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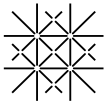
Intergenerational Relations of Second-Generation Immigrants in Switzerland

Inauguraldissertation zur Erlangung der Würde eines Doktors der Philosophie vorgelegt der
Fakultät für Psychologie der Universität Basel von

Pirmin Pfammatter

aus Naters, VS

Basel, 2023



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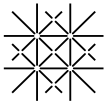
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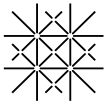
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ABSTRACT

Intergenerational relations have come to belong to the most important relations in the 21st century. Our Western societies have seen unprecedented immigration, with a considerable number of immigrants already belonging to the second generation. Contrary to their parents, who were socialized into one culture, the second-generation naturally gets *acculturated* into two cultures (i.e., the parent's and the host country's culture). This has important implications for the intergenerational relations of immigrants and their well-being. However, there are only few European studies investigating the role of acculturation in intergenerational relations and well-being in ethnically diverse samples of adult second-generation immigrants.

This dissertation had three goals: (1) to investigate feelings of indebtedness toward the parents, a new concept called *sense of indebtedness toward the parents* (SIP) in association to the established concepts of filial obligations and support exchange in intergenerational research. (2) to understand the role of acculturation for the consensus on filial obligations and its relevance for relationship quality and support exchange with parents. And (3) to shed light on the association of acculturation with well-being.

Study 1 suggested that SIP is a reliable and valid measure among second-generation immigrants and positively linked to filial obligations and support given to parents in line with the study hypotheses. Study 2 showed a mediating effect of the consensus on filial obligations on the association between the ethnic culture (i.e., the culture of the parents), but not the host culture and intergenerational relations. Mediation effects were significant among women, but not men. Study 3 demonstrated a positive link between acculturation and well-being. However, a high orientation toward either culture seemed to be more beneficial for well-being than a high orientation toward both cultures at the same time, contrary to the study hypothesis.

This dissertation suggests that a high orientation toward the ethnic culture seems to promote positive, intimate, and supportive intergenerational relations among second-generation immigrants. A high orientation toward the host culture might hinder good intergenerational relations, while fostering well-being. Taken together, this indicates, that both cultures play an important role in the immigrants' lives. Navigating them successfully still poses a challenge to adult Swiss second-generation immigrants. Future studies should aim to investigate the importance of both cultures in specific contexts, to include further aspects of intergenerational relations in research and to study other minorities to draw a more conclusive picture of intergenerational relations.

Introduction

Western societies have dramatically changed over the last decades. These changes shifted the relevance of family life into societal and individual focus. Nowadays, intergenerational relations (in this dissertation the relationship between adult children and their parents) are considered amongst the most important relations adults have in their lives (Fingerman et al., 2020a). Consequently, the adult child-parent relationship has received considerable attention in research across multiple contexts. One of these contexts is immigrant families, meaning: the relation of adult children of immigrants (i.e., the second generation) and their parents (i.e., the first generation).

In many Western societies, immigrants account for a significant amount of the population. Switzerland is no exception to this phenomenon: Almost two out of five people, who live in Switzerland have an immigrant background themselves and nearly one in ten children is the child of immigrants (Federal Statistical Office [FSO], 2021a). Hence, a significant number of Swiss residents grew up in two cultures: The culture of their parent's country of origin and the Swiss culture.

Living in two cultures enriches immigrants lives with a variety of competencies which are associated with advantages for immigrants' well-being and adjustment (Ngyuen & Benet-Martínez, 2012; Yoon et al., 2013). On the contrary, orienting toward two cultures poses a challenge to intergenerational relations. Immigrant parents in Switzerland often immigrate from countries, where the family is highly important (FSO, 2021b; Hofstede, 2001). Yet, for the second generation family might have a different importance than for their parents, because they were socialized into the host culture from a young age. Thus, there is potential for culture related challenges to intergenerational relations in immigrant families.

Only few studies investigated the link between growing up in two cultures and intergenerational relations or well-being of adult second-generation immigrants in Europe. Studies regarding intergenerational relationship dynamics of second-generation immigrants are scarce, especially when looking at a diverse sample of immigrants (Albertini et al., 2019). Research from other nations may provide valuable insights into the situation of immigrants' lives. However, Switzerland has a different integration climate (Solano & Huddleston, 2020) and immigration history (van Mol & de Valk, 2016). Therefore, these findings may only partly be applicable the Swiss immigrant groups.

Furthermore, recent meta-analyses showed that the association between living in two cultures, intergenerational relationship dynamics and well-being vary across immigrant groups

and host nations (Cahill et al., 2021; Yoon et al., 2013). Thus, studies from more host nations including different immigrant groups are needed to understand the complex situations of second-generation immigrants. Nonetheless, studies providing Swiss perspectives on the role of living in two cultures for the family life and well-being of adult second-generation immigrants are scarce.

This dissertation aims to offer insights into the lives of adult second-generation immigrants in Switzerland. In particular, into the role of growing up in two cultures in intergenerational relations and their well-being. For this, three studies are included in this dissertation: Study 1 focusses on the meaning adults make of their parental sacrifices as immigrants and the association of this meaning-making with aspects of intergenerational relations. Study 2 dives into the role of orienting toward two cultures for an intergenerational consensus on family related norms and the relevance of this consensus for family cohesion and support. Finally, Study 3 sheds light on the connection between the orientation toward two cultures and well-being. The findings of these studies will be discussed considering future developments and trends on a societal level.

Theoretical Background

The study on intergenerational relations has had a long tradition in Western societies (Fingerman et al., 2020a). Significant changes on the *demographic* (e.g., longevity and older age at first marriage), *societal* (e.g., shifts in tradition gender roles, division between work, and labor hours), and the *family* level (e.g., living longer in the parental home; Foner & Dreby, 2011; Seltzer & Bianchi, 2013; Swartz, 2009) highlighted the importance of intergenerational relations. At the same time, the massive influx of immigrants into Western societies (World Population Review, 2022), another aspect of societal change, became an increasingly pressing issue in Western societies. Taken together, many Western societies face an increasingly aging and ethnically diverse population.

With the growing number of immigrant families in host societies, the number of children of immigrants grew at a rapid pace in recent years. Nowadays, almost 31 million (6.1%) children of immigrants live in European societies (Eurostat, 2017). Switzerland has shown a similar development: It has a long history of immigration, with the majority (approx. 75%) coming from European countries (FSO, 2021b). Because of this long history of immigration, a considerable number of immigrants in Switzerland already belong to the second generation (i.e., 8.4% in 2021; FSO, 2021a). These children grew up in two cultures: The

culture of their parents' country of origin (i.e., the ethnic culture) and the culture of host country (i.e., the host culture), which shapes their family relations, and their well-being.

The Process of Cultural Socialization of First and Second-Generation Immigrants

Immigrant children differ fundamentally from their parents regarding the cultural socialization (Schwartz et al., 2010). Growing up with native parents in a country means that children are socialized into this culture by their environment (i.e., parents, family members, relatives, friends, kindergarten, school, work, and the media; Sam & Oppedal, 2003). When these individuals move to another country, they acquire competencies in the host society's culture in addition to the competencies in their ethnic culture. In contrast, the children of said immigrants become socialized into two cultures from the beginning: By actors of the ethnic culture such as the parents, relatives, and friends the second-generation becomes socialized into the ethnic culture, whereas they become socialized into the host culture by actors of this culture such as kindergarten, school, friends, and the media (Sam & Oppedal, 2003). Hence, they develop competencies in and a connection to both cultures. This means the second generation's development is influenced by both cultures compared to their parents who are mainly influenced by the ethnic culture. The central developmental difference between the first and the second generation is that the second generation becomes socialized into two cultures as a part of their *natural* development, whereas the first generation acquires competencies in the new culture in a more *conscious* way (Sam & Oppedal, 2003).

The process of acquiring competencies in and a connection to two cultures is called *acculturation*. In immigration research, acculturation has recently been defined as the orientation toward and the competence in both the ethnic and the host culture (Schwartz et al., 2010). Berry (2005) conceptualized acculturation as a *bilinear* (i.e., the orientation toward two cultures) and *multidimensional* (i.e., covering multiple aspects of immigrants lives such as language, social relations, knowledge about the culture, values, and identity) construct.

First and second-generation immigrants not only differ in how they acculturate, but also in the strength of their acculturation. Second-generation immigrants orient stronger toward the host culture (regarding language, social relations, and behavior), whereas first-generation immigrants are more strongly connected to their ethnic culture (regarding language, social relations, behavior, and identity; Yoon et al., 2020). Thus, the process and extent of acculturation differ for first and second-generation immigrants, which has implications for the family life of second-generation immigrants.

How Acculturation is Related to Intergenerational Relationships in Immigrant Families

The way in which living in two cultures shapes intergenerational relations has received increasing attention in research in the past decades (Fingerman et al., 2020a). To describe aspects of intergenerational relations in (immigrant) families (e.g., frequency of contact, relationship quality, attitudes, expectations, values regarding family, intergenerational similarity, and exchange of support) scholars often refer to the model of intergenerational solidarity.

Model of Intergenerational Solidarity

Bengtson and Roberts (1991) proposed a model consisting of six dimensions: *Normative* solidarity describes the extent, to which family members endorse obligations to support one another or to what extent they expect to be supported. *Consensual* solidarity is defined as the degree to which family members agree on values, attitudes, and beliefs. *Associational* Solidarity describes the frequency of interactions family members of different generations have with each other, such as frequency of contact (e.g., in person or via mobile devices). *Structural* solidarity describes the opportunities for intergenerational support such as geographical proximity between children and their parents or the number of family members. *Affectual* solidarity describes the degree of positive feelings of family members for each other such as relationship quality. The last dimension, *functional* solidarity describes the amount of support (e.g., practical, financial, and emotional) family members exchange with which each other. For nearly 50 years, the solidarity model has been a guiding framework in the research on intergenerational family relations (Giarrusso & Putney, 2020). Studies have shown that affectual, practical, consensual solidarity, and normative are important aspects of intergenerational relations (Albert et al., 2013; Fingerman et al., 2020b; Schwarz, 2006).

Normative solidarity is of paramount importance in intergenerational relations. A frequently used measure for normative solidarity is *filial obligations* (Daatland et al., 2011, De Valk & Schans, 2008). Filial obligations measure the extent to which children feel obligated to give support to their parents, or to what extent parents expect to receive support from their children (Rossi & Rossi, 1990). They have been shown to be positively related to giving support to parents (Herlofson et al., 2011) and higher relationship quality between adults and their parents (Hwang et al., 2022).

Filial obligations are deeply rooted within a culture. Swiss immigrants often stem from regions, that are higher on collectivism than the rather individualistic Swiss culture (FSO, 2021b; Hofstede, 2001). Within collectivistic cultures people show a stronger commitment to

their families. The family is seen as an important source of support (Hofstede, 2001). Hence, within these cultures there is a deeply rooted expectation of receiving support from children and children feel obligated to give support to their parents (de Valk & Schans, 2008). In cross-national studies, research demonstrated that in highly collectivistic countries, filial obligations are rated higher than in individualistic ones (e.g., Daatland et al., 2011; Hofstede, 2001; Lowenstein & Daatland, 2006; Pinguart & Sörensen, 2005). When immigrants move to Switzerland many of them experience a shift from a collectivistic, group-oriented culture toward a more individualistic, autonomy-oriented culture (Albertini et al., 2019).

Acculturation differences can lead to a lack of intergenerational consensus. After immigrating to another country, filial obligations adapt at a slow pace to the new cultural setting (de Valk and Schans, 2008). Hence, Swiss immigrant parents still have high expectations of close family interactions and exchange of support, whereas the children might place less importance on the family and experience lower obligations to give support to their parents. This can lead to an acculturation related gap between adults and their parents (Telzer, 2010). This gap reflects a lack of an intergenerational consensus. In this dissertation, this lack of intergenerational consensus is measured as lack of consensus on filial obligations between immigrant adults and their parents.

A high consensus on family values is linked to positive and intimate family relations. A study from Luxembourg has found a positive link between an intergenerational consensus (in this study on family values and obligations), affection, and exchange of support between immigrant daughters and their mothers (Albert et al., 2013). To the contrary, a low intergenerational consensus increases the risk for negative outcomes in immigrant families such as a lack of warmth and support (Cahill et al., 2021), and intergenerational conflict (Lui, 2015). A similar mechanism might be true for the consensus regarding filial obligations, meaning a high of consensus on filial obligations might also be associated with higher affection and exchange of support, whereas a low consensus on filial obligations might increase the risk for negative family interactions.

In sum, the model on intergenerational solidarity is valuable to describe intergenerational family dynamics, family cohesion and support exchange. Nevertheless, scholars have pointed out several relevant limitations (Fingerman et al., 2013, 2020a; Luescher & Pillemer, 1998).

Limitations of the Solidarity Model. First, rather than being isolated entities, families are embedded in a societal, cultural, and historical context and are influenced by these contexts (Bronfenbrenner, 1979). Developments on one level (e.g., immigration) affect family life over

time (e.g., multicultural families; Fingerman et al., 2020a). Second, intergenerational ties between parents and their children are multifaceted interactions rather than a unidimensional construct (i.e., low to high solidarity; Connidis & McMullins, 2002). They are a complex interplay between expectations, emotions, and motivations (Michels et al., 2011). Yet, the solidarity model offers little explanations for these complex relationship patterns (e.g., high solidarity and conflict at the same time; Luescher & Pillemer, 1998). Third, adults may *want* to give back to their parents for everything they did for them as children. Still, the solidarity model allows little insight into the *motives* of support (Kang & Larson, 2014). And last, family members share a history that influences their current and future interactions with each other (Albert & Coimbra, 2017), but the solidarity model primarily focusses on the present moment (Fingerman et al., 2013).

To sum up, the solidarity model offers valuable insights into the intergenerational relationship dynamics. However, it mainly focusses on the present moment and only partially offers explanations for the complexity of intergenerational relations, especially in immigrant families.

Sense of Indebtedness

While second generation immigrants grow up, they experience their parents sacrificing for them. Second-generation immigrants only begin to actively make meaning of these experiences when they enter adolescence or young adulthood. These early experiences may evoke the desire to give something to back something to parents for their sacrifices. This process of actively reconstructing the past experiences as an immigrant child, giving meaning to it, recognizing that the parental sacrifice was in the best interest of the child, and the consequently arising feelings were defined as *sense of indebtedness toward parents* (SIP; Kang & Larson, 2014).

