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# **Towards a Developmental, Psychological, and Contextual understanding of the Process of Third- Culture Kids Adjustment**

**Inaugural Dissertation** submitted to the Department of Psychology at the University of Basel in partial fulfilment of the requirements for the degree of a doctor of philosophy by

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Dean of the Faculty of Psychology



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**To my mother**



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Thank you to Bastien, Charlotte, and Anna-Lucy for being the lights in my life, for your smiles and happiness, and for guiding me back to the essentials whenever you felt it was your turn.



## Explanation of scientific integrity

I hereby declare that the present work was written independently without the help of third parties and without the use of aids other than those specified. Sources consulted are identified as such. The manuscripts published or submitted for publication in journals have been prepared in collaboration with coauthors and have not been published elsewhere by any of the participants, submitted for publication, or submitted to any other examining authority as papers for a qualification. The manuscripts are:

- **Study I**

**Jones, E.,** Reed, M., Gaab, J., & Ooi, Y. P. (in press). Adjustment in third-culture kids: A systematic review of literature. *Frontiers in Psychology*.

- **Study II**

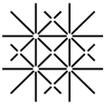
**Jones, E.,** Reed, M., Meyer, A., Gaab, J., Ooi, Y. P. (submitted). The relative importance of psychological processes on third-culture kids adjustment.

- **Study III**

**Jones, E.,** Reed, M., Meyer, A., Gaab, J., Ooi, Y. P. (submitted). Stress, mental health and sociocultural adjustment in third-culture kids: Exploring the mediating roles of resilience and family functioning.

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- D. Study protocol
- E. Curriculum vitae



## Summary

This thesis presents my research on the mechanisms of adjustment in third-culture kids. The first section presents theoretical considerations that set the stage for the studies presented in the second section.

I first define our target and sample population, its characteristics, and problematics. I then discuss the strain on the sample in terms of risks or adverse childhood experiences and further develop the connection with an evolutionary perspective, developmental plasticity, and skill building. Adjustment and the processes involved are further discussed as well as models of transdiagnostic processes and adult expatriate adjustment. In the next part of the thesis, the summaries of the studies show how all three studies explored two goals: first, to better define and model the processes involved in TCK adjustment; and second to outline targets for preventative and targeted psychotherapeutic interventions to build skills. Our first study (Study I) was a systematic review (SR) of the literature that aimed to summarise the state of existing research and findings on predictors of TCK adjustment. The study proposed a code book that could be used for future research and models of TCK adjustment. The code book was extracted from the 14 retained studies in the SR and is proposed as a reading grid for the results of the presented studies. Predictors were organised into four categories: demographic and environmental, family, psychological, sociocultural. As the outcomes of adjustment, we identified psychological, sociocultural, and traits associated with a third-culture identity. We discussed limitations in the existing research and outlined directions for future research. The second study (Study II) explored the common and individual contributions of selected psychological processes on two outcomes of psychological adjustment. We used a commonality analysis in R (version 4.02<sup>1</sup>) to determine how emotion suppression, cognitive reappraisals of emotions, negative self-thoughts, resilience, and perceived stress commonly and individually contribute to the outcomes of well-being (model 1) and mental-health difficulties (model 2). Our overall results highlighted the importance of perceived stress and resilience as significant contributors to the outcome of psychological adjustment in child and adolescent TCKs. We demonstrated that there is a network of other factors that contribute together to well-being. Lastly, we showed that TCKs with pre-existing

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<sup>1</sup> [www.rproject.org](http://www.rproject.org).



mental-health difficulties are more at risk for adjustment difficulties. Our third study (Study III) investigated two heuristic models of TCK adjustment based on the findings in the two previous studies. We explored the potential mediation of a) perceived stress and b) acculturative stress by resilience and family functioning on the outcomes of a) mental-health difficulties and b) sociocultural adjustment. We found that resilience mediated the relationship between perceived stress and mental-health difficulties. Moreover, we found direct effects between perceived and acculturative stress and sociocultural adjustment. Perceived stress was also influenced by age, while acculturative stress was influenced by age and time spent in the host country and directly influenced mental-health difficulties and sociocultural adjustment. I conclude the thesis with a proposed heuristic model of TCK adjustment based on the presented literature and findings from our studies, and suggestions for how the findings from the studies could support more targeted and preventative psychotherapeutic interventions for TCKs.



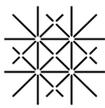
## Introduction

This thesis focuses on third-culture kids (TCKs), defined as “a population of internationally mobile children and adolescents, moving with their families for work or advanced-training purposes”, sometimes on short to mid-term contracts, in this case being described a “highly mobile” (Van Reken et al., 2017). The condition shared by this sample is international family relocation for work or training purposes during their developmental years. An international family relocation is an occurrence that not only uproots a child but also confronts the family as a whole with a new reality. Although this change disrupts a child’s life, it may also be considered an opportunity for learning and change, but these possible positive outcomes depend on a child’s ability to adjust. Adjustment is considered pivotal to the outcome of a child’s positive integration versus an accumulation of stress caused by the relocation.

Adverse childhood experiences (ACEs) and cumulative stress are recognised contributing factors to the development of psychopathologies (Cohen et al., 2007; Turner & Lloyd, 1995). These psychosocial factors can cause significant disruption in a child’s life. On the other hand, there is evidence that children possess an evolutionary ability to adapt and thrive in their later lives (Ellis et al., 2022; McEwen & Gregerson, 2019). Research has pointed to biological, environmental, and psychological protective factors in such developmental plasticity (Hinde, 1992).

The prevention of risks and enhancement of mental health among TCKs involves understanding the mechanisms underlying their adjustment. Although there is evidence to support the existence of these mechanisms in adult and student expatriates, research into TCK adjustment is scarce. Recent reviews have pointed to the need for more research in this field (Sterle et al., 2018; Tan et al., 2021). Better knowledge of the risks and protective factors in TCK adjustment could help in the development of preventative strategies to support and enhance adjustment.

Through the presented theoretical background and studies, this thesis aims to contribute to a better understanding of the mechanisms involved in TCK adjustment. Chapter 2 introduces the theoretical background and frameworks used in the presented research and which contribute to a broader understanding of the mechanisms involved in TCK adjustment. Chapter 3 introduces the aims of this thesis and the research questions developed in the



presented studies. In chapter 4, an overview of the methods and main findings of each study is presented. Since the article behind each study and the published research protocol used for studies II and III can be found in the appendix, chapter 4 only provides short summaries. In chapter 5, the main findings of the thesis are discussed, and implications are outlined.

## **1. Theoretical background**

### ***1.2. Traditional TCK in Switzerland***

Since markets and organisations have leaned into global deployment, international talent pools and globally mobile employees have become a reality. Global mobility comes with the challenge of relocation and, more specifically, of family relocation. A recent survey suggested that 52% of international employees are accompanied by dependent children (Brookfield Global Relocation Services, 2016).

The anthropologist Ruth Useem (1976) first introduced the term TCKs to describe the children of missionaries, military diplomats, and business people from the USA who lived abroad (J. Useem et al., 1963; R. H. Useem & Downie, 1976). Ruth Van Reken and David Pollock further modelled and defined TCKs as having their own culture and as developing their identity through a third culture; that is, they do not fully identify with their home culture, nor do they completely assimilate to the host culture. As a consequence, TCKs tend to identify with and befriend other TCKs. These third-culture traits are especially found in “highly mobile” TCKs, who tend to move around with their families on two-to-five-year contracts.

