adjust to language and social norms and also indicated that it was difficult to be away from family and friends; however, to counteract the stress, parents used coping strategies and knowledge from previous experience to overcome challenges. This also implies the importance of resilience in adjustment, as confirmed in Study III, where resilience was found to impact adjustment directly and also indirectly through CQ. These results are mirrored in our child/adolescent results and also in literature, therefore suggesting that models of stress and resilience (e.g., Lazarus & Folkman, 1984) may be useful frameworks from which to improve adjustment for families.

Studies II and III also identified CQ as an important contributor to positive sociocultural adjustment. In Study II, regression analyses indicated that CQ directly contributed to sociocultural adjustment in parent quantitative data and in family interviews. Parents shared much cultural knowledge and described how CQ enabled them to feel comfortable in different cultures and navigate in different cultural contexts. In Study III, regression analyses similarly found that CQ directly impacted adjustment and implies that when moving to a new culture, CQ plays a central role in producing appropriate behaviours, selecting correct knowledge to make decisions and engage in conversation and applying previously learned knowledge to the new context. Finally, in line with previous research (e.g., Yang et al., 2006), local language proficiency was shown to be an important

part of sociocultural adjustment as indicated in Studies II and III. In our qualitative study, parents described how issues around language created stress in different situations and that impacted their ability to interact with Swiss people.

6.3. Expatriate Family Adjustment

Results from all three studies provide information about family adjustment and the role of family functioning in adjustment. In Studies I and II, family functioning was indicated as an important factor, with families highlighting the importance of family support, communication, having a shared experience, making decisions together and having characteristics such as being flexible, adaptable and having a positive attitude toward moving. Expatriate families also reported feeling a high degree of closeness, which could be due to needing to rely on each other more because of not having family nearby (Mclachlan, 2007). Nonetheless, family functioning was not a significant predictor in the quantitative results from Study II, and the lack of convergence in our findings may point to a more complex relationship existing between family functioning and cross-cultural adjustment. For example, it is possible that family functioning is mediated or moderated by other factors or that different aspects of family functioning are more salient to the adjustment of different family members.

Stress and coping were also key factors in family adjustment and have important implications for supporting families. Given the clear crossover and spill over effects that occur within families (Sterle et al., 2018), interventions should address families as a whole and also try to harness these effects in a positive way. For example, improving coping within the family could spill over to better coping at work and school, or reducing stress in one member could crossover to reduce stress in another member.

6.4. The Swiss Experience for Expatriate Families

When considering adjustment in participants in Studies II and III, it is important to consider the context of living Switzerland. Family interviews were particularly valuable in understanding the experience of moving to Switzerland and most participants reported that Switzerland was relatively easy to adjust to, due to being highly organised and most residents being able to speak English. Participants also reported having good relationships with neighbours, friends and other parents in the expatriate community and did not indicate that it took a long time to form these relationships. Although adjustment was relatively easy, challenges related to language and learning social rules were still experienced by many families.

While the *Expat Insider* survey (Internations, 2020) indicated that expatriates in Switzerland find it difficult to make friends and settle in, our studies did not support this finding. It is possible that the differences in findings are due to using different expatriate populations: The *Expat Insider* survey may have surveyed expatriate individuals or couples, while our study used expatriate families. Expatriate families, and especially those in the international schools, have immediate communities and networks where they can meet people, and it could be that having a family buffers against some of the difficulties of settling in and meeting people.

6.5. Strengths and Limitations

Despite the growing interest in studying expatriate populations, there still exists a lack of scientific studies which include children and families and seek to understand adjustment from a family perspective. Therefore, this thesis sought to address this gap by collecting data from children, parents and families and including qualitative and quantitative methods to increase the validity of our findings and to gain more insight into the specific details related to our study variables. Furthermore, by using a wide range of validated questionnaires, we were able to assess a number of psychological, cultural and family factors and analyse their direct and indirect roles in sociocultural adjustment. Additionally, by using only expatriate families from Switzerland, these studies offer a unique understanding of this population and enables the development of targeted support for sociocultural adjustment in this population.

As with any study, a number of limitations exist and should be recognised. First, adjustment is a factor which would ideally be measured in a longitudinal rather than cross-sectional study and our results cannot account for changes that occur naturally over time. Second, our data collection was impacted by the COVID-19 pandemic, and as such, there are smaller numbers than we had anticipated. Third, as we were using child participants, we asked parents to complete some questionnaires for their children who were 7–11 years old. The decision was made with the best interest of our child participants. However, different results may occur with children answering all questionnaires for themselves. Fourth, a majority of our participants had been living in Switzerland for many years at the time of participating in our study, which means that they may already be well-adjusted or may recall events related to relocation differently since it happened years ago. Fifth, having data only from expatriates in Switzerland limits the generalizability of findings to other expatriate populations.

6.6. Implications for Research

This thesis highlights several research areas which would be valuable to pursue in the future. First, there is still a need for longitudinal studies of child and family adjustment. Of particular value would be studies including pre and post measures of cultural, psychological and family factors and also studies using a long-term follow up design. This would enable a more detailed understanding of the process of adjustment and how factors impacting adjustment fluctuate over time. Second, future studies could identify specific stressors at different time points of relocation by using a larger scale qualitative study. Third, as the role of family functioning in family sociocultural adjustment remains unclear, future research could focus on clarifying its role by collecting data from multiple informants and including other family factors such as family stress, resilience and coping styles. Future studies could also consider the role of family functioning as a mediating or moderating factor. Based on the results of all three studies, a comprehensive model of family sociocultural adjustment could be developed and tested. Such a model could be used to base decisions on how best to support families and to provide focused prevention and intervention programmes, with the goal of reducing adjustment difficulties and increasing well-being in expatriate families. Based on this model, a targeted programme could be developed and then a study conducted to test its efficacy in reducing adjustment difficulties.

There are also several important practical implications for improving adjustment in expatriate families. First, employers, schools and families would benefit from being aware of factors impacting adjustment. This would encourage a more proactive approach to dealing with relocation challenges and hopefully reduce the need for support in response to more serious consequences of adjustment. For example, families can work together to improve adjustment by discussing challenges and how they overcome them, learning the local language together, sharing cultural knowledge and social norms and helping one another to establish social networks. Also, parents would benefit in understanding the important role of age in adjustment and that adolescents may need more support when relocating than younger children. Employers and relocation agencies would also benefit from knowledge of factors impacting adjustment so they can support their employees and provide training which is applicable for different members. This may involve developing an assessment tool to measure deficits of factors and then providing support and training in the relevant areas.

6.7. Conclusions

Despite the need for still more research in the realm of expatriate family adjustment, what is clear is that supporting families to cope with the challenges of relocation is key to positive sociocultural adjustment. Strengthening family functioning, improving coping skills, increasing social support, sharing practical information about social norms, learning to manage stress and improving language skills are all means by which this could be achieved. And with the trend in globalization of businesses unlikely to change, the need to understand adjustment and relocation are likely to become even more important in the future.

7. References

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Appendix A

Study I:

Jones, E. †, Reed, M. †, Gaab, J., & Ooi, YP. (2022). Adjustment in Third Culture Kids: A Systematic Review of Literature. *Frontiers in Cultural Psychology*.

† These authors share first authorship.



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EDITED BY

Yasuhiro Kotera,
University of Nottingham,
United Kingdom

REVIEWED BY

Chris Brewster,
University of Reading, United Kingdom
Michał Wilczewski,
University of Warsaw, Poland
Ahmed Rageh Ismail,
Universiti Utara Malaysia, Malaysia

*CORRESPONDENCE

Emma Marchal Jones
e.jones@unibas.ch

†These authors share first authorship

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Adjustment in third culture kids: A systematic review of literature

Emma Marchal Jones^{1*†}, Marnie Reed^{1†}, Jens Gaab¹ and
Yoon Phaik Ooi^{1,2}

¹Division of Clinical Psychology and Psychotherapy, Faculty of Psychology, University of Basel, Basel, Switzerland, ²Department of Developmental Psychiatry, Institute of Mental Health, Singapore, Singapore

Third Culture Kids (TCKs) are children of expatriates who live in a culture other than their country of nationality or their parent's country of nationality for a significant part of their childhood. Past research has indicated that adjustment is a key factor in the success of global mobility. However, current research in the area of TCK adjustment is lacking. This systematic review aims to present and summarize all available published scientific data on the adjustment of internationally mobile children and adolescents who relocate with their families. We aim to understand factors related to TCK adjustment, highlight lacking research areas, and define areas of interest for future research. The eligibility criteria for inclusion in the review were: traditional TCKs; aged 7–17 years; measures taken during the relocation; outcome variables of wellbeing, psychological adjustment or social adjustment, or socio-cultural adjustment or adjustment. An initial search across eight databases in December 2021 yielded 9,433 studies, which were included in COVidence and reviewed independently by two researchers at each phase. We finally included 14 studies in this study, 10 of which presented quantitative data. Extracted quantitative and qualitative studies were abstracted, and the main findings are presented using a consistent grid of codes: an initial computerized lexical scan (Leximancer) of all included papers generated a preliminary list of topics and their frequencies. We refined these initial topics using the most prominent theories around the topics of TCK, adjustment, and the extracted theories from selected papers and created a codebook. Then we abstracted the quantitative data from the selected studies and organized the statistically significant findings according to the codes. Lastly, we abstracted and synthesized the findings from qualitative studies. Efforts were made to present the available data within a reading grid, which enhances the understanding of mechanisms specific to the sample population and also makes it apparent where more research is needed. Specifically, findings suggest a need for a more inclusive multi-trajectory adjustment model and a better definition of the ecological sample. The coding system for the extraction and analysis in this systematic review may be a guide for researchers planning future studies on TCK adjustment.

Systematic review registration: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020151071, identifier: CRD42020151071.

KEYWORDS

TCK, child, adolescent, adjustment, systematic review, factors

Introduction

In 2021, there were an estimated 87 million expatriates worldwide (Finaccord, 2018). As approximately half of all expatriates relocate with a partner or child (Caligiuri and Bonache, 2016), understanding the challenges of global mobility for expatriates and their families is paramount to supporting this population.

Children of expatriates or Third Culture Kids (TCKs) are defined as children “accompanying one’s parent(s) into a country that is different from at least one parent’s passport country(ies) due to a parent’s choice of work or advanced training” (Pollock et al., 2010, p. 44). TCK refers to the fact that these individuals grow up being influenced by three cultures: the heritage culture(s), the host-country culture(s), and the culture of expatriates and other TCKs. Although elements from each culture are assimilated into the TCK’s life and identity, these individuals often have a greater sense of belonging with other TCKs and the international community rather than with the host or heritage culture (Pollock et al., 2010). TCKs, such as children of military, foreign service, corporate and missionary families, are distinctly different from other populations such as immigrants, refugees, and international adoptees (Pollock et al., 2010). Although these groups share the common experience of moving internationally, the transient nature of their stay and high-mobility patterns distinguish TCKs from other similar groups.

Extensive literature has highlighted the importance of positive adjustment during global mobility for expatriates and their families (e.g., Shaffer et al., 1999; Andreason, 2008; Takeuchi, 2010; Sterle et al., 2018). Expatriate adjustment is a complex process of change in various domains in response to a new environment and culture (Haslberger et al., 2014). Adjustment has been measured through constructs such as wellbeing, levels of satisfaction with self and the environment, psychological and emotional comfort, and the degree of fit and effectiveness between the person and their environment (Dawis and Lofquist, 1984; Taft, 1988; Black and Stephens, 1989; Haslberger and Brewster, 2009). While past adjustment theories (e.g., Berry, 1990, 1997; Searle and Ward, 1990) set the stage for research and provide a framework for understanding this concept, they do not encapsulate the full complexities of expatriate adjustment. The more recent 3-D Model of Adjustment (Haslberger et al., 2014) offers a more holistic view of adjustment by proposing an interplay between internal and external dimensions, several domains, and time. In the existing literature, expatriate adjustment is often measured in terms of psychological and socio-cultural adjustment. Psychological adjustment can be measured through indicators of wellbeing and mental health, such as internalizing (i.e., depression and anxiety) or externalizing symptoms (behavior problems), stress, and self-

esteem (Pollard and Lee, 2003). Socio-cultural adjustment can be competence and mastery of behaviors, emotions and cognitions fitting to the host culture (Haslberger, 2005).

Despite the extensive literature focused on expatriate, spouse, and family adjustment, the study of adjustment in TCKs is still a relatively neglected area. In recent years, comprehensive reviews have been conducted on the concept of family systems in expatriate adjustment, transition programs, and identity development, as well as adult and college student TCK research (Sterle et al., 2018; Miller et al., 2020; Tan et al., 2021). While these are undoubtedly essential data, there still exists a gap in the literature for a review specifically focused on adjustment in TCKs. Additionally, many TCK adjustment studies were conducted through retrospective studies of childhood experiences (e.g., Decuyper et al., 2019) or by respondents other than the TCK themselves (Izumi and Gullón-Rivera, 2018). And although retrospective studies offer valuable insights into TCK adjustment, they also carry threats to internal and external validity (Toftshagen, 2012).

The current paper aims to fill this gap by providing a comprehensive systematic review synthesizing the available empirical evidence on adjustment in TCKs and focuses exclusively on findings during their relocation. To expand on current reviews, external indicators such as family functioning, stress, structure, social support, and demographic and mobility variables (such as age, gender, length and duration of expatriation, number of moves, home country, and host country) which predict adjustment were also included. We aim to understand factors related to TCK adjustment, highlight lacking research areas, and define areas of interest for future research.

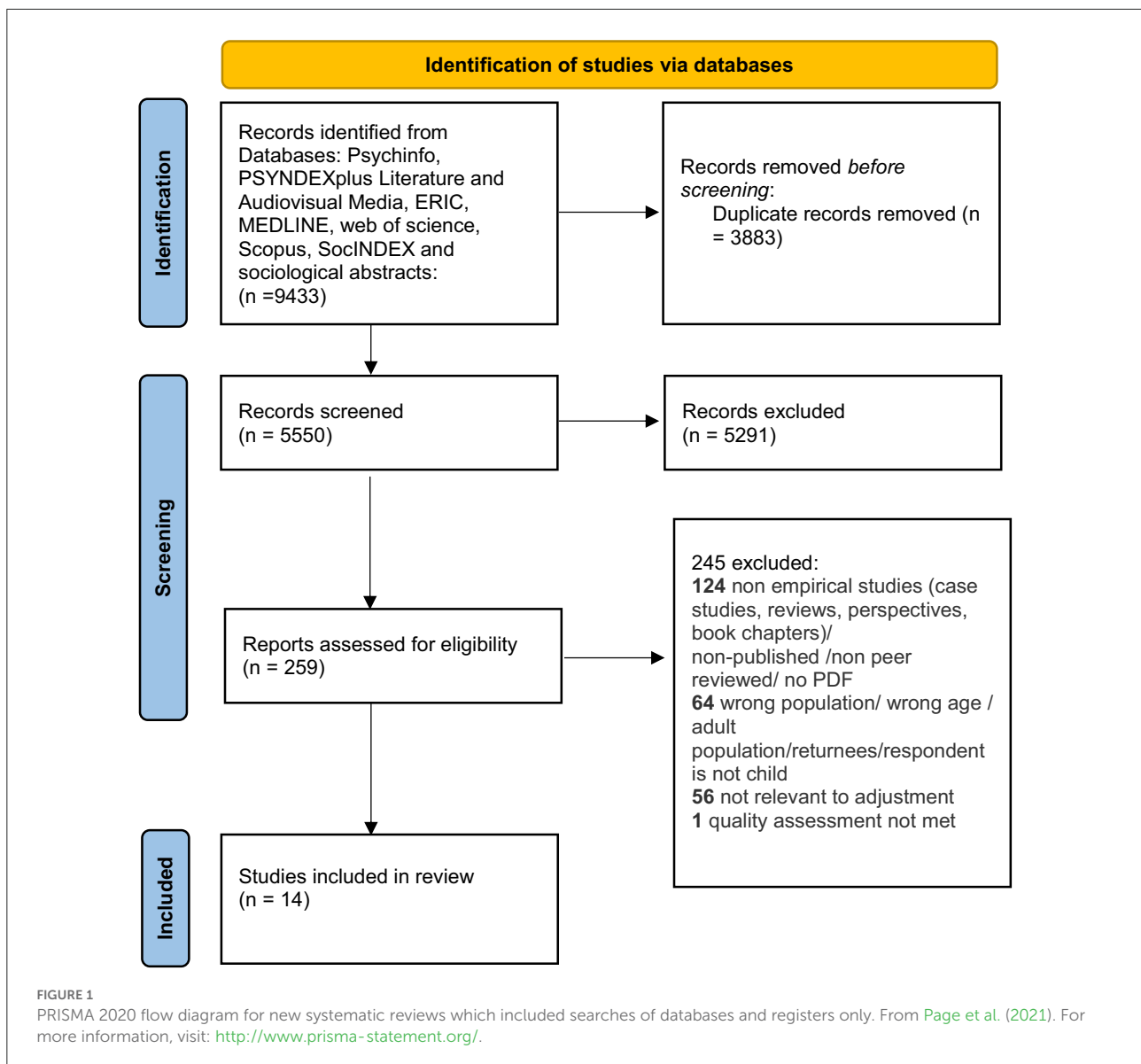
Methods

Retrieval procedures

This review aimed to capture all available English-language peer-reviewed journal articles on the adjustment of school-aged TCKs aged 5 to 18 years during their international stay. We included all published articles from the beginning of time until December 2021 across nine electronic databases: APA Psycinfo, PSYINDEXplus Literature, and Audiovisual Media, ERIC, MEDLINE, web of science, Scopus, SocINDEX, and sociological abstracts (Supplementary Datasheet 1).

Inclusion/exclusion criteria

The following eligibility criteria were set according to the PICO guidelines:



- Population: expatriate, third culture, cross-cultural, international, family relocation, sojourner, military, missionary, oil industry, oil patch, diplomat/Age sample: Kid, child, adolescent, youth, teen, family, student.
- Intervention: international relocation, measures are taken during the relocation.
- Comparison: some studies may use comparison groups (non-international/local). Both quantitative and qualitative studies were considered for inclusion.
- Outcome: wellbeing, adjustment, psychological adjustment, social adjustment, or adaptation.

The following conditions were set for inclusion:

- Participants aged between 5 and 17 years,

- Child/adolescent is the respondent,
- Child/adolescent has relocated internationally with their parent(s)/family,
- Measures have been taken during the international relocation,
- Expatriation is linked to parent/caregiver's employment,
- Adjustment is the primary outcome (including behavioral, affective, cognitive, academic, and socio-cultural determinants (Haslberger et al., 2014),
- Peer-reviewed published scientific articles.