In intergenerational research there is no comparable measure which delves into the *cognitive, emotional, and motivational* aspects, why immigrant children give back to their parents (Kang et al., 2010). Moreover, the active reconstruction of the individual past adds the historical family context in which immigrant children grew up to the study of immigrant intergenerational relations. Thus, sense of indebtedness enriches research with the valuable perspective on the interactions in immigrant families from the child's perspective.

In conclusion, the combination of the solidarity framework with sense of indebtedness will add valuable insights into the intergenerational relations of adult second generation immigrants in Switzerland.

The Relation of Acculturation with Well-being

Subjective Well-being (SWB) consists of cognitive (i.e., high satisfaction with life) and affective evaluations (e.g., high amount of positive affect, low amount of negative affect) of one's own life (Diener, 1994). High well-being has been associated with low stress (Oishi et al., 2021) and multiple aspects of positive functioning such as psychological and physical health according to a global study (Ng & Diener, 2022).

Living in two cultures equips the second generation with competencies such as two languages, knowing two cultural systems, and having social relations in both cultures. These competencies have advantages for immigrants' overall psychological adjustment and well-being (e.g., life satisfaction, positive and negative affect, and self-esteem; Nguyen & Benet-Martínez, 2012; Yoon et al., 2013). Thus, it is vital to understand the association between acculturation and SWB among immigrants.

Integration is seen as the most beneficial strategy for well-being. Berry (2005) proposed four acculturation strategies for immigrants: *integration* (i.e., high orientation toward both cultures), *assimilation* (i.e., high orientation toward the host culture, low orientation toward the ethnic culture), *separation* (i.e., low orientation toward the host culture, high orientation toward the ethnic culture) and *marginalization* (i.e., low orientation toward both cultures). A recent meta-analysis suggested both the orientation toward the ethnic and host culture are associated with higher well-being. In a further analysis, integration was positively associated with well-being, whereas marginalization showed the strongest negative link with mental health (e.g., high distress, anxiety, and negative affectivity; Yoon et al. 2013). Furthermore, biculturalism (which is very similar to the strategy of integration) was associated with better psychological adjustment (Nguyen & Benet-Martínez, 2012). Thus, research points toward advantages for immigrants' mental health and well-being if they adopt the strategy of integration.

U.S. research on African-, Asian and Latin-American immigrants may not apply to Switzerland. Acculturation is an interplay between the ethnic minority and the host society (Berry, 2005). In Yoon et al.'s meta-analysis (2013), the orientation toward the ethnic culture was associated with lower well-being in North-American countries, whereas it was associated with higher well-being in Scandinavian countries. Therefore, results mainly from the U.S. (Nguyen & Benet-Martínez, 2012; Yoon et al., 2013) may not fully apply to Switzerland. However, there were only four European studies meta-analysis by Yoon and colleagues, precluding a general conclusion regarding the role of the host nation in European societies. Nonetheless, these results strengthen the assumption that both the minority and the majority

group play an important role for successful acculturation and the positive development of immigrants in a host society (Berry, 2005).

Acculturation needs to be measured bilinear and multidimensional in the association with well-being. The meta-analysis by Yoon et al. points toward the importance of a comprehensive measure for acculturation. Only bilinear measures showed a positive association between acculturation and well-being (Yoon et al., 2013), whereas unilinear measures for acculturation were not associated with well-being. Furthermore, they showed that not all dimensions of acculturation were equally related to wellbeing. Host culture language competence seemed to prevent negative aspects of well-being, whereas a higher ethnic identity fostered positive aspects of well-being. In a similar line, Arends-Tóth and van de Vijver (2004) argued that acculturation is *domain-specific* (i.e., taking place in certain contexts such as work, language, family, marriage). Immigrants may acculturate toward the new culture at work and learn the language of the host country, because it helps them to integrate into the host society. To the contrary, they might orient stronger toward their ethnic culture in the family context (Arends-Tóth & van de Vijver, 2004). Although, research has shown the importance of measuring acculturation bilinear and multidimensional in the association with well-being, European studies have frequently used unilinear measures or proxy variables for acculturation (e.g., generational status, knowledge of the host countries language, or time since arrival in the host country; de Vroome & Hooghe, 2014; Jasinskaja-Lathi & Liebkind, 2007). One of the few studies among adult immigrants in European societies, that assessed acculturation bilinear and multidimensional found that the orientation toward the host culture was positively associated with life satisfaction among Turkish immigrants in the Netherlands (Dimitrova et al., 2014), whereas the orientation toward the ethnic culture was not associated with life satisfaction.

In conclusion, only few studies on the association between acculturation and well-being among second generation immigrants in Europe exist. They either give only partial insight into the multi-faceted construct of acculturation or only tap into some aspects of well-being. The interplay between the immigrant group and the host society is unique for every country and not well understood in Europe. Hence, more studies using high quality measures are necessary to understand the complex situation of second-generation immigrants in European societies.

Summary

Demographic, societal, and changes on the family level challenge intergenerational relations nowadays. Especially for second-generation immigrants the relationship to their parents can be challenged by acculturative differences. Nonetheless, empirical contributions

investigating the intergenerational relationship dynamics between European second-generation immigrants and their parents are scarce. Furthermore, the solidarity paradigm lacks a focus on aspects that are specific to immigrant families. Acculturation enriches immigrants lives with many competencies. However, studies focusing on adult second-generation immigrants' well-being in Europe adopting high quality measures are scant.

Research Questions

This dissertation aimed to investigate the lives of second-generation immigrants in Switzerland, focusing on the relationship dynamics these immigrants have with their parents and their well-being. The main associations analyzed in each study included in this dissertation are presented in Figure 1. To investigate these topics, this dissertation included three studies with the following main research questions:

Research Question (RQ) 1: Does the German version of SIP represent a one factor scale (RQ1a)? Is SIP measurement invariant across different ethnic groups (RQ1b)? Is SIP related to filial obligations and giving support to parents (RQ1c)? Do women experience higher SIP than men (RQ1d)? These questions were studied in the manuscript Pfammatter and Schwarz (2022).

Research Question 2: Is acculturation related to the consensus on filial obligations (RQ2a) and to aspects of intergenerational relations (e.g., relationship quality with and support given to parents, RQ2b)? Does the consensus on filial obligations mediate the association between acculturation and aspects of intergenerational relations (RQ2c)? These research questions were studied in the manuscript Pfammatter and Schwarz (2023).

Research Question 3: How does the acculturation toward two cultures relate to well-being (RQ3a)? Is integration the best strategy for the well-being of Swiss second-generation immigrants (RQ3b)? These research questions were investigated in the manuscript Schwarz and Pfammatter (2023).

Method

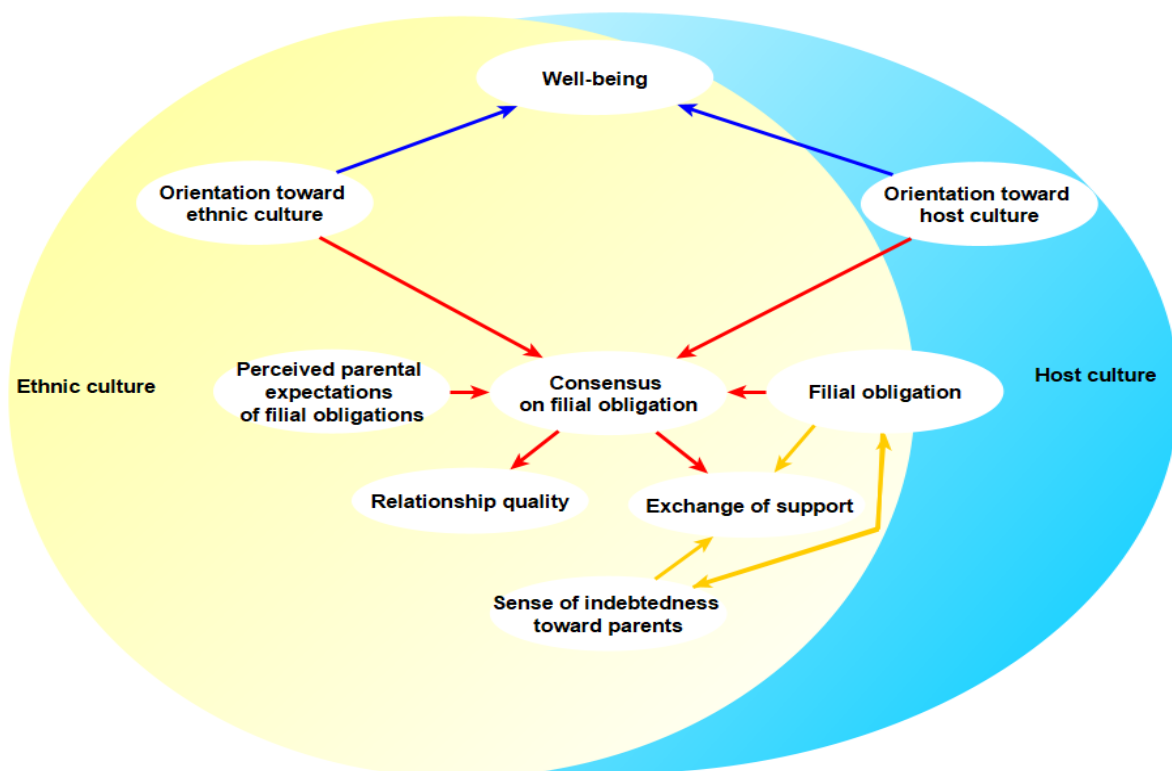
All three studies in this dissertation were based on the same sample. Therefore, I will briefly explain, how we recruited this sample, the sample itself, and the main measures used in this dissertation.

Recruitment

The aim of this study was to recruit an ethnically diverse sample of second-generation immigrants, which represents the population of second-generation immigrants in the German-speaking part of Switzerland adequately. For this, we recruited participants from a University of Applied Sciences, a job agency, a post-graduate university program for intercultural studies, several NGOs, social media (e.g., WhatsApp, Facebook, and Instagram), and personal contacts including their networks in the German-speaking part of Switzerland.

Figure 1

The Concept of this Dissertation



Note. Arrows in yellow denote the associations of Study 1, in red the ones of Study 2 and in blue the ones from Study 3

Inclusion Criteria

We only included participants, who (1) had at least one parent, that immigrated to Switzerland, (2), were themselves born in Switzerland or moved here before the age of six, and (3) have at least one parent, who was alive at the time of the study.

Sample

In total, we recruited $N = 508$ adult second-generation immigrants living in Switzerland. The sample consisted of two thirds (67.1%) self-identified women and one third (32.9%) self-

identified men. Four participants identified themselves as neither male nor female. The mean age of the participants was $M = 32.16$ ($SD = 10.4$).

Participants were grouped into four regions based on the ethnic background of their mother (or the father, if the mother was Swiss): (1) Northwestern European countries (e.g., Germany, France; 21%), (2) Southern European countries (e.g., Italy, Spain; 25%), (3) Eastern European (e.g., Poland, Hungary, Ukraine) and Former Yugoslavian countries (e.g. Serbia; $n = 31$), and due to the subsample sizes (4) Non-European/Non-Western countries (23%).

Measures

Vancouver Index of Acculturation

The Vancouver Index of Acculturation (VIA; Ryder et al., 2000) is a bilinear and multidimensional measure for acculturation, consisting of ten items for each cultural orientation. It was shown to have good psychometric properties for multiple ethnic groups (Testa et al., 2019). Sample items for the orientation toward both cultures were: “I believe in the values of my heritage culture” and “I am interested in having Swiss friends” for the ethnic and the host culture orientation respectively.

Filial Obligations toward Parents

Filial obligations (FO) are a common measure to study normative solidarity (Daatland & Herlofson, 2003; Dykstra & Fokkema, 2012; Hwang et al., 2022). They measure the degree to which adult children feel obligated to give support to their parents or to what extent parents expect to get support from their children (Rossi & Rossi, 1990). A sample item was “In old age, parents must be able to live in with their children”.

Perceived Parental Expectation of Filial Obligations

For the parental expectations of filial obligations, we asked the children to what extent their parents would agree to statements regarding FO. This approach adds the unique perspective of the parental expectations of filial obligations, that the child *actually* experiences rather than what the parents expect (Unger et al., 2009). A recent US-Study on adolescent immigrants and their parents showed that both generations can accurately rate the degree of agreement to values of the ethnic and host culture of the other generation (Sun & Geeraert, 2021). Thus, participants are probably able to rate parental expectations of filial obligations. We used the same items for parental expectations as for the children’s filial obligations, with a different introductory statement and a different rating scale (see Study 2 for further details).

Sense of Indebtedness

To measure the feelings of indebtedness toward parents for what they sacrificed as immigrants for their children, we used the Sense of Indebtedness toward Parents (SIP) scale by Kang (2010), originally consisting of 12 items. A sample item was “I owe my parents a lot for what they have sacrificed for me as immigrants”.

Relationship Quality with the Parents

Relationship quality to parents was measured with one item per parent. A sample item was: “How would you rate the relationship to your mother?”.

Support Exchange Between Adults and Their Parents

The amount of support adults exchange with their parents was measured with the Intergenerational Support Scale (ISS; Fingerman et al., 2011), consisting of five items that measures emotional, practical, associational, and financial support adult give their parents and receive from them. Even though both parental and children’s reports on the amount of support given or received can be biased toward over- or underestimating the amount, self-reports on support exchange overlap to a considerable amount with the other generations report (Cheng et al., 2015). Thus, asking the children, how much support they give and receive was adequate for this dissertation. Sample items were “In the last twelve months, how often did you give advice to your parents?” and “In the last twelve months, how often did your parents provide you with emotional support?” for the support adults exchange with their parents.

Subjective Well-being

We measured subjective well-being according to Diener (1994), including cognitive and affective aspects of well-being. For the cognitive aspect of well-being, we used the German version of the Satisfaction with Life scale (SWLS; Diener et al., 1985; Schumacher, 2003). For the affective aspects of well-being, we used the German version of the Positive and Negative Affectivity Schedule (PANAS; Breyer & Bluemke, 2016; Watson et al., 1988). A sample item for life satisfaction was: “The conditions of my life are excellent”. Sample items for PANAS were “distressed” for negative affect and “enthusiastic” for positive affect.

Statistical Analyses

Study 1. In this study, we aimed to provide evidence the German version of the Sense of Indebtedness toward Parents (SIP) is reliable and valid in an ethnically diverse sample of Swiss second-generation immigrants. We first estimated a Confirmatory Factor Analysis (CFA) to confirm the proposed one factor model of SIP and calculated Cronbach α and

McDonalds ω for reliability. In the second step, we aimed to establish Measurement Invariance across the four immigrant groups. Third, we estimated two Structural Equations Models (SEM) to establish construct validity (showing the association between SIP, filial obligations, and support given to parents) and incremental validity (analyzing the incremental value of SIP over filial obligations in the explanation of support given to parents). And last, we ran a t-test to analyze gender differences on SIP.