The latest model by Van Recken et al. (2017) introduces the term cross-cultural kids (CCKs; Figure 1), which refers to children who “interact with two or more cultural environments for a significant period during their developmental years” and includes children with multicultural experiences from less privileged backgrounds such as economic or political migrants. These children might face additional challenges, such as discrimination or trauma, and may feel more marginalised during their exposure to the host country’s culture. Other CCKs from multicultural families or families who live close to state borders may grow up in multicultural contexts but not face the challenge of repeated moves and the associated adjustments.



The TCKs considered in this thesis are traditional TCKs: children of expatriates who moved to Switzerland with their families for employment or advanced-training purposes. Usually, one or both of their parents were recruited by one of the many multinational companies that hire international experts. Switzerland is recognised for its quality of life, schooling, healthcare, education, and transportation infrastructure, making it easy for expatriates with families to justify their transition.

TCKs face the challenges of adjusting to cultural changes and possibly of learning a foreign language, but they are not confronted with significant economic constraints, nor do they carry the burden of trauma or war. In this sense, this thesis details and highlights the actual strain of a specific form of international relocation by providing a sample of TCKs undergoing similar circumstances. The isolation of TCK from other CCK and ATCK ensures the ecological validity or generalisability of our findings to the clinical setting.

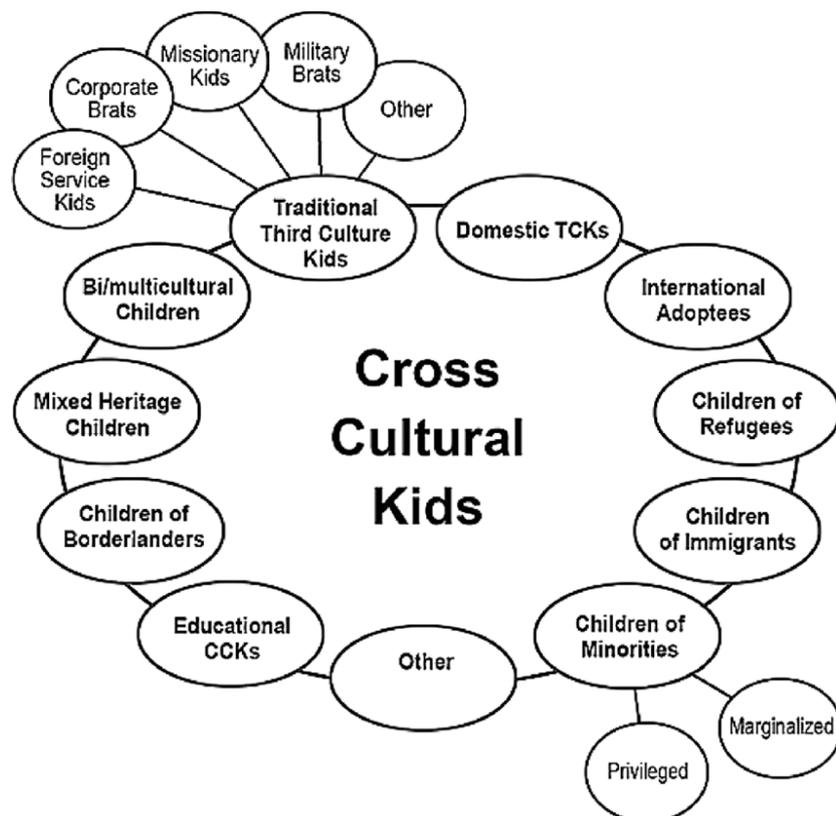


Figure 1. A model of third-culture kids and cross cultural kids (Van Reken et al., 2017). The figure is used with permission from the authors.



### ***1.3. The risks associated with the TCK experience***

Adverse childhood experiences are potentially traumatic experiences that occur during childhood and can impact development and opportunities throughout life (Boullier & Blair, 2018; McEwen & Gregerson, 2019; Metzler et al., 2017). ACEs are associated with increased suicidality, anxiety, and depression and with poorer mental-health outcomes (Petruccioli et al., 2019). ACEs are expected to affect children from more modest backgrounds, so the difficulties faced by TCKs may be brushed aside compared with the stresses faced by other children. However, the Centre for Disease Control and Prevention-Kaiser ACE study showed that ACEs are experienced across all populations and affect one in three individuals. The risk factors advanced by the Centre for Disease Control and Prevention (CDC)<sup>2</sup> include a limited number of friends, a lack of inclusion and activities within the community, family and parental stress, families facing isolation, and a lack of contact with extended family and friends, all of which are true for TCKs. TCKs deal with grief from disrupted friendships, a sense of distance from their communities and family members, isolation, and difficulties interacting with local hosts because of linguistic or cultural barriers, which also limits the possibilities for activities or access to alternative role models. They will also face the challenge of building an identity from the multiple reference systems they encounter, sometimes at the most sensitive periods in the development of their identities, such as in early adolescence. Studies on adult TCKs show that they are more prone to anxiety and depression and have higher ACE scores, which suggest that they had more stressful or traumatic experiences during their developmental years (de Vroedt, 2022; Fusar-Poli et al., 2020). Poorer mental health in adult TCKs has been explained through the lens of repatriation difficulties, a delayed response to childhood or adolescent stress, and social difficulties related to fitting in (Barboza, 2018; Ellis et al., 2022).

### ***1.4. Developmental plasticity and evolutionary theory***

Researchers have begun to advance the idea of “adaptational self-organisation” (Cicchetti & Tucker, 2008, p. 533) as a response to cumulative risk and adverse childhood experiences. The evolutionary view of adaptation to change suggests that ACEs have an adaptive effect on developmental outcomes (Ellis et al., 2022). It contradicts the theory of

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<sup>2</sup> <https://www.cdc.gov/violenceprevention/aces/riskprotectivefactors.html>



cumulative risk, which posits an additive effect of ACEs over time (Danese & McEwen, 2012; Felitti et al., 1998). Ellis et al. argue that from an evolutionary perspective, developmental adaptation to stress is part of life's ordinary course. They suggest that stress and adversity in childhood will not always impair development but may regulate adaptive patterns of functioning (Belsky, 2008; Ellis & Giudice, 2014; Frankenhuis & Amir, 2022). The effectiveness of an adaptive pattern is determined by the context, so the analysis of any particular trait or behaviour is inextricable from the context within which it is expressed. In the case of TCKs, the expression of adjustment has to be read within a context of repeated sociocultural changes, which call for a set of traits, skills, and resources that could be inefficient in a sedentary setting. This expression of adjustment is called experience-driven plasticity (McLaughlin et al., 2014; McLaughlin and Sheridan, 2016). Our understanding of adaptive responses has further developed with the threat and deprivation framework. For example, TCKs might experience a temporary loss of learning opportunities linked with language barriers or perceived threats due to unfamiliar surroundings or strains on parenting, all of which shape their developmental adaptive response. The threat and deprivation framework underlines that an adaptive response to the immediate environment may have a ripple effect on responses to proximal and distal environments, perhaps influencing someone's susceptibility to future contexts and environmental strains (Ellis et al., 2009, 2011, 2022). A TCK who learns to cope with an international relocation and reduce the stress linked with the immediate, unpredictable environment will benefit from plasticity in developing neural pathways. This developmental adaptation may regulate future, less immediate responses in a TCK's life, which emphasises the importance of providing a framework for positive learning and the resolution of stress and of understanding the factors contributing to or hindering TCKs' adjustment (Cicchetti & Tucker, 1994).