We decided to focus on school-aged children as they are likely to interact within host communities, have developed language, friendships, and social references before the international move, and are therefore expected to be more

affected by the stress from the relocation than younger children. We excluded late adolescents (19–21 years), tertiary students, and young adults as this population is likely to have moved away from their parents' homes to study and may need to adjust to circumstances other than the international move. We excluded papers that studied other expatriate populations (such as international students at the tertiary level, education migrants, high school exchange students, first and second-generation immigrants and migrants, child and adolescent adoptees, military deployment of a parent without family, and non-international relocation) as these populations have specific characteristics which may not entirely compare with traditional TCKs. Studies, where the respondent was not the child themselves (teachers, parents, or retrospective studies from adult TCK) were excluded to limit the methodological biases which result from indirect measures. Other studies were excluded when the condition was not an international relocation (i.e., repatriation and returnees or domestic relocation). We excluded studies focusing on different themes than predictors and adjustment outcomes, such as testing the effect of specific programs. We also excluded non-empirical studies, for example, case reports, gray literature, reviews, unpublished work, theses, and commentaries. Studies were also excluded where the TCK data analysis was not separated from non-TCK groups.

Screening and quality assessment

The online review management and screening tool Covidence was used to screen studies. Covidence is a web-based collaboration software platform that streamlines the production of systematic and other literature reviews (Covidence, 2021). The screening and selection of the papers based on title, abstract, full text, and quality control and extraction phases were conducted independently by 3 study team members (E.J., M.R. and Y.P.O.) and research assistants. For each paper, the quality of studies to extract was established independently by two study team members (E.J. and M.R. or E.J. and Y.P.O.) using Joanna Briggs Institute's critical appraisal tools (Critical-Appraisal-Tools, 2022). The 8-item checklist for analytical cross-sectional studies and the 10-item checklist for qualitative research was used¹. Due to the small number of eligible studies, inclusion of each paper was based on consensus. Results from the process can be seen in the PRISMA chart presented in Figure 1 (Moher et al., 2009).

Data abstraction and analysis

First, we defined a codebook that could be used to abstract findings in both quantitative and qualitative papers, and a content analysis of both quantitative and qualitative studies

was conducted using Leximancer² content analysis and concept mapping software. This automated analysis method offers an unbiased and objective data analysis (Smith and Humphreys, 2006; Angus et al., 2013). The software systematically extracts concepts from uploaded full-text studies and assembles the concepts into clusters according to their prominence and connectedness (Supplementary Image 1). Leximancer's yield was refined according to the researcher's knowledge of the selected studies. Next, we compared the clusters with the extracted theoretical references (Table 1) and deduced codes from these two abstractions. Last, the deduced codes were applied to Leximancer's ranked concept list (Table 2), allowing for details to be added to the codebook. This preliminary content analysis offers an overview of the higher-level themes and clusters of concepts explored in the selected research papers. The codebook was used as a grid to organize quantitative and qualitative study findings.

Subsequently, all 14 extracted studies were abstracted in Tables 3, 4 to the recommended strategy described in the Matrix Method (Garrard, 2020). Table 3 presents predictors of adjustment, extracted and organized into three categories using the predefined codes: psychological, academic, socio-cultural, family, and environmental. Then, following the Matrix Method, results from 10 quantitative (including one mixed methods) studies were abstracted to reveal significant findings. Only results reported as significant and with given correlation coefficients and *p*-values from each study were extracted (Table 4). Then, the four qualitative studies (including one mixed methods) were abstracted using a thematic synthesis approach, allowing recurring themes to be abstracted from qualitative data using thematic headings (Thomas and Harden, 2008).

Thematic and conceptual extraction

Theoretical frameworks and references were extracted from the included studies and organized into categories, as shown in Table 1. Concurrently, researchers extracted clusters from the Leximancer content analysis: the concept map (Supplementary Image 1) shows four clusters of themes where family, stress, and coping (labeled "psychological"); school and culture (labeled "socio-cultural"); and engagement (labeled "environment") stand out. The links within these clusters show the most frequently associated themes, allowing the authors to label each cluster accurately. We used the clusters and extracted theoretical references to deduct the following codes: environmental, family, socio-cultural and psychological. Table 2 shows the ranked concept list from Leximancer, where the above codes have been applied to each concept, allowing researchers to refine the labels. The final codebook is presented below.

¹ <https://jbi.global/critical-appraisal-tools>

² <https://www.leximancer.com>

TABLE 1 Theories stated in extracted papers.

Theoretical framework	Study number # (ID)
Third culture: Useem (2001) and Pollock et al. (2010)	#1 (Gerner et al., 1992), #2 (Ittel and Sisler, 2012), #5 (Morales, 2017), #7 (Lam and Selmer, 2004), #11 (Langinier and Gaspoz, 2015), #13 (Mclachlan, 2007), #14 (Weeks et al., 2010)
Socio cultural adjustment Sociocultural adjustment: Searle and Ward (1990), Ward and Kennedy (1999)	#2 (Ittel and Sisler, 2012), #3 (McKeering et al., 2021), #6 (Pittman and Bowen, 1994), #9 (Van Oudenhoven et al., 2007)
Acculturation Berry (1990), Berry et al. (2006)	#1 (Gerner et al., 1992), #3 (McKeering et al., 2021), #9 (Van Oudenhoven et al., 2007)
Intercultural sensitivity Bennett's Developmental Model of Intercultural Sensitivity (DMIS) (Bennett, 1986, 1993) Hofstede (1980, 2003) Identity as a sociocultural construct: Hofstede (1980, 2003), Valsinier (2007), place identity: Proshansky et al. (1983), Twigger-Ross and Uzzell (1996), Kempf (1969)	#5 (Morales, 2017), #7 (Lam and Selmer, 2004), #8 (Straffon, 2003), #9 (Van Oudenhoven et al., 2007) #11 (Langinier and Gaspoz, 2015), #14 (Weeks et al., 2010)
Family stress and family systems e.g., the double ABC- X model, Patterson and McCubbin (1987)	#6 (Pittman and Bowen, 1994), #11 (Langinier and Gaspoz, 2015), #12 (Lijadi and Van Schalkwyk, 2017) #9 (Van Oudenhoven et al., 2007), #13 (Mclachlan, 2007)
Attachment Bowlby (1977)	#9 (Van Oudenhoven et al., 2007), #14 (Weeks et al., 2010)
Wellbeing, stress and coping Lazarus and Opton (1966), Lazarus and Folkman (1984), Moos (1984)	#3 (McKeering et al., 2021), #10 (Vercruyse and Chandler, 1992), #12 (Lijadi and Van Schalkwyk, 2017)
Culture shock and learned helplessness Reinicke (1986), Oberg (1960), Toffler (1970)	#4 (Miyamoto and Kuhlman, 2001), #13 (Mclachlan, 2007)
Adult TCK models Black (1988), Shaffer and Harrison (2001) spouse adjustment model	#14 (Weeks et al., 2010)

Predictors:

- Demographic and environmental factors: age, gender, nationality, mobility, and parent work.
- Family factors: family support, family functioning, and parental stress.
- Psychological factors: cognitive, personality, attachment, emotion, behavior, social skills, and identity.
- Socio-cultural factors, friendships, home, and culture, including intercultural sensitivity, acculturation, language, and school.

Outcomes:

- Psychological adjustment includes wellbeing, stress, and coping.

- Socio-cultural adjustment includes culture shock and acculturative stress.
- Third culture identity includes place identity and specific traits.

A thematic synthesis of the qualitative studies was undertaken following three stages (Thomas and Harden, 2008): (1) line-by-line coding of study findings and direct quotations using the predefined codebook, (2) abstracting the themes and findings from the qualitative studies, then (3) grouping coded findings to generate analytical themes across studies. All interviews addressed child and adolescent TCKs; one study included images as an addition to the interviews, and one included parents in separate interviews. Results from family interviews were only considered when it was clear that the child respondent originated a comment or idea.

TABLE 2 Coded Leximancer ranked concept list.

Concept	Count/relevance %	Designated code
Family	434/100	Family
School	420/97	Academic/Sociocultural
Culture	393/91	Sociocultural
Relationship	375/86	Sociocultural
Adjustment	331/76	Adjustment
Intercultural	259/60	Sociocultural
Social	218/50	Sociocultural
Education	200/46	Family/Sociocultural
Parents	158/36	Family/Environment
Home	149/34	Family/Sociocultural
Stress	140/32	Psychological
Development	133/31	Psychological
Coping	132/30	Psychological
Engagement	132/30	Academic/Psychological
Work	131/30	Environment
Emotional	94/22	Psychological
Avoidance	86/20	Psychological
Identity	85/20	Psychological
Attachment	85/20	Psychological
Resilience	81/19	Psychological
Friends	78/18	Psychological/Sociocultural
Host	74/17	Sociocultural
Community	71/16	Sociocultural
Future	51/12	Sociocultural/Psychological

Results

Preliminary analysis of studies

Table 5 presents studies ordered by continents, 5 year-periods, and journal types. The studies are evenly distributed over the past two decades and have been conducted primarily in Asia and Europe, whereas three were conducted across different continents. Studies were published in 13 psychology, development, education, society, intercultural, and human resources journals. Nine studies were quantitative, one used a mixed-methods design, and four were qualitative.

Factors of adjustment in quantitative studies

The 10 extracted quantitative studies' findings were abstracted and presented in Table 4 (Garrard, 2020). Significant results in each study are labeled according to the study number in Table 3 and the predefined codebook. Non-significant and null findings, correlations, and statistical weights can be found

in Supplementary Datasheet 2. All 10 studies utilized surveys, out of which three were designed by the researchers (Pittman and Bowen, 1994; Miyamoto and Kuhlman, 2001; Straffon, 2003). One study used a mixed-methods approach. Comparison groups with local (non-international children/adolescents) were used in 4 out of the 10 studies (Gerner et al., 1992; Pittman and Bowen, 1994; Lam and Selmer, 2004; Morales, 2017).

Demographic variables

Ages ranged from 7 to 19 years, and samples included male and female participants of similar proportions. Sample sizes ranged from 39 to 272 in the TCK groups. Two studies found age to influence adjustment: notably, older adolescents were more likely to struggle with adjustment, and older teenagers used a more elaborate (approach vs. avoidance) coping strategy (Vercruyse and Chandler, 1992; McKeering et al., 2021) ($n = 217$). Gender was found to influence adjustment in two studies, with male students being less engaged at school and female TCK using a more elaborate (approach vs. avoidance) coping strategy (Vercruyse and Chandler, 1992; McKeering et al., 2021) ($n = 217$). Length of stay in the current setting positively predicted adjustment outcomes in 2 studies (Straffon, 2003; McKeering et al., 2021) ($n = 692$).

Family variables

The family was investigated in two studies, with TCK reportedly feeling closer to their families and family cohesion positively influencing adjustment (Lam and Selmer, 2004) ($n = 62$), (Van Oudenhoven et al., 2007) ($n = 166$).

Psychological variables

For personality traits, TCK were more open-minded, respectful, and flexible toward other cultures compared to their local counterparts (Gerner et al., 1992) ($n = 147$); (Lam and Selmer, 2004) ($n = 62$). Factors that improve adjustment outcomes are emotional stability (Van Oudenhoven et al., 2007) ($n = 104$) and self-efficacy (Ittel and Sisler, 2012) ($n = 46$). Factors that hinder adjustment outcomes are ambivalent attachment style (Van Oudenhoven et al., 2007) ($n = 104$) and repatriation anxiety (Miyamoto and Kuhlman, 2001) ($n = 240$).

Sociocultural variables

The perceived quality of social relationships with teachers, local friends (Ittel and Sisler, 2012) ($n = 46$), and those left behind (Miyamoto and Kuhlman, 2001) ($n = 240$) predict better adjustment. TCK were more interested in learning languages (Lam and Selmer, 2004) ($n = 62$), traveling (Gerner et al., 1992; Lam and Selmer, 2004) ($n = 334$), seeking a future

TABLE 3 Descriptives and prominent findings in extracted studies.

No.	Study ID	Country in which the study conducted	General theme/background theory	Study design	Sample description	Age range	Mean age	Predictors (independent variables): factors in adjustment	Data analysis	Outcomes (dependent variables): measures of adjustment	Notes
1	Gerner et al. (1992)	Egypt, Thailand, United States	Acculturation (Berry, 1990). characteristics of IM (internationally mobile) vs. non IM adolescents and characteristics of US IM adolescents vs. non US IM adolescents	Cross sectional quantitative, comparison groups of internationally mobile (IM) adolescents in Egypt and Thailand and non IM adolescents in USA/comparisons in between USA IM's and non USA IM's	Secondary school U.S. Internationally Mobile Adolescents (IM, n = 489 of which 125 from USA) international school in Thailand (ISB); and 365 (of which 147 from USA) international school in Egypt (CAC.) vs. U.S. Adolescents in the United States (Non-IM, n = 222) The internationally mobile sample: 34% from the United States, 26% from Asian countries, 17 % from European countries, 15 % from Middle Eastern countries, and 8 % from other nations:	Secondary school students	NS	Comparisons in between internationally mobile (IM) samples of Adolescents in international schools in Egypt and Thailand and a non-mobile samples of USA adolescents in a local school in the USA/comparisons in between US IM adolescents and non US IM adolescents in Thailand and Egypt	MANOVA, univariate F tests	The Internationally Mobile or Third-Culture Adolescent Questionnaire: Seven subscales: Family Relationship (10 items), Peer Relationship (8 items), Cultural Acceptance (6 items), Travel Orientation (7 items), Language Acceptance (5 items), Future Orientation (11 Items), and Stereotyping (10 items). + 13 items of biographical data.	
2	Ittel and Sisler (2012)	Germany	Factors of sociocultural adjustment in adolescent TCK	Cross sectional quantitative	Students from international schools in Berlin, Germany. Twenty-four nationalities	12–19 years	NS	Locus of Control Scale for Children (NS-LCOS) Sociocultural	Chi-Squared test	Adaptation Scale (SCAS)	

(Continued)

TABLE 3 (Continued)

No.	Study ID	Country in which the study conducted	General theme/background theory	Study design	Sample description	Age range	Mean age	Predictors (independent variables): factors in adjustment	Data analysis	Outcomes (dependent variables): measures of adjustment	Notes
				with an average of 2.7 relocations.			Adaptation Scale (SCAS) Parent-Adolescent Communication Scale (PACS) Revised UCLA Loneliness Scale (R-UCLA) Multidimensional Scale of Perceived Social Support (MSPSS)	Socio Adaptation Scale (SCAS)			
3	McKeering et al. (2021)	Singapore	Psychological and socio cultural adjustment Searle and Ward, 1990; Berry, 1997; Ward and Kennedy, 1999; Ward and Rana-Deuba, 1999 and the PERMA framework (Seligman MEP, 2011)	Cross sectional quantitative	Students from years six to eight at an international school in Singapore (K-12) of 24 different nationalities, United Kingdom (40.4%), Australia (18%), China (6.2%), India (5.6%), and America and Japan (3.9% each), with 26 students (14.6%) identifying as having dual nationality.	10–14 years		Age, gender, time in country, time at school, number of moves. adjustment is measured through wellbeing, school engagement and resilience.	Descriptive and Correlational analyses ANOVA	Wellbeing, resilience and school engagement as measures of adjustment: The EPOCH Measure of Adolescent Wellbeing scale: engagement, Perseverance, Optimism, happiness The School Engagement Measure, MacArthur (SEM): behavioral, emotional and cognitive engagement The Brief Resilience Scale (BRS)	

(Continued)

TABLE 3 (Continued)

No.	Study ID	Country in which the study conducted	General theme/ background theory	Study design	Sample description	Age range	Mean age	Predictors (independent variables): factors in adjustment	Data analysis	Outcomes (dependent variables): measures of adjustment	Notes
4	Miyamoto and Kuhlman (2001)	United States	Predictors of culture shock, grades in school and anxiety over returning to Japan	Cross sectional quantitative	240 Japanese students living in the USA, 4th grade through 11th grade (8 different grade levels)	NS	NS	92 item scale self designed by researchers, 19 subscales: students' relationship with American friends, Japanese friends and teachers at both their American school and their Japanese school; students' relationship and communication with their parents; students' English and Japanese language skills; students' parents' English skills; dominant languages used for different activities; and level of culture shock and level of concern over returning to Japan.	Regression analysis	Level of culture shock and grades in American school were abstracted as relevant for analysis.	
5	Morales (2017)	China	Intercultural competence (Hofstede, 1980; Bennett, 1986) cultural patterns	Cross sectional study quantitative	TCK's from 48 different countries, 43 Koreans and 96 non Korean, in American-based, Middle States Accreditation (MSA) accredited school located in China	13–19 years	NS	Gender and nationality (Korean and non-Korean)	Descriptive statistics <i>T</i> -tests	ICSI The Intercultural Sensitivity Inventory (ICSI) (Bhawuk and Brislin, 1992) in English	

(Continued)

TABLE 3 (Continued)

No.	Study ID	Country in which the study conducted	General theme/background theory	Study design	Sample description	Age range	Mean age	Predictors (independent variables): factors in adjustment	Data analysis	Outcomes (dependent variables): measures of adjustment	Notes
6	Pittman and Bowen (1994)	Multiple	Adolescent adjustment/personal/psychological, to the external environment, in relationships with parents	Cross sectional study quantitative	882 out of a larger survey addressing $n = 458$ in USA, $n = 215$ in Germany, $n = 209$ in the Pacific. One thousand one hundred and seventy adolescents from Air Force settlements around the world.	12–18 years	14.7 years	Adjustment factors: external: satisfaction with life in the air force, satisfaction with life in the current base location, whether the air force is a good fit for raising children; adjustment in relationships with parents; mobility factors (recency of relocation), location of move (within USA or overseas), residence (in or off the air base). Stressful situation was measured through "dissatisfaction with the rate of moving, dissatisfaction with treatment by locals, difficulty making new friends and difficulty leaving old friends.	Simultaneous multiple regression analysis/bivariate correlations	Personal/psychological adjustment: boredom, loneliness, fear and life satisfaction	Only the significance of relocation overseas vs. within USA was abstracted as separate analysis for international vs. non international relocation was not undertaken

(Continued)

TABLE 3 (Continued)

No.	Study ID	Country in which the study conducted	General theme/background theory	Study design	Sample description	Age range	Mean age	Predictors (independent variables): factors in adjustment	Data analysis	Outcomes (dependent variables): measures of adjustment	Notes
7	Lam and Selmer (2004)	Britain and Hong Kong	Perceptions of “being international” (Useem, 2001)	Cross sectional quantitative	3 samples: British expatriate adolescents living in Hong Kong (BE), local HK adolescents living in HK (LHK) and local British Adolescents living in Britain (BB)	NS	BE 14.11 LHK 17.42 BB 14.66	Resource factors: family support, friendship support. background factors: father’s military rank, sex, race, age and family structure. Perceptions of being inter national: 32-item instrument designed by Hayden and Thompson (2000). International mobility preferences and consequences: 34-item instrument developed by Gerner et al. (1992).	Descriptive statistics, MANCOVA, ANCOVA, multiple range tests (<i>post-hoc</i> analysis)	Intergroup comparisons	
8	Straffon (2003)	South East Asia	Intercultural sensitivity (Bennett, 1986, 1993; Bhawuk and Brislin, 1992)	Cross sectional mixed methods	336 international school students from 43 different home countries	13–19 years	NS	Time spent in an interna tional school	Descriptive statistics, Pearson correlations (time and developmental stages)	IDI: Intercultural development inventory: 60 item self assessment, sub categories of ethnocentric stages: denial, defense, minimization/ethnorelative stages: Acceptance, adaptation and integration.	