Study 2. In this study, we investigated the role of the consensus on filial obligations between adults and their parents as a mediator for the association between acculturation and three aspects of intergenerational relations (i.e., giving support to parents and the relationship quality to both parents) among men and women. To investigate these associations, we estimated a multi-group SEM for women and men separately.

Study 3. In the last study, we examined (1) the association of acculturation and subjective well-being by estimating a SEM, (2) the moderating role of host culture orientation on the association between the ethnic cultural orientation and subjective well-being again by estimating a SEM, and (3) the association between acculturation and well-being, separately for women and men with a multi-group SEM.

Synopsis of Results

Study 1. This study supported the theoretically proposed one-factor structure for the German version of the Sense of Indebtedness toward Parents (SIP) scale, suggested good reliability and provided evidence of its partial scalar invariance across four immigrant groups. Additionally, the study and partial scalar invariance across four immigrant groups. A further analysis revealed a positive association between SIP and filial obligations in line with one hypothesis in this study. In addition to filial obligations, SIP was positively linked to giving support to parents, which was also in line with our hypothesis. In contrast to one study hypothesis, men experienced higher SIP than women.

Study 2. Results showed a positive association between ethnic culture orientation and consensus on filial obligations. No association was found between host culture orientation and the consensus. The orientation toward the ethnic culture was positively associated with all three aspects of intergenerational relations (i.e., relationship quality to both parents and support given to parents), whereas the orientation toward the host culture was not associated with any aspect of intergenerational relations. Furthermore, Study 2 showed a positive link between the consensus on filial obligations and all three aspects of intergenerational relations among women. Among men the consensus was only positively associated with support given to

parents. The consensus mediated the association between ethnic culture orientation and all three aspects of intergenerational relations among women, but not men. Finally, the consensus neither mediated the link between host culture orientation and any aspect of intergenerational relations among women nor men.

Study 3. The SEM showed that both the orientation toward host and the toward ethnic culture were positively related to well-being. Furthermore, the interaction between both orientations had a significant effect on well-being. The simple slope analysis revealed that if ethnic culture orientation is high, the orientation toward the host culture is irrelevant for the well-being, which contrasts with one hypothesis of this study. The analysis showed that if both cultural orientations are low, well-being is low. In the SEM, both cultural orientations were significantly associated with well-being among women, but not men.

General Discussion

The goal of this dissertation was to shed light on the intergenerational relations and the well-being of Swiss second-generation adult immigrants. Study 1 and 2 focused on different aspects of the intergenerational relations, whereas Study 3 investigated the association between acculturation and well-being.

Acculturation and Intergenerational Relations

Study 1 investigated the association between sense of indebtedness, filial obligations, and support given to parents. It provided evidence, that SIP is a reliable and valid measure for the feelings of indebtedness among a diverse sample of Swiss second-generation immigrants. The results suggested that SIP and filial obligations are positively associated with each other, and support given to parents. SIP explains additional aspects of support given to parents that filial obligations do not. In contrast to one hypothesis, men experienced higher SIP than women.

Kang and Raffaelli (2015) suggested that women might be more prone to experience sense of indebtedness due to culturally specific gender roles. Since women tended to give more support to their parents than men, it might be that they have already given back to their parents and therefore were able to reduce their perceived debt, which would explain the lower SIP among women.

Second-generation immigrants who explore their ethnic background and culture in depth develop a higher sense of indebtedness. A further analysis (not shown in Study 1) suggested that when second-generation immigrants feel a strong connection to the ethnic

culture, they experience a higher sense of indebtedness, whereas they experience lower sense of indebtedness when they engage more strongly with the host culture. Second-generation immigrants actively process past experiences as immigrants by engaging with ethnic peers (Kang & Larson, 2014). When second generation immigrants explore their ethnic background and - culture (i.e., aspects of their ethnic identity; Phinney & Ong, 2007), they seem to develop an understanding of their ethnic culture. This seems to foster an understanding for parental sacrifices and hurdles. To the contrary, if second generation immigrants strongly engage with the host culture, they might develop less understanding for their ethnic culture and their parent's situation.

Sense of indebtedness captures aspects of the attachment of immigrant children to their parents. Sense of indebtedness is based on children's experiences with their parents, that a child built over the course of the childhood (Kang & Raffaelli, 2015). Hence, it captures aspects of attachment (i.e., the emotional bond that the child developed; Fraley, 2019) to the parents, which could explain why a high orientation toward the ethnic culture is positively linked to SIP, while a high orientation toward the host culture is negatively associated with SIP.

Study 2 investigated the consensus on filial obligations as a mediator for the association between acculturation and aspects of intergenerational relations. The results showed that the consensus on filial obligations mediated the association between ethnic culture orientation, and all three aspects of intergenerational relations among women, but not men. The consensus did not mediate any association between host culture orientation and any aspect of intergenerational relations.

The ethnic culture is strongly related to the intergenerational consensus. Filial obligations are a *fundamental* part of a culture (De Valk & Schans, 2008). Since second generation immigrants are socialized into the ethnic culture by their parents, this culture probably is highly relevant for the consensus on filial obligations, whereas the host culture seems much less relevant for the consensus. Expectations regarding family support are more closely related to the culture of the parents than the host countries culture. The mediating effect of the consensus on filial obligations on the association between ethnic culture and all three aspects of intergenerational relations shows how important the consensus on filial obligations is for intimate and supportive relationships with the parents in immigrant families.

Acculturation related intergenerational differences are not an aspect of normal development. A lack of intergenerational consensus between children and their parents can occur as a natural part of development (Smetana et al., 2003) and is usually temporary (Steinberg, 1990). Thus, intergenerational differences on expectations, values, and behavior

can be considered aspects of normal developmental processes. However, acculturation related differences are specific to immigrant families and not a part of natural development (Juang et al., 2012). They can occur because of the different socialization of the two generations into the ethnic and the host culture.

Negotiating an intergenerational consensus poses an important task for second-generation immigrant children in the relationship to their parents (Cahill et al., 2021). When normal processes of individuation and separation from parents during adolescence are over, profound cultural differences may become apparent (Lui, 2015). Buckingham and Brodsky (2015) suggested in a small study, that, on the one hand, value differences pose a higher risk for intergenerational conflict, because they are seen as profound differences. A similar process could be true for the norms of filial obligations. Behavioral differences, on the other hand, were rather seen as benign in the study of Buckingham and Brodsky (2015).

In sum, Study 1 and 2 suggest that a close connection to the ethnic culture and exploration of said culture fosters a deeper understanding for the parents (e.g., their sacrifices, motives, and expectations). The ethnic culture, on the one hand, plays a key role in fostering close, intimate, and supportive intergenerational relations. Thus, it might act as a protective factor in intergenerational relations (Cahill et al., 2021). The orientation toward the host culture, on the other hand, seems to be associated with less understanding of the ethnic culture and the parents. Whether a high orientation toward the host culture poses a risk for more problems in the intergenerational relations of Swiss second generation immigrants remains unclear. For second-generation immigrants navigating both cultures within the family context continues to be a challenging and ongoing task in adulthood (Lui, 2015).

Acculturation and Well-being

Study 3 investigated the complex association of acculturation and well-being. Both cultural orientations were positively linked to second-generation immigrants' well-being. The results did not show that integration was the best strategy for Swiss second-generation immigrants' well-being. They rather showed the strategies of separation or assimilation seemed to be more beneficial for immigrants' well-being and that marginalized second-generation immigrant experienced the lowest well-being.

A higher orientation toward the host culture could be related to life satisfaction, because it gives immigrants the tools to build good life conditions for themselves. An in-depth analysis of the results (not shown in Study 3) showed that SWLS was positively associated with host culture orientation, but not with ethnic culture orientation in line with a recent study (Dimitrova

et al., 2012). The host culture orientation could be more important for SWLS than ethnic culture orientation because it equips immigrants with the competencies (e.g., language, knowledge of culture, education) to live an economically successful life in the host society. De Vroome & Hooghe (2014) showed that adverse economic conditions are associated with lower life satisfaction among second generation immigrants. In their analysis, the link between belonging to the second generation and SWLS diminished, when they included economic factors (e.g., financial problems). Thus, a high engagement with the host culture might be related to SWLS, mediated through economic factors.

Combining both cultures is difficult to navigate in everyday life for Swiss second-generation adults. In contrast to U.S. meta-analyses (Nguyen & Benet-Martínez 2012; Yoon et al., 2013), Study 3 showed that the acculturation strategies of separation or assimilation are more beneficial to Swiss immigrant's well-being than integration. Even though Switzerland has had a long immigration history, a substantial part of the society still seems to reject certain aspects of other cultures (e.g., veiling of Muslim women: D'Amato, 2008). Furthermore, Switzerland can be viewed as a *halfway favorable* country for immigrants (Solano & Huddleston, 2020), more favorable regarding health care and the labor market and less favorable regarding anti-discrimination and naturalization. This ambivalent integration climate poses a distinct challenge for the second-generation because feeling a natural connection toward both cultures is a unique feature of children of immigrants (Sam & Oppedal, 2003).

Navigating Between Two Cultures

Taken together, the three studies suggest that acculturation plays an important role for the intergenerational relations and well-being among second-generation immigrants in Switzerland. The orientation toward the ethnic culture comes with a deeper understanding of the parents, which fosters good and supportive relationships with them. Supportive family relationships are an important source for immigrants' well-being (Vera et al., 2020). A close connection to the host culture offers the second-generation various resources for a successful development and well-being. Overall, both cultures have positive aspects for the lives of second-generation immigrants in Switzerland. However, combining both cultures appears to be a challenging and ongoing task in second-generation immigrants' lives. Thus, for the positive development across adulthood, for second-generation immigrants it is vital to successfully navigate between both cultures.

Strength and Limitations of this Dissertation

The results of this dissertation should be interpreted considering the strengths and limitations.

Strengths. First, this study is based on a large and ethnically diverse sample of second-generation immigrants in Switzerland. It adequately represents the four regions, immigrants in Switzerland immigrated from (FSO, 2021b). Second, in contrast to other European studies (e.g., Dimitrova et al., 2014; De Valk & Schans, 2008; De Vroome and Hooghe, 2014; Jasinskaja-Lahti & Liebkind, 2007), this dissertation included comprehensive measures for acculturation, well-being, and several aspects of intergenerational relationships. They allow to take a deeper look at the situation of the second generation. And third, Studies 1 and 2 focused on the role of expectations regarding family support, and the role of emotional and motivational aspects in support exchange in intergenerational relations. This combines the lack of focus on intraindividual aspects of intergenerational relations against the larger societal and demographic context, which are two important, but understudied features of intergenerational relations in the past decade (Fingerman et al., 2020a). Thus, Studies 1 and 2 are highly valuable additions to the research on second generation immigrants, especially in Europe.

Limitations. First, all three studies are based on a cross-sectional sample. The acculturation of the second-generation is a process that takes place over the course of their development (Sam & Oppedal, 2003). At the same time, children experience parental sacrifice and become socialized into family related expectations (Kang, 2010; Min et al., 2012). Thus, the acculturative processes are highly intertwined with the SIP and filial obligations in Studies 1 and 2. Hence, it is not possible to disentangle how these constructs influence one another, which precludes a deeper understanding of the mechanisms underlying them.

Second, this dissertation only included the second-generation. For a more comprehensive picture of family dynamics, the parents view would have been a valuable addition (Fingerman et al., 2020a).

Third, the measures regarding intergenerational relations mostly asked to rate aspects in the relationship toward the parents, rather than asking for example how much support they gave each parent separately. Even though separate items for the mother and father are usually highly correlated (Cheng et al., 2015), including separate items for each parent could have offered a more nuanced picture of intergenerational relationship dynamics.

And last, even though this dissertation is based on an ethnically diverse sample of immigrants, the analyses in the three studies were based on the whole sample, without more

detailed analyses of the differences among the four immigrant groups. Even though, this approach allows general conclusions about the situation of second-generation immigrants in Switzerland, the intergenerational dynamics in each immigrant group could differ from one another on the group (e.g., the region of origin) and subgroup level (e.g., the country of origin).

Future Directions in Intergenerational Research

Based on the findings of this dissertation, its strengths, and limitations, I would like to focus on several aspects in future studies.

Context-specific Acculturation Measures

Acculturation is a complex phenomenon happening in different social contexts (Sam & Oppedal, 2003). Acculturation measures such as the Vancouver Index of Acculturation (Ryder et al., 2000), the Acculturation Rating Scale for Mexican-Americans II (Cuellar et al., 1995) or the Asian American Multidimensional Acculturation Scale (Gim Chung et al., 2004), three of the most frequently applied acculturation measures (Yoon et al., 2020) use items that assess acculturation globally across all contexts of life. This dissertation suggested that not both cultures are equally important in all contexts. To understand the role of each culture more closely across the different domains in life, acculturation research should incorporate measures that capture the orientation toward both cultures depending on the context.

Include Intraindividual Aspects in Intergenerational Research

Sense of indebtedness as new concept in intergenerational research focusses on emotional and motivational aspects of support in immigrant families, founded on the idea, that immigrants owe their parents a debt for the sacrifices they made (Kang, 2010). A recent study from Finland (Turjanmaa & Jasinskaja-Lathi, 2020) suggested that aside from feelings of indebtedness immigrant children feel grateful toward their parents for what they have done for them. Thus, sense of indebtedness might only be one relevant emotion in intergenerational research among immigrant families. Including gratitude into the research on intergenerational relations would for one allow to get a more comprehensive picture of intergenerational family dynamics. Since gratitude has been shown to promote well-being (Emmons & Mishra, 2011), including gratitude in future studies would also strengthen the understanding what factors are important for positive intergenerational relationships and well-being.

Furthermore, future studies should investigate how second-generation immigrants from different ethnic cultures navigate their lives. Combining two cultural systems that are distinctly different (regarding expectations, values, religion, gender roles, and traditions) might be especially challenging for the relationships of adult immigrants and their parents. Therefore,

the second generation might feel more torn between their parent's and the Swiss culture, which could be associated with experiencing higher ambivalence (i.e., simultaneously experiencing positive and negative emotions; Luescher & Pillemer, 1998) in intergenerational relations.