Ellis et al. (2022) proposed a conceptual framework that seeks to answer *why* certain developmental outcomes occur, *how* they occur (through what mechanisms), and *which* mechanisms are relevant in a specific context. This conceptualisation frames our understanding of adjustment in TCKs. The *why* question points to biological and genetic predispositions to reactivity to stress. While there are individual differences in susceptibility to stress and adverse experiences, recent research has also found individual predispositions towards positive experiences: Pluess and Belsky (2013) coined the term *vantage sensitivity* to



describe the behavioural, physiological, and genetic factors that contribute to the variation in developmental responses to positive experiences and the implications for education and psychotherapy. The *how* question points to the mechanisms by which development or adjustment operates. These mechanisms are the central targets for early interventions and the prevention of transdiagnostic outcomes of ACEs. Finally, the *which* question attempts to organise and select the specific mechanisms at play in a particular context or sample, in this case, in TCKs.

### ***1.5. Adjustment***

Adjustment is a complex process that includes personal characteristics and resources and their interactions with the environment (Cicchetti & Rogosch, 1996; Cicchetti & Tucker, 1994). Searle and Ward (1990) distinguish sociocultural adjustment and psychological adjustment in the context of cultural transitions. In this thesis, adjustment is considered in this broad sense so as to comprise both of these two aspects of adjustment and concerns the specific condition of an international relocation. Throughout this thesis, adjustment is considered a precursor of mental-health and positive sociodevelopmental outcomes. A more deterministic pathogenic or diagnostic-specific exploration did not seem fit to represent the multiple developments of better or worse adjustment in TCKs. Moreover, looking at adjustment as an outcome allows for positive adjustment outcomes to be considered and for the inclusion of nonclinical populations. The study of TCKs implies considering the sociocultural dimension of change, which interacts with intrinsic (personal, psychological) and extrinsic distal and environmental (including demographic and family) variables. Adjustment is a multidimensional concept and may lead to various outcomes, or multifinality, ranging from positive growth and learning to mental-health difficulties in a wide range of clinical diagnoses (Cicchetti & Rogosch, 1996).

#### ***1.5.1. Sociocultural adjustment.***

Sociocultural adjustment is understood as resolving culture shock and acculturative stress (Berry, 2006; Berry et al., 1987). In line with this precept, Ward and Szabo (2019) propose that sociocultural adjustment includes effects (acculturative stress), behaviours (culture-specific skills acquired by classic conditioning through experiential learning and



specific training), and cognitions (identity formation and integration), which are intricately connected to the stages of identity development and cultural-identity development.

Culture is a group's shared set of behaviours, worldviews, attitudes, and customs, which can change from generation to generation (Dana, 2005; Matsumoto & Juang, 2016). Cultural and social identities comprise group markers and individual markers (Frable, 1997). Acculturation was first defined as “phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups” (Redfield et al., 1936, p.149). Berry (1990) further refined this initial definition by distinguishing between different types of acculturation groups (ethnic groups, native peoples, immigrants or sojourners, and refugees), which are categorised by their mobility (sedentary or mobile) and the nature of the move or acculturation (voluntary or involuntary).

Acculturation is a central process in sociocultural adjustment (Arends-Tóth & Van de Vijver, 2007; Ward & Kennedy, 1994). Acculturative stress is resolved through integrating one's cultural heritage and through satisfactory levels of interaction with other cultural groups. Integration is opposed to assimilation (in which the host culture is integrated, but one's cultural heritage is dismissed) and separation (in which cultural heritage is maintained, whereas the host culture is disregarded). Current research suggests that integration is associated with better mental-health outcomes (Lucena et al., 2020; Nguyen & Benet-Martínez, 2013; Schwartz et al., 2010).

In the case of TCKs, there is even the possibility of integration into a third culture (Pollock et al., 2010). A TCK might not stay in a host country long enough to integrate into its culture, nor do they eventually seem to fit in or remember their home country well enough to understand and navigate their cultural heritage fully. Their “cultural homelessness” becomes a common trait with other TCKs, whom they identify with (Hoersting & Jenkins, 2011; Swanston, 2016). Research on the emergence of a third culture shows that TCKs will be more inclined to befriend and seek out other TCKs. As such, TCKs will navigate their third culture, their heritage culture(s), and the culture(s) of the host countries. TCKs have been labelled “social chameleons” (Van Reken et al., 2017, p.155), which highlights the problem of their becoming so socially and culturally adaptable that they do not truly assimilate but rather acquire surface-level skills that enable them to function in their



immediate environment without ever being able to settle down or truly bond with peers (Dillon & Ali, 2019; Trąbka, 2014). In such cases, acculturative stress would remain an underlying cause of future difficulties in their adult life and would be a significant predictor of their adjustment (Smith & Khawaja, 2011).

### *1.5.2. Psychological adjustment.*

Psychological adjustment is the product of stress appraisal and coping processes and is measured as a general state of well-being and psychological balance. Poor psychological adjustment may be measured in impaired mental health, conduct problems, poor social interactions, academic performance, and emotional status (Fusar-Poli et al., 2020; Pollard & Lee, 2003). Psychological adjustment is considered to be a response to psychological stress (Coyne et al., 1981; Folkman et al., 1986; Lazarus, 1966). Psychological stress is relative to the cognitive appraisal of a stressful situation, with a primary appraisal of potential harm followed by a secondary appraisal of potential resources or coping mechanisms to overcome the situation (Folkman et al., 1986). Coping is understood as voluntary efforts in contrast to conditioned responses and efforts to respond or adapt to a stressor. Coping mechanisms include emotion regulation, cognitive restructuring, problem-solving, acceptance, and adaptation. These mechanisms work as a dynamic process where the use of one or another coping mechanism is related to a specific context (Compas et al., 2017; Lazarus & Folkman, 1984).

Studies show that adjustment difficulties in TCKs are associated with various internalising and externalising mental-health conditions (Ahmadi et al., 2015; Akhtar, 2012; Bajo Marcos et al., 2021; Constantine et al., 2004; Davis, 2013). Well-being is used as a transdiagnostic marker of general functioning and in risk-prevention strategies, as it allows a nondeterministic consideration of risk factors from ACEs or cumulative stress.

#### **1.5.2.1. Psychological processes in adjustment**

The measurement of particular psychological processes that participate in the appraisal of stress and the response to stress through coping is a means of capturing the movement in adjustment. These psychological processes are the core mechanism involved in psychological adjustment and may relate to the *how* question in the model proposed by Ellis et al. (2022). Nolen-Hoeksema and Watkins (2011) described these processes or proximal risk factors as “the within-person variables that mediate the relationship between distal risk



factors and symptoms” (p. 593). Psychological processes are mostly modifiable and are targets for prevention strategies and psychotherapy. Cognitive attribution, emotion regulation, and personality characteristics (including negative affectivity or low self-esteem) are amongst the most frequently considered psychological processes. Modifying these core processes would improve coping and, as a result, psychological adjustment and promote adaptational self-organisation in TCKs. Based on Nolen-Hoeksema and Watkins’s (2011) transdiagnostic heuristic model (hereafter, the NHW model) for explaining multifinality in psychopathology (Figure 2), international relocation can be considered a distal risk factor, whereas appraisal and coping mechanisms, as well as the psychological attribute of self-esteem, are considered proximal risk factors. In contrast, contextual variables are considered to moderate the relationship between the risk factors and various adjustment outcomes.