(Continued)

TABLE 3 (Continued)

No.	Study ID	Country in which the study conducted	General theme/background theory	Study design	Sample description	Age range	Mean age	Predictors (independent variables): factors in adjustment	Data analysis	Outcomes (dependent variables): measures of adjustment	Notes
9	Van Oudenhoven et al., 2007	37 different countries, although the majority resided in the Netherlands (13.5%), Singapore (13.5%), and France (12.5%)	Intercultural adjustment (Searle and Ward, 1990)	Cross sectional quantitative	104 expatriate children from 21 different home countries, living in 37 different countries, since 6 months to 15 years and who had moved countries between one and four times.	8–18years	(Mean/13.2, SD/2.41)	Family Characteristics. The scales for family adaptability, cohesion, and communication drawn from the Family Inventories developed by Olson et al. (1986): Family adaptability, Family cohesion, Family communication/Expatriate Work Characteristics. Expatriate work satisfaction seven-item scale derived from Ali et al. (2003), Support from the Company before and during the expatriation period derived from Ali et al. (2003)/Personality. The MPQ (van der Zee and van Oudenhoven, 2000) measures	Multiple regression analysis/hierarchical analysis	Intercultural adjustment: COOP WONCA function cards (Nelson et al., 1990) to measure Psychological adjustment (quality of life) of expatriate children. Sociocultural adjustment, self made 8 item scale derived from Black's (1988) and De Leon and McPartlin (1995) with indicators of adjustment and satisfaction	

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TABLE 3 (Continued)

No.	Study ID	Country in which the study conducted	General theme/ background theory	Study design	Sample description	Age range	Mean age	Predictors (independent variables): factors in adjustment	Data analysis	Outcomes (dependent variables): measures of adjustment	Notes	
10	Vercruyse and Chandler (1992)	Belgium	Coping strategies	Cross sectional quantitative	39 US adolescents and their parents living in Belgium since <12 months and attending various international schools	12–18 years	15.63	Cultural Empathy, Open-mindedness, Social Initiative, Emotional Stability, and Flexibility/Attachment Styles. Attachment (Van Oudenhoven and Hofstra) measures Ambivalent, secure and dismissive avoidant attachment styles.	Background Information Sheet (sex, age, previous history of moves) Children Self-Concept Scale (PHCSCS, Piers and Harris, 1984), parent rated Stress Response Scale (Chandler and Shermis, 1990) measures the impact of stress on behavioral adjustment.	Means and standard deviations, Inferential statistics Ttest Point biserial and Pearson product-moment correlations	Coping responses inventory-Youth form (CRI-Y, Moos, 1990)	

(Continued)

TABLE 3 (Continued)

No.	Study ID	Country in which the study conducted	General theme/ background theory	Study design	Sample description	Age range	Mean age	Predictors (independent variables): factors in adjustment	Data analysis	Outcomes (dependent variables): measures of adjustment	Notes
11	Langinier and Gaspoz (2015)	Luxembourg	Identity (socio-cultural perspective) (Valsinier, 2007; Bruner, 2015)	Qualitative research	1) 5 teenagers 2) 10 expatriates	16–17	NS	Comprehensive approach: Interviews, informal discussions	A multilevel intersectionality shows macro- and meso-level influences on the construction of nomadic identities	The authors differentiate three types of expression of nomadic identities based on distance from a culture, self perception and group identification/cosmopolitan identity, transnational identity and anchor identity	
12	Lijadi and Van Schalkwyk (2017)	Macau and Hong-Kong	Place identity construction	CLET collage making/ qualitative interview	International school students	7–16 years	NS	CLET	CLET analysis	Themes: 1. Family, family rituals, and familiarity 2. My origin vs. countries where I have lived 3. Wishing for the ideal home 4. Expanding my network 5. Acquisitions and losses 6. Change as the only constant	
13	Mclachlan (2007)	UK	Family transience	Qualitative research	Students of a private international School in southern England and their parents. Forty-five families were involved	3 sub groups: 7–9 years, 10–12,	NS	20–40 min interviews with child participants, separately from their parents	Grounded theory or constant comparative method	Themes: guilty parents and grieving children; strengthening and restructuring;	

(Continued)

TABLE 3 (Continued)

No.	Study ID	Country in which the study conducted	General theme/background theory	Study design	Sample description	Age range	Mean age	Predictors (independent variables): factors in adjustment	Data analysis	Outcomes (dependent variables): measures of adjustment	Notes
14	Weeks et al. (2010). The adjustment of expatriate teenagers. <i>Personnel Review</i> .	Shanghai China	Teen adjustment (Shaffer and Harrison, 2001) compared to the model of expatriate spouse adjustment	Qualitative research	18 students at a private international school in Shanghai, China. Came to China for parents' employment, 14 out of 18 are from the USA.	14–19 years	NS	In-depth interviews	Coding of answers into 46 codes from 6 conceptual categories:	managing independence and cohesiveness; and parenting IM children Themes: Individual factors: open-mindedness, freedom and academic success/Interpersonal relationship factors: friends, family and repatriation training/environmental factors: cultural differences and living all (adjustment)	

TABLE 4 Abstracted findings from quantitative studies.

Category	Sub category	Factors of adjustment	Number of participants involved in finding (total participants in analysis)	Study # (study ID)	Gender	Direction of association: P, positive; N, negative	Orientation of outcome: P psychological adjustment; S, sociocultural adjustment; F, family adjustment, TCK, third culture; A, academic	Meaning of finding
Demographic	Age	Age	178	#3 (McKeering et al., 2021)	MF	P	P	Younger children (10 years) are generally more happy and optimistic than 12–14 year old's (bigger risk for older TCK)/no difference for resilience
		Age	39	#10 (Vercruyse and Chandler, 1992)	MF	P	P	Older teenagers are more likely to use an approach coping strategy
	Gender	Gender	178	#3 (McKeering et al., 2021)	F	P	SC	Risk factor for student engagement: being male/no difference in for resilience or wellbeing
		Gender	39	#10 (Vercruyse and Chandler, 1992)	F	p	P	Females are more likely to use an approach coping strategy
	Nationality	Nationality non-US IM's vs. US IM's	272 (792)	#1 (Gerner et al., 1992)	MF	P	SC	IM adolescents from other countries rated themselves closer to their families, more interested in travel, more accepting of learning languages, and more inclined toward international careers than did US IM adolescents. Reversely, US IM adolescents rated more favorably on the stereotype scale than IM adolescents from other countries
	Mobility	Time at school	178	#3 (McKeering et al., 2021)	MF	p	P	Longer length of stay at school positively impacts wellbeing and resilience
		Time at international school	336	#8 (Straffon, 2003)	MF	P	SC	The longer students spend at an international school, the lower their scores in the denial and defense stages of intercultural sensitivity.

(Continued)

TABLE 4 (Continued)

Category	Sub category	Factors of adjustment	Number of participants involved in finding (total participants in analysis)	Study # (study ID)	Gender	Direction of association: P, positive; N, negative	Orientation of outcome: P psychological adjustment; S, sociocultural adjustment; F, family adjustment, TCK, third culture; A, academic	Meaning of finding
		Time in country	178	#3 (McKeering et al., 2021)	MF	p	P	Recent relocation to a new country affects student's ability to thrive (lower resilience/no effect on wellbeing)
Family factors	Family demographics	Number of younger siblings	240	#4 (Miyamoto and Kuhlman, 2001)	MF	P	SC	Fewer younger siblings is associated with better grades in American school
		Number of older siblings	240	#4 (Miyamoto and Kuhlman, 2001)	MF	p	SC	More older siblings is associated with higher levels of culture shock
	Family functioning	Family orientation	62	#7 (Lam and Selmer, 2004)	MF	p	F	Expatriate adolescents are closer to their family than their local counterparts in Hong Kong and GB
		Family cohesion	104	#9 (Van Oudenhoven et al., 2007)	MF	p	P+SC	Significant raw correlations with sociocultural adjustment and quality of life/family cohesion significantly predicts both quality of life and sociocultural adjustment in expatriate children
Environmental factors	Expatriate work	Expatriate parent work satisfaction	104	#9 (Van Oudenhoven et al., 2007)	MF	P	P + SC	Expatriate work satisfaction significantly predicts both quality of life and sociocultural adjustment in expatriate children
Psychological	Cognitive	Flexibility	62	#7 (Lam and Selmer, 2004)	MF	p	P	Expatriate adolescents are more flexible than their local counterparts in Hong Kong and GB
		Self efficacy	46	#2 (Ittel and Sisler, 2012)	MF	P	SC	TCKs who indicated high levels of general self-efficacy were significantly more likely to report fewer difficulties in socio-cultural adaptation

(Continued)

TABLE 4 (Continued)

Category	Sub category	Factors of adjustment	Number of participants involved in finding (total participants in analysis)	Study # (study ID)	Gender	Direction of association: P, positive; N, negative	Orientation of outcome: P psychological adjustment; S, sociocultural adjustment; F, family adjustment, TCK, third culture; A, academic	Meaning of finding
		Stereotyping	147 (494)	#1 (Germer et al., 1992)	MF	P	SC	US adolescents in an international school in Egypt were significantly more accepting of other cultures (lower level of stereotypical judgement than their peers living in the US and in the International school in Thailand. This single effect is specific to expatriate adolescents living in Egypt.
	Personality	Open-mindedness toward other cultures	62	#7 (Lam and Selmer, 2004)	MF	p	P	Expatriate adolescents are more open minded toward other cultures than their local counterparts in Hong Kong and GB
	Attachment	Ambivalent attachment style	104	#9 (Van Oudenhoven et al., 2007)	MF	N	P	Ambivalent attachment style significantly hinders both quality of life and sociocultural adjustment in expatriate children/moderation effect ambivalent attachment style interacted significantly with expatriate work satisfaction in its influence on quality of life
	Emotional	Emotional stability	104	#9 (Van Oudenhoven et al., 2007)	MF	P	P + SC	Emotional stability significantly predicts both quality of life and sociocultural adjustment in expatriate children/interaction effect (moderation) with expatriate work, family cohesion and family communication on sociocultural adjustment and quality of life

(Continued)

TABLE 4 (Continued)

Category	Sub category	Factors of adjustment	Number of participants involved in finding (total participants in analysis)	Study # (study ID)	Gender	Direction of association: P, positive; N, negative	Orientation of outcome: P psychological adjustment; S, sociocultural adjustment; F, family adjustment, TCK, third culture; A, academic	Meaning of finding
		Repatriation anxiety (here about returning to japan)	240	#4 (Miyamoto and Kuhlman, 2001)	MF	P	SC	Less anxiety about returning to japan predicts better grades in the American school.
	Social	Respect and tolerance of others	63	#7 (Lam and Selmer, 2004)	MF	p	P + TCK	Expatriate adolescents have more respect and tolerance of others than their local counterparts in Hong Kong and GB
	Identity	Own cultural identity	62	#7 (Lam and Selmer, 2004)	MF	p	TCK	Expatriate adolescents have their own cultural identity which differs significantly from that of their local counterparts in Hong Kong and GB
Sociocultural factors	Relationships	Perceived relationships with teachers (from international location)	240	#4 (Miyamoto and Kuhlman, 2001)	MF	P	SC	Better perceived relationships with American school teachers predicts less culture shock
		Perceived peer relationships	46	#2 (Ittel and Sisler, 2012)	MF	N	SC	This negative relationship speaks for a buffering potential of close friendships on socio cultural adaptation
		Perceived relationship with local friends	240	#4 (Miyamoto and Kuhlman, 2001)	MF	P	SC	Better perceived relationships with American friends predicts less culture shock
		Usage of internet to connect with friends/family from around the world	46	#2 (Ittel and Sisler, 2012)	MF	P	SC	TCKs who frequently utilize the world-wide web and make use of internet communities of other children and adolescents with similar multiple

(Continued)

TABLE 4 (Continued)

Category	Sub category	Factors of adjustment	Number of participants involved in finding (total participants in analysis)	Study # (study ID)	Gender	Direction of association: P, positive; N, negative	Orientation of outcome: P psychological adjustment; S, sociocultural adjustment; F, family adjustment, TCK, third culture; A, academic	Meaning of finding
	Culture	Cultural acceptance	272 (494)	#1 (Gerner et al., 1992)	MF	P	SC + TCK	migration backgrounds to connect and maintain contacts are less likely to have difficulties in the adaptation process US adolescents in international schools in Thailand and Egypt are significantly more culturally accepting than their peers living in the US. This effect is due to the International mobility factor rather than location because it affects both internationally mobile groups.
	International mobility	International career preference	62	#7 (Lam and Selmer, 2004)	MF	p	TCK	Expatriate adolescents will prefer an international career above their local counterparts in Hong Kong and GB
International travel preference		62	#7 (Lam and Selmer, 2004)	MF	p	TCK	Expatriate adolescents will prefer to travel above their local counterparts in Hong Kong and GB	
Travel orientation		272 (494)	#1 (Gerner et al., 1992)	MF	P	TCK	US adolescents in international schools in Thailand and Egypt are significantly more keen on traveling than their peers living in the US. This effect is due to the International mobility factor rather than location because it affects both internationally mobile groups.	

(Continued)

TABLE 4 (Continued)

Category	Sub category	Factors of adjustment	Number of participants involved in finding (total participants in analysis)	Study # (study ID)	Gender	Direction of association: P, positive; N, negative	Orientation of outcome: P psychological adjustment; S, sociocultural adjustment; F, family adjustment, TCK, third culture; A, academic	Meaning of finding
		Settling down preference	62	#7 (Lam and Selmer, 2004)	MF	n	TCK	Expatriate adolescents are less keen on settling down in one place than their local counterparts in Hong Kong and GB
		Future orientation (international)	272 (494)	#1 (Gerner et al., 1992)	MF	P	TCK	US adolescents in international schools in Thailand and Egypt are significantly more orientated toward living and working abroad in the future than their peers living in the US. This effect is due to the International mobility factor rather than location because it affects both internationally mobile groups.
	Language	Language proficiency level self reported (English by Japanese students)	240	#4 (Miyamoto and Kuhlman, 2001)	MF	P	SC	Better perceived proficiency in English positively predicts better grades in American school
		Foreign language interest	62	#7 (Lam and Selmer, 2004)	MF	p	SC + TCK	Expatriate adolescents have more interest in learning foreign languages than their local counterparts in Hong Kong and GB
		Level of motivation for maintaining Japanese language skills	240	#4 (Miyamoto and Kuhlman, 2001)	MF	p	SC	Higher levels of motivation for maintaining home language (Japanese) reduces culture shock
		Language acceptance	272 (494)	#1 (Gerner et al., 1992)	MF	P	SC + TCK	US adolescents in international schools in Thailand and Egypt are significantly more interested in other languages than their peers living in the US. This effect is due to the International mobility factor rather than location because it affects both internationally mobile groups.

(Continued)

TABLE 4 (Continued)

Category	Sub category	Factors of adjustment	Number of participants involved in finding (total participants in analysis)	Study # (study ID)	Gender	Direction of association: P, positive; N, negative	Orientation of outcome: P psychological adjustment; S, sociocultural adjustment; F, family adjustment, TCK, third culture; A, academic	Meaning of finding
	Academic factors	Grades in Japanese supplementary school	240	#4 (Miyamoto and Kuhlman, 2001)	MF	P	SC + A	Better grades in Japanese supplementary school significantly predict grades in American school
		Perceived ease of completing homework	240	#4 (Miyamoto and Kuhlman, 2001)	MF	p	SC + A	Better perceived ease with completing homework from school in international location significantly decreases culture shock

abroad (Lam and Selmer, 2004) ($n = 62$) than their local peers. These findings are supported by measuring a distinct cultural identity (Lam and Selmer, 2004) ($n = 62$). Local language proficiency is shown to play a role in enhancing adjustment (Miyamoto and Kuhlman, 2001) ($n = 240$), whereas maintaining interest in “home language” reduces culture shock. TCK were generally more interested in language acquisition than their local counterparts (Gerner et al., 1992) ($n = 272$).

Orientation of outcomes

Psychological adjustment was explored through 12 findings, socio-cultural outcomes were explored through 22 findings, and the third culture was examined in 10 findings. In three cases, the same variable influenced socio-cultural and psychological adjustment. In one case, a psychological adjustment outcome was associated with a third culture trait. Three socio-cultural adjustment outcomes were associated with third culture traits.

Factors of adjustment in qualitative studies

Environmental factors

Context

Stability is an important protective factor to support adjustment when the context changes and can be found in immediate family rituals and maintained connections with extended family and friends (Mclachlan, 2007; Lijadi and Van Schalkwyk, 2017).

Time

Time spent abroad and in contact with diverse communities enhances an ethno-relative worldview and supports better acceptance of other cultures (Straffon, 2003).

Repatriation/high mobility

Fears of repatriation or frequent moves and lack of permanence may increase stress and hinder adjustment (Weeks et al., 2010).

Family factors

Child interviewees report increased family closeness through meetings, discussions, and meals, to supplement the lack of an extended family or other extensions (Mclachlan, 2007). Family closeness is a sensitive topic, bearing possibilities to support each other and the risk of a closeness that might raise tensions and limit autonomy. Being involved in the family's decision to move (communication) generally contributes to the child/teen's agreeableness with the move (Mclachlan, 2007). Family relationships contribute to a sense of safety, providing comfort and continuity (belonging and direction) during the initial adjustment phase and helping to reduce

stress from situations when they arise. Family members and the rituals of family life and the objects associated with them provide a sense of continuity, replacing the physical concept of home. Connectedness with extended family and grandparents contributes to a sense of home and stability (Lijadi and Van Schalkwyk, 2017).

Psychological factors

Personality

Child personality is raised as a determining factor, and agreeableness toward the move creates an opportunity to embrace change (Mclachlan, 2007). Open-mindedness is critical for making friends and adopting a worldview, including in international schools where students have diverse cultures and origins (Weeks et al., 2010).

Emotion

Grief from loss and longing can be related to places, memories, objects, perceived changes in family roles and responsibilities, or even a lost psychological state (Lijadi and Van Schalkwyk, 2017).

TCKs describe mixed emotions of excitement, disappointment, and anticipation as they repeatedly adjust to change.

Identity

Adolescence is a susceptible age for a move. Integrating the multiplicity of values of the various systems to which TCKs are exposed, as well as their differences in being multi-lingual, multicultural, and aware of the diversity of the world, creates an extra challenge in the identity formation process (Langinier and Gaspoz, 2015; Lijadi and Van Schalkwyk, 2017). Identification with a particular place, culture, and community call for a specific model to be defined for TCKs, which differs from identity construction and identification in non-TCKs (Langinier and Gaspoz, 2015; Lijadi and Van Schalkwyk, 2017). “TCK identity” becomes an entity within which TCKs are more inclined toward each other. Langinier and Gaspoz (2015) develop the idea of three expressions of identity (cosmopolitan, transnational, and anchor) dependent on identifications to national or international communities and where TCKs experience and social background influence the development of one or the other identity (Langinier and Gaspoz, 2015).

Socio-cultural factors

Friendships

Loss of friends in international settings is a commonly raised issue; TCKs must grieve friends from home and face the departures of friends and teachers in international schools (Weeks et al., 2010; Lijadi and Van Schalkwyk, 2017). TCKs report casual friendships rather than close ones, which could be their way of dealing with repeated loss or a bias in

TABLE 5 Study characteristics.