Research That Represents Our Global and Diverse Societies

Our Western societies have not only become diverse in terms of ethnicity and race, but also in term of gender identity and sexual orientation. Research on intergenerational relations has only recently begun to focus on Lesbian, Gay, Bisexual, Transgender, and other members of gender identity and sexual orientation minorities (LGBT+) in the past decade (Reczek, 2020). LGBT+ adults tend to experience more difficulties in their intergenerational relationships than people, who are cis-gender and heterosexual (Fischer & Kalmijn, 2021; Hank & Salzburger, 2015). Moreover, most samples in psychological research rely on around 10% of the world's population (Thalmayer et al., 2021). Considering recent findings and current demands for more inclusivity, future studies on intergenerational relations should aim to use samples that include more diverse groups (regarding ethnicity, race, gender, and sexual orientation). By including these groups, psychology will lay the groundwork for theoretical models that are applicable to global and diverse societies (van de Vijver, 2013). Furthermore, it will allow scholars to understand more deeply what factors and mechanisms are universal in and what are culture or group specific (Thalmayer et al., 2021). Most importantly, it will allow scholars to develop evidence-based programs targeting the challenges of minority groups.

Conclusion

This dissertation investigated the intergenerational relations of adult second-generation immigrants and their well-being. The studies provided evidence for how important the ethnic culture is for close and intimate intergenerational relations, and for how the ethnic culture fosters an understanding of the second-generation for their parents. The host culture seems to play a less important role in intergenerational relations, but an important role for well-being. This dissertation suggests that navigating both cultures successfully in family relations and life in the host society is a challenging task for the second generation. As a society, we should promote the bicultural life of immigrants. Not only because it would allow them to integrate both cultures in way that works best for their individual lives, but also because Western societies will continue to grow more diverse due to continuing migration and the demand more inclusive societies.

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Appendix A: Study I

Pfammatter, P., & Schwarz, B. (2022). Measuring Sense of Indebtedness in second-generation immigrants in Switzerland. *Psychological Test Adaptation and Development*. <https://doi.org/10.1027/2698-1866/a000026>

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Measuring Sense of Indebtedness in Second-Generation Immigrants in Switzerland

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Abstract

Sense of indebtedness toward parents (SIP) refers to feelings of debt to give back to parents for their migration related sacrifices in second-generation immigrants. In 2010, Kang developed the SIP scale to measure these feelings. The purpose of this study was threefold: (1) to provide evidence of the theoretical factor structure underlying SIP, (2) to test SIP's measurement invariance in four immigrant groups and (3) to shed light on the validity of SIP. The sample included $N = 492$ second-generation immigrants (66% female, $M_{\text{age}} = 32.39$, $SD_{\text{age}} = 10.46$) in Switzerland. Results showed good reliability, confirmed the theoretical one-factor model, and supported partial scalar invariance across four immigrant groups. Further analysis provided evidence for the SIP's discriminant and incremental validity. The measure Sense of Indebtedness toward Parents is a valuable contribution to the ongoing research on intergenerational relations in immigrant families.

Keywords

second-generation immigrants, intergenerational relations, measurement invariance, sense of indebtedness, social support

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German-speaking countries in Central-Europe have had a massive influx of immigrants in the last decades (for Switzerland: Federal Statistical Office [FSO], 2021). These immigrants have experienced many challenges in the process of migration, including language barriers or loss of their social network. Many immigrants face further burdens in the host country, such as physically demanding blue-collar jobs (for Switzerland: see FSO, 2020b). One of the main reasons for immigration and the acceptance of these difficulties is the desire to have a better life for the immigrants' families, especially for their children (for Switzerland: FSO, 2018). For these second-generation children, in turn, experiencing parental sacrifices can cause feelings of indebtedness.

Based on the Confucian concept of filial piety, Kang (2010) developed the Sense of Indebtedness towards Parents (SIP) scale to measure these feelings of indebtedness and confirmed that children of Korean parents in the US experienced them toward their parents (Kang & Larson, 2014). Migrant-specific difficulties and hardships are pronounced in many immigrant groups. Hence, we argue that the sense of indebtedness is a relevant phenomenon for immigrants' children from various ethnic backgrounds.

We aim to provide evidence that scores derived from a German version of the SIP scale are reliable and validly represent the complex feelings of indebtedness toward parents among second-generation adult immigrants from various ethnic backgrounds.

The Original Sense of Indebtedness Toward Parents Scale

Kang and Larson defined sense of indebtedness as “a person’s recognition of his or her immigrant parents’ child-centered immigration aspiration and their sacrifice for the sake of children” (2014, p. 561). The concept builds on the indebtedness theory by Greenberg (1980). Here, indebtedness was defined as “a state of obligation to repay another” (Greenberg, 1980, p. 4).

Based on this theory and the Confucian concept of filial piety (Ho, 1996), Kang (2010) conducted focus groups with Korean Americans and developed a preliminary 24-items SIP scale. This scale was reduced to 12 items that best represented the description of sense of indebtedness in in-depth interviews with Korean American young adults (Kang, 2010). These items measured on a one-factor scale emotional, motivational, and cognitive aspects of the perception of the sacrifices immigrant parents had made for their children.

Notably, from their interviews, Kang and Larson (2014) concluded that children of immigrants did not evaluate their parents' sacrifice positively until adolescence. Moreover, their sense of indebtedness continued to develop throughout the transition into young adulthood. However, the authors have not investigated the construct in older age groups such as middle adulthood. Therefore, we did not make assumptions regarding the association of the sense of indebtedness with age in middle adulthood. Kang and Raffaelli (2016) suggested that the sense of indebtedness is stronger among women due to socialization into culturally defined gender roles. Kang et al. (2010) further pointed to a higher sense of indebtedness in adult children, whose parents sacrificed more for them. Therefore, we consider gender and degree of parental sacrifice as predictors of sense of indebtedness. Additionally, we will investigate the relation between age and sense of indebtedness.

The Relevance of Sense of Indebtedness in Intergenerational Relationships

A seminal theoretical approach in intergenerational relationships is the Solidarity Model by Bengtson and colleagues (e.g., Bengtson & Roberts, 1991). This model has often been criticized, for instance for its one-dimensional orientation (i.e., low to high solidarity) and the lack of psychological factors (Fingerman et al., 2013). With the inclusion of emotional and motivational factors, the SIP scale fulfills a request by Fingerman et al. (2013) that these kinds of factors related to family support will be more fully incorporated into research.

According to Kang and Larson (2014), sense of indebtedness was the result of adult children's active reattribution of their past experiences in the family. Thus, it adds a factor to research on intergenerational relationships that includes the past through the lens of individual construction. This enriches the strongly present-oriented, sociological Solidarity Model.

The Relevance of Sense of Indebtedness in Second-Generation Immigrants from Various Ethnic Backgrounds

Although sense of indebtedness is rooted in the Confucian concept of filial piety (Kang, 2010), we argue that it is applicable to immigrants from diverse ethnic backgrounds. Moreover, we argue that the specific burdens of migrant families make it necessary to develop a measure that refers to the experiences of these families.

The indebtedness theory assumes, that the degree of sense of indebtedness depends on the extent of the costs incurred by the donor (Greenberg, 1980). Children in migrant families experience specific hardships and sacrifices made by their parents (Foner & Dreby, 2011). Boski (2013) described the situation of migrants in Western societies, especially those who came for economic reasons, as a self-sacrifice undertaken for long-term goals, such as a better life for their family. They left behind their social network and arrived in a country, in which they often did not know the language. Characteristics for this group in the host country often include low-skilled jobs, a high proportion of extra work hours, uncertain legal status, and other hardships (for Switzerland: see FSO, 2020a). These experiences are common among immigrants from diverse ethnic backgrounds but different from indigenous individuals. Recent discussions in this field further pointed to specific challenges for individuals in immigrant families caused by different experiences between the first and the second generation (Foner & Dreby, 2011). A migrant specific measure for feelings of debt

toward parents is therefore warranted in intergenerational research. We aim to fill this gap in the study of intergenerational research in immigrant families with the new SIP measure.

Beside Kang (2010), further qualitative studies have illustrated sense of indebtedness. Recent US-American qualitative studies demonstrated that second-generation immigrants from diverse ethnic backgrounds recognized and appreciated their parents' sacrifices (Foner & Debry, 2011; Nesteruk, 2021). Regarding European research, Turjanmaa and Jasinskaja-Lathi (2020) indicated in their qualitative study from Finland that most of the interviewed second-generation adolescents expressed feelings of indebtedness toward their parents regardless of their ethnic background (i.e., Africa, Middle East, Europe, Former Soviet Union, USA, Asia). These qualitative studies have underlined that sense of indebtedness towards parents is a relevant global phenomenon of intergenerational relationships in migrant families. Consequently, we expected that sense of indebtedness toward parents is applicable to intergenerational relationships in immigrant families from diverse ethnic backgrounds in different host societies.

Distinguishing Sense of Indebtedness from other Constructs

At first glance, sense of indebtedness shows similarity to the established concepts of filial obligations and reciprocity. Both are central constructs in the Solidarity Model (Bengtson & Roberts, 1991), as well as in the Confucian concept of Filial Piety (Ho, 1996), and represent culturally defined norms. Filial obligations describe how adult children should behave toward and support their parents (Rossi & Rossi, 1990). Reciprocity describes a social norm stating that help and support a person gives to another person will be given back over time (Gouldner, 1960). This means that filial obligations and reciprocity express what *should* be done. As outlined above, sense of indebtedness covers emotional, motivational, and cognitive interpretations by the children (Kang et al., 2010), and thus, refers to why a person *wants* to give back.

Nevertheless, there is a strong overlap between the concepts. Following Kang and Larson (2014), family obligations and reciprocity as normative aspects of the intergenerational relationships should function as predictors of SIP. When cultural norms of supporting parents and giving back are high, SIP should also be high.

Reciprocity has also been investigated in terms of a real or perceived balance between give and take (Schwarz et al., 2010; Uehara, 1995). Then, reciprocity focusses on social support that is currently being exchanged. Sense of indebtedness covers broader sacrifices and burdens of parents, not specific acts of social support. Additionally, it evaluates memories of behavior in the past. Therefore, we expected reciprocity's association with SIP to be positive, but weak when reciprocity is measured as current balance in exchange of support, because neither the time frame nor the content of the measures strongly overlap with SIP.

Research has shown that filial obligations were positively associated with aspects of support given to parents (Schwarz et al., 2005; Silverstein et al., 2012). Since sense of indebtedness expressed motivational aspects to support parents, we also expected a positive association with support given to parents. Based on the argumentation that sense of indebtedness is a construct distinct from filial obligations, we further hypothesized that it shows an association with support given to parents that goes beyond the effect of filial obligations.

In the German language, for the expressions for “in der Schuld stehen” [indebtedness] and the emotion “Schuld” [guilt] show strong similarity. However, guilt is a self-conscious emotion that arises when a person does something wrong or transgresses rules. Even when guilt is conceptualized as an interpersonal phenomenon (Baumeister et al., 1994), causes of guilt are damages and loss or stress done to another person. SIP refers to the sacrifices of the parent but not to misbehavior of the adult child. With respect to guilt in intergenerational

relationships, Kalmijn (2020) summed it up as an unclear theoretical construct, which has rarely been investigated. Moreover, research so far has only used one-item measures of guilt between parents and children (Boll & Filipp, 2002; Kalmijn, 2020). Therefore, we decided not to validate the SIP measure against guilt measures.

In sum, we expected that SIP is positively related to filial obligations, reciprocity, and support given to parents.

The Present Study

The present study aims to provide evidence that the German version of the SIP scale produces reliable and valid scores among second-generation immigrants of various ethnic backgrounds. The SIP scale (Kang, 2010) is designed for research on intergenerational relationships in immigrant families. Based on the theoretical background we defined four hypotheses for the present study:

Hypothesis 1: The German version of SIP scale is a one-factor scale represented by twelve items.

Hypothesis 2: The SIP scale is strictly invariant across ethnic groups.

Hypothesis 3: SIP is (a) positively associated with filial obligations, (b) positively associated with reciprocity, (c) stronger among women than men, and (d) higher among adults whose parents have sacrificed more.

Hypothesis 4: SIP is in addition to filial obligations positively associated with support given to parents.

Method

Procedure

We conducted an online survey in the German speaking part of Switzerland. To obtain a diverse sample, we recruited participants by advertising in various places, such as a Swiss university of Applied Sciences, a job center, an organization for second-generation

immigrants in Switzerland, a center for cultural and language integration, as well as through social media (Facebook and WhatsApp). We included participants, who (1) had at least one parent who migrated to Switzerland, and (2) either were born in Switzerland or moved there with their parents before the age of six.

Participants

Our sample consisted of $N = 492$ adult children of immigrants in Switzerland (66% self-identified women, 34% self-identified men, $M_{\text{age}} = 32.39$, $SD = 10.46$). Because we had a gender-specific hypothesis, we excluded four participants that identified themselves as not gender-binary. Seven participants (1%) had finished obligatory school, $n = 287$ participants (59%) had finished secondary school (e.g., vocational training) and $n = 198$ (40%) had a tertiary degree (i.e., higher education). The participants' aforementioned education level is slightly higher than the level described in official Swiss records for educational distribution among second-generation immigrants: finished obligatory school ca. 20%, finished vocational training ca. 50% and finished a tertiary degree ca. 30% (FSO, 2019a). These statistics included adolescents under the age of 18, whose highest degree is obligatory school, whereas we only included adult participants, who already finished vocational training or studies. Thus, the current sample represented the educational level of second-generation migrants in Switzerland well.

The household income in Swiss francs per year in our sample was distributed as follows: less than 50,000 ($n = 88$, 18%), 50,000 to 80,000 ($n = 119$, 24%), 80,000 to 120,000 ($n = 132$, 27%) and more than 120,000 ($n = 153$, 31%). We acknowledge that this household income seems rather high. Nevertheless, it is comparable to the Swiss median annual household income per year for one person ($\sim 95,000$ CHF, FSO, 2019b). More than half of our participants were not married ($n = 298$, 61%), $n = 135$ (27%) were married or in a

registered partnership and the remaining 12% were separated, divorced, or widowed ($n = 59$). About one-third of our participants have one or more children ($n = 147$, 30%).

Most of our participants grew up with two parents who were born outside of Switzerland ($n = 356$, 72%; this variable used as a proxy for parental sacrifice) and 61% ($n = 301$) with parents who migrated from the same region. Furthermore, 3% ($n = 13$) of our participants had been born in another country and had moved to Switzerland with their parents before the age of six. Finally, our participants' parents age was $M = 61.74$, $SD = 10.39$ and $M = 64.15$, $SD = 9.47$ for the mothers and fathers, respectively.