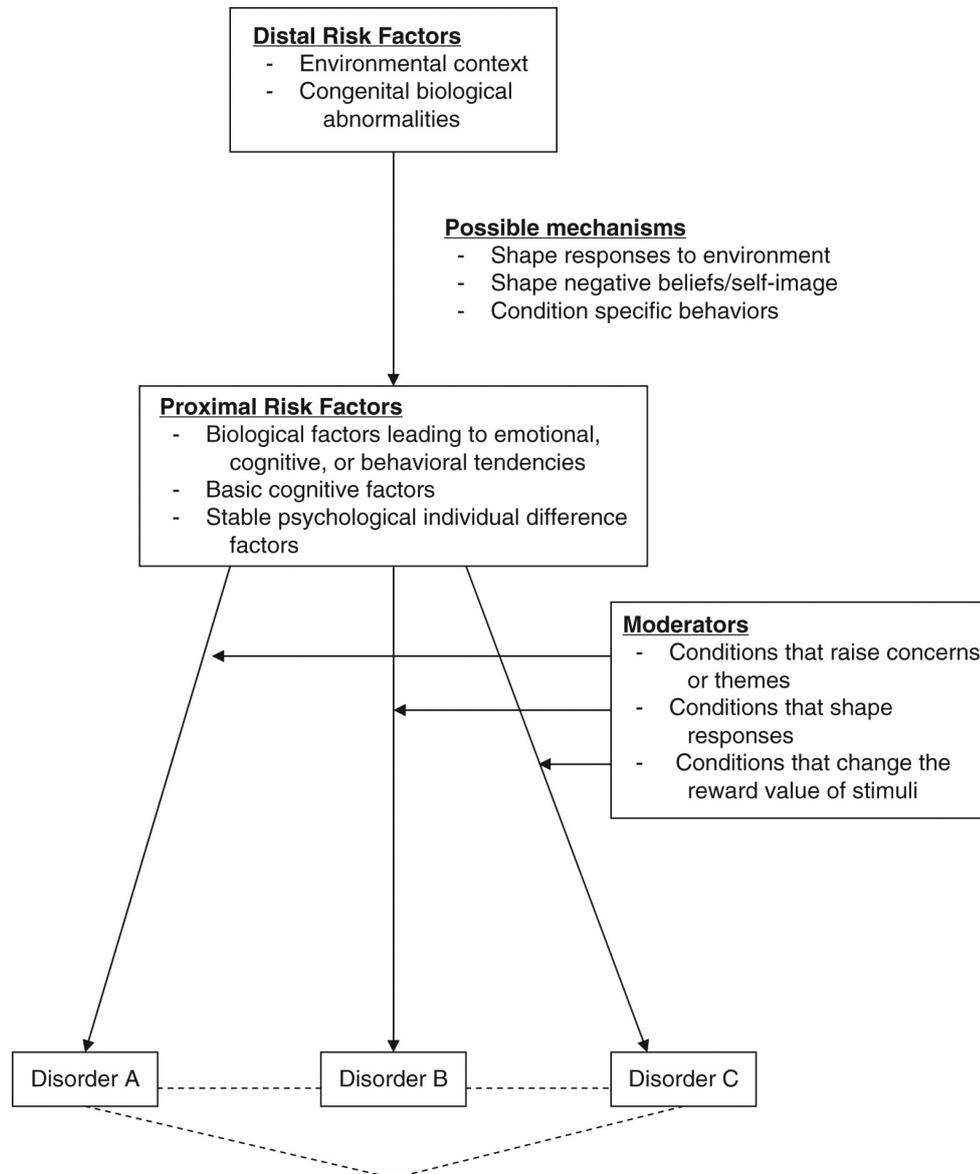


Figure 2. From “A Heuristic for Developing Transdiagnostic Models of Psychopathology: Explaining Multifinality and Divergent Trajectories,” by S. Nolen-Hoeksema and E. R. Watkins, 2011, *Perspectives on Psychological Science*, 6(6), p. 597 (<https://doi.org/10.1177/1745691611419672>). Copyright 2011 by the Association for Psychological Science.

### ***1.6. A contextual developmental perspective on adjustment***

TCK adjustment differs from adult adjustment because of the particular contexts within which they are developing and the time frames and stages associated with development. These considerations justify the specificity of TCK compared with ATCK and



expatriates which founded Study 1 and justify the need for a singular model of TCK adjustment.

From a contextual perspective, adjustment in TCKs depends on two major factors: the environment and time-sensitive developmental stages of identity and belonging. The environmental specificities within which a child develops are factors of psychological growth or may, in some cases, hinder healthy development (Bronfenbrenner, 1979), while the development of identity and belonging in childhood are crucial to understanding the consequences of TCK adjustment (Ward & Szabó, 2019). Time-sensitive developmental stages influence the understanding of the broader context and the emergence of crucial skills, which influence better or worse adjustment.

#### *1.6.1. Contextual considerations*

The framework proposed by the Commission on Social Determinants of Health (CSDH) of the World Health Organization explains the structural determinants of socioeconomic, political, and psychosocial factors and their direct and indirect impacts on health and well-being (Solar & Irwin, 2010). This model considers the extrinsic context of risks and protective factors for ACEs. As initially theorised by Bronfenbrenner (1979), the study of child development is incomplete without the consideration of the environments within which children evolve and the processes through which contextual factors influence developmental outcomes. The ecological context of family functioning and child-rearing form the primary context for learning and stimulation, whereas broader environments such as schools and communities offer opportunities to practise and broaden skills outside of the immediate environment (Bronfenbrenner, 1979; Lerner & Kauffman, 1985).

Research has extensively linked family functioning and parenting styles with developmental outcomes (Davies & Cicchetti, 2004; Sheridan et al., 2019), and prevention programs address primary caregivers (Balvin & Christie, 2020; Cummings & Schatz, 2012). The NHW model considers these parenting, family, and environmental variables as distal factors. The contribution of distal factors to the adjustment of TCKs is an emerging field of research and has been identified as a topic of interest for future studies (Sterle et al., 2018).

##### *1.6.1.1. Time as context*

Adjustment includes a temporal dimension. Psychological and sociocultural adjustment follow different longitudinal trajectories, which supports the view that they are



two different entities (Hechanova et al., 2002; Ward & Kennedy, 1999). There is mixed evidence on the longitudinal trajectories of adjustment, and more research is needed to assert the relationship between predictors and adjustment outcomes over time (Wang et al., 2012; Hirai et al., 2015). Children who initially suffer from change may adapt positively with time. In other cases, strains from cumulative stress factors might only begin to have measurable effects when the stressor is prolonged (Cicchetti & Lynch, 1993).