Studies per continents												
Europe		US			Asia			Cross-continent				
Study # (ID)	#2 (Ittel and Sisler, 2012), #9 (Van Oudenhoven et al., 2007), #10 (Vercruyse and Chandler, 1992), #11 (Langinier and Gaspoz, 2015), #13 (Mclachlan, 2007)				#4 (Miyamoto and Kuhlman, 2001)		#3 (McKeering et al., 2021), #5 (Morales, 2017), #8 (Straffon, 2003), #14 (Weeks et al., 2010), #12 (Lijadi and Van Schalkwyk, 2017)			#1 (Gerner et al., 1992), #6 (Pittman and Bowen, 1994), #7 (Lam and Selmer, 2004)		
<i>n</i>	5				1		5			3		
%	36%				7%		36%			21%		
Studies per 5 y-periods since 1992												
Year	1992–1997		1998–2003		2004–2009		2010–2015		2016–2021			
Study number	#1 (Gerner et al., 1992), #6 (Pittman and Bowen, 1994), #10 (Vercruyse and Chandler, 1992)		#4 (Miyamoto and Kuhlman, 2001), #8 (Straffon, 2003)		#7 (Lam and Selmer, 2004), #9 (Van Oudenhoven et al., 2007), #13 (Mclachlan, 2007)		#2 (Ittel and Sisler, 2012), #11 (Langinier and Gaspoz, 2015), #14 (Weeks et al., 2010)		#3 (McKeering et al., 2021), #5 (Morales, 2017), #12 (Lijadi and Van Schalkwyk, 2017)			
<i>n</i>	3		2		3		3		3			
%	21.43%		14.28%		21.43%		21.43%		21.43%			
Journals												
Psychology		Development			Education		Intercultural			Human resources		
Journal of School Psychology	Anxiety, Stress, & Coping	Journal of Childhood and Adolescence Research	Journal of Adolescence	Youth & Society	Journal of Research in International Education	Journal of International Education Research	Geoforum	International journal of intercultural relations	International Journal of Intercultural Relations	Equality, Diversity and Inclusion: An International Journal	Career Development International	Personnel Review
#1 (Gerner et al., 1992)	#9 (Van Oudenhoven et al., 2007)	#2 (Ittel and Sisler, 2012)	#10 (Vercruyse and Chandler, 1992)	#6 (Pittman and Bowen, 1994)	#3 (McKeering et al., 2021), #13 (Mclachlan, 2007)	#5 (Morales, 2017)	#12 (Lijadi and Van Schalkwyk, 2017)	#8 (Straffon, 2003)	#4 (Miyamoto and Kuhlman, 2001)	#11 (Langinier and Gaspoz, 2015)	#7 (Lam and Selmer, 2004)	#14 (Weeks et al., 2010)

reporting and hiding underlying grief difficulties (Mclachlan, 2007). Difficulties entering already formed friend groups or communicating with peers can be a significant deterrent for adjustment and integration, whereas identifying and making friends they can identify with is raised by teens as the most important factor of overall adjustment (Weeks et al., 2010).

Home

Children maintain a bond with their passport country(ies) and the different places they have lived, which provides a sense of attachment. Positive feelings and memories during times spent in these places contribute to the sense of connectedness to a place (Lijadi and Van Schalkwyk, 2017). A challenge in adjustment arises when there is too big a gap between an idealized place and life challenges in that place.

Culture

Learning about a new culture can mean more freedom for adolescents, exploration, and easier access to drugs and alcohol in the host culture. These are mentioned as either contributing to autonomy and identity construction or creating a riskier environment and hindering the adjustment process (Weeks et al., 2010). Teenagers in international schools may feel at home in their host country without assimilating or integrating into their host country's culture. Friendships and the school environment majorly contribute to the sense of homeliness. Teenagers socializing within their international communities may preserve a surface-level interaction and understanding of their host culture (Weeks et al., 2010). Housing and comfort are positively related to adjustment and feeling at home.

Language

TCKs in international schools do not consider language a primary factor in their adjustment. Host language fluency is placed behind friendships and family relationships, as they are not dependent on the host culture to make friends or integrate. However, language acquisition has the potential to enhance the TCK's familiarity with their surroundings (Weeks et al., 2010). Home country language fluency is often maintained as a thread to home or to facilitate potential repatriation (Lijadi and Van Schalkwyk, 2017).

Discussion

This systematic review is the first to synthesize the available data on factors that influence adjustment in child and adolescent TCKs during their international experiences. It also offers the reader an organized overview of empirical evidence on factors influencing TCK adjustment. Only 14 studies met our eligibility criteria despite screening across eight electronic databases. This yield speaks for the limited empirical evidence on child and adolescent TCK adjustment. Findings from this systematic

review point toward gaps in the knowledge about the particular needs and traits that define child and adolescent TCK.

Factors in TCK adjustment

Both quantitative and qualitative studies find specific variables contributing to TCK functioning and adjustment. Categories of factors that are shown to influence adjustment in TCK include demographics (age, gender, time/mobility, cultural background), family (demographics, functioning, support, and cohesion), environmental (expatriate work), psychological (cognitive and personality traits, attachment style, emotion, empathy, identity) and socio-cultural (relationships, friends, in particular, culture, language, school, and international mobility factors). Each factor contributes to or hinders psychological and socio-cultural adjustment or contributes to forming a specific third culture. Although studies have measured various factors and pinpointed the effects of these factors on TCK adjustment, there is a lack of cohesion between variables and outcomes. Only peer relationships on the outcome of socio-cultural adjustment and travel preference on the outcome of a third culture were tested twice. The interest in languages on the outcome of socio-cultural adjustment was tested only three times. This is in contrast to adult expatriate research showing that language plays a key role in adjustment (for example Selmer, 2006). This could be due to the limited number of studies in our review. However, it is also possible that the selected studies explore expatriate children in international schools who are not as exposed to the host culture and language as their adult counterparts, as the medium of teaching is often English. Clearly, more research on the role of language in TCK adjustment is needed.

In general, more research is needed to assert these findings, which remain scarce in number and sample size. Moreover, future models may include mediation and moderation factors. The coding categories deducted for this systematic review may continue to be used as a guide for future studies.

Demographics and environmental factors

This systematic review shows that demographic and mobility factors have been considered across four studies in total. Only one study compared two international locations but found mobility overrides the actual location (Germer et al., 1992). Another single study compared TCK with local peers. Efforts must be made to refine sample characteristics using demographic variables (Aderi et al., 2013). Samples of various age categories and family structures will further define the contribution of these demographic variables. More research is needed where comparison groups could help understand the influence of cultures and nationalities on adjustment.

Family factors

Qualitative studies have expanded upon the family factors involved in adjustment, including cohesion, parenting, and family rituals. Only two studies measured family characteristics, parent relationships, and family demographic variables in quantitative designs (Pittman and Bowen, 1994; Van Oudenhoven et al., 2007). More quantitative studies, including measures of family functioning, family cohesion, parenting, and family demographics, will assert these findings, as suggested by Sterle et al. (2018).

Psychological factors

Psychological factors are particularly under-investigated, although shown to largely contribute to wellbeing and adjustment (Arslan, 2019). Potential mediation and moderation effects, particularly the interaction between third culture and psychosocial adjustment, as well as family functioning and psychosocial adjustment, need to be investigated (Zeng et al., 2022).

Toward a broader model of adjustment

Future research may refine our understanding of TCK adjustment by devising and testing more inclusive models and multiple trajectories in adjustment (Haslberger et al., 2014; Hirai et al., 2015; Mesidor and Sly, 2016). The classification proposed in this review includes categories of environmental, family, psychological and socio-cultural factors as a general frame for understanding the interactions between factors and outcomes of TCK adjustment and may serve as a guide for future studies and the foundation for a model of TCK adjustment.

Defining and measuring adjustment

Extracted studies are scattered across the areas of psychology, development, education, human resources, and intercultural sciences. There is also diversity in the scope of theoretical references used to frame the research. Psychological adjustment may be linked to attachment theory, coping, identity, social identity, place identity concepts, and notions of stress and wellbeing. Socio-cultural adjustment may refer to Berry's acculturation theory, Bennett's intercultural sensitivity model, or notions of culture shock (Berry, 1980; Berry et al., 2006; Bennett and Hammer, 2017).

In some cases, adult adjustment models are used as models of child adjustment. Two studies also referenced family models (family stress and family functioning) (Pittman and Bowen, 1994; Van Oudenhoven et al., 2007). Theories used to frame research on TCK primarily target a specific model and explore either family, culture, identity, or psychological traits. The diverse theories and research found in this systematic review

suggest that distinctive models may not reflect the entire process of TCK adjustment. More likely, adjustment at a point in time but also over time and identity outcomes are interconnected with psychological, socio-cultural, and environmental factors. As proposed for adult expatriates, a model reflecting these interrelations is needed for TCK (Haslberger et al., 2014).

Defining the TCK sample

The theoretical complexity continues with diverse samples falling under the generic understanding of the meaning of TCK: a reflection of this diversity can be read through the multiple terms (e.g., military, internationally mobile, TCK, expatriate) used across studies to refer to the particular population. Half of the studies in this review referred to Pollok and Van Reken's or Useem's definition of TCK (Useem and Useem, 1967; Pollock et al., 2010). The lack of cohesion in the definition of the sample itself is an insight into the diversity of the specific experiences associated with particular reasons underlying the international relocation. Another fundamental challenge for researching this population lies in the diverse nationalities of origin and relocation, age groups, duration of stay, types of schools, and family structures contributing to the variation in adjustment. One example of sampling difficulty can be found in comparing the following studies: the case of exploring culture shock in Japanese students adjusting to the U.S. and the other studying intercultural adjustment in TCK from 21 different home countries living in 37 different host countries (Miyamoto and Kuhlman, 2001; Van Oudenhoven et al., 2007). As the populations are so diverse, each study may only apply to a particular cultural sample and may not be generalizable to other TCK groups. To conclude, we suggest that the ecological complexity reflected in this systematic review may be better approached through the lens of complex systems, which can account for individual, contextual and cultural interactions (Brown and Goetz, 1987; Schwartz et al., 2010).

Study designs and measures

Studies included in this review have used a variety of measures, some designed for the study by the researchers, some based on pre-existing scales, and some using validated scales with normative information for a general population. Normative studies using validated scales could help create a standard for TCK, which would contribute to a better understanding of the outcomes of future quantitative studies. Reproducing studies using a particular scale would help assert the findings from an ecological standpoint and increase the consistency of results. Lastly, no study used a longitudinal design despite the specific sensitivity of time measured (as a predictor of mobility) in two of the presented studies (Fisher and Shaw, 1994; Straffon, 2003; Pritchard et al., 2007; McKeering et al., 2021). Future

cohort studies, particularly those using a longitudinal design, as has been done with adult and college student expatriate samples, would reinforce findings from the cross-sectional studies available this far (Fisher and Shaw, 1994; Pritchard et al., 2007).

Limitations

Although this study has the merit of synthesizing available data on a clearly defined ecological sample, it has several limitations. First, the restrictive criteria for inclusion meant that only a small number of papers were included and studies with multiple informants, such as parents and teachers, were excluded. Other unpublished or pilot studies may contribute to TCK adjustment but were not included in this study to ensure the strong validity of our findings. Further, the abstracted results from quantitative studies were not included in a meta-analysis due to the heterogeneity of predictors and outcomes and the variety of analyses used and reported.

Conclusions

This review highlights the complexity of defining the TCK sample, the diversity of internal and external factors contributing to TCK adjustment, and the formation of a “third culture.” Because of this, the network of selected studies stands out as heterogeneous and difficult to analyze. To better assess the needs and characteristics of TCK, efforts can be made to improve the ecological validity of study samples and to consider adjustment within an inclusive multi-faceted model or through the lens of complex adaptive systems (Arrow et al., 2000; Nettle et al., 2013; Haslberger et al., 2014; Theodore and Bracken, 2020). More research is needed on TCKs at the time of the relocation, and over time and more effort can be made to improve the methodological quality of measures.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary material, further inquiries can be directed to the corresponding author/s.

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Author contributions

EJ conceived the structure of the manuscript. EJ, MR, and YO reviewed the papers. EJ and MR drafted the manuscript. All authors edited the manuscript and read and approved the final manuscript.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fpsyg.2022.939044/full#supplementary-material>

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Appendices for Study I

i) Search Strings for Systematic Review Literature Search

APA PsycInfo (Ovid, Advanced Search)

((Expat* or "third culture" or "cross cultural" or international or "family relocation" or sojourn* or military or missionary or "oil industry" or "oil patch" or diplomat*) adj4 (kid* or child* or adolescent* or youth or teen* or famil* or student*).ti,ab,id. and (("well-being" or adjust* or adapt*).ti,ab,id. or (well-being or adjustment or adaptation or "Resilience (Psychological)").sh. or ("Adaptation, Psychological" or "Social Adjustment").mh.)

Results: 2525

PSYNDEXplus Literature and Audiovisual Media (Ovid, Advanced Search)

((Expat* or "third culture" or "cross cultural" or international or "family relocation" or sojourn* or military or missionary or "oil industry" or "oil patch" or diplomat*) ADJ4 (kid* or child* or adolescent* or youth or teen* or famil* or student*).ti,ab,id AND (("well-being" OR adjust* OR adapt*).ti,ab,id OR (well-being OR adjustment OR adaptation).sh)

Results: 51

ERIC (Ovid, Advanced Search)

((Expat* or "third culture" or "cross cultural" or international or "family relocation" or sojourn* or military or missionary or "oil industry" or "oil patch" or diplomat*) ADJ4 (kid* or child* or adolescent* or youth or teen* or famil* or student*).ti,ab AND (("well-being" OR adjust* OR adapt*).ti,ab OR ("Well Being" OR "Social Adjustment").sh)

Results: 858

MEDLINE (All, Ovid, Advanced Search)

((Expat* or "third culture" or "cross cultural" or international or "family relocation" or sojourn* or military or missionary or "oil industry" or "oil patch" or diplomat*) ADJ4 (kid* or child* or adolescent* or youth or teen* or famil* or student*)).ti,ab,kw AND (("well-being" OR adjust* OR adapt*).ti,ab,kw OR ("Adaptation, Psychological" OR "Social Adjustment").sh)

Results: 1437

Web of Science (Core Collection, Topic)

TS=(((Expat* or "third culture" or "cross cultural" or international or "family relocation" or sojourn* or military or missionary or "oil industry" or "oil patch" or diplomat*) NEAR/3 (kid* or child* or adolescent* or youth or teen* or famil* or student*)) AND ("well-being" OR adjust* OR adapt*))

Results = 3855

Scopus (Advanced)

(TITLE-ABS-KEY ((Expat* OR "third culture" OR "cross cultural" OR international OR "family relocation" OR sojourn* OR military OR missionary OR "oil industry" OR "oil patch" OR diplomat*) W/4 (kid* OR child* OR adolescent* OR youth OR teen* OR famil* OR student*))) AND (TITLE-ABS-KEY ("wellbeing"OR adjust* OR adapt*) OR INDEXTERMS("Adaptation, Psychological" OR "Social Adjustment" OR wellbeing OR adjustment OR adaptation))

Results: 4480

SocINDEX (EBSCO, Advanced Search)

(((TI ((Expat* OR "third culture" OR "cross cultural" OR international OR "family relocation" OR sojourn* OR military OR missionary OR "oil industry" OR "oil patch" OR diplomat*) N3 (kid* OR child* OR adolescent* OR youth OR teen* OR famil* OR student*)) OR (AB ((Expat* OR "third culture" OR "cross cultural" OR international OR "family relocation" OR sojourn* OR military OR missionary OR "oil industry" OR "oil patch" OR diplomat*) N3 (kid* OR child* OR adolescent* OR youth OR teen* OR famil* OR student*)) OR (KW ((Expat* OR "third culture" OR "cross cultural" OR international OR "family relocation" OR sojourn* OR military OR missionary OR "oil industry" OR "oil patch" OR diplomat*) N3 (kid* OR child* OR adolescent* OR youth OR

teen* OR famil* OR student*))) AND ((TI ("well-being" OR adjust* OR adapt*) OR AB ("well-being" OR adjust* OR adapt*) OR KW ("well-being" OR adjust* OR adapt*) OR DE ("WELL-being" OR "SUBJECTIVE well-being (Psychology)" OR "SOCIAL adjustment" OR "ADAPTABILITY (Psychology)" OR "PSYCHOLOGICAL adaptation"))))

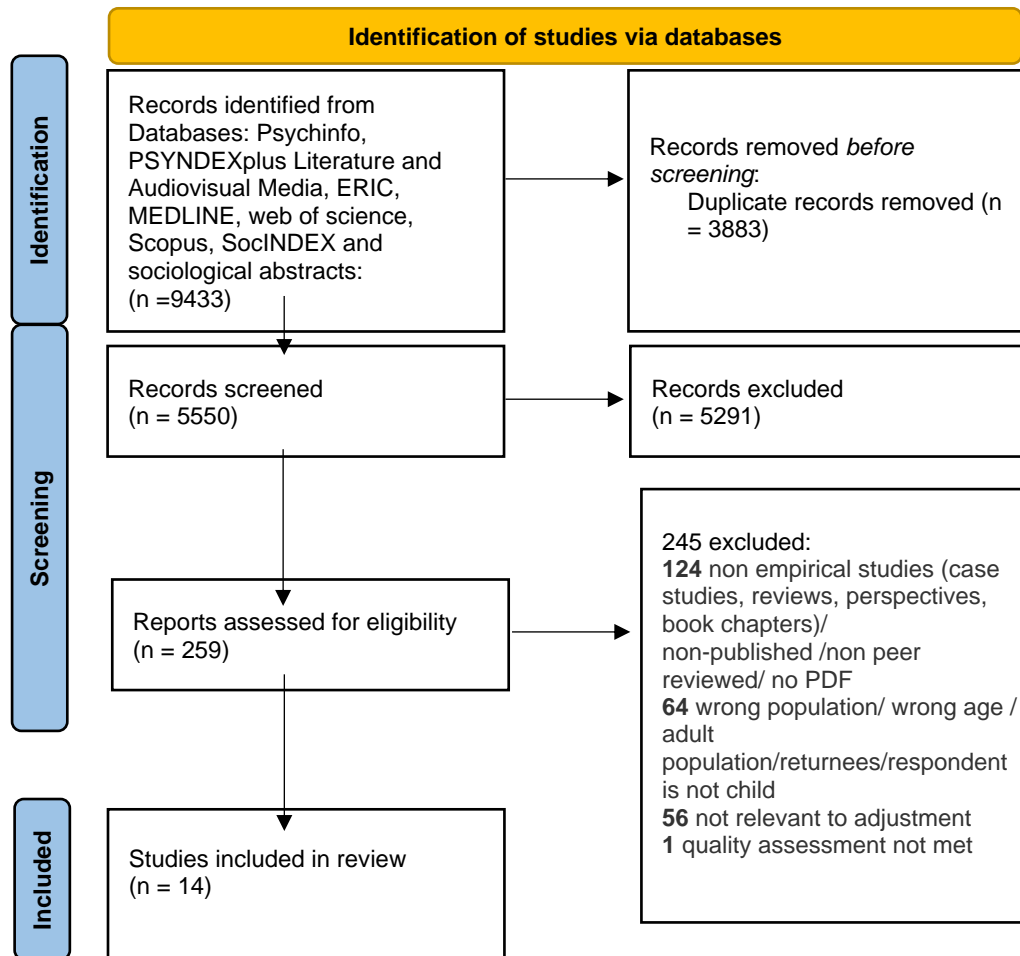
Results: 2588

Sociological Abstracts (ProQuest, Command Line)

((TI("well-being" OR adjust* OR adapt*) OR AB("wellbeing" OR adjust* OR adapt*) OR IF("well-being" OR adjust* OR adapt*) OR SU("Well Being" OR Adjustment)) AND ((TI((Expatriate* OR "third culture" OR "cross cultural" OR international OR "family relocation" OR sojourn* OR military OR missionary OR "oil industry" OR "oil patch" OR diplomat*) NEAR/4 (kid* OR child* OR adolescent* OR youth OR teen* OR famil* OR student*))) OR (AB((Expatriate* OR "third culture" OR "cross cultural" OR international OR "family relocation" OR sojourn* OR military OR missionary OR "oil industry" OR "oil patch" OR diplomat*) NEAR/4 (kid* OR child* OR adolescent* OR youth OR teen* OR famil* OR student*))) OR (IF((Expatriate* OR "third culture" OR "cross cultural" OR international OR "family relocation" OR sojourn* OR military OR missionary OR "oil industry" OR "oil patch" OR diplomat*) NEAR/4 (kid* OR child* OR adolescent* OR youth OR teen* OR famil* OR student*)))))) AND PEER(yes) AND PEER(yes)

Results: 2101

ii) Prisma Flow Chart for Systematic Review



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71

For more information, visit: <http://www.prisma-statement.org/>

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only.