We defined the participants' ethnic background by the maternal culture of origin. For participants whose mother was Swiss (14%), we chose the fathers' culture of origin. Participants were grouped into four regions based on their ethnic background: (1) North-Western European countries (e.g., Germany, France; $n = 101$, 21%), (2) Southern European countries (e.g., Italy, Spain; $n = 127$, 25%), (3) Eastern European countries (e.g., Poland) and Former Yugoslavian countries (e.g., Serbia; $n = 152$, 31%), and due to small sample sizes, the merged category (4) Non-European/Non-Western countries (e.g., Sri Lanka; $n = 112$, 23%). We excluded 12 participants from Anglo-Saxon countries (e.g., US, Australia) due to the small sample size.

Measures

All used measures were originally in English. In line with the TRAPD guidelines (Mohler et al., 2016), both authors translated and adapted the questionnaires to German and to the Swiss context independently from each other. Differences between the two versions of each measure were resolved in discussion.

Sense of Indebtedness

SIP was a 12-item scale, which was originally rated on a 9-point Likert scale (Kang, 2010). In a sample of $N = 124$ Korean American young adults (aged 18 – 25 years), the scale

mean was $M = 6.95$ ($SD = 0.95$, Range 5.0 – 8.92; Kang 2010). The 12-items formed a one-dimensional scale with high internal consistency (Cronbach's $\alpha = .82$; Kang & Raffaelli, 2015). We reduced the 9-point Likert scale to a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*), because shorter, fully labelled rating scales were shown to have higher reliability and are easier to comprehend for participants according to the German Survey Guidelines by GESIS (Menold & Bogner, 2016). We included both the original and the translated version of SIP with instructions in the Electronic Supplemental Material (ESM) 1 on the Open Science Framework (OSF, see Table E1 for the original English version of SIP and Table E2 for the final German translation of SIP). The psychometric properties and development of the final scale of SIP will be presented in the results section.

Filial Obligations

We measured filial obligations with a composite five-item scale from existing sources (Daatland & Herlofson, 2003; Dykstra & Fokkema, 2012; Finley et al., 1988) rated on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly disagree*). A sample item was “Children should look after their sick parents”. McDonald's ω was = .83, Cronbach α was = .79 and the sample mean was $M = 3.49$, $SD = 0.80$.

Support Given to Parents

For support given to parents, we used the five-item Intergenerational Support Scale (Fingerman et al. 2011) by adapting it to the child's perspective. It consists of five items rated on an 8-point Likert scale (1 = *less than once a year* to 8 = *every day*). A sample item was: “In the past 12 months, how often did you give emotional support to your parents?” The reliability was $\omega = .91$, α was = .86. The sample mean was $M = 5.30$ and $SD = 1.50$. Recent studies have shown that despite some differences, parental and child reports on support show high levels of agreement (Cheng et al., 2015; Kim et al., 2011). Therefore, we used adult children's reports as a measure of support given to parents.

Reciprocity

As a measure for reciprocity, we used a difference score based on the adult child's report on support he/she received from his/her parents and the amount of support the child gave to its parents. To measure support received from their parents, we used the same five items from the Intergenerational Support Scale by Fingerman and colleagues (2011), this time with the introduction: "In the past 12 months, how often did your parents give you emotional support?" The sample mean was $M = 5.18$ and $SD = 1.65$. The reliability was $\omega = .91$, α was $= .87$.

To build the difference score for reciprocity, we took the mean of parental support to the child scale and subtracted the mean of the child's support given to the parents' scale. This difference score had a mean of $M = -0.11$ with an SD of 0.89, which means, that on average, the adult children perceived that they have given slightly more support to their parents than they have received.

Statistical Analysis

We used R for data analysis with the LAVAAN package (Rosseel, 2012). All analyses in the manuscript can be reproduced with the R-Code and the data, which are available via the OSF (Pfammatter & Schwarz, 2021). We chose the robust maximum-likelihood estimator (MLR) for the confirmatory factor analysis (CFA), which has been shown to perform well for non-normally distributed data (Brown, 2015). For structural equation models (SEM), we chose the robust weighted least squares estimator (WLSMV), because WLSMV was shown to be more accurate for models with categorical variables such as gender compared to MLR (Brown, 2015).

First, we estimated a CFA with a one-factor solution for the 12-item SIP scale. Second, for the measurement invariance hypothesis, we first ran a CFA on each ethnic group separately. After that, we ran a multi-group CFA testing for configural (i.e., same model in all

groups), metric (i.e., equal item loadings on the latent factor in all groups), scalar (i.e., equal item intercepts in all groups) and strict invariance (i.e., equal error variances in all groups) across the four ethnic groups.

For hypothesis 3a to d (the association of SIP with filial obligations, reciprocity, association of gender and having two immigrant parents), we estimated a SEM. To evaluate the model fit in CFA and SEM, we used the following cutoff values for fit indices; χ^2/df (< 3 ; Hair et al., 2018); comparative fit index (CFI, $> .95$), incremental fit index (IFI, $> .95$), root-mean-square error of approximation (RMSEA, $< .06$) and standardized root-mean-square residual (SRMR, $< .08$; Hu & Bentler, 1999). For Hypotheses 3c and 3d, in addition to the SEM, we ran independent t-tests and evaluated effect sizes according to Cohen (1992).

A recent Monte-Carlo simulation study by Wolf et al. (2013) simulated CFA and SEM, which are comparable to the models we tested. This study showed that the total sample size and the subsample sizes in our study had test powers of $> .80$ and should produce accurate, stable results. Therefore, we considered our total sample and subsamples to be large enough for the planned analyses.

Results

One-Group Confirmatory Factor Analysis

The CFA results on all twelve items (see Table E3, ESM 2 for item statistics, item selectivity, and CFA results) suggested, that the model did not fit the data well ($\chi^2 = 278.59$, $df = 54$, $\chi^2/df = 5.16$, $p < .001$, CFI = .906, IFI = .907, RMSEA = .092, 90% CI [.082, .102], $p < .001$ and SRMR = .049).

Due to the partial model fit, we considered the possibility of a two-factor solution. Neither the analyses (i.e., the scree plot and the exploratory factor analysis) nor the theoretical background suggested a bi-factor model. Hence, we reduced the scale to improve the model fit by excluding two items, following the approach by Heene et al. (2011). Namely,

they suggested considering the theoretical foundation, the residual covariance matrix, the expected parameter changes, and not only model fit indices (e.g., CFI, IFI, RMSEA) for reducing a scale. We dropped item three, because of its low loading on the latent factor SIP ($\beta = -.23, p < .001$, see Table E3, ESM 2). This might be due to the reversed coding of this item. We further dropped item ten, because of its high residual covariances with other items. This item is the only one making a comparison between immigrant and native parents.

Furthermore, we allowed two error correlations due to similar item wording. The reduced scale consisting of ten items fit the data well ($\chi^2 = 137.44, df = 33, \chi^2/df = 4.16, p < .001, CFI = .949, IFI = .949, RMSEA = .080, 90\% CI [.068, .093], p < .001, SRMR = .040$). The in-detail results of the CFA for the reduced final 10-item SIP scale are presented in Table 1. The item means ranged from item four with $M = 2.58, SD = 1.35$ to $M = 3.96, SD = 1.23$ for item eleven. Item-total correlation was lowest ($r_{it} = .54$) for item four. Item one had the highest Item-total correlation ($r_{it} = .78$). Item loadings on the latent factor ranged from $\beta = .55$ for item two to $\beta = .82$ for item nine. The latent factor explained between 30% and 67% of each item's variance. Item difficulties were between .52 to .79 for item nine and eleven respectively.

The reduced scale had a reliability of $\omega = .93$ and $\alpha = .91$ with a mean of $M = 3.25, SD = 1.00$. The analyses confirmed our hypothesis that SIP is a reliable one-factor scale, at least in the 10-item version.

Measurement Invariance Analysis

The second step was to analyze the measurement invariance of SIP across the four ethnic groups. We chose the suggested cutoff values for measurement invariance by Chen (2007, i.e., $\geq .01$ for $\Delta CFI, \geq .015$ for $\Delta RMSEA$ and $\geq .03$ for $\Delta SRMR$) as indicators for configural and metric non-invariance and $\geq .01$ for $\Delta CFI, \geq .015$ for $\Delta RMSEA$ and $\geq .01$ for $\Delta SRMR$ as indicators of scalar and strict non-invariance. We included IFI with the cutoff

value $\Delta IFI \geq .01$ as a further indicator of non-invariance for all steps of invariance testing (Cheung & Rensvold, 2002).

As shown in Table 2, we were able to establish partial scalar invariance by setting three item intercepts (partial scalar invariance) free to be estimated (for the corresponding in detail single group CFA results, see Table E4, ESM 2). These results suggested that SIP was partially scalar invariant across the four ethnic groups. Since the criteria for full scalar invariance were not met, we deemed our scale partially scalar invariant. Thus, the results only partially confirmed our Hypothesis 2.

Validity of Sense of Indebtedness Toward Parents Scale

Discriminant Validity of SIP

To establish discriminant validity, we ran a SEM with filial obligations and the reciprocity index as predictors of SIP. The results of this analysis are shown in Figure 1. The overall model fit was good ($\chi^2 = 507.65$, $df = 152$, $\chi^2/df = 3.34$, $p < .001$, CFI = .894, IFI = .895, RMSEA = .069, 90% CI [.062, .076], $p < .001$ and SRMR = .054). Filial obligations were, in line with our Hypothesis (3a), positively associated with SIP ($\beta = .48$, $p < .001$), meaning the higher filial obligations were, the higher SIP was. Reciprocity was, contrary to our Hypothesis (3b), not associated with SIP ($\beta = .04$, $p > .05$). However, there was a weak positive bivariate correlation ($r = .16$, $p < .001$) between reciprocity and SIP, indicating that children who receive more support than they give, feel more indebted toward their parents (see Table E5, ESM 2), which was in line with our Hypothesis (3b). Men experienced higher SIP than women ($\beta = .09$, $p = .038$), which contrasted with our hypothesis (3c). In addition to the SEM presented in Figure 1, we conducted a t-test for gender differences on SIP (Hypothesis 3c). The t-test showed higher SIP in men than women, $t(334.65) = 2.39$, $p = .017$, $d = 0.23$, 95% CI [0.04, 0.42], which constituted a small effect. This gender difference was consistent across all regions of origin, except for Eastern European and Former

Yugoslavian Countries, where no gender difference on SIP was found, $t(92.91) = 0.61, p = .54$ (see Table E6 in ESM 2), however, test power was low ($<.60$).

Finally, participants with two immigrant parents experienced stronger feelings of SIP ($\beta = .18, p < .001$) than participants with one immigrant parent, which confirmed our hypothesis (3d). Again, we ran a t-test for the differences on SIP between adults with one or two immigrant parents to test Hypothesis 3d. This analysis showed that adults with two immigrant parents experienced higher SIP than adults with one immigrant parents, $t(256.9) = 4.36, p < .001, d = .43, 95\% \text{ CI } [.23, .63]$, which was a small effect. The analysis further showed that the older participants were, the lower their SIP was ($\beta = -.11, p = .024$). Education was not associated with SIP ($\beta = -.07, p > .05$).

Incremental Validity of SIP

To show the incremental validity of SIP, we ran a SEM with filial obligations and SIP as predictors of support given to parents. Results are presented in Figure 2 (for the corresponding correlation table, see Table E5, ESM 2). The model fit the data acceptably ($\chi^2 = 684.64, df = 232, \chi^2/df = 2.95, p < .001, CFI = .884, IFI = .885, RMSEA = .063, 90\% \text{ CI } [.058, .069], p < .001$ and SRMR = .057). As the analysis above already suggested, SIP was positively associated with filial obligations ($r = .55, p < .001$). Furthermore, SIP was positively associated with support given to parents ($\beta = .22, p = .001$). The more SIP participants experienced, the more support they provided to their parents. This effect went beyond the effect of filial obligations and supported Hypothesis 4.

Discussion

The goal of this study was to show that test scores derived from German version of the Sense of Indebtedness toward Parents scale are reliable and valid. It is the first study to test the psychometric properties of SIP in an ethnically diverse and large sample of second-generation immigrants.

In accordance with our first hypothesis, we were able to establish the proposed one-factor model for the SIP scale with good reliability, high item loadings on the latent factor and good item-total correlations providing further merit to the use of the scale. To achieve a good model fit for SIP, we reduced the scale from twelve to ten items.

Moreover, we found evidence for partial scalar invariance of SIP across an ethnically diverse sample, partly supporting our second hypothesis. Even though, we only established partial scalar invariance, recent simulation studies suggested, that partially scalar invariant models can be used to compare groups (Putnick & Bornstein, 2016). Thus, the German version of SIP can be used to compare different ethnic groups. Sense of indebtedness, originally a concept developed for Korean American second-generation immigrants (Kang, 2010), seems to be relevant in second-generation immigrants from diverse ethnical backgrounds living in Switzerland. This is in line with a Finnish study, where immigrants from diverse ethnic backgrounds expressed sense of indebtedness toward parents (Turjanmaa & Jasinskaja-Lathi, 2020). The empirical evidence corroborated our assumption that sense of indebtedness may be a universal concept in second-generation immigrants.

Evidence for validity was found. As hypothesized (Hypothesis 3a), filial obligation and sense of indebtedness were related, but distinct concepts in intergenerational relations (Kang, 2010). Moreover, SIP was, as predicted, weakly associated with the actual reciprocity index, confirming our Hypothesis 3b. The results suggest that the (re)attribution of parental sacrifices in the past, which is covered in the SIP scale, differs from actual reciprocity in the present study.

Contrary to our expectation (Hypothesis 3c) and the assumptions of Kang et al. (2016), men experienced a stronger sense of indebtedness compared to women. Women gave more support than they received from their parents (i.e., their reciprocity value was negative), and the association between reciprocity and SIP was weakly positive. Therefore, we would

argue that by giving back to parents, women have already reduced their perceived debt, and consequently feel less indebted than men, who received more support than they gave to their parents.

A similar effect could be probably true for the relation between age and SIP. We found that older participants feel less indebted toward their parents. Older participants give back more support to their parents than they received (i.e., the association between age and reciprocity was negative). Thus, older participants have reduced their perceived debt toward their parents and therefore probably feel less indebted toward their parents.

Furthermore, consistent with our Hypothesis 3d, children with two immigrant parents reported a higher sense of indebtedness than participants with one immigrant parent. Children with two immigrant parents probably experience more parental sacrifice than children with one immigrant parent (Boski, 2013), and therefore feel more indebted toward their parents.