### ***1.7. Developmental considerations***

When considering a child's sensitivity to change, age is of the essence, not only for the apparent reasons of cognitive development and understanding (Piaget, 1962) but also because of the stages involved in identity development and the levels of interactions with peers necessary for social development described in the next segment. Although older children and early adolescents can better interpret and understand differences in their contexts, they might also be more sensitive to changes as identity development is dependent on social references.

#### ***1.7.1. Identity***

Personal identity is a two-way relationship with psychological-adjustment outcomes (Schwartz et al., 2012). Erikson (1968, p. 18) defined identity as "a subjective sense of personal sameness and continuity, paired with some belief in the sameness and continuity of some shared world image." Erikson distinguished between ego identity (an unconscious belief system), personal identity (more conscious norms, values, and goals), and social identity (a sense of belonging to one or more social groups). Identity construction occurs during sensitive phases of childhood and adolescence. However, it is considered a lifelong endeavour, subject to contextual and environmental changes, and can be continually reconstructed to adjust to these changes in what authors have called "identity crises" (Marcia, 1966). An identity crisis is triggered by contextual novelty and consists in an expansion from a previous balance to a new set of beliefs, roles, and commitments. TCKs experience multiple changes in their contexts, which imply shifts in norms, the observable behaviours of peers, and, more generally, societies. Normality in the developmental acquisition of emotional expression, freedoms, and independence as well as in learning and teaching styles and even psychopathology culturally sensitive (Seráfica & Vargas, 2006).



Research has pointed to the role of identity confusion in acculturative stress and the outcomes of adjustment (Amado et al., 2020; Luyckx et al., 2008; Schwartz et al., 2012; Smith & Khawaja, 2011), whereas a strong ethnic identity has been associated with better mental health in youth (Dimitrova et al., 2013; Roberts et al., 1999; Umaña-Taylor & Updegraff, 2007). Research has confirmed the role of identity crises in sociocultural adjustment (Matera et al., 2016; Szabo et al., 2016; Szabo & Ward, 2015). Adjustment depends on psychological processes – such as perceptions, cognitions, and self-esteem – in identity formation and crisis resolution (Nurmi et al., 1997; Soenens et al., 2011; Szabo & Ward, 2015). Various styles have been defined in the process of identity construction. Berzonsky (1989, 2008) suggested that these styles are connected with cognitive thinking styles. Cross-cultural experiences multiply references, which are then integrated into a person's sense of identity and participate in the person's sense of efficacy when interacting with a given culture (La Framboise et al., 1993; Vivero & Jenkins, 1999). The emergence of a sense of belonging to a third culture and identification with other TCKs as an ethnic group provide a possibility for achieving a sense of belonging (Bell-Villada, 2016; Limberg & Lambie, 2011; Phinney, 1990; Pollock et al., 2010).

### *1.7.2. Social Learning*

The theory of social learning (Bandura, 1977) suggests that individuals learn to select and reproduce socially adapted behaviours through observing role models. And Vygotsky's (1978) theory of social development theory proposed that socialisation follows a process that starts at the individual level with the integration of language and social codes and then eventually leads to interpersonal interactions. These interactions are influenced by culture and can be reorganised throughout life if the individual is confronted with novelty (Chen & Kaspar, 2004; Vygotsky & Cole, 1978). In another related theory on social identity, Tajfel and Turner (1979) suggested that three phases lead to the construction of social identity: categorisation, identification, and comparison. These particular developmental mechanisms are strained during an international relocation when role models are lost, social codes are changed, and social learning opportunities are temporarily reduced. Chen (2012) offered another perspective supporting the claim that peer interactions play a determining role in cultural adjustments through socio-emotional adjustments, which regulate behaviour. In sum,



these contextual developmental perspectives suggest that school-aged children may have an inbuilt solution to cultural change through peer interaction.

Together, these constructs support the view that positive social relationships, group memberships, and cultural interactions provide the opportunity for subjective comparisons, which contribute to the development of a sense of self, belonging, and continuity in the sense of a shared world view as described by Erikson (1968).

Although these views emphasize the idea of learning through interaction, cultural background, family values, and beliefs also shape a child's ability and drive to integrate within a new culture and community. When integrating is considered an extension to learning, the necessary steps towards social understanding and integration fall under what Li (2011) developed as learning frames, in this case, applied to child development. At the end of last century, Phinney (1990) already suggested that the growing ethnic and racial diversity in communities worldwide should drive research into the role of ethnic identities in development, self-esteem, and acculturation.

### ***1.8. Towards an integrative model of TCK adjustment***

The above sections describe the multiple intricacies and layers that combined participate in TCK adjustment. To date, and to the best of my knowledge, a comprehensive model of TCK adjustment has not been developed. However complex such a model may be, the complexity of a system does not undermine the importance of describing the system itself, and the study of a model that describes some interactions does not presume that the described processes are uniform, universal, or exclusive (Hinde, 1992). It therefore seems essential to move towards identifying potential layers and processes within those layers that could define the system of adjustment and to work on testing parts of a model that elucidates parts of that system, without intending, at this point, to be exhaustive. The pre-existing models discussed below have inspired this work towards defining a model of adjustment in TCKs.

#### ***1.8.1. A model of adult expatriate adjustment***

Haslberger et al. (2014) described a comprehensive model of expatriate adjustment based on a critical appraisal of existing expatriate research (Haslberger et al., 2014). Their 3D model considers dimensions, domains, and dynamics of adjustment. This model's dimensions



represent attitude formation through cognitions, feelings, and behaviours. The domains refer to systems the individual adjusts to, such as work, political systems, or family relations. Lastly, adjustment dynamics refer to time-dependent variables, antecedents, and outcomes. Despite its strengths in explaining the process for adult expatriates, the model may not transpose well to children and adolescents due to the lack of developmental considerations.

### *1.8.2. An ecological developmental model*

Another model proposed by Bronfenbrenner (1979) proposes a multilayer model of interacting intra- and extrapersonal variables that influence developmental outcomes: the microsystem includes intrapersonal variables (emotions, cognitions, biology); the macrosystem includes family, religion, and school systems; the mesosystem refers to the broader community; and society and culture are the exosystem. These different systems interact during a child's development.

### *1.8.3. Nolen-Hoeksema and Watkins's model of transdiagnostic outcomes*

The NHW model for transdiagnostic processes is used as a guide in Studies II and III. It is open-ended in terms of outcomes and includes both environmental and personal factors as well as other moderating influences (Nolen-Hoeksema & Watkins, 2011): Moreover, the model proposes a process approach to adjustment where the focus lies on mechanisms involved in the outcome rather than on a pathogenic course that would focus on linear pathways.

## **2. Aims of the thesis**

This thesis aimed to contribute to a better understanding of the mechanisms involved in TCK adjustment. Two recent systematic reviews – one on research on expatriate families, the other a general review of TCK research – concluded that there is a need for research more specifically oriented to this topic with clearly defined TCK samples (Sterle et al., 2018; Tan et al., 2021).