Appendix B

Study II:

Reed, M., Jones, E., Gaab, J., Ooi, YP. Family Cross-Cultural Adjustment: A Mixed-Methods, Multi-Informant Study of Expatriates in Switzerland.

Abstract

Despite literature indicating the key role of family adjustment in successful expatriate relocations, it is still unclear which factors are important for reducing adjustment difficulties in expatriate families. Using a mixed-methods design, our study aimed to understand cross-cultural adjustment in expatriate families living in Switzerland. Our quantitative study explored the role of psychological, cultural, and family factors in cross-cultural adjustment in expatriate families. Parents (n= 126) and children (n=138) completed an online survey consisting of standardized measures of resilience, acculturative stress, cultural intelligence, family functioning, sociocultural adjustment, and well-being. A random sample of families completing the survey also participated in a semi-structured interview (n=8) to obtain more details of the study variables and of the general relocation experience from a family perspective. The mixed-methods study combined data from the qualitative and quantitative studies to see if results converged. To evaluate our data, regression analyses were used for the quantitative survey data, content analysis for the family interviews, and a convergent triangulation design for the mixed-methods study. Quantitative results indicated that resilience, acculturative stress, cultural intelligence, language fluency, age of child, and agreement with relocation predict cross-cultural adjustment in expatriate families. Qualitative results generally converged with quantitative findings, except for family functioning. The combined results indicated the key roles of acculturative stress, resilience, and cultural factors in expatriate family adjustment. Our results can be used to support family adjustment and inform a more general model of expatriate family adjustment.

Keywords: expatriate adjustment, resilience, acculturative stress, cultural intelligence, family functioning

Introduction

Recent years have seen a surge in research in the field of expatriate relocation, leading to the development of several comprehensive models, as well as a much greater understanding, of adjustment, its related processes, outcomes, and antecedents. Unfortunately, research on expatriate families has not garnered the same level of interest and, despite the family's central role in expatriate relocation success, understanding of challenges and provision of targeted support for expatriate families is often insufficient (Shah et al., 2021; Shaffer & Wan, 2020). Given that at least half of expatriates relocate with a partner or dependent children (Brookfield Global Relocation Services, 2016), it is essential to understand factors contributing to successful family relocation and provide effective support to reduce the likelihood of relocation failure or negative outcomes.

Cultural adjustment is defined by the degree of psychological comfort and perceived familiarity a person has with the host culture and is the process of change that occurs in our behaviours, thoughts, and emotions to be in harmony with our environment (Black et al., 1991). Within the realm of expatriate literature, several distinct types of adjustment have been identified: work, interaction, general, sociocultural, and psychological adjustment (Shaffer et al., 1999; Black et al., 1991; Searle & Ward, 1990). In addition, cross-cultural adjustment can be defined as a combination of sociocultural adjustment, a general feeling of ease and the ability to navigate everyday life in the host country, and psychological adjustment, defined as feelings of well-being, satisfaction, and mental health (Searle & Ward, 1990). Adjustment is essential to successful expatriate relocation as failure to adjust can result in serious consequences such as high costs for companies, depression, marital problems, and substance abuse (Magdol, 2002; Shaffer et al., 2006; Anderzén & Arnetz, 1997). Many antecedents facilitating positive expatriate adjustment have been identified in literature, such as previous overseas experience, language fluency, cultural distance, personality traits, and organizational support (see Lessle et al., 2020). Furthermore, research on expatriate adjustment has given rise to complex models, such as the 3-D Model of Adjustment (Haslberger et al., 2014), which considers adjustment in terms of dimensions (cognitive, behavioural, and affective), domains (situational contexts) and as a dynamic process occurring over time. And while such models are invaluable for understanding expatriate adjustment, they do not directly apply to families due to the complexity of the family system. Therefore, to fully understand family adjustment, perspectives from different members and dynamics within the family must be considered.

With the aim of better understanding family adjustment, the current study explores the role of psychological, cultural, and family factors in cross-cultural adjustment in a population of expatriate families in Switzerland. Switzerland is a European hub for expatriates, with foreign nationals making up approximately one quarter of the population (Gygli et al., 2018). In rankings of the best places for expatriates to live, Switzerland is simultaneously named as one of the top locations overall and one of the most difficult places to settle in to (InterNations, 2020). This implies that while expatriates appreciate the many advantages Switzerland has to offer, they may also experience adjustment difficulties. We first outline key literature related to expatriate family adjustment, before presenting the aims and exploratory research questions for our study.

Stress

Psychological stress occurs when a situation in the environment is appraised by the individual as exceeding their available resources and therefore poses a threat to well-being (Lazarus & Folkman, 1984). For expatriates, stress has been identified as a key psychological factor in adjustment and has been reported in the domains of family, social relationships, work, and academic success (Brown, 2008; Rosenbusch et al., 2015; Takeuchi et al., 2007; Weeks et al., 2009). During adjustment, stress can arise during the dynamic process of acculturation, in which changes in individual behaviour, values and beliefs occur because of sustained, first-hand contact with another culture. Acculturative stress can occur in response to conflicts between the heritage and host culture values or while adapting to language and cultural norms (Ward & Geeraert, 2016). To reduce the likelihood of long-term adjustment problems, individuals must learn to cope with acculturative stress and acquire culturally appropriate behaviour, values, and identities (Ward & Geeraert, 2016). Factors helping to reduce acculturative stress include language proficiency, cultural intelligence, and social support (Gebregergis et al., 2019; Poyrazli et al., 2004; Kayama & Yamakawa, 2020).

Resilience

Resilience is a concept which may be conceived as both a process and as personality characteristics and explains how individuals can experience unexpected and positive outcomes in the presence of adversity (Connor & Davidson, 2003; Kidd & Shahar, 2008; Bonanno, 2004; Fletcher & Sarkar, 2013; Friborg et al., 2005). In expatriate adults, resilience is associated with positive outcomes such as increased marital satisfaction,

decreased child-rearing stress, and positive work adjustment (Izumi & Gullón-Rivera, 2018; Davies et al., 2019). Studies on expatriate child resilience are few, however evidence suggests that different strategies are used to cope with relocation stress and that these strategies vary with age, gender, and self-concept (Vercruyse & Chandler, 1992). Family resilience is closely linked to elements of family functioning such as communication, cohesiveness, and flexibility, and may be particularly salient to expatriate families who rely on one another when moving away from their support network (Patterson, 2002; McLachlan, 2007). Social support, an element of resilience, can buffer against the negative aspects of stress (Ozbay et al., 2007) and is linked to greater success for expatriate work assignments, stress reduction and better cross-cultural adjustment (van der Laken et al., 2019; Copeland & Norell, 2002; Weeks et al., 2009; Caligiuri & Lazarova, 2002; Black, 1990).

Family Functioning

Family functioning refers to the social and structural aspects of a family and consists of communication, cohesion, organization, and problem-solving abilities (Lewandowski et al., 2010). Indicating the amount of emotional bonding between family members, family cohesion can help to reduce stress and alleviate mental health problems (Zeng et al., 2021; Jhang, 2017). Family cohesion is particularly important for expatriate children as those with better family bonds have reported fewer depressive symptoms, higher school grades and higher persistence levels (Lucier-Greer et al., 2015). Good communication enables families to share experiences, problem solve, negotiate difficulties, and is associated with the positive outcomes in international assignments and expatriate adjustment (Forster, 1997; Caligiuri et al., 1998). Finally, family characteristics such as having a positive perception of moving internationally, being adventurous, and being sociable have been associated with fewer adjustment difficulties in expatriate families (Caligiuri et al., 1998; Lazarova et al., 2015). Taken together, family functioning plays an important role in psychological well-being and is linked to better adjustment in expatriate families (Van Der Zee et al., 2007).

Cultural Intelligence

Cultural intelligence (CQ) is a domain-specific intelligence that allows people to select and shape the cultural aspects of the environment (Thomas et al., 2015) and has gained increasing attention as an important factor in sociocultural adjustment. Based on models of general intelligence, models of CQ outline several facets (behaviour, skills, metacognition, and motivation) that work together to form a general measure of CQ

(e.g., (Earley & Ang, 2003, Thomas et al., 2015). The impact of CQ on expatriate adjustment has been well-documented (e.g., (Ang et al., 2007; Lee & Sukoco, 2010) and cultural training programs for expatriates often include CQ as one of the main components (Ott & Michailova, 2018). CQ positively impacts all types of adjustment (Leung et al., 2014; Abdul Malek & Budhwar, 2013) and individual facets of CQ have also been linked to specific components of adjustment (Ang & Dyne, 2015; Guðmundsdóttir, 2015). Furthermore, CQ may help to reduce stress during acculturation and support cross-cultural adjustment by moderating the effects of culture shock and reducing incidences of depression (Gebregergis et al., 2019; Presbitero, 2016).

The Current Study

In summary, numerous factors have been identified that impact cross-cultural adjustment in expatriate populations, however existing literature has often studied individuals rather than family systems. The current study aims to explore the role of several variables in cross-cultural adjustment of expatriate families living in Switzerland using a mixed method, multi-informant design. Our research questions are as follows:

RQ 1. Do resilience, acculturative stress, and family functioning predict child cross-cultural adjustment?

RQ 2. Do resilience, acculturative stress, cultural intelligence, and family functioning predict parent cross-cultural adjustment?

RQ 3. From a family perspective, what is the experience of relocating to Switzerland?

RQ 4. How do findings from RQ 1-3 combine to give insight into family cross-cultural adjustment?

Materials and Method

Study Design

Data from the present study were obtained from a longitudinal study measuring sociocultural adjustment and well-being in expatriate children and their parents. Ethics approval for the study was issued by the Ethics Committee of the Faculty of Psychology at the University of Basel [Ethics no.: 047-18-4]. The study used a mixed-method, multi-informant design consisting of an online survey of one parent and one child from

the same family (quantitative study) and a family interview (qualitative study). The design offers several advantages, such as increasing the validity of findings, confirming or refuting findings in one study with those of another study, providing richer details of the variables, and obtaining information about adjustment from different timepoints.

Participants

Quantitative study participants included 138 children (40.5% aged 7-12 years, 59.5% aged 13-17 years) and 126 parents (mean age = 47 years) living in Switzerland. Inclusion criteria were children aged 7-17 years, parent's employment was the primary reason for the family's relocation, medium to high household income levels, and sufficient English to participate. Exclusion criteria were having one Swiss parent, refugee status, foreign exchange students and insufficient comprehension of English. A full list of participant details for the quantitative study can be seen in Table 1. The qualitative study participants comprised of a sub-sample from the quantitative study (n=8) who had resided Switzerland for an average of 7 years (range = 1-12 years) and had an average of 3 international relocations.

Table 1

Frequencies of Descriptive Statistics

Variable	%
Child (n=138)	
Age	
7-12	40.5
13-17	59.5
Gender	
Female	60
Male	40
International school	79
Agreeableness with move	
Not at all/A little	10
Somewhat	21
Quite a bit	36
A lot	33

Number of previous moves	
0	3
1–3	83
4–6	13
7–9	1
History of psychological treatment	21
Lived in Switzerland before	15

Parent (n=126)

Age	$\bar{x} = 47$ years
Gender	
Female	70
Male	29
Other	1
Married	94
German Language Proficiency	
None	23
Basic/intermediate	67
Advanced/native speaker	10
Lived in Switzerland before	17.5
Agreeableness with move	
Not at all/A little	1.5
Somewhat	7
Quite a bit	23
A lot	68.5
Number of previous moves	
1–3 moves	74
4–6 moves	20
7–9 moves	6
Attended cultural training	16
University educated	93.5

Measures

To address research questions one and two, one parent and one child from each family answered an online survey consisting of the measures below.

Demographic Data

Questions on age, gender, nationality, education, number of international relocations, type of school and agreement with moving were answered by parents.

Predictor Variables

Resilience. Child resilience was assessed using the 12-item Child and Youth Resilience Measure (CYRM-12; Resilience Research Centre, 2018). Items are rated on a 3-point Likert scale ranging from 1 (No) to 3 (Yes) and summed to provide a total score. Resilience in parents was assessed using the Adult Resilience Measure (ARM; Resilience Research Centre, 2018). Parents rated each item on a Likert-type scale ranging from 1 (Not at all) to 5 (A lot). Items are summed to provide a total score. For both scales, higher scores indicate higher levels of resilience. The Cronbach's alpha for the CYRM-12 and ARM were .65 and .81 respectively.

Acculturative Stress. Acculturative stress was assessed using the 4-item Acculturative Stress Inventory for Children (ASIC; Suarez-Morales et al., 2007). Participants rated items on a Likert-type scale ranging from 0 (Does not apply) to 5 (Bothers me a lot). Items are summed to provide a total score with higher scores indicating higher levels of acculturative stress. In The Cronbach's alpha for the ASIC-Child and ASIC-Parent were .66 and .75 respectively.

Cultural Intelligence. Parents completed the 10-item Short Form Cultural Intelligence Scale (SFCQ; Thomas et al., 2015). Each item is rated on a 5-point Likert scale ranging from 1 (Not at all) to 5 (Extremely well). Items are summed to provide a total score with higher scores indicating higher levels of cultural intelligence. The Cronbach's alpha for the SFCQ was .88.

Family Functioning. Parents completed the 12-item McMaster Family Assessment Device (FAD; Epstein et al., 1983) on a Likert-type scale ranging from 1 (Strongly agree) to 4 (Strongly disagree). Odd items are reverse-scored, and all items are summed to provide a total score. Higher scores indicate poorer family functioning. The Cronbach's alpha for the FAD was .84.

Outcome Variables

Well-Being. Child well-being was assessed using the 10-item Kidscreen-10 Index (The KIDSCREEN Group Europe, 2006). Each item was rated on a Likert-type scale ranging from 1 (Not at all) to 5 (Extremely). Items are summed to provide a total score with higher scores indicating higher levels of well-being. Parent well-being was assessed using the 5-item World Health Organization Well-Being Index (WHO, 1998). Parents rated items on a Likert-type scale ranging from 0 (At no time) to 5 (All of the time). Items are summed to provide a total score with higher scores indicating higher levels of well-being. The Cronbach's alpha for the Kidscreen-10 Index and the WHO-5 were .86 and .87 respectively.

Sociocultural Adjustment. Child sociocultural adjustment was assessed using the 20-item child version of the Sociocultural Adaptation Scale (SCAS-Child; Ward & Kennedy, 1999). For children below 12, parents filled out the SCAS-Child on their behalf. Parent sociocultural adjustment was assessed using the 11-item Sociocultural Adaptation Scale - Revised (SCAS-R; Wilson et al., 2017). The Cronbach's alpha for the SCAS-Child and SCAS-R were .91 and .84 respectively.

To address research question 3, families participated in a semi-structured interview in which they discussed their experience of moving to Switzerland. Questions aimed to elicit their broad experience of relocation, as well as specific details of the study variables. Questions from the interview are listed in Table 2.

Table 2

Family Interview Questions

Target Group	Type of Questions
Entire Family	<p>Experience:</p> <ol style="list-style-type: none"> 1. What has been the experience of moving to Switzerland for... <ol style="list-style-type: none"> a. the family? b. each individual? 2. What have been the positive things about moving? What have been the negative things about moving? How has it changed the family? <p>Cultural issues:</p> <ol style="list-style-type: none"> 3. Have you moved before? 4. If yes, what are the specifics about moving to Switzerland compared with your previous moves? 5. If no, how does Switzerland compare with your hometown? 6. What have you perceived about being Switzerland, what do you notice about the Swiss culture and what is your experience of locals?

Needs:

7. What advice would you give another family who was moving here?

Parents	Challenges/Difficulties: <ol style="list-style-type: none">1. How has it challenged the family? How did you cope with that?2. How has your family changed since the move?3. How do members of your family support each other? [how have you supported one another during this time?]4. Is there anything I have not asked you about living in Switzerland that might be important for me to know?
Child	<ol style="list-style-type: none">1. How happy are you to live in Switzerland?2. What has been easy/difficult? How has it changed the family?3. What did you miss most?4. Is there anything I have not asked you about living in Switzerland that might be important for me to know?

Procedure

Participants were recruited through social media, expatriate associations, international schools, and multi-national companies in Switzerland. Both parents and children consented to participate, and families received gift vouchers for their participation in each study. For the quantitative study, parents, and children from completed an online questionnaire taking approximately 15-20 minutes. For the qualitative study, a random sample of participants from the survey were invited to take part in a family interview lasting approximately 50 minutes. Interviews were conducted online via Zoom and recordings will be deleted at the end of the study.

Data Analysis

Quantitative Study Analysis

To address research questions one and two, a series of hierarchical linear regression analyses were conducted with the covariates entered into Model 1 and the study variables entered into Model 2, using SPSS Statistics Software version 28, and a significance level of $p < .05$ (two-tailed). The covariates child age, agreement with relocating, length of time in Switzerland, and German language proficiency were used as they have been associated with sociocultural adjustment and well-being in previous studies (Black & Gregersen,

1991; Black & Stephens, 1989; McKeering et al., 2021). Descriptive statistics of study variables can be found in Table 3.