Last, SIP showed incremental value in predicting support given to parents over filial obligations (Hypothesis 4). This result highlights that sense of indebtedness is relevant for the understanding of intergenerational relations in immigrant families beyond established constructs.

Limitations

The results of this study should be interpreted in light of their limitations. We were unable to compare the German version of SIP to the original SIP version in English, since the original data were unavailable, and because the English version of SIP has never been tested in a large ethnically diverse sample. Nonetheless, we adhered to the TRAPD translation guidelines (Moehler et al., 2016). Moreover, we were able to confirm the good reliability of SIP, its one-factor structure and the theoretically based relations to filial obligations and support given to parents. Hence, we assume the German version of SIP to measure the same construct as the English original. We reduced the initial twelve item scale to ten items. Since

this is no longer a confirmatory approach, future studies confirming the uni-dimensionality of SIP will be necessary.

The sample size(s) might be critical: (1) The sample size requirements for our specific CFA and SEM models were met, according to a recent simulation study (Wolf et al., 2013). However, simulation studies cannot reflect every aspect of a specific model and data. (2) Detecting measurement non-invariance can be difficult, especially in small samples (i.e., $n =$ ca. 125 participants per group). Hence, we used both fit measures that are sensitive to sample size (i.e., χ^2 , CFI, and SRMR), as well as two fit measures that are independent of sample size (i.e., IFI and RMSEA; Meade et al., 2008). Nonetheless, our results might have been biased by the sample size(s).

The proportion of female participants in our study was rather high. However, a recent large-scale study on participant characteristics in online surveys (Van Mol, 2017) has shown very similar participation rates of women. Nevertheless, it is still possible, that the high proportion of female participants influenced the presented results. Furthermore, the cross-sectional design of our data does not allow for causal conclusions.

We only have partial insight into the amount of sacrifice parents made for their children. We used the proxy variable having two immigrant parents as an indicator for parental sacrifice. An objective measure of parental sacrifice could have offered a more conclusive picture of the actual contribution of parental sacrifices in explaining sense of indebtedness.

Finally, the current version of SIP was designed for immigrant groups. Therefore, a comparison between immigrant and non-immigrant groups with the current version of SIP was not possible. However, parental sacrifice is not a migrant-specific phenomenon. In other words, it is likely that non-immigrant children also experience SIP.

Conclusion

The present study was the first to show that sense of indebtedness is a relevant construct in intergenerational relationships of second-generation immigrants from varied ethnic background, and that test scores from the German version of the SIP scale reliably and validly represent the feelings of perceived debt toward the parents among second-generation immigrants. This is a valuable addition to the research on intergenerational family dynamics in immigrant families.

Future studies should provide additional information on psychometric properties, and further the understanding of the concept of indebtedness among immigrant families. Since parental sacrifices are not a unique phenomenon among immigrants, sense of indebtedness should also be investigated in non-immigrant families.

Electronic Supplemental Material

ESM 1. Item wording for SIP in English and German. The full SIP Scale in both languages is documented in this file.

ESM 2. detailed analyses. Further analyses (CFA on the original SIP scale, Table E3; single group CFA across regions of origin, Table E4; correlation table among socio-demographic variables, sense of indebtedness, reciprocity, filial obligations, and support given to parents, Table E5; association of gender with SIP across subgroups, Table E6) are documented in this file.

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Table 1*Item Statistics and Confirmatory Factor Analysis of the Sense of Indebtedness Scale (Final Version)¹*

Item	Item Statistics					Confirmatory Factor Analysis		
	<i>M</i>	<i>SD</i>	<i>r</i> _{it}	Kurtosis	Skewness	Factor loading β (<i>SE</i>)	Item Variance	explained Variance
1	3.22	1.45	.78	-1.28	-0.26	.81*** (.04)	.34	.66
2	3.79	1.22	.54	-0.29	-0.79	.55*** (.06)	.70	.30
4	2.58	1.35	.54	-1.12	0.33	.57*** (.05)	.68	.32
5	3.63	1.37	.74	-0.86	-0.63	.77*** (.05)	.41	.59
6	3.28	1.42	.75	-1.21	-0.32	.78*** (.05)	.39	.61
7	2.99	1.48	.71	-1.42	-0.04	.73*** (.05)	.47	.53
8	3.37	1.32	.59	-1.07	-0.33	.65*** (.05)	.58	.42
9	3.61	1.36	.77	-0.88	-0.62	.82*** (.04)	.33	.67
11	3.96	1.23	.59	-0.05	-1.01	.63*** (.05)	.60	.40
12	2.98	1.38	.65	-1.20	-0.03	.70*** (.05)	.52	.48
Scale	3.25	1.03		-0.91	-0.28			

Note. $N = 492$. Estimator = robust maximum-likelihood (MLR). Yuan-Bentler corrected values for χ^2 , CFI, IFI and RMSEA. $\chi^2 = 137.44$, $df = 33$, $\chi^2/df = 4.16$, $p < .001$, CFI = .949, IFI = .949, RMSEA = .080 [.068, .093], $p < .001$ and SRMR = .040. Two error correlations allowed between item 6 and 7 and between item 1 and 2 due to similar item wording. ¹ consists of items 1, 2, 4, 5, 6, 7, 8, 9, 11, 12. *** $p < .001$

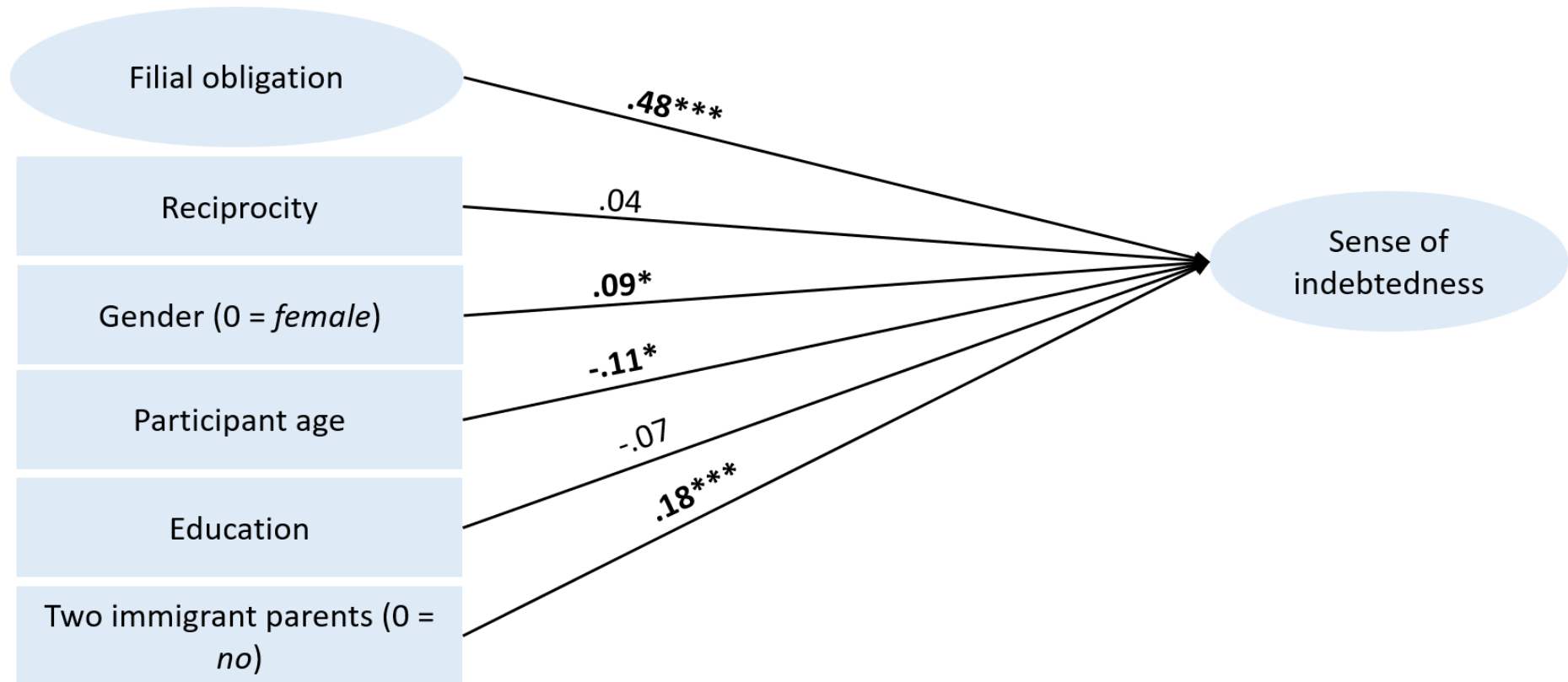
Table 2*Measurement Invariance of the Sense of Indebtedness Scale¹ Across Regions of Origin*

<i>Model</i>	χ^2	<i>df</i>	CFI	IFI	RMSEA	SRMR	$\Delta\chi^2$	Δdf	$\Delta\chi^2/df^a$	ΔCFI	ΔIFI	$\Delta RMSEA$	$\Delta SRMR$
<i>All groups</i>	137.44	33	.949	.949	.080	.040			4.16***				
<i>configural</i>	232.66	132	.950	.951	.079	.049			1.76***				
<i>metric</i>	269.40	159	.945	.946	.075	.075	29.58	27	1.10	.005	.005	.004	.026
<i>scalar</i>	361.17	186	.913	.913	.088	.092	100.66	27	3.73***	.042	.043	.013	.017
<i>partial scalar²</i>	301.26	177	.938	.938	.076	.080	32.42	18	1.80*	.007	.008	.001	.005
<i>strict³</i>	355.75	207	.936	.935	.071	.082	35.24	30.	1.17	.002	.003	.005	.002

Note. $N = 492$. Estimator = robust maximum-likelihood (MLR). ^aYuan-Bentler corrected values for χ^2 , CFI, IFI and RMSEA. ¹ consists of items 1, 2, 4, 5, 6, 7, 8, 9, 11, 12. ² Three free intercepts. ³ based on partial scalar invariance model. * $p < 0.05$. *** $p < .001$.

Figure 1

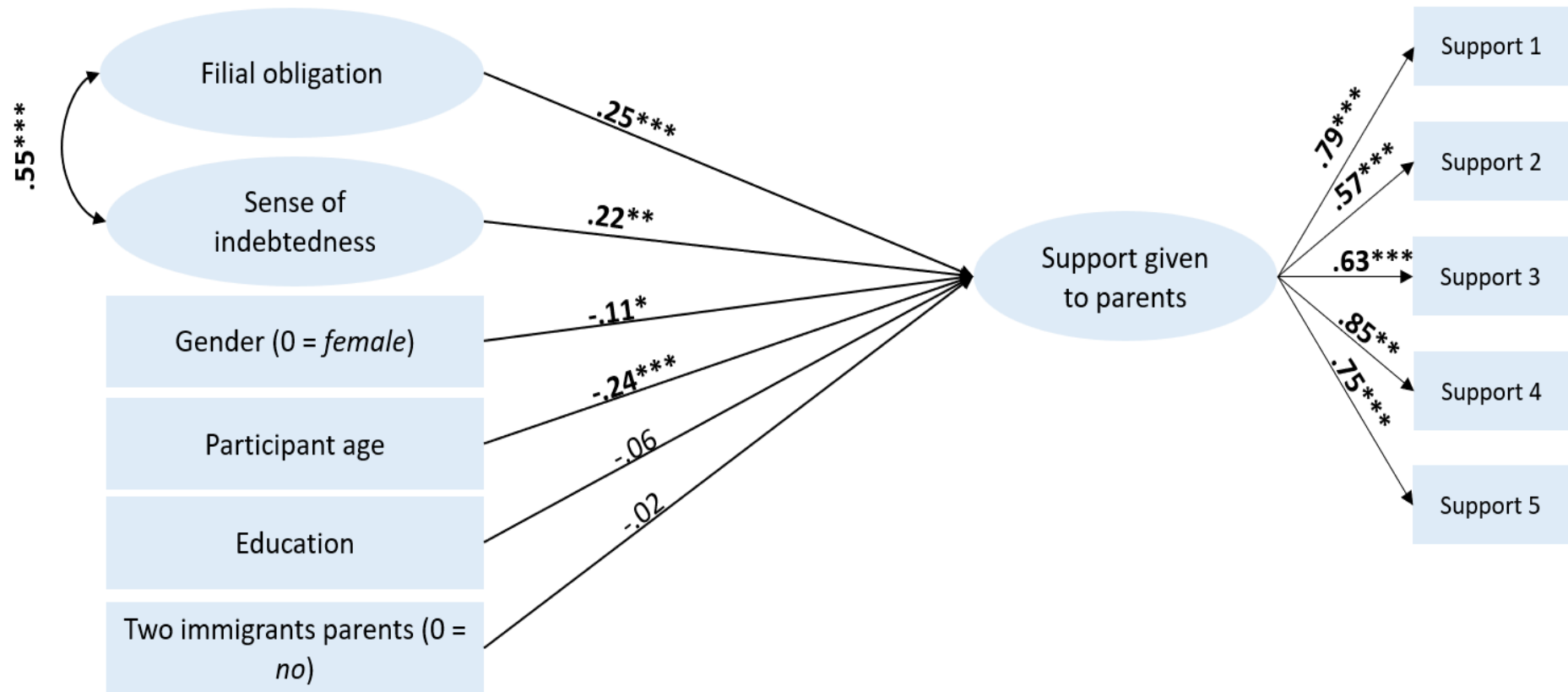
The Association of Filial Obligations, Reciprocity and Socio-Demographic Variables With Sense of Indebtedness



Note. Standardized parameter estimates. $N = 492$, $\chi^2 = 507.65$, $df = 152$, $\chi^2/df = 3.34$, $p < .001$, robust CFI = .894, robust IFI = .895, robust RMSEA = .069 [.062, .076], $p < .001$ SRMR = .054, estimator = robust weighted least squares (WLSMV). * $p < .05$. *** $p < .001$

Figure 2

The Association of Filial Obligation and Sense of Indebtedness to Parents With Support Given to Parents



Note. Standardized parameter estimates. $N = 492$, $\chi^2 = 684.64$, $df = 232$, $\chi^2/df = 2.95$, $p < .001$, robust CFI = .884, robust IFI = .885, robust RMSEA = .063 [.058, .069], $p < .001$ SRMR = .057, estimator = robust weighted least squares (WLSMV). * $p < .05$. ** $p < .01$. *** $p < .001$.