Inspired by Nolen-Hoeksema and Watkins's, Bronfenbrenner's, and Halsberger's models, and in light of the above developed considerations, this thesis aimed to explore a possible TCK-adjustment model. The underlying idea motivating this work is that prevention and goal-orientated interventions require in-depth knowledge of the mechanisms at play in a



given developmental outcome. Because these mechanisms have only been investigated as individual predictors of various adjustment outcomes in TCK, it seemed essential to attempt to connect the existing research and pursue research to weigh out the mechanisms at play. Thus, the research question behind the three studies presented in this thesis is:

*Towards a model of TCK adjustment: what mechanisms are involved?*

With this in mind, the first study (**Study I**) consisted of a systematic review of the literature with stringent inclusion criteria to capture and analyse the existing data on factors of adjustment in TCKs during their relocations. The published systematic review organised the existing research into domains and factors, shedding light on predictors and outcomes of TCK adjustment.

The second study (**Study II**) investigated the individual and combined contributions of selected psychological processes or proximal factors – namely, the emotion regulation processes of suppression and reappraisal, negative self-thoughts, perceived stress, and resilience – on two outcomes of psychological adjustment: mental health and well-being.

The third and last study (**Study III**) built upon the findings in studies I and II and explored a possible model of psychological and sociocultural adjustment that sought to verify the hypothesised relationships between perceived and acculturative stress on psychological and sociocultural adjustment outcomes and to verify the hypothesised mediation of these relationships by family functioning and TCK resilience.

Throughout the studies, the objective was to outline a primary heuristic model of the process of TCK adjustment that would make it possible to design targeted preventative interventions precisely fit for our sample. In Study II, we sought to determine the particular intrinsic psychological processes that could constitute targets for prevention and individual psychotherapy. In Study III, we zoomed out to include extrinsic family factors into a model by using both the variables that stood out as significant in Study II – namely, the importance of perceived stress and the potential mediating role of resilience – and the findings from Study I on the contributions of other categories of variables (demographic, family, sociocultural).



### 3. Methods, analyses, and main results

#### 3.1. Study I: systematic review

The systematic review is based on a search string designed to capture adjustment outcomes and factors in TCKs during their experience abroad as children and adolescents. The search was conducted for the last time in December 2021 across nine databases.

The search string and inclusion criteria for the reviewed studies were set according to the PICO (population, intervention, comparison, outcome) guidelines:

- a) 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
- b) intervention: international relocation, measures taken during relocation
- c) comparison: some studies used comparison groups (noninternational/local); both quantitative and qualitative studies considered for inclusion
- d) outcome: well-being, adjustment, psychological adjustment, social adjustment, adaptation

The initial yield of 9433 studies was combed down to a selection of 14 studies, of which nine were quantitative, four were qualitative, and one used a mixed methods approach. A computerised lexical analysis of the extracted studies showed recurring themes and clusters. We used the themes and clusters to establish a coding system. This coding system was then used to systematically extract results from the studies: the positive quantitative findings were organised in a table, and the qualitative findings were extracted using the codes. These clusters were associated with the theoretical references in the studies, and a codebook was created for a systematic abstraction of the results from the extracted studies:

Predictors:

- a) demographic and environmental factors: age, gender, nationality, mobility, parent work
- b) family factors: family support, family functioning, parental stress
- c) psychological factors: cognitive, personality, attachment, emotion, behaviour, social skills, identity



d) sociocultural factors, friendships, home, culture, including intercultural sensitivity, acculturation, language, school

Outcomes:

- a) psychological adjustment including well-being, stress, coping
- b) sociocultural adjustment including culture shock, acculturative stress
- c) cultural identity including place identity and specific traits

Abstracted results from the studies are presented according to this codebook of categories.

Study I outlined the scope of potential processes and factors that could be considered in designing future studies on and interventions for TCKs. The diverse theories and research found in the systematic review suggest that adjustment (at a point in time and also over time) and identity outcomes are interconnected with psychological, sociocultural, and environmental factors. We highlighted the complexity and diversity of the particular sample and the need for a more cohesive exploration of clearly defined samples, predictors, and outcomes according to an inclusive adjustment model. Importantly, we argued that there is a need for studies on psychological factors and their interaction with family factors.

### ***3.2. Quantitative cross-sectional studies (II and III)***

#### *3.2.1. Samples and procedures*

Studies II and III were based on a published research protocol (Ooi et al., 2022; see Appendix D) that covers a broader spectrum than these individual studies. The attached research protocol explains the ethical requirements for our study, the recruitment and participation procedures, the goals and design, and the complete measurements in the entire study. More precisely, the entire study included the participation of parent and child dyads, and the measurements included parent variables and longitudinal measures as well as qualitative interviews, all of which were not included in the following study designs. We used a sample of 126 child and adolescent participants for Study II and a sample of 143 child and adolescent participants for Study III.

Univariate statistics for Studies II and III were conducted in SPSS. Further analyses were conducted using R (version 4.02; version 3.5.1 for Windows<sup>3</sup>).

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<sup>3</sup> [www.rproject.org](http://www.rproject.org).



### 3.2.2. Study II

*Measurements.* In Study II, we chose to zoom in on the psychological processes involved in the two identified outcomes of psychological adjustment, namely, well-being (measured with the KIDSCREEN-10 index; KIDSCREEN Group Europe; Model 1) and mental-health difficulties (measured with the total difficulties score of the Strengths and Difficulties Questionnaire, SDQ; Goodman, 1997; Model 2).

As suggested in the NHW model (Nolen-Hoeksema & Watkins, 2011), we chose to consider these intrinsic psychological factors or proximal factors as opposed to more distal environmental or mediating/moderating factors. In their model, Nolen-Hoeksema and Watkins described the categories of processes at play in proximal risk factors as emotion-regulation strategies, cognitive biases or information processing, increased attention or reactivity to negative stimuli, and personality characteristics. We therefore included measures for emotion regulation, negative self-thoughts, perceived stress, and resilience. For emotion regulation, we used the Emotion Regulation Questionnaire (Gullone & Taffe, 2012) to differentiate between two submechanisms of emotion regulation, namely, emotion suppression and emotion reappraisal. For negative self-thoughts, we used the Social Threat subscale of the Children's Automatic Thoughts Scale (Schniering & Lyneham, 2007). We assessed resilience through the Child and Youth Resilience Measure-12 (CYRM; Resilience Research. Halifax; 2019). This measure of resilience looks at resilience from a social-ecological standpoint. It does not define it as a trait or a state but rather as a set of skills that include coping and adaptability. Finally, we assessed perceived stress as a subjective feeling and appraisal of a stressful situation using the Perceived Stress Scale (White, 2014). We included the parent's assignment length, the child's agreeableness with the relocation, the child's age, the school type, and the history of psychological treatment as covariates.

*Analysis.* The study used a multiple regression analysis followed by a commonality analysis to establish, first, the contribution of each predictor in two separate models and then how each predictor contributed to the model, either independently or in combination with other variables in the model.

*Summary of results and main findings.* Model 1 accounted for 77% of the variance in well-being ( $F(10, 95) = 33.63, p < .001$ ), and perceived stress, emotion suppression, and resilience associated with well-being. The results from the commonality analysis showed



perceived stress as the most substantial contributor to the model as follows: individual contribution ( $U = 0.11$ ;  $\%R^2 = 14.61$ ) common effect ( $C = 0.57$ ), and a total contribution  $T (= U + C)$  of 0.68. Resilience, emotion suppression, negative self-thoughts, and the age covariate had common contributions above  $>.25$ , suggesting that these variables, when working together, explained a considerable part of the variance of the outcomes. The common contribution of resilience and perceived stress explained a significant part of the variance in well-being ( $C = 0.07$ ;  $\%R^2 = 9.77$ ).