Table 3

Descriptive Statistics of Study Variables

Variable	M(SD)	Skewness	Kurtosis
Predictors			
<i>Psychological Factors</i>			
Child Resilience: CYRM-12	30.98(3.11)	-.89	1.16
Parent Resilience: ARM	50.28(5.55)	-.36	-.50
<i>Cultural factors</i>			
Child Acculturative Stress: ASIC	7.75(4.08)	.26	-.49
Parent Acculturative Stress: ASIC	8.50(3.44)	.66	-.07
Parent Cultural Intelligence: SFCQ	38.20(5.25)	-.03	.01
<i>Family Factors</i>			
Family Functioning: FAD	19.33(4.57)	.586	1.39
Outcomes			
Child Well-being: KIDSCREEN	36.13(6.15)	-.04	-.64
Parent Well-being: WHO-5	16.11(4.13)	-.77	.65
Child Adjustment: SCAS-Child	40.28(12.78)	.54	-.57
Parent Adjustment: SCAS	35.32(6.39)	.256	.01

Note. CYRM-12 = 12 item Child and Youth Resilience Measure, ARM= Adult Resilience Measure ASIC-Child= Acculturative Stress Scale for Children, SFCQ= short form measure of cultural intelligence, FAD= McMaster Family Assessment Device, KIDSCREEN= Well-being measure for children, WHO-5 = World Health Organization Well-Being Index, SCAS-Child= Sociocultural Adjustment Scale for Children, SCAS= Sociocultural Adjustment Scale.

Qualitative Study Analysis

Content analysis was used to analyze interviews as the method is appropriate for triangulating qualitative and quantitative data and can be used to elaborate on quantitative findings (Kansteiner and König, 2020). After transcription, family interviews were imported into MAXQDA version 2020 for coding. A codebook for deductive coding was developed using themes from the predictor and outcome variables in the quantitative study and codes reflecting questions in the surveys. All interviews were coded independently by one member of the study team (MR) and one research assistant. Discrepancies were discussed and resolved by another member of the study team (YPO). The inter-coder reliability across eight interviews was 83%.

Mixed-methods Analysis

We used a concurrent triangulation design, whereby qualitative and quantitative data were collected and analysed simultaneously after which results were triangulated and then interpreted. This design is useful for cross-validating studies and expanding quantitative results with qualitative data (Creswell & Plano Clark, 2017).

Results

RQ 1: Do resilience, acculturative stress, and family functioning predict child cross-cultural adjustment?

Preliminary analyses determined that the assumptions for multiple regression analyses were met and power analyses using G*Power (Faul et al., 2007) indicated that our sample size was sufficient with a medium effect size. Hierarchical regression analyses were used with the covariates agreement with moving, length of time in Switzerland, and age entered in Model 1, and the study variables resilience, acculturative stress, and family functioning entered in Model 2. Regression coefficients are reported in Table 4.

Table 4

Child Regression Coefficients for Mixed-Methods Study

	Model 1			Model 2		
	B	SE B	β	B	SE B	β
Dependent Variable: KIDSCREEN						
<i>Covariates</i>						
Age	-5.280	.981	-.422***	-4.125	.854	-.330***
Agreement with moving	1.650	.463	.284***	.780	.422	.134
Time in Switzerland	.001	.009	.010	-.009	.008	-.071
<i>Independent Variables</i>						
CYRM-12				.862	.135	.436***
ASIC-Child				-.292	.110	-.193**
FAD				-.108	.087	-.081
Adjusted R ²		.278			.698	
Dependent Variable: SCAS-Child						
<i>Covariates</i>						
Age	12.705	1.936	.487***	10.169	1.761	.390***
Agreement with moving	-3.627	.914	-.299***	-1.594	.871	-.131
Time in Switzerland	-.022	.018	-.088	.006	.017	.022
<i>Independent Variables</i>						
CYRM				-1.017	.277	-.247***

ASIC-Child	1.139	.228	.362***
FAD	-.158	.180	-.880
Adjusted R ²	.363	.533	

Note: KIDSCREEN= Well-being measure for children, CYRM-12= 12 item Child and Youth Resilience Measure, ASIC-Child= Acculturative Stress Scale for Children, FAD= McMaster Family Assessment Device, SCAS-Child= Sociocultural Adjustment Scale for Children.

*p<.05, **p<.01, ***p<.001

Table 5

Parent Regression Coefficients for Mixed-Methods Study

	Model 1			Model 2		
	B	SE B	β	B	SE B	β
Dependent Variable: WHO-5						
<i>Covariates</i>						
Time in Switzerland	-.009	.007	-.113	-.007	.006	-.083
Agreement with moving	1.602	.488	.283***	.835	.467	.148
German language proficiency	.543	.367	.130	.287	.333	.069
<i>Independent variables</i>						
ARM				.258	.068	.346**
ASIC				-.154	.101	-.128
SFCQ				.062	.064	.079
FAD				-.106	.079	-.117
Adjusted R ²	.074			.561		

Dependent Variable: SCAS						
<i>Covariates</i>						
Time in Switzerland	-.013	.010	-.108	-.008	.008	-.067
Agreement with moving	1.919	.674	.220*	.625	.612	.072
German language proficiency	3.124	.507	.486***	2.593	.437	.403***
<i>Independent variables</i>						
ARM				.341	.089	.296***
ASIC				-.448	.133	-.241***
SFCQ				.206	.084	.169*
FAD				-.030	.104	-.022
Adjusted R ²	.280			.481		

Note: WHO-5= World Health Organization Five Well-Being Index, ARM= Adult Resilience Measure, ASIC= Acculturative Stress Scale, SFCQ= short form measure of cultural intelligence, FAD= McMaster Family Assessment Device, SCAS= Sociocultural Adjustment Scale.

*p<.05, **p<.01 ***p<.001

Child Well-Being. Model 1 was significant, $F(3, 118) = 18.503, p < .001$, and the covariates age ($\beta = -.422, p < .001$) and agreement with moving ($\beta = .284, p < .001$) contributed significantly to the model. Model 2 was also significant, $F(6, 115) = 21.836, p < .001$, with the covariate age ($\beta = -.330, p < .001$) and predictor variables resilience ($\beta = .436, p < .001$) and acculturative stress ($\beta = -.193, p < .01$) contributing significantly to the model. The model explained 69.8% of variance in child well-being.

Child Sociocultural Adjustment. Model 1 was significant, $F(3, 113) = 26.967, p < .001$ with the covariates age ($\beta = .487, p < .001$) and agreement with moving ($\beta = -.299, p < .001$) contributing significantly to the model. Model 2 was also significant, $F(6, 110) = 23.580, p < .001$ and explained 53.3% of variance in sociocultural adjustment, with the covariate age ($\beta = .390, p < .001$) and predictor variables resilience ($\beta = -.247, p < .001$) and acculturative stress ($\beta = .362, p < .001$) contributing significantly to the model.

RQ 2: Do resilience, acculturative stress, cultural intelligence, and family functioning predict parent cross-cultural adjustment?

Hierarchical regression analyses were used with the covariates agreement with moving, length of time in Switzerland, and German language fluency entered in Model 1, and the study variables resilience, acculturative stress, cultural intelligence, and family functioning entered in Model 2. Regression coefficients are reported in Table 5.

Parent Well-Being. Model 1 was significant, $F(3, 122) = 4.676, p < .01$, with the covariate agreement with moving ($\beta = .283, p < .01$) contributing significantly to the model. Model 2 was also significant, $F(7, 118) = 8.095, p < .001$, with the predictor variable resilience ($\beta = .346, p < .001$) contributing significantly to the model. The model explained 56.1% of variance in parent well-being.

Parent Sociocultural Adjustment. Model 1 was significant, $F(3, 122) = 16.182, p < .001$, with the covariates German language ($\beta = .486, p < .001$) and agreement with moving ($\beta = .220, p < .05$) contributing significantly to the model. Model 2 was also significant, $F(7, 118) = 17.763, p < .001$, with the covariate German language ($\beta = .403, p < .001$) and the predictor variables acculturative stress ($\beta = -.241, p < .001$), resilience ($\beta = .296, p < .001$) and cultural intelligence ($\beta = .169, p < .05$) contributing significantly to the model. The model explained 48.1% of variance in parent sociocultural adjustment.

RQ 3: From a family perspective, what is the experience of relocating to Switzerland?

Content analysis was used to analyze data from family interviews and to reveal details of the family experience of relocation and adjustment to living in Switzerland. A summary of each theme is given below, and Appendix A provides an overview of themes, codes, and illustrative quotes.

Predictor Variables

Resilience. Families reported that they received social support from expatriate groups, international school groups, neighbours, friends, and home culture communities. Support was in multiple forms such as informational support, for example where and how to do things; practical support, for instance bringing meals during Covid isolation; and emotional support, like talking and laughing together. To cope with challenges, parents used cognitive strategies such as acceptance, psychological flexibility, and positive thinking. Like parents, children utilized skills from previous relocations to cope with challenges when moving to Switzerland. These coping strategies include managing expectations, knowing how to deal with the loss of friends, asking for help, and trying to be flexible. Children felt supported by family, friends, school, and the expatriate community.

Acculturative Stress. Parents experienced acculturative stress in relation to both adjustment to Switzerland and being away from their home culture. Those with little German language felt stressed because they could not communicate properly and felt worried that Swiss people perceived them as rude or unfriendly if they couldn't participate in small talk or conversations. At the same time, some stress (but less frequent), occurred when returning to the home culture and feeling that they were different after living overseas. Children were conscious of being different to Swiss people and shared several examples of this. One child felt different because he lacked common knowledge that Swiss children had, while another reported feeling uncomfortable because everything was a "bit foreign". Yet another felt that language contributed to not feeling at home and created an internalized boundary between expats and locals.

Cultural Intelligence. Parents demonstrated cultural intelligence in many ways, such as noticing cultural differences between Switzerland, their home, and other countries in which they had lived. All families felt that it was important to learn social norms in Switzerland and change their behaviour to be culturally appropriate. Some parents had attended cultural training and found it helpful for learning ways to better integrate, such as by hosting a small gathering to get to know their neighbours. Children demonstrated cultural intelligence, such as knowledge of different food,

traditions, and social norms and were comfortable with people from different cultural backgrounds and felt that expatriate life had enabled them to perceive the world differently.

Family Functioning. During relocation, parents supported one another by giving up a job or by staying home to look after the children. Many participants felt that expatriate families are very close because of having no family nearby on which to rely and needing to count on each other for support. Communication within the family was important, with families sharing emotions, talking about experiences of adjustment, and making decisions together about the future. In addition, families expressed the importance of characteristics such as being flexible, adaptable, and having a positive attitude toward moving.

Outcome Variables

Sociocultural Adjustment. When relocating, parents needed to adjust to many new things: job, family role, culture, language, and social relationships. Many families felt that adjusting to Switzerland was not too challenging, due to having small cities that are easy to navigate and many Swiss people being able to communicate in English. Often, the biggest challenge during adjustment was language. This was particularly challenging as high German is taught in language centres and schools, and Swiss German spoken in everyday life. Socially, parents had easily made good friends from Switzerland, the international community, and their home culture and had work colleagues that they liked.

Children needed to adjust to language, culture, school, and social relationships. Adjustment was easier for younger children, who reported not thinking too much about moving, compared with some adolescents who found it hard to move away from friends. Initially, children in local schools found adjustment challenging as they could not understand the teachers and found it hard to make friends without speaking German. However, they shared that they are happy to have friends who do not move away and that they are now fluent in German and Swiss German. Conversely, international school students adjusted quickly to school, made friends easily, and were surrounded by students who were also globally mobile. However, they have some ongoing difficulties with local language and reported feeling uncomfortable when they couldn't express themselves in German.

Well-Being. Parents felt that Switzerland has a high quality of life as reflected by feeling safe, having a sense of personal freedom, and enjoying activities with the family. They enjoyed the location in central Europe for traveling and many talked of the natural beauty and being able to spend a lot of time outdoors in nature. Parents felt that the move had been positive for the family and reported feeling happy that their children were safe here. However, some also experienced sadness about not living close to family, and particularly not being able to travel to see family during the pandemic. Children shared a mix of positive and negative feelings related to relocation. On one hand, they had experienced sadness when leaving their friends and home and some struggled with the many changes when moving. On the other hand, most enjoyed life in Switzerland, had good friends, and liked their school. They appreciated Switzerland's forests, mountains, and nature, and enjoyed meeting people from diverse cultural backgrounds.

RQ 4: How do findings from research questions 1-3 combine to give insight into family cross-cultural adjustment?

Considering data from qualitative and quantitative studies, we conclude the following regarding family cross-cultural adjustment. First, convergence in findings regarding the roles of resilience, acculturative stress, cultural intelligence, language, age of child and agreement were observed. That is, the quantitative study found these factors to be significant predictors of cross-cultural adjustment and the qualitative study found these to be important factors and provided specific details. Regarding the variable family functioning, results from the qualitative and quantitative studies did not converge. Regression analyses found it was not a significant predictor of adjustment, however the qualitative study indicated that this was an important factor. Similarly, results regarding the role of role of the length of time in Switzerland did not converge, with the quantitative analyses indicating it was not a significant contributor to the model, but family interviews suggesting that adjustment becomes easier over time.

Discussion

Our study aimed to better understand factors impacting cross-cultural adjustment in expatriate families Switzerland. Research questions one and two investigated whether psychological, cultural, and family factors predicted cross-cultural adjustment in expatriate parents and children using quantitative data. Our

results indicated that acculturative stress, cultural intelligence, resilience, child age, German language fluency, and agreement with moving significantly predicted cross-cultural adjustment. Research question three aimed to better understand the experience of adjustment and relocation from a family perspective using qualitative data. Results revealed details of the study variables and provided support for most of our quantitative findings. Our fourth research question integrated findings from both data sets and found that the qualitative and quantitative study results generally converged, except for findings on family functioning. The findings will be discussed in relation to previous research, practical implications, and future directions for research.

Our findings are in line with previous research implying that stress and resilience play an important role in expatriate cross-cultural adjustment (e.g., Brown, 2008; Rosenbusch et al., 2015; Takeuchi et al., 2007). As indicated in previous literature, it is evident that families experience some degree of stress when adapting to cultural aspects of their environment, indicating the specific role of acculturative stress in adjustment (Ward & Geeraert, 2016). Models of stress and coping (such as that of Lazarus & Folkman, 1984) would be a helpful framework from which to understand family adjustment and base interventions. Support programs could include preparation for stressful situations or by providing practical information to help the process of adjustment and acculturation. Increasing resilience, such as social support, would also help to reduce adjustment difficulties. For example, support could be offered to identify places in the community where families could receive support such as expatriate organizations, sports clubs, and social groups.

Our study indicated mixed findings regarding the role of family functioning in cross-cultural adjustment. While our qualitative results support previous research indicating that family functioning is an important predictor of cross-cultural adjustment (Caligiuri et al., 1998; Lazarova et al., 2015), our quantitative results did not. The lack of convergence in our findings may have occurred for a few reasons. The family functioning questionnaire was completed by parents, whereas the interview was with multiple family members, which may account for differences in findings. It is also possible that a social desirability bias occurred, whereby families reported more positive outcomes during the interview than they did when completing an anonymous survey. This is a common challenge in qualitative research (Bergen & Labonté, 2020). It is also possible that a more complex relationship exists between family functioning and cross-cultural adjustment which were not accounted for in our study. In conclusion, our findings indicate that although

family functioning may contribute to expatriate family adjustment, further research is needed to clarify its precise role.

Our results also indicated the important role of cultural factors in expatriate family adjustment. Survey data highlighted the role of language and cultural intelligence, and family interviews supported this. Children and parents shared that having knowledge of cultures and feeling comfortable around individuals from different cultures allowed them to integrate and feel more settled. Therefore, our results support previous findings suggesting the important role of language and cultural intelligence in adjustment and suggests that these would be important components of support programs for expatriate families (Leung et al., 2014; Ott & Michailova, 2018).

Regarding expatriate adjustment to Switzerland, our results indicate that families found some aspects of relocation to Switzerland challenging, but generally found it to be a positive experience. Many families had a network of support from the international community and appreciated the many advantages that Switzerland offered. While previous research indicated that making friends and settling in can be difficult in Switzerland (Internations, 2020), our results did not support this finding. However, it is possible that previous studies included individuals without children or a partner and having a family may act as a buffer against this problem as it offers access to expatriate communities such as international schools.

Limitations

As with any study, there are some limitations to note. First, adjustment would ideally be measured at multiple time points (e.g., pre, during, and post relocation) and our cross-sectional design cannot consider the role of time in family adjustment. Next, to avoid over-burdening younger children, we asked parents to complete the SCAS for those aged 7-11 years and the family functioning measure on behalf of the family. It is possible that results may have differed if children had completed all measures themselves. Also, the Cronbach's alpha for the CYRM was .65, indicating a borderline level of internal consistency. However, given that the CYRM is a well-researched tool with good reliability and validity, we felt that this level was still appropriate for our study. Finally, many families participating in the interviews has lived in Switzerland for several years, and had to recall their experience of relocation retrospectively, potentially decreasing the accuracy of their reports.

Future Directions

Future studies could examine the effect of our study variables in a longitudinal study. Studies could also explore the role of family functioning in more detail and, for example, explore whether it acts as a mediating or moderating factor in adjustment. Prevention or intervention programs for adjustment could be implemented and tested to see whether working on these factors does in fact increase adjustment in expatriate families.

Conclusions

Resilience, acculturative stress, cultural intelligence, and agreement with relocation are common predictors of cross-cultural adjustment in expatriate parents and children. Our study did not confirm the role of family functioning in expatriate family cross-cultural adjustment and further research in this area would be beneficial. Awareness of risk factors in adjustment could prevent negative consequences for families and companies by using prevention strategies to addressing difficulties prior to relocation or targeted interventions in the early stages of relocation.

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Supplementary Materials for Study II

i) Quantitative Study Variables

Resilience. Child resilience was assessed using the 12-item Child and Youth Resilience Measure (CYRM-12; Resilience Research Centre, 2018). Items are rated on a 3-point Likert scale ranging from 1 (*no*) to 3 (*yes*) and summed to provide a total score. Resilience in parents was assessed using the Adult Resilience Measure (ARM; Resilience Research Centre, 2018). Parents rated each item on a Likert-type scale ranging from 1 (*not at all*) to 5 (*a lot*). Items are summed to provide a total score. For both scales, higher scores indicate higher levels of resilience. The Cronbach's alpha for the CYRM-12 and ARM were .65 and .81 respectively.

Acculturative Stress. Acculturative stress was assessed using the 4-item Acculturative Stress Inventory for Children (ASIC; Suarez-Morales et al., 2007). Participants rated items on a Likert-type scale ranging from 0 (*does not apply*) to 5 (*bothers me a lot*). Items are summed to provide a total score with higher scores indicating higher levels of acculturative stress. In The Cronbach's alpha for the ASIC-Child and ASIC-Parent were .66 and .75 respectively.

Cultural Intelligence. Parents completed the 10-item Short Form Cultural Intelligence Scale (SFCQ; Thomas et al., 2015). Each item is rated on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely well*). Items are summed to provide a total score with higher scores indicating higher levels of cultural intelligence. The Cronbach's alpha for the SFCQ was .88.

Family Functioning. Parents completed the 12-item McMaster Family Assessment Device (FAD; Epstein et al., 1983) on a Likert-type scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Odd items are reverse-scored, and all items are summed to provide a total score. Higher scores indicate poorer family functioning. The Cronbach's alpha for the FAD was .84.