Open Data

The R-script used in this paper, as well as the data are available on Open Science Framework, OSF: https://osf.io/z8kb3/?view_only=94eca15eca6340b68e0ab459347b42c9 (Pfammatter & Schwarz, 2021)

Appendix B: Study II

Pfammatter, P., & Schwarz, B. (2023). *The role of intergenerational consensus in the relationship of adult second-generation immigrants with their parents* [Manuscript submitted for publication]. Psychological Institute, Zurich University of Applied Sciences.

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Title

The Role of Intergenerational Consensus in the Relationship of Adult Second- Generation Immigrants With Their Parents

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Abstract

Keywords

Authors' Note

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The Role of Intergenerational Consensus in the Relationship of Adult Second-Generation
Immigrants With Their Parents

Abstract

The aim of the study was to investigate the relation between acculturation of adult children and intergenerational relationships in immigrant families. Based on a sample of $N = 492$ second-generation immigrants from various cultures, we investigated whether a consensus on filial obligations mediates the association between acculturation and positive aspects of intergenerational relations such as relationship quality and support given to parents. Results showed a mediating effect of the consensus on filial obligations on the association between ethnic culture orientation, but not host culture orientation and positive aspects of intergenerational relationships. Gender did not moderate any of the investigated associations. Consensus on filial obligations seems to be closely linked to the ethnic culture of immigrants. Thus, it plays an important role for positive family interactions, whereas the host culture seems to play a much less important role for family life among immigrants.

Keywords

Second-Generation Immigrants, Filial Obligations, Intergenerational Relationships, Acculturation Gap, Social Support

Intergenerational relations have become essential in Western Societies over the past decades, due to rapid societal aging, lower birth rates, older age at first marriage, and higher divorce rates (Fingerman et al., 2020a). This led to a considerable research interest in these relationships in various contexts; one of which is immigrant families, in particular the relations of adult immigrant children, the second generation, and their parents (Foner & Dreby, 2011).

The second generation differs in their process and pace of acculturation from their first-generation parents (Sam & Oppedal, 2003; Schwartz et al., 2010; Yoon et al., 2020). This acculturative difference is linked to a variety of differences second-generation immigrants perceive in the relationship with their parents (Costigan & Dokis, 2006) such as a lack of consensus on family norms and values (Foner & Dreby, 2011; Lui, 2015). A family consensus has been suggested to be important for a positive development in general (Cahill et al., 2021) and positive for intergenerational relations (i.e., good relationship quality with parents and exchange of support; Albert et al., 2013; Lui, 2015), in particular.

Whether family consensus mediates the association between acculturation and aspects of intergenerational relationships in adult second-generation immigrants has to our knowledge not yet been studied. Thus, the present study aims to shed light on the mediating role of the family consensus in the family dynamics of adult second generation immigrants and their parents.

Acculturation and Intergenerational Acculturation Gap Among Second Generation Immigrants

Acculturation generally refers to the phenomenon that occurs “when groups of individuals having different cultures come into continuous first-hand contact” (Redfield et al., 1936, p.149). According to Berry (2005) acculturation refers to two separate processes: the orientation toward the ethnic culture and the orientation toward the host culture. Thus,

acculturation is bi-linear. In recent research, acculturation has also been described as multidimensional (i.e., including multiple domains of immigrants' lives such as language, behavior, identity, and values; Schwartz et al., 2010).

The processes of acculturation for first and second generation are fundamentally different. The first generation got enculturated and socialized into the culture they grew up in (i.e., the ethnic culture). After migration to another country, the first generation acquires competencies in the new, the host culture. In contrast, the second generation naturally grows up in two (or more) cultures and develops competencies and knowledge in both cultures. Since the first generation is more strongly influenced by the country of origin's culture, whereas the second generation are more equally influenced by both cultures, an acculturation gap between generations can occur (Sam & Oppedal, 2003). In line with this, a recent study on Latino migrants in the US found that adolescent children were higher in American behavior and language competence but lower in Spanish behavior and language competence compared to their parents (Telzer et al, 2016). However, a longitudinal study by Nieri et al. (2016) showed that the acculturation match between children and parents increased over the course of adolescence. The present study will add to this discussion by providing insights into acculturation and the acculturation gap in the relationship of adult children and their parents.

With respect to acculturation and acculturation gap, Lau et al. (2005) found that when parents were highly oriented toward the values of the ethnic culture, there was a higher difference between them and their adolescents in values and if adolescents strongly engaged with the host culture, the value difference with their parents was also higher. However, to our knowledge there is no further research on acculturation of the children and the acculturation gap in adulthood. Based on the evidence and theoretical considerations, we expect an association between acculturation orientation of the adult child and the acculturation gap.

Family Consensus in Immigrant Intergenerational Relationships

In the research on intergenerational relations, an influential paradigm is the intergenerational solidarity model (Bengtson & Roberts, 1991). This model describes six, positively associated dimensions of solidarity between adults and their parents: *associational* (e.g., frequency of contact), *affectual* (e.g., closeness between parents and children), *functional* (e.g., exchange of support), *structural* (e.g., geographical proximity), *normative* (e.g., importance of family norms) and *consensual* solidarity (e.g., intergenerational consensus on family values and norms). In many studies, support exchange and relationship quality have been found to be the most important features of this model (e.g., Albert et al., 2013; Fingerman et al., 2020b; Schwarz et al., 2005). The present study will refer to support given by the adult children and relationship quality as the characteristics of the intergenerational relationship.

The solidarity dimension of consensus on values and norms corresponds inversely to the idea of an acculturation gap in immigrant families. According to the acculturation-gap – distress model (Portes & Rumbaut, 2006; Telzer, 2010) the differences in immigrant families concerning acculturation aspects such as values, attitudes, and beliefs go beyond what is usually found in families and can be a strain on the relationship. Several studies have investigated the association between the acculturation gap and intergenerational relationships, most from Latin-American populations in the US based on adolescent-parent relationships (Telzer, 2010). The evidence was inconsistent, given the multi-dimensional nature of acculturation and the complex patterns of acculturation gaps that were investigated. In line with weak evidence of distress in intergenerational relationships due to acculturation gaps, Telzer et al. (2016) found no association between intergenerational differences in ethnic and host culture behavior and language proficiency and family functioning (see also Jung, 2013).

Thus, the acculturative value differences in immigrant families require further investigation in diverse immigrant samples and other host societies (Telzer, 2010).

The intergenerational consensus (or lack of it) on family values and norms, seems to be a more promising predictor of family functioning than behavior and language. First, intergenerational differences can be expected. Merz et al. (2009) have shown, that the second generation placed lower importance on values regarding the family, compared to their first generation parents. Second, Kalmijn (2019) suggested, adults who experience low value consensus with their parents have less face-to-face contact with them, which is considered a necessary prerequisite to give parents practical everyday support (Bengtson & Roberts, 1991). Further, lower value consensus was associated with higher intergenerational conflict (Jung, 2013; Lui, 2015). This association was stronger among adult immigrants than adolescent immigrants (Lui, 2015), which supports our idea to investigate the association between the acculturation gap and intergenerational relationships in adulthood.

In the study by Telzer et al. (2016), only the intergenerational gap in family obligations was related to family support. A Luxemburgish study found that the consensus in family values, which strongly was based on family obligations, was related to higher support given by adult children and a more positive relationship (Albert et al., 2013). Filial obligations represent an internalized norm to support parents especially in old age (Daatland et al., 2011; Dykstra & Fokkema, 2012). Studies have demonstrated that filial obligations are higher among individuals from highly collectivistic compared to individualistic countries and therefore represent aspects of the culture of origin for many immigrants (Cahill et al., 2021; De Valk & Schaans, 2008). Thus, the present study will investigate the intergenerational consensus on filial obligations as an important feature in intergenerational relations.

Gender differences are often discussed in research on intergenerational relationships. Women often give more support within the family and report on closer relationships (e.g.,

Fingerman et al., 2020a). Additionally, some studies pointed to different associations of women and men. For immigrant families, the association between acculturative dissimilarities and family conflict was stronger among women than man (Lui, 2015). Therefore, gender will be considered as a moderator for the association between acculturation and the aspects of intergenerational relations in the present study.

The Present Study

The goal of the present study was to investigate the role of the consensus on filial obligations as a mediator between acculturation and the intergenerational relationships of adult second-generation immigrants (i.e., support given and relationship quality). In line with findings from recent research, we defined four hypothesis:

Hypothesis 1: (1a) The stronger an adult immigrant is acculturated toward the host culture, the lower the consensus on filial obligations between them and their parents are and (1b) the stronger an adult immigrant orients toward the ethnic culture, the higher the consensus on filial obligations between them and their parents are.

Hypothesis 2: A higher consensus on filial obligations is associated with higher relationship quality to the mother (2a), the father (2b) and giving more support to parents (2c).

Hypothesis 3: The association between acculturation and aspects of intergenerational relations (i.e., relationship quality and giving support to parents) is mediated by the consensus on filial obligations.

Hypothesis 4: The mediating role of the consensus on filial obligations on the association between acculturation and aspects of intergenerational relations is stronger among women than men.

Method

Procedure

This study was conducted in the German speaking part of Switzerland via an online survey tool. We were able to recruit participants by various means such as a Swiss university of applied sciences, a job center, an organization for second-generation immigrants in Switzerland, a center for culture and language integration, as well as through social media (Facebook and WhatsApp). The inclusion criteria for our study were the following: (1) At least one parent migrated to Switzerland, and (2) participants were either born in Switzerland or moved here with their parents before the age of six.

Participants

The final sample consisted of $N = 492$ adult children of immigrants in Switzerland (66% self-identified women, 34% self-identified men, $M_{\text{age}} = 32.39$, $SD = 10.46$). We excluded four participants who identified themselves as gender non-binary due to the small sample size and a gender-specific hypothesis in this study. Seven participants (1%) had finished obligatory school, $n = 287$ participants (59%) had finished secondary school (e.g., vocational training) and $n = 198$ (40%) had a tertiary degree (i.e., high education level). The education level is slightly higher compared to the official Swiss educational distribution among second-generation immigrants: finished obligatory school ca. 20%, finished vocational training ca. 50% and finished a tertiary degree ca. 30% (FSO, 2019a). The official statistics included adolescents under the age of 18, whose highest degree is obligatory school, whereas we only included adult participants, who already finished vocational training or study. Thus, it was to be expected that our sample would be higher educated compared to official statistics.

The household income in Swiss francs per year in our sample was distributed as follows: less than 50'000 ($n = 88$, 18%), 50'000 to 80'000 ($n = 119$, 24%), 80'000 to 120'000 ($n = 132$, 27%) and more than 120'000 ($n = 153$, 31%). This household income is comparable

to the Swiss annual median household per capita income (~ 95'000 CHF; FSO, 2019b). More than half of our participants were not married ($n = 298$, 61%), $n = 135$ (27%) were married or in a registered partnership and the remaining 12% were separated, divorced, or widowed ($n = 59$). About one-third of our participants have one or more children ($n = 147$, 30%).

Most of our participants grew up with two parents who were born outside of Switzerland ($n = 356$, 72%) and 61% ($n = 301$) with parents who came from the same region of origin. Finally, our participants' parents age was $M = 61.74$, $SD = 10.39$, $Mdn = 60$ and $M = 64.15$, $SD = 9.47$, $Mdn = 62$ for the mothers and fathers, respectively.

We defined the participants' ethnic background by the maternal culture of origin. For participants whose mother was Swiss (14%), we chose the father's culture of origin.

Participants were grouped into four regions based on their ethnic background: (1) Northwestern European countries (e.g., Germany, France; $n = 101$, 21%), (2) Southern European countries (e.g., Italy, Spain; $n = 127$, 25%), (3) Eastern European (e.g., Poland, Hungary, Ukraine) and Former Yugoslavian countries (e.g. Serbia; $n = 152$, 31%), and due to the subsample sizes (4) Non-European/Non-Western countries ($n = 112$, 23%). We excluded 12 participants from Anglo-Saxon countries (e.g., US, Australia) due to the small sample size.

Measures

All measures used were originally in English. In line with the TRAPD guidelines (Mohler et al., 2016), the authors translated and adapted the questionnaires to German and the Swiss context independently from each other. Differences between the two versions of each measure were resolved in discussion.

We included the following socio-demographic variables in our study: Gender as a binary variable (0 = female, 1 = male), age in full years, highest achieved education (1 = *finished obligatory school*, 2 = *finished secondary school or vocational training*, 3 = *finished*

tertiary degree), and household income of the participant in Swiss Francs (1 = *less than 50'000*, 2 = *50'000 to 80'000*, 3 = *80'000 to 120'000* and 4 = *more than 120'000*).

Furthermore, we measured how far participants live from their parents with the item “How far away from your parents do you live?” (1 = *same household / house*, 2 = *less than 15 minutes away*, 3 = *less than one hour away*, 4 = *more than one hour*, 5 = *my parents live in another country*). Last we asked participants how often they were in contact with their parents with one item for digital and one for face to face contact: “How often do you have contact with your parents (over phone, via Mail, SMS, WhatsApp, Skype, etc.)?” and “How often do you have personal contact with your parents?”. The items were rated on an 8-point Likert scale: 1 = *never or less than once a year*, 8 = *every day*.

Acculturation

We used the Vancouver Index of Acculturation (VIA; Ryder et al., 2000), a bi-linear (i.e., measuring the orientation toward both cultures separately) and multidimensional (e.g., measuring traditions, identity, values, social relations, adhesion to cultural norms) measure for acculturation toward both cultures. Even though, the original scale was rated on 9-point Likert scale, Testa et al. (2019) showed that also a shorter rating scale works well for the VIA. This finding is in line with German survey guidelines (Menold & Bogner, 2016), that recommend using shorter fully labelled rating scale, because they are more comprehensible, and items tend to show higher internal consistency on shorter fully labelled rating scales. Thus, we reduced the rating scale to a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*). Sample items are “I often behave in ways, that are typically ‘Swiss’” ($M = 4.10$, $SD = .58$, $\alpha = .83$, $\omega = .88$) and “I often participate in my heritage culture traditions” ($M = 3.83$, $SD = .72$, Cronbach $\alpha = .87$, McDonald’s $\omega = .90$) for the orientation toward the host and the ethnic culture respectively.

Consensus on Filial Obligations Between Perceived Parental Expectations and Child's Filial Obligations

We decided to use the adult child's own rating of filial obligations and the parental expectations of filial obligations rated by the child for the following reasons: First, a perceived consensus reflects what the child *actually* experiences (Unger et al., 2009). And second, results from a meta-analytic review showed no moderating role of the reporting person (i.e., the adolescent or the parents) on the association between the acculturative dissimilarities and outcome variables such as relationship quality (Jung, 2013).