Model 2 accounted for 49% of the variance in mental-health problems ( $F(10, 94) = 9.049, p < .001$ ). Only resilience (CYRM) negatively predicted mental-health problems ( $B = -0.39, t(94) = -2.396, p < .01$ ). The unique contribution of the covariate history of psychological treatment was by far the most important ( $U = 0.30$ ;  $\%R^2 = 62.52$ ). The unique ( $U = 0.03$ ;  $\%R^2 = 6.34$ ) contribution of resilience as a predictor, as well as its common contribution with a history of psychological treatment ( $C = 0.04$ ;  $\%R^2 = 8.23$ ), were significant.

### 3.2.3. Study III

*Measurements.* In Study III, we chose two predictors of stress, namely, perceived stress (Perceived Stress scale (PSS; White, 2014) and acculturative stress (Suarez-Morales et al., 2007) and two dimensions of adjustment, namely, psychological adjustment (measured in the total difficulties score from the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) and sociocultural adjustment (Sociocultural Adaptation Scale (SCAS; Ward & Kennedy, 1999). We introduced resilience (CYRM) as a mediator of stress and a distal risk factor in family functioning (McMaster Family Assessment Device; Epstein et al., 1983). We controlled for age and the length of stay in Switzerland. Our goal was to test the hypothesised models of psychological and sociocultural adjustment presented in Figure 3.

*Analysis.* This study used multiple regression analysis and then the Lavaan<sup>4</sup> (Li, 2016; Rosseel et al., 2017) package in R to establish the contribution of each predictor and hypothesised mediators in the model. We then conducted a path analysis to establish direct, indirect, and total effects, thereby testing the hypothesised mediation of resilience and family functioning in each of the proposed models.

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<sup>4</sup> <https://cran.r-project.org/web/packages/lavaan/index.html>



*Summary of results and main findings.* For Model 1, perceived stress was positively associated with sociocultural adjustment difficulties. We found that the relationship between perceived stress and mental-health difficulties was mediated by resilience ( $B = 0.15, p < .05^*$ ; standardised coefficient = .20; small to medium effect size). The indirect effects of family functioning as a mediator were unimportant, but the path between family functioning and mental-health difficulties was significant. We found a significant effect of age on perceived stress.

For Model 2, we found that acculturative stress was associated with sociocultural adjustment (standard coefficient = .5; large effect size). Only the direct path from acculturative stress to mental-health difficulties was significant (medium effect size). In contrast, the total effect was not significant, suggesting there may be another mediator in this model (Zhao et al., 210). Additionally, we found that family functioning and resilience did not mediate the relationship between acculturative stress and mental-health difficulties or sociocultural adaptation. The path coefficients pointing away from resilience towards mental-health difficulties and sociocultural adaptation, as well as away from family functioning and towards mental-health difficulties, were significant, suggesting correlations between these variables, which are not related to the predictor acculturative stress. The amount of time spent in Switzerland and age correlated with acculturative stress.

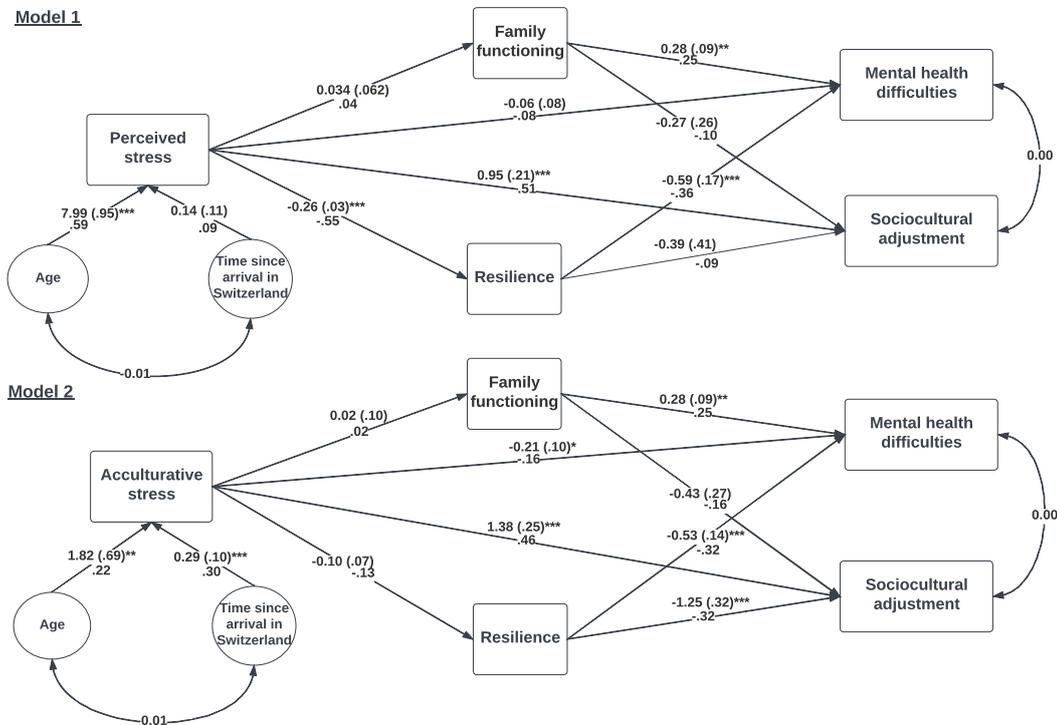


Figure 3. The models show the hypothesised paths and the coefficients of the direct paths from the path analysis. The coefficients above the lines are beta coefficients (standard errors). Straight lines show the effects tested in the regression analysis. Curved lines show correlations. The standardised solution coefficients (effect sizes) are below the lines. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

## 4. Discussion

### 4.1. Proposed model of TCK adjustment

The results from Study I convey a promising outline for constructing a heuristic model of TCK adjustment. By compiling and organising findings from the selected studies in Study 1 and in light of the considerations presented in the above theoretical background, we can assert the coexistence of multiple domains and factors that participate conjointly in various outcomes and that can be translated into adjustment more broadly than in previous definitions.

Based on these findings, I propose modelling TCK adjustment as such:

- a) *distal factors*: home and host cultures, parental psychopathology or parenting, pre-existing trauma, mental-health difficulties



- b) *proximal factors*: intrapersonal variables including phenotype, personality traits, psychological processes (emotion regulation, affect, cognition such as attributional style and stress perception) related to differential susceptibility and vantage sensitivity
- c) *mediating variables*: resilience, communication, coping
- d) *domains of adjustment*: mental health and well-being, sociocultural competence, school performance
- e) *dynamics of adjustment*: time since arrival in the host country, anticipated duration of stay, child's age

Within this model, Study II showed how psychological processes interact so that their combined influences participate in better mental health and well-being in TCKs. We also highlighted the importance of the perception of stress, resilience, and pre-existing mental-health difficulties. Then, the mediation model explored in Study III, included extrinsic family factors and resilience as potential mediators of stress, introducing a broader network or more layers that interact at different levels of TCK adjustment (Hinde, 1992). The mediating role of resilience was confirmed in Study III. Although family functioning did not mediate the measured stress, it directly influenced mental health, which needs to be considered.