Well-Being. Child well-being was assessed using the 10-item Kidscreen-10 Index (The KIDSCREEN Group Europe, 2006). Each item was rated on a Likert-type scale ranging from 1 (*not at all*) to 5 (*extremely*). Items are summed to provide a total score with higher scores indicating higher levels of well-being. Parent well-being was assessed using the 5-item World Health Organization Well-Being Index (WHO, 1998). Parents rated items on a Likert-type scale ranging from 0 (*at no time*) to 5 (*all of*

the time). Items are summed to provide a total score with higher scores indicating higher levels of well-being. The Cronbach's alpha for the Kidscreen-10 Index and the WHO-5 were .86 and .87 respectively.

Sociocultural Adjustment. Child sociocultural adjustment was assessed using the 20-item child version of the Sociocultural Adaptation Scale (SCAS-Child; Ward & Kennedy, 1999). For children below 12, parents filled out the SCAS-Child on their behalf. Parent sociocultural adjustment was assessed using the 11-item Sociocultural Adaptation Scale - Revised (SCAS-R; Wilson et al., 2017). The Cronbach's alpha for the SCAS-Child and SCAS-R were .91 and .84 respectively

ii) Content analysis Codebook for Mixed Methods Study

	Code	Description
Psychological factors		
	Stress	Statements related to feeling that things are not in control or not being able to handle things, feeling stressed, having many irritations, feeling angry because things were beyond your control, and feeling overwhelmed with difficulties.
	Resilience	Statements related to persisting with tasks, solving problems, having social support from friends and family, improving skills, feeling a sense of belonging in the community, and knowing where to get help.
Cultural factors		
	Cultural intelligence	Statements related to understanding cultures and customs, enjoying diversity of cultures, ability to adapt behaviour to be culturally appropriate, awareness of own cultural knowledge and how to apply this to self and others.
	Acculturative Stress	Acculturative stress refers to the stressors associated with being an immigrant or ethnic minority and going through the acculturation process. Statements related to Not feeling at home, thinking about own cultural background, reducing contact with home country, interacting with locals (related to discomfort or stress)
Family factors		
	Family functioning	Statements related to understanding each other, supporting each other, accepting each other, expressing feelings, making decisions as a family, confiding in each other and generally getting along with each other.
Outcome variables		
	Sociocultural Adjustment	Statement related to making friends and social contacts, knowing how and where to do things in the community, understanding and speaking languages (related to competence or ability), participating in community activities, understanding and responding to people, dealing with authorities and administration, reading and speaking (Swiss) German, adapting to the pace of life.
	Well-Being	Statements related to health, energy levels, enjoyment of life, sadness, loneliness, having enough time for yourself, being treated fairly/unfairly, concentration ability, feelings about being at school
Other		
	COVID-19	Statements related to experiences of expat families specific to the pandemic
	Other	Statements of potential importance that do not fit into any of the above codes.

iii) Table with list of themes and illustrative quotes

Themes and Quotes From Family Interviews

Theme	Code	Supporting Quote
Resilience	Improving skills	<p>“The process itself of learning to navigate a new system was not new to me. So, um, you know, sometimes I say that I'm a professional foreigner because I've been, you know, away so long and I've had to change so many times.”</p> <p>“I think it's this move was compared to that more relaxed because I knew the process and I was used to it.”</p>
		<p>“You just need to know that you have to be okay with not knowing everything. You have to be okay with ambiguity. You have to be okay with being the person who doesn't know what's happening.”</p> <p>“I think, you know, you need to, you know, to, to not get frustrated but you need to laugh a bit.”</p>
Belonging in my community		<p>“So, we live very much in sort of a local community, (daughter) is in the local school. We know our neighbours and we do things like we take care of the neighbour’s cat when they're on holiday.”</p> <p>“At least you have like this community that understands that, that provides support and where you can come and feel, you know, that you have a place to go and feel welcomed.”</p>
		<p>“I stayed in contact with all my, uh, connections here. I mean, over the, over the years ...it's, it's a big effort, but it pays back.”</p> <p>“And it was like my friend, my like best friend, who I'm still best friends with. She still lives here was new the same year as me. And we just got through everything together”</p> <p>“I feel here, we have not just the family but like an “extended family” that help us.”</p>
	Persistence with challenges	<p>“So that's it really, it's just learning by doing, continuing to go into town and like learning these few phrases and remembering like, oh, I've heard this before. Oh, I know what that means.”</p>

Theme	Code	Supporting Quote
Acculturative Stress	Swiss people think I am unfriendly but really I just have trouble with the language	"...when you pass people in the street, you're walking the dog, you chat now here, I kind of smile and I'm polite, but you can see kind of people look at you because they're trying to work out. "Are you snooty? Aloof? Or just don't speak German?" or you know, "What's wrong with you?"
	Challenges loosening ties with home country	"...whenever I go back and the longer it is that I've been away, every time I come back, the more I feel I don't fit in there anymore."
	Not feeling at home	"I think it's inevitable that, that you'll feel obviously different than anyone else." "Whenever I'm on my own in town, which is very rare, uh, I feel uncomfortable walking down the street because it's just like everything is a bit foreign to me although I am the foreigner."
Cultural Intelligence	Enjoyment of cultural interactions	"We like local culture, for example, ...Fasnacht, the Herbstmesse, the Christmas market, all the things for me are lovely! I love them, I love to go. And I think it's very nice to have these, eh, yes things that came from so many years ago." "...I think we accepted also the yeah, how things are, and we're curious in, in (previous country) and to the foods and the way of living and we travelled a lot to see and understand the country and yeah, that's the mindset."
	Thinking about influence of culture on my behaviour	"...and thinking about myself as well, well, I feel that the thing I've really appreciated about my upbringing has been the, just the, the, the diversity of perspectives."
	Knowledge of cultural differences	"And then you notice, uh, um, it's not a negative, but I mean, a, you noticed the difference in, uh, in culture, how people, uh, uh, behave and, uh, how people react, how people interact."
	Understand people from different cultures	"...what I've found is that, you know, like in, in quite a few, I mean, if you move by a lot, you feel that people are driven by the same things."

Theme	Code	Supporting Quote
	Adapting behaviour to be culturally appropriate	<p>"If you learn like these social norms if you learn how to behave in different uh circumstances, how people expect you to greet them, how people expect you to, you know, react to certain things, then they are very welcoming."</p> <p>"I think one has to learn the culture and the social norms. And once you do, and if you are, you know, willing to, to, you know, act and abide by the local norms, I think everything works smoothly. Even without speaking the dialect."</p>
Family Functioning	Supporting one another	<p>"I feel when, when I have my really downs, especially regarding the job search and everything... I really feel like I have great support here at home."</p> <p>"...We rely on each other for other things. It's uhm, it's more of a team sport now, if I need something, then everyone like pitches in."</p>
	Communicating feelings	<p>"... family time where everybody talks if there's any struggle or there's something going to happen. It's not always, you know, you need to talk about the struggle with sometimes exciting things going on. And if you, if you don't have that family time where everybody can openly say whatever they say, or, you know, or complain ... I think it helps a lot."</p> <p>"...I think just talking about the issues when there are any, if you are feeling okay, if you're not feeling good..."</p>
	Understanding one another	<p>"We had very similar experiences. Like if mum said something happened to her in a shop, I'd be like, wait, the same thing happened to me a while ago!"</p>
	Making decisions together	<p>"(Son) was making a, uh, kind of an argument that he was, he was never in his life, in the school more than two years, or something like in the same school. So, he wanted to really stay until the end and not move. ... we were discussing this specific move and saying, okay, this is the last move for our teenagers."</p>

Theme	Code	Supporting Quote
Well-Being	Feeling happy, calm and relaxed	<p>"I feel like it's just been so good for our family to be in a new environment and an environment like this where I don't know, it just suits us. We really enjoy it."</p> <p>"We live, um, like near the forest in nature a lot, so, yeah. Um, I like that, it's very calm here."</p>
	Life is full of interesting and enjoyable things	<p>"...to be living in Switzerland in the heart Europe and to be able to drive to Italy and to drive to France and to Germany, all these places. It was just, yeah, I was really, really excited about all of that, and I was just really excited to live here."</p> <p>"...got to experience stuff that like people from our town in (passport country) would never get to experience."</p>
	Feeling full of energy	<p>"... the possibility ... to go on, and walk in the mountains or in the forests, so near to your house for me, that's fantastic... and that's something that gives you energy."</p>
	Feeling sad or lonely	<p>"...moving from (previous country 1) to (previous country 2), I was quite sad at the end 'cause I was leaving my friends and um, I had also switched schools, um, like during that time and that made me kind of annoyed because I'd moved away from all my original friends."</p> <p>"So, when we told them, um, it was quite an emotional conversation [mhm], uh, they, they, you know, they started crying. We started crying, parents, my husband and I, we started crying 'cause we knew, I mean, I've done this since I was born. So, I know how hard it is to, to leave. So, I know how hard, because this is your life."</p> <p>"And because it is really hard, it is really hard sometimes. And you do feel isolated and sometimes you do feel lonely."</p>
	Getting on well at school	<p>"I uh like, uh, the place where we live, it's uh very nice. And it's more like uh I was used to in the (home country). And I also like my school and the friends I have."</p>
Sociocultural Adaptation		

Theme	Code	Supporting Quote
	Building and maintaining relationships	<p>“Sometimes people say that it's difficult to have contacts, but I don't feel that so much. Um, to be honest, you have nice neighbours. Um, and also at work, um, people are, let's say very, very easy to deal with.”</p> <p>“...I've been able to make really good friends and to have um, um good relationships with both people from outside but with many Swiss people as well.”</p>
	Interacting at social events and community activities	<p>“...when I'm at those clubs, um, I speak German, then like, they like tell me in English again, but like, after some time I understand the German that they're speaking. So, like, I don't need to have that, like, translation.”</p> <p>“...sometimes I run with a local group that goes out running ... and um, and they are really, you know, they are really super nice.”</p>
	Obtaining community services	<p>“...think it was more to know how to do things and how things are done. Where do you go buy the gas? What do you do? These basic things. Yeah. Um, so in the beginning it was not easy.”</p>
	Ability to speak German	<p>“...my daughter is in the local systems so ... she speaks Basler Deutsch, and you know she's quite fluent ... so, I'm really proud of the fact that she will grow up with, you know, two native mother tongues.”</p> <p>“...if you decide to go with international school, there is a concern that the kids will not be able to actually master the language, the local language enough.”</p> <p>“...I am learning German in school, but it's also not Swiss German. So, I think, um, I understand German. I can also speak a little bit, but not, I cannot speak or maybe understand a little bit Swiss German.”</p>
	Adjusting to the pace of life	<p>“...just little things like shops closed at 6 o'clock in the evening or some of the shops would close at 8 o'clock in the evening and no shops open on Sundays and this for us you know it was something we had not quite anticipated and that was a shock to the system.”</p>

Theme	Code	Supporting Quote
	Finding your way around	“...but that also is the charm of it that you have a little bit smaller scale again, you know, you find your way around more easily.”
	Dealing with bureaucracy	“...seeking professional assistance when getting here, getting somebody to help you relocate because there's a lot of paperwork, stuff that you need to register with”

Appendix C

Study III:

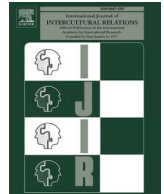
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Exploring resilience as a mediator and moderator in the relationship between cultural intelligence and sociocultural adjustment: A study of expatriates in Switzerland

Marnie Reed ^{a,*}, Emma Jones ^a, Jens Gaab ^a, Yoon Phaik Ooi ^{a,b}

^a Division of Clinical Psychology and Psychotherapy, Faculty of Psychology, University of Basel, Switzerland

^b Department of Developmental Psychiatry, Institute of Mental Health, Singapore

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ABSTRACT

Recent studies suggest that cultural intelligence (CQ) and resilience play a key role in sociocultural adjustment in expatriate populations. The current study aimed to clarify the relationships between CQ, resilience and sociocultural adjustment in a population of expatriates in Switzerland. Participants (N = 126) completed validated, self-report measures of resilience, cultural intelligence, and sociocultural adjustment and hierarchical linear regression, mediation and moderation analyses tested relationships between the study variables. Preliminary results verified findings from previous research indicating that increased resilience and CQ predict fewer sociocultural adjustment difficulties. Additional analyses showed that the CQ Skills subscale explained a significant amount of variance in sociocultural adjustment while the other subscales, metacognition and knowledge, did not. Finally, we found that resilience partially mediates the relationship between CQ and sociocultural adjustment but does not act as a moderator in this relationship. The results have theoretical implications for understanding the process of sociocultural adjustment, as well as practical implications for implementing targeted training programmes to support expatriate adjustment.

Introduction

In 2021, the estimated number of expatriates worldwide was 87 million and growing annually (Finaccord, 2018), indicating the increasing importance of global mobility. Traditional expatriates are defined as people who relocate to another country to work for a multi-national company or international organization on a temporary work assignment (Berry & Bell, 2012). More recently, the definition has expanded to include self-initiated expatriates, who are skilled individuals initiating their own overseas stay with the intention of working for a pre-determined amount of time (Cerdin & Selmer, 2014). Although most international assignments are completed effectively (Brookfield, 2012), expatriates and their families may also experience difficulties adjusting to changes in culture, language, environment, work status and levels of social support. Therefore, understanding factors that promote positive adjustment in expatriate populations can help to minimise the negative effects of adjustment and prevent the early termination of assignments.

Switzerland is a popular destination for expatriates due to stability, safety and security, as well as high quality education and top-level salaries (Federal Statistical Office, 2021; International Labour Organization, 2021; InterNations, 2021). The number of highly

* Corresponding author.

E-mail address: marnie.reed@unibas.ch (M. Reed).

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skilled workers (defined as those with minimum tertiary education) arriving in Switzerland rose by approximately 60 % between 1990 and 2020 and approximately 75 % of all immigrants in large cities, such as Zürich, fall into this category (SECO, 2022). Despite the many benefits, expatriates in Switzerland report difficulties with adjustment, settling in, feeling at home, and making friends (InterNations, 2021).

To better understand factors that contribute to positive adjustment in expatriate populations, the current study aims to explore the roles of cultural intelligence (CQ) and resilience in sociocultural adjustment in a population in Switzerland. We first outline key literature before presenting the research hypotheses and exploratory questions for our study.

Sociocultural adjustment

Sociocultural adjustment can most simply be defined as the ability to fit in and manage daily life in the host culture and is influenced by factors such as cultural distance, knowledge of the host culture and contact with host-culture nationals (Ward, Okura, Kennedy, & Kojima, 1998). Although a full review is beyond the scope of this paper, several prominent models of adjustment have been developed and supported by research (see Hasslberger et al., 2014 for a comprehensive review). The models vary in their focus, with some indicating the predominant role of cognitions, affect and behaviour (e.g., Kim, 2005) whilst others highlight the person – environment fit (e.g., Taft, 1986; Dawis & Lofquist, 1984). The more recent 3-D Model of Adjustment (Hasslberger, Brewster, & Hippler, 2014), offers a comprehensive view of adjustment by proposing an interplay of internal and external dimensions, and several domains, all of which occur in the context of time. Furthermore, a number of studies have also indicated the mediating or moderating role of resilience in the relationship between CQ and sociocultural adjustment. And although cultural intelligence (e.g., Kim, 2005; Taft, 1986) and resilience (e.g., Searle & Ward, 1990) have been included in some models, none have directly specified the relationships between these variables. Therefore, this study seeks to clarify these relationships and reflect on the possibility of including these in future models of, and interventions for, adjustment.

The role of cultural intelligence in sociocultural adjustment

CQ refers to ‘a system of interacting knowledge and skills ... that allows people to adapt to, select, and shape the cultural aspects of the environment’ (Thomas et al., 2008, p.126) and enables individuals to function effectively in contexts of cultural diversity (Earley & Ang, 2003). Based on models of general intelligence, theories of CQ outline several facets working together to form a general measure of CQ. The 4-factor model (Earley & Ang, 2003) includes cognitive, behavioural, metacognitive, and motivational factors, while the 3-factor model (Thomas et al., 2015) is similar but omits the motivational factor.

In expatriate research, CQ has gained increasing attention as a key factor in sociocultural adjustment as it has been shown to positively impact general cross-cultural adjustment, as well as the more specific domains of work, interaction, psychological and sociocultural adjustment (Leung, Ang, & Tan, 2014; Malek & Budhwar, 2013). Furthermore, the individual factors of CQ have been linked to different aspects of cultural adjustment; for example, work and general adjustment have been linked specifically to motivational and cognitive CQ (Guðmundsdóttir, 2015; Huff, Song, & Gresch, 2014). However, given the complexity of both CQ and adjustment, research should still seek to understand the conceptualisation of these factors and explore possible mediators and moderators between CQ and adjustment (Ott & Michailova, 2018).

The role of resilience in sociocultural adjustment

Resilience is conceived as both a pattern of personality characteristics or stable traits (Friborg, Barlaug, Martinussen, Rosenvinge, & Hjemdal, 2005; Oshio, Taku, Hirano, & Saeed, 2018), as well as a process of positive adaptation, including numerous interactions between the person and environment (Fletcher & Sarkar, 2013). These differences in definition are reflected in the use of the word ‘resiliency’, to reflect a trait, and ‘resilience’, to reflect a state, (Kuldas & Foody, 2021). Seeking to integrate these dualistic views, transactional models of resilience (e.g., Kumpfer, 1999) measure resilience as a process, a capacity and an outcome, and consider the interactions between the person, environment, and context (Kuldas & Foody, 2021). In such models, the importance of the environment is emphasised over an individual’s capacity, and the ability to cope with stress is assumed to vary across the lifetime rather than be stable (Rutter, 2006).

During relocation, expatriates and their families face many stressors and challenges such as loss of identity, work challenges, social isolation, discrimination, relationship challenges and communication difficulties (Bader, Froese, & Kraeh, 2018; Brown, 2008; Davies, Stoermer, & Froese, 2019; Selmer, 2006; Sterle, Fontaine, De Mol, & Verhofstadt, 2018). The process of positive sociocultural adjustment is contingent on how well these challenges are managed, and failure to cope may lead to poor adjustment, resulting in assignment withdrawal intentions, family problems, or even assignment failure (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2004; Davies et al., 2019; Hasslberger & Brewster, 2008). In expatriate populations resilience has been associated with outcomes such as positive work adjustment, intent to complete an overseas assignment and successful cross-cultural assignments (Davies et al., 2019; Jannesari & Sullivan, 2022). The possible mechanisms by which resilience impacts sociocultural adjustment are plentiful. First, resilience reduces stress by helping individuals to apply appropriate coping strategies in the face of challenges (Ward, Brady, Jazdzewski, & Yalch, 2021). Second, resilience includes aspects of social support; a factor associated with greater success in work assignments, stress reduction and better cross-cultural adjustment (Black, 1990; Caligiuri & Lazarova, 2002; Copeland & Norell, 2002; van der Laken, van Engen, van Veldhoven, & Paauwe, 2019; Weeks, Weeks, & Willis-Muller, 2009). Third, resilience promotes feelings of belonging – a factor associated with psychosocial adjustment and well-being (Berry & Hou, 2017). And finally, resilience helps

individuals to navigate their way to essential resources in the community and to negotiate for these in culturally meaningful ways (Ungar, 2006).

In summary, the current literature strongly demonstrates the key roles of both resilience and CQ in increasing expatriate socio-cultural adjustment. Given that only a small number of studies have demonstrated this finding in expatriate populations in Switzerland (e.g., Salamin & Davoine, 2015), the first aim of the current study is to validate previous findings.

Hypothesis 1. Higher resilience and higher CQ will predict fewer sociocultural adjustment problems in expatriates.

Resilience as a moderator or mediator of sociocultural adjustment

Although research clearly demonstrates the direct link between resilience and adjustment (e.g., Davies et al., 2019), the precise mechanisms by which resilience impacts sociocultural adjustment are still unclear. In models of mediation, mediating variables are ‘behavioural, psychological, biological or social constructs that transmit the effect of one variable to another’ (Baron & Kenny, 1986; MacKinnon, Fairchild, & Fritz, 2007, p.1). Mediators are analogous to a link in the chain between two or more variables and explain the mechanisms by which one variable exerts its influence on another. In healthcare, resilience has been shown to mediate the relationships between personality and adjustment to disease (Temprado, Agut, & Collado, 2019) and between distress and social adjustment (Falavarjani & Yeh, 2019). And in adolescent populations, resilience has been found to mediate the relationship between perceived stress and school adjustment (Zhang, Zhang, Zhang, & Guo, 2019) and between negative life events and social adjustment (Gao et al., 2019). Given the evidence for resilience as mediating variable of adjustment, we propose to explore whether resilience acts as a causal link in the relationship between CQ and sociocultural adjustment.

Exploratory research question 1: Does resilience mediate the relationship between CQ and sociocultural adjustment?

In moderation models, the moderating variable strengthens or weakens the relationship between an independent variable and dependent variable (Baron & Kenny, 1986). Studies have demonstrated that resilience moderates the relationships between peer support and psychosocial adjustment (Lan & Wang, 2019), community participation and relocation adjustment (Zhang et al., 2019), and between a relationship break up and adjustment (O’Sullivan, Hughes, Talbot, & Fuller, 2019). Considering the evidence of resilience as a moderator of adjustment, we propose exploring the possibility that varying levels of resilience strengthen or weaken the relationship between CQ and sociocultural adjustment.

Exploratory Research Question 2: Does resilience moderate the relationship between CQ and sociocultural adjustment?

Testing both mediation and moderation in separate analyses can help to reveal the processes by which change occurs and identify factors that increase or decrease the relationship between variables (Fairchild & Mac Kinnon, 2009). Our study aims to better understand and clarify the relationships between these variables so that stronger theoretical models can be established and more effective training for sociocultural adjustment can be developed.

Methods

Study participants and procedures

Participants were 126 parents taking part in longitudinal study on sociocultural adjustment and well-being in expatriate families (see Table 1). Data from the longitudinal study were not included in this study due to the low response rate from participants after 12

Table 1
Demographic variables of study participants (N = 126).

Variables	
Age, <i>M (SD)</i>	46.74 (5.28)
Gender (%)	
Male	28.6
Female	69.8
Other	1.6
Married (%)	94
University educated (%)	93.5
German language proficiency [†] , <i>M (SD)</i>	2.25 (0.93)
Time in Switzerland (months), <i>M (SD)</i>	53.30 (51.66)
Lived in Switzerland before (%)	17.5
Number of previous moves (%)	
1–3 moves	74
4–6 moves	20
7–9 moves	6
Cultural training preparation, (%)	
Yes	18.3
No	81.7
Agreement with move (%)	
Not at all/somewhat	8.5
Quite a bit/ a lot	91.5

[†]1 (None) to 5 (Native Speaker).

months. Inclusion criteria were a) families with children between 7 and 17 years, b) parent's employment was the main reason of relocation to Switzerland, c) family annual income of at least CHF 100k, d) both parent and child understand and speak English, and e) neither the parent nor child were Swiss citizens. A minimum age was indicated so that children could read and answer the questionnaires independently and reflects the ages when children usually attend school and are dependent on their parents. The criterion of having at least an average Swiss income (for university graduates), was included to define the population as expatriates and exclude other foreign workers who were not our target participants (Berry & Bell, 2012). As all questionnaires were in English, proficiency was necessary for their completion.

Written and oral consent were obtained from all participants. Ethics approval for the study was issued by the Ethics Committee of the Faculty of Psychology at the University of Basel [Ethics no.: 047–18–4]. The research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. For full details of the study procedures, please refer to the published study protocol (Ooi et al., 2022).

Measures

Sociocultural adjustment

Sociocultural adjustment was assessed using the 11-item Sociocultural Adaptation Scale - Revised (SCAS-R; Wilson, 2013). Statements, such as "Interacting at social events" or "Adapting the pace of life", are rated for level of difficulty based on a Likert-type scale ranging from 1 (*no difficulty*) to 5 (*extreme difficulty*) and are summed to provide a total score. Higher scores indicate better sociocultural adjustment. In this sample, the Cronbach's alpha for the SCAS-R was .84.

Cultural intelligence

Cultural intelligence was assessed using the 10-item Short Form Cultural Intelligence Scale (SFCQ; Thomas et al., 2015). All items are rated on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely well*) and summed to provide a total score with higher scores indicating higher levels of cultural intelligence. Examples of statements in the scale include "I know the ways in which cultures around the world are different" or "I enjoy talking with people from different cultures". In this sample, the Cronbach's alpha for the SFCQ total, and for the skills, knowledge, and metacognition subscales were .88, .77, .78, and .77 respectively.

Resilience

Resilience was assessed using the 12-item Adult Resilience Measure (ARM; Resilience Research Centre, 2018), a measure based on the socio-ecological approach to resilience. On a Likert-type scale ranging from 1 (*not at all*) to 5 (*a lot*), participants rated the extent to which statements such as "I am treated fairly in my community" or "I try to finish what I start" described themselves. Scores are summed to provide a total score with higher scores indicating higher levels of resilience. In this sample, the Cronbach's alpha for the ARM was .81.

Control variables

Existing literature has indicated that age, host language proficiency, time in host country and cultural training preparation can influence adjustment (Bhaskar-Shrinivas et al., 2004; Black, Mendenhall, & Oddou, 1991; Hechanova, Beehr, & Christiansen, 2003; Shaffer, Harrison, & Gilley, 1999). Hence, these variables were included as covariates to control for their potential effects on the outcome variable.

Data analysis

Data analysis was performed with the SPSS Statistic Software version 28 and the PROCESS macro, v4 (Hayes, 2022). Descriptive statistics and correlations of the study variables are presented in Table 2. Hierarchical multiple regression analyses were used to examine whether cultural intelligence and resilience predict sociocultural adjustment, after controlling for age, time in Switzerland, German language proficiency and cultural training preparation. Two separate analyses were conducted: one using SFCQ total score and one using the individual CQ subscales. All reported p-values are two-tailed and set at $p < .05$.

To examine the mediating role of resilience in sociocultural adjustment, we used the PROCESS macro, model 4, v4 (Hayes, 2022) in

Table 2

Mean scores and correlations between variables (N = 126).

Variable	M (SD)	1	2	3	4	5	6
1. ARM	50.28 (5.55)	-					
2. SFCQ Total	38.20 (5.25)	0.32 **	-				
3. SFCQ-Knowledge	8.03 (1.33)	0.19 *	-	-			
4. SFCQ-Skills	19.09 (2.72)	0.30 *	-	-	-		
5. SFCQ-Metacognition	11.08 (1.98)	0.32 ***	-	-	-	-	
6. SCAS-R	35.32 (6.39)	0.46 ***	0.32 ***	0.22 *	0.37 **	0.20 *	-

Note. ARM = Adult Resilience Measure; SFCQ = Short Form Cultural Intelligence Scale; SCAS-R = Sociocultural Adaptation Scale - Revised.

* $p < .05$, ** $p < .01$, *** $p < .001$.

SPSS using bootstrapping estimates (n = 5,000) with bias-corrected 95 % confidence interval (BCa 95 % CI). To examine the moderating role of resilience in sociocultural adjustment, we used the PROCESS macro, model 1, v4 (Hayes, 2022) in SPSS using bootstrapping estimates (n = 5,000) with bias-corrected 95 % confidence interval (BCa 95 % CI). For these analyses, significant effects are supported by the absence of zero within the CIs. The same covariates used in the multiple regression analysis were included in the mediation and moderation analyses.

Results

Preliminary analysis

For the linear regression analyses, the assumptions of linearity, normality, multicollinearity, and homoscedasticity of residuals were met, and no significant outliers detected. A power analysis using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) was conducted and found the sample size to be sufficient for a medium effect size. Correlational analyses indicated that cultural intelligence resilience and sociocultural adjustment were all positively correlated with each other (see Table 2).

Hypothesis 1

Results from the multiple regression analyses supported our hypothesis that higher resilience and higher CQ predict fewer sociocultural adjustment problems. In the first analysis, the covariates were entered in step one and then the total scores for CQ and resilience in step two. The covariates accounted for 25 % of the variance in sociocultural adjustment, $F(4, 121) = 10.04, p < .001$, with German language being the only covariate significantly contributing to the model ($B = 3.24, p < .001$). CQ and resilience were entered in step two, and accounted for an additional 21 % of the variance in sociocultural adjustment, $F(6, 119) = 16.74, p < .001$. Higher levels of cultural intelligence ($B = 0.21, p < .05$), resilience ($B = 0.44, p < .001$), and German language proficiency ($B = 2.97, p < .001$) significantly predicted better sociocultural adjustment.

In the next analysis, step one was repeated as above, and in step two the CQ subscale scores and resilience total scores entered. German language proficiency ($B = 2.75, p < .001$), CQ Skills ($B = 0.61, p < .05$), and resilience ($B = 0.46, p < .001$) all significantly contributed to the model. Regression coefficients and standard errors are reported in Table 3.

Exploratory research question 1

We used the PROCESS macro, model 4 (Hayes, 2022) with 5,000 bootstrap estimates to test if resilience mediates the relationship between CQ and sociocultural adjustment. The total effects model for CQ and sociocultural adjustment was significant, $F(6, 119) = 9.81, p < .001, R^2 = .33$, with higher CQ indicating better sociocultural adjustment. The mediation model was also significant, $F(7, 118) = 14.75, p < .001, R^2 = .47$ and explained 47 % of variance in sociocultural adjustment. The indirect effect of the mediation was significant [$b = 0.16, 95 \% CI (0.073, 0.260)$] indicating the effect of CQ on sociocultural adjustment as mediated by resilience. However, the direct effect of CQ on sociocultural adjustment was also significant [$b = 0.19, 95 \% CI (0.009, 0.368)$], albeit to a smaller degree, indicating a partial mediation effect. Results are shown in Fig. 1.

Exploratory research question 2

We examined if resilience serves as a moderator in the relationship between CQ and sociocultural adjustment using the PROCESS macro, model 1, with 5,000 bootstrap estimates. The overall model was statistically significant, $F(8, 117) = 13.12, p < .001$, and

Table 3
Unstandardized hierarchical regression coefficients and standard errors (N = 126).

Variable	SCAS Total Analysis 1		SCAS Total Analysis 2	
	Model 1	Model 2	Model 1	Model 2
	German language	3.2 *** (0.52)	2.97 * ** (0.45)	3.25 * ** (0.52)
Age	0.05 (0.10)	-0.04 (0.09)	0.05 (0.10)	-0.07 (0.09)
Time in Switzerland	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	0.010 (0.01)
Cultural Training	-1.67 (1.30)	-1.65 (1.11)	-1.67 (1.30)	-1.80 (1.11)
ARM	-	0.44 * ** (0.08)	-	0.46 (0.08)
SFCQ Total	-	0.21 * (0.10)	-	-
SFCQ-Knowledge	-	-	-	0.38 (0.40)
SFCQ-Skills	-	-	-	0.61 * (0.26)
SFCQ-Metacognition	-	-	-	-0.47 (0.33)
Constant	26.58 * ** (4.62)	1.50 (5.43)	26.58 * ** (4.63)	0.68 (5.41)
R ²	.25	0.46	0.25	0.48
ΔR ²	-	.21	-	0.22

Note. SFCQ = Short Form Cultural Intelligence Scale, ARM = Adult Resilience Measure, SCAS-R = Sociocultural Adjustment Scale, Revised. * $p < .05$, ** $p < .01$, *** $p < .0001$.

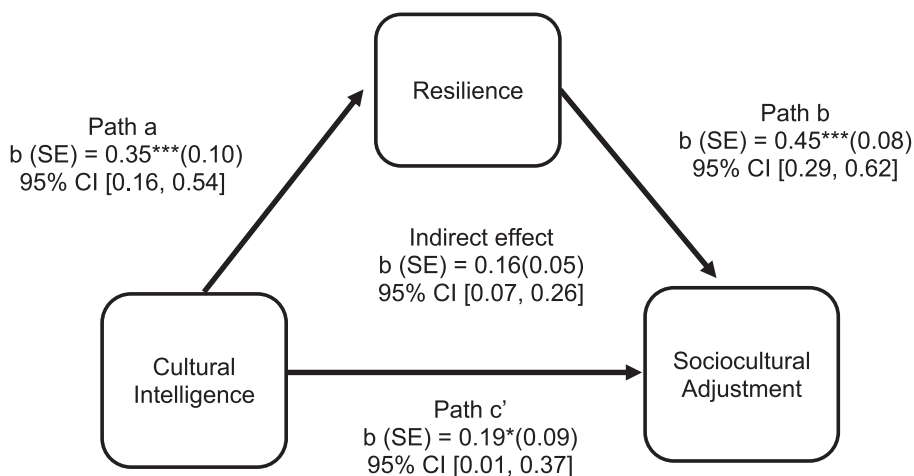


Fig. 1. Mediating Effect of Resilience with Unstandardised Regression Coefficients, Standard Errors and Confidence Intervals, Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

accounted for 47 % of the variance. However, the interaction effect was not significant, $F(1, 117) = 1.41, p > .05$, indicating that resilience did not moderate the relationship between CQ and sociocultural adjustment.

Discussion

To the best of our knowledge, this is the first study to investigate the relationship between CQ, resilience, and sociocultural adjustment in an expatriate population in Switzerland. Our first hypothesis, that higher levels of CQ and resilience would predict fewer sociocultural adjustment problems, was supported. We further determined that the CQ Skills subscale significantly contributed to the model of adjustment, while the other CQ subscales did not. Our first exploratory research question found that resilience acts as a partial mediator in the relationship between CQ and sociocultural adaptation. The second exploratory question did not find evidence for resilience as a moderator in the relationship between CQ and sociocultural adjustment. Finally, local language proficiency significantly contributed to models of sociocultural adjustment, while age, cultural training, and length of time in Switzerland did not. The implications of these findings, limitations of the current study and future research directions are discussed below.

First, our study contributes to understanding the theoretical underpinnings of sociocultural adjustment and builds on previous research by confirming the significant roles of CQ, resilience and language proficiency in positive sociocultural adjustment. Furthermore, the mediation analysis implies that resilience works as a link in the chain between CQ and sociocultural adjustment, suggesting that CQ increases resilience which in turn increases adjustment. This is in line with previous research suggesting that CQ increases resilience (e.g., [Dolce & Ghislieri, 2021](#)) and that resilience increases adjustment (e.g., [Davies et al., 2019](#)). These results can be used to inform models of adjustment which seek to clarify the factors contributing to adjustment, and also the interplay between these factors.

In further explaining how CQ impacts sociocultural adjustment, our findings suggest that CQ skills, such as relating successfully with culturally different people and adapting behavior to cultural situations, are most important in increasing sociocultural adjustment. This finding is in line with research suggesting that behavioral aspects of CQ are essential to successful sociocultural adjustment ([Ang et al., 2007](#)). Learning and reproducing culturally appropriate behavior are essential to fitting in and forming relationships, and therefore individuals with a flexible and varied repertoire of cultural behaviors would be able to adapt with fewer difficulties.

These two main findings have practical implications for how to increase sociocultural adjustment in expatriate populations. First, training programs would benefit from including CQ, resilience and language training in their curriculums. When training CQ, focusing on skills and behavioural aspects would be particularly beneficial for targeting sociocultural adjustment. While many programmes already include information on cultural knowledge and behaviours, including skills-based training for resilience and CQ would likely be more effective. Further, increasing resilience is not only beneficial for increasing sociocultural adjustment, but would also contribute to better well-being and psychological adjustment (e.g., [Yi, Vitaliano, Smith, Yi, & Weinger, 2008](#)). Resilience training programs have demonstrated significant results in improving well-being across many populations (e.g., [Joyce et al., 2018](#)) and expatriate populations would also benefit from such training. Taken from the socio-ecological perspective of resilience, training should include support on how to access services in the community, create social support systems, and develop coping mechanisms to overcome challenges. The more general implication for training programs from this study is that, in order to maximize efficacy, they should be population- and outcome-specific, and supported by empirical evidence. For example, programs could be designed specifically to increase sociocultural adjustment in expatriate populations, by focusing on increasing CQ skills and resilience, as evidenced by findings in the present study.

Finally, our findings contribute to the existing literature by indicating the roles of several other variables in sociocultural adjustment. First, language was a strong predictor of sociocultural adjustment, as confirmed in numerous other studies (e.g., [Yang,](#)

Noels, & Saumure, 2006). In contrast to previous studies, we did not find the length of time in Switzerland or cultural training to predict sociocultural adjustment. However, it is possible that the training programmes were not effective in increasing adjustment, or the impact of cultural training was no longer detected in our population due to the average time of participants living in Switzerland being 53.3 months. Our finding that the length of time in Switzerland did not significantly impact adjustment may point to support for newer models of adjustment (such as the 3-D model by Haslberger et al., 2014) which propose that adjustment consists of a combination of interacting factors, rather than a linear change over time.

Limitations

As with any research, the present study has limitations to consider. First, using a cross-sectional design did not allow for us to measure the effect of time on adjustment. Longitudinal studies would address this limitation and give insight into whether the impact of CQ and resilience on adjustment are stable over time or if they are more relevant at one time point than another. Second, the model of mediation and moderation used is relatively simplistic, and there are likely to be other factors impacting the relationship between CQ and sociocultural adjustment. Third, our study included only English-speaking participants, thereby restricting characteristics of participants and excluding some cultural groups from the study.

Future directions

Future studies could build on these findings by including more variables in analyses, such as personality traits and contextual factors, and employ more complex statistical techniques to further refine our understanding of the process of sociocultural adjustment. Furthermore, these findings could be used to build and test an evidenced-based program for increasing sociocultural adjustment in expatriates, or other similar groups such as immigrants and overseas students. Finally, repeating this study using expatriates in different countries, and with different languages, to see if country- or culture-specific factors impact these relationships would increase the generalizability of these findings.

Conclusions

The current study highlights the key roles of CQ and resilience in sociocultural adjustment in a population of expatriates in Switzerland. Further, it identifies resilience as a partial mediator of adjustment, thereby helping to clarify the mechanisms by which adjustment occurs. Better understanding of this has implications for improving our theoretical understanding of these constructs and developing more effective training programmes for expatriates.

Data statement

The data that support the findings of this study are available on request from the corresponding author, [MR].

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