#### **4.2. Back to psychotherapy through prevention and skill building**

Bandura (1961) introduced the idea of psychotherapy as a learning process. Although his focus was on the learning mechanisms involved in psychotherapy, the analogy with learning persists through the idea of skill building. Process approaches in psychotherapy are based on the precept that skills therapists seek to build or reinforce must fit the person's level of understanding, background, and needs, as in any other learning situation. Process-based interventions in psychotherapy and prevention have focused on the processes underlying mental-health conditions and could be developed to prevent mental-health difficulties across a broad spectrum of potential adverse outcomes as recommended within the Hitop framework (Hofmann & Hayes, 2019; Kotov et al., 2018; O'Connor et al., 2022). Evidence-based prevention programs must be designed according to in-depth knowledge of the sample or target population's needs, ideally stemming from research into the specific processes involved. In mental healthcare for youth, prevention programs have targeted an array of developmental, behavioural, and psychological outcomes (Arango et al., 2018, Hawkins et al., 2016).



Study II showed that perceived stress directly influences well-being but did not impact mental health directly. Resilience contributed to the outcome of well-being when associated with the perception of stress. The mediating role of resilience was demonstrated in Study III. Study II highlighted a network of underlying processes that were linked to better well-being in our sample through a common contribution of negative self-thoughts with the perception of stress and resilience and the common contributions of emotion suppression and resilience to well-being. This result suggests the existence of an intricate network of internal resources that contribute to better or worse well-being. This network could outline skill-building goals for psychotherapy prevention to improve TCKs' well-being. The effect of time was only measured on acculturative stress in Study III. It does not influence perceived stress, suggesting that time alone would not solve perceived stress and its potential impact on mental health and sociocultural adjustment. This reinforces the suggested benefit of preventative interventions. Lastly, TCKs with a history of mental-health difficulties are more likely to struggle to adjust (Study II); particular attention should therefore be directed to preventing and supporting the well-being of TCKs with pre-existing mental-health difficulties.

These exploratory findings can guide mental-health and well-being interventions for transient adolescents and children in clinical, community, and school settings. Professionals working to support transient children and adolescents could benefit from the findings in the presented studies. Companies seeking to employ expatriates may also benefit from a more profound knowledge of TCK adjustment, as expatriate success is linked with family well-being (Erogul & Rahman, 2017; Sterle et al., 2018).

#### **4.3. Limitations**

The results reported throughout this thesis have some limitations. An important limitation of Study I was the small number of studies that focused exclusively on child TCKs during their relocation. Although this inclusion criterion was a choice on our part, the small yield meant a metaanalysis was impossible. This was also due to the heterogeneity of factors and outcomes explored throughout the selected studies.

Studies II and III were conducted during the COVID-19 pandemic. Expatriate families, especially those recently relocated, may have suffered increased stress and isolation compared to a transition in ordinary circumstances when the distance from family and friends was relative due to the ease of traveling and possible visits. School and border closures may



have made the transition tangibly more difficult. We must recognise that a portion of the measured stress is imputable to the pandemic. The restrictions during the COVID-19 pandemic also majorly hindered our recruitment efforts and resulted in relatively low participation rates.

Moreover, the strict ethics procedure for involving child and adolescent participants proved to be another challenge for our recruitment. Lastly, we faced a challenging (77%) dropout rate for the longitudinal measure after one year, making the analysis of our longitudinal data hazardous. The comparison between measures at both time points would have added depth to our understanding of the evolution of adjustment over time, informing us of the stability of the measured processes (Wang et al., 2012; Hirai et al., 2015).

#### ***4.4. Directions for future research***

Future research could build on and refine the proposed heuristic model as more processes and intricacies between the processes and layers are investigated. The exploratory nature of Studies II and III leaves room for many more investigations into the highlighted complexities of the adjustment process. For example, the direction and circumstances of the influences of time, age, and particular types of pre-existing mental-health difficulties could be examined, and the potential mediating role of emotion suppression could also be investigated. In addition, future investigations could use comparison groups to expand the model and apply it to more diverse transient populations, highlighting specific needs for each population sample. Finally, future research could investigate the immediate and long-term benefits of skill-based prevention programs and interventions addressed to TCKs and other transient child and adolescent samples upon arrival in their new locations.

#### ***4.5. Conclusions and implications***

My experience as a psychotherapist in this field has suggested that adjustment difficulties can lead to various symptoms and mental-health conditions. Through this research, I intended to investigate complications in adjustment by understanding what might trigger these difficulties in the first place so as to bring this knowledge back to psychotherapy practice by implementing the skills that serve to prevent the consequences of adjustment difficulties.



The skill-building and process-based approaches of evidence-based psychotherapy and prevention are not exclusive from other considerations: an array of fundamental mechanisms are involved in the therapeutic process and will participate in its outcomes, including the relationship and context in which the service is provided (Rossettini et al., 2020; Wampold & Owen, 2021). The intricacies of human nature and the innumerable factors that affect the apprehension of every moment and experience are overwhelmingly complex. That may seem to be reason enough to deter us from pursuing such models. My intention is not to deny the complexity of each individual, nor is it to presume that these findings are exclusive or sufficient to explain the positive or negative outcomes of adjustment. I intend, rather, to include these findings in a holistic approach for each individual. Perhaps they can then serve to help us come a little closer, a little sooner, to some particular need for support.

With that goal in mind, it seems valuable to try to come as close as possible to the circumstances that may affect better or worse outcomes for the sampled TCKs. The exploratory mapping of intrinsic and extrinsic factors involved in adjusting our specific sample was undertaken with this intention. The results from the presented studies point towards the potential benefits of stress-management techniques, such as mindfulness-based stress-reduction programs (Sharma & Rush, 2014; Van Daele et al., 2011; Burke, 2010) and resilience-building interventions (Joyce et al., 2018) alongside family support (Kumpfer & Alvarado, 2003), which could benefit TCKs and possibly other transient children and adolescents more effectively than the relatively unsuccessful predeparture programs currently offered for TCKs and their families (Puck et al., 2008).



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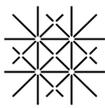
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## **APPENDICES**

- A. Study I
- B. Study II
- C. Study III
- D. Study protocol
- E. Curriculum vitae



A.

- **Study I**

**Jones, E.,** Reed, M., Gaab, J., & Ooi, Y. P. (in press). Adjustment in third-culture kids: A systematic review of literature. *Frontiers in Psychology*.



B.

- **Study II**

**Jones, E.**, Reed, M., Meyer, A., Gaab, J., Ooi, Y. P. (submitted). The relative importance of psychological processes on third-culture kids adjustment.



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**C.**

- **Study III**

**Jones, E.,** Reed, M., Meyer, A., Gaab, J., Ooi, Y. P. (submitted). Stress, mental health and sociocultural adjustment in third-culture kids: Exploring the mediating roles of resilience and family functioning.



D.

**Study protocol**

Ooi, Y. P., Reed, M., **Marchal-Jones, E.**, Meyer, A. H., & Gaab, J. (2022). Sociocultural adjustment and well-being among third-culture kids and their families: Protocol for a longitudinal study. *JMIR Research Protocols*, *11*(7), e30088. <https://doi.org/10.2196/30088>



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**E.  
Curriculum vitae**