To build the consensus on filial obligations between perceived parental expectations and child's filial obligations, we used two measures:

Filial Obligation. We measured filial obligations with a composite five item scale from already existing items (Daatland & Herlofson, 2003; Dykstra & Fokkema, 2012; Finley et al., 1988). The scale was rated on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). A sample item was "Children should look after their sick parents". Reliability was $\alpha = .79$, $\omega = .83$, sample mean was $M = 3.49$, $SD = .80$.

Perceived Parental Expectation of Filial Obligations by Child. We measured the perceived parental expectations of filial obligations with the same composite five item scale as filial obligations. We changed the Likert scale's introduction to "My parents would...". The scale was rated on an adapted 5-point Likert scale (1 = *strongly disagree* [with this statement] to 5 = *strongly agree* [with this statement]). A sample item was "Children should look after their sick parents". Reliability was $\alpha = .84$, McDonald's $\omega = .89$. The sample mean was $M = 3.64$, $SD = .93$.

To calculate the intergenerational consensus, we used the procedure by Ho & Birman (Ho, 2010; Erratum: Ho & Birman, 2010). We calculated an absolute difference score by subtracting child's filial obligations from the perceived parental filial obligations. Then, we

recoded all values of perceived dissent, so low values indicate dissent, whereas high values indicate perceived consensus.

The mean of composite score was $M = 3.03$, $SD = .60$, $Mdn = 3.20$ with a range of 0.00 to 3.80. We decided against reporting the reliability for the composite score on intergenerational consensus because Cronbach α was shown to be biased toward lower values for differences scores such as ours (Caruso, 2004). Instead, we ran a Confirmatory Factor Analysis (CFA) to analyze model fit and functionality of the consensus on filial obligations composite score across the four ethnic groups. The CFA showed very good model fit and measurement invariance analyses showed partial scalar invariance (e.g., equal models, equal item loadings on latent factor, equal item intercepts) across all four ethnic groups. The in detail analyses are available in Table E1 the Electronic Supplemental Material (ESM) 1. Therefore, we proceeded with our analyses using the composite score for consensus on filial obligations.

Relationship Quality to Parents

Relationship quality to parents was measured with one item per parent: “How would you rate the relationship to your mother/father?”. The items were rated on a 5-point Likert scale (1 = *very bad* to 5 = *very good*). The sample mean of $M = 4.35$ and an SD of .93 and an $M = 4.09$ and an SD of 1.12 for the mother and the father respectively.

Support Given to Parents

For support given to parents, we used the five-item Intergenerational Support Scale (Fingerman et al., 2011) by adapting it to the child’s perspective. It consists of five items on an 8-point Likert scale (1 = *less than once a year* to 8 = *every day*). A sample item was: “In the past 12 months, how often did you give emotional support to your parents?” Children’s reports of support given to were shown to differ only little from the parents’ reports (Cheng et al., 2015; Kim et al., 2011). Thus, we considered the self-reported amount of support the

adults give to their parents as a valid measure for this study. The reliability was $\alpha = .86$, $\omega = .91$. The sample mean was = 5.30 and $SD = 1.50$.

Analytical Plan

We prepared our data using R Studio. For the association of acculturation with aspects of intergenerational relations mediated through the perceived value consensus we estimated a Structural Equation Model (SEM). For the SEM, we chose the robust weighted least squares estimator (WLSMV), because it was shown to perform well in models with categorical variables (e.g., gender) and non-normally distributed data (Brown, 2015). For the SEM we used the lavaan package for R (Rosseel, 2012).

To evaluate model fit in SEM we used the standard cut-off values for fit indices χ^2/df (< 3 ; Hair et al., 1998); comparative fit index (CFI, $>.95$), incremental fit index (IFI, $>.95$), root-mean-square error of approximation (RMSEA, $<.06$) and standardized root-mean-square residual (SRMR, $<.08$; Hu & Bentler, 1999). According to a recent simulation study (Wolf et al., 2013) our sample is large enough for the analyses we planned. Thus, we continued with our analyses as planned.

Results

Value Consensus as Mediator Between Acculturation and Aspects of Intergenerational Relations

We estimated a SEM for the association of the orientation toward both cultures with the perceived value consensus and aspects of intergenerational relations (see Figure 1). The corresponding correlations are presented in Table 1. The model fit the data well ($\chi^2 = 198.61$, $df = 128$, $\chi^2/df = 1.55$, $p < .001$, CFI = .919, IFI = .924, RMSEA = .047, 90% CI [.034, .060], $p = .616$ and SRMR = .051). Contrary to Hypothesis 1a, the orientation toward the host culture was neither associated with a higher consensus on filial obligations in women ($\beta = -.01$, $p = .838$) nor men ($\beta = -.16$, $p = .161$). A higher orientation toward the ethnic culture was

positively associated with a consensus on filial obligations in both women ($\beta = .38, p < .001$) and men ($\beta = .36, p = .009$), in line with our Hypothesis 1b.

In line with Hypothesis 2a, a higher consensus in filial obligations was related to a better relationship quality with the mother, although only among women the coefficient reached significance ($\beta = .44, p < .001$). For men, this association was only a positive trend ($\beta = .26, p = .071$) in the SEM. However, the bivariate correlation showed a positive association in line with our hypothesis ($r = .21, p = .005$, see Table 1). The Wald test showed no difference in the association between women and men for this association ($\chi^2 = 1.30, df = 1, p = .254$).

The association between relationship quality with the father was positive for women ($\beta = .18, p = .011$). Again, this association was not significant for men ($\beta = .19, p = .165$) in the SEM, the bivariate correlation, however, showed a positive association between consensus on filial obligations and relationship quality to the father ($r = .15, p = .049$, Table 1) which is in line with our hypothesis (2b). Again, the Wald test indicated no significant difference between women and men ($\chi^2 = 0.004, df = 1, p = .949$). Consensus in filial obligations was also related to a better relationship with the father.

Last, both women and men, who experienced a higher consensus on filial obligations gave more support to their parents ($\beta = .27, p = .002$ and $\beta = .34, p = .034$ for women and men respectively), which was in line with our hypothesis (2c). There was no difference in the association between consensus on filial obligations and support given to parents between women and men ($\chi^2 = 0.18, df = 1, p = .671$).

Indirect Effects Between Acculturation and Aspects of Intergenerational Relations

The indirect effects for each mediation path of the SEM are presented in Table 2. The consensus on filial obligations did not mediate the association between orientation toward the host culture and relationship quality to either parent or giving support to parents (neither

among women nor men), which contradicts our Hypothesis 3a. On the contrary, the consensus on filial obligations partially mediated the positive association between the orientation toward the ethnic culture and all three aspects of intergenerational relations among women ($\beta = .101$, $p = .015$ for support given to parents, $\beta = .167$, $p = .001$ for the relationship to the mother, and $\beta = .067$, $p = .026$ for the relationship to the father). Among men, the consensus on filial obligations did not mediate any of the associations between orientation toward the ethnic culture and any aspect of intergenerational relations ($\beta = .122$, $p = .142$ for support given to parents, $\beta = .095$, $p = .152$ for the relationship to the mother, and $\beta = .066$, $p = .252$ for the relationship to the father), thus partially confirming our Hypothesis 3b.

Finally, the results partially contradict the Hypothesis 4, even though the mediation effects between the orientation to ethnic culture and all three aspects of intergenerational relations were only significant among women in the SEM, the Wald test indicated no significant group differences (support given to parents: $\chi^2 = 0.05$, $df = 1$, $p = .819$, relationship to the mother: $\chi^2 = 0.96$, $df = 1$, $p = .327$ and relationship to the father: $\chi^2 = 0.00$, $df = 1$, $p = .987$). We did not test for group differences on the mediating effects between host culture orientation and the aspects of intergenerational relations, because the consensus on filial obligations did not mediate these associations.

Discussion

The aim of this study was to investigate the role of an intergenerational consensus on filial obligations as a mediator between acculturation of the adult child and aspects of intergenerational relations in a large and ethnically-diverse second-generation immigrant sample in Switzerland.

We found a positive association between the orientation toward the ethnic culture and all three aspects of intergenerational relations, mediated through the consensus on filial

obligations. The orientation toward the host culture was not associated with any aspect of intergenerational relations and the consensus on filial obligations did not mediate these associations. Contrary to our hypothesis the associations between the orientation toward either culture and aspects of intergenerational relations did not differ between women and men.

Filial obligations are core aspects of the culture of origin of many immigrants (De Valk & Schaans, 2008; Min et al., 2012). Therefore, the consensus on filial obligations is probably more closely connected to the orientation toward the ethnic culture (of the parents), but not so much to the host countries culture. Thus, a close connection to the ethnic culture seems to be relevant for the relationship between second-generation immigrants and their parents (Cahill et al., 2021). This might especially be true for the Swiss context, because in Switzerland support to parents is weakly motivated by obligation compared to other Western and Southern European countries (Brandt, 2013).

Complementing research by Lui (2015), who showed that a higher gap on acculturation is associated with higher intergenerational conflict, our results suggested, that a higher intergenerational consensus seems to foster positive intergenerational interactions. Because intergenerational relations entail both positive and negative aspects at the same time (Luescher & Pillemer, 1998), it is important to study intergenerational relationship dynamics through a strength-oriented lens (Cahill et al. 2021).

We did not find that the consensus is more important for women than men in their intergenerational relationships. A high intergenerational consensus might have equally positive effects on intergenerational relationships for both women and men, maybe because high family values promote more warmth and support in intergenerational relationships (Cahill et al., 2021). To the contrary, a lack of this consensus could be associated with more intergenerational conflict. Since women are expected to be responsible for harmony and

family cohesion, they might experience stronger expectations by their parents to align with their family values (Lui, 2015).

Overall, our study showed the important role of the orientation toward the ethnic culture for a healthy family functioning in immigrant families, which is in line with earlier work (Unger et al., 2009). The orientation toward the ethnic culture might act as a protective factor against negative development and foster positive outcomes among second generation immigrants (Cahill et al. 2021). Especially in the context of family, the orientation toward the ethnic culture might be more important for positive interactions whereas the orientation toward the host culture might be more important for aspects of life such as education and work (Arends-Tóth & van de Vijver, 2004, Lui, 2015; Nguyen & Benet-Martínez, 2012). Furthermore, in line with a recent meta-analysis, this study suggests, that the family is an important source of support for immigrants (Vera et al., 2020).

Limitations

The findings of our study should be considered within their limitations. First, we only used cross-sectional data. This precludes a causal interpretation of our findings.

Second, even though our sample size was large enough for the SEM (Wolf et al., 2013), the male subsample might have been too small for the complex SEM analyses in our study, especially since some effects we aimed to estimate were rather small (e.g., the bivariate association between consensus on filial obligations and relationship quality to both parents among men).

Third, the perceived expectations of filial obligations we used, may not reflect an actual difference between the adult child and the parents, because it may be confounded with aspects of the relationship toward the parents (Merali, 2004; Sun & Geeraert, 2021).

Fourth, we focused on the positive interactions between adult immigrants and their parents. However, family interactions often include positive and negative interactions and

emotions at the same time (Luescher & Pillemer, 1998). Including a more comprehensive measure on positive and negative aspects of intergenerational relationships could shed further light on the complex family dynamics.

And last, filial obligations are a specific measure for family related expectations, which is strongly associated with support exchange between adults and their parents than another measure for values might be. Thus, the strength of the association between intergenerational consensus and support given to parents might be weaker for a consensus based on a global measure for expectations or values. Including a more global measure would shed light on the general role intergenerational consensus for relationships between second generation immigrants and their parents.

Conclusion

This was the first study among Swiss second-generation immigrants from various ethnic backgrounds investigating the role of value consensus as a mediator for the association between acculturation and positive aspects intergenerational relations. This study showed that the value consensus is closely related to acculturation and intergenerational relations playing an important role for the relationship dynamics between adult immigrants and their parents.

Future studies should focus on using a more holistic picture intergenerational relations, aiming to understand both positive and negative aspects of the intergenerational relations among immigrants. Furthermore, scholars may want to investigate, how intergenerational relations develop over time, when adult children in different contexts have very different family values from those of their parents.

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Table 1

Correlation Table Among Socio-Demographic Variables, Acculturation Consensus on Filial Obligations and Aspects of Intergenerational Relations (for Women and Men Separately)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	-	.15*	.29**	.44**	.12	.19*	-.06	-.28**	-.58**	-.05	-.13	-.29**
2. Education ¹	.22**	-	-.06	.09	.03	-.02	-.07	-.12	-.21**	-.01	-.16*	-.16**
3. Both p. immigrated ²	.03	-.06	-	.14	.10	.16*	.05	-.09	-.19*	.10	-.01	-.15
4. Distance to parents ³	.45**	.21**	-.12*	-	-.04	.04	-.03	-.28**	-.82**	-.06	-.05	-.45**
5. Ethnic orientation	-.16**	-.04	-.10	-.16**	-	.20**	.24**	.14	.03	.34**	.25**	.25**
6. Host orientation	.11*	.01	.15**	.03	-.04	-	-.03	-.06	-.09	-.01	.01	-.03
7. CFO	-.10	-.01	-.00	-.08	.28**	-.03	-	.20*	.16*	.21*	.15*	.22**
8. Digital contact	-.25**	-.10	.13*	-.26**	.26**	-.00	.17**	-	.50**	.30**	.21**	.59**
9. F2F contact	-.50**	-.21**	.15**	-.79**	.27**	-.05	.19**	.55**	-	.15	.16*	.69**
10. Relation to mother	-.22**	-.07	.02	-.22**	.35**	.03	.36**	.62**	.44**	-	.42**	.47**
11. Relation to father	-.15**	-.11	.06	-.14*	.26**	-.03	.17**	.43**	.31**	.53**	-	.26**
12. Support given to p.	-.32**	-.18**	.10	-.44**	.32**	-.04	.21**	.70**	.71**	.64**	.40**	-

Note. $n(\text{female}) = 326$, $n(\text{male}) = 166$. Values above the diagonal are for men, values below the diagonal are for women. Both p. immigrated = Both parents immigrated; Ethnic orientation = Orientation toward the ethnic culture; Host orientation = Orientation toward the host culture; CFO = Consensus on filial obligations; Digital contact = Frequency of digital contact; F2F contact = Frequency of Face-to-face contact. Support given to p. = Support given to parents.
¹ low to high. ² 0 = no, 1 = yes. ³ 1 = same household, 5 = other country. * $p < .05$. ** $p < .01$.

Table 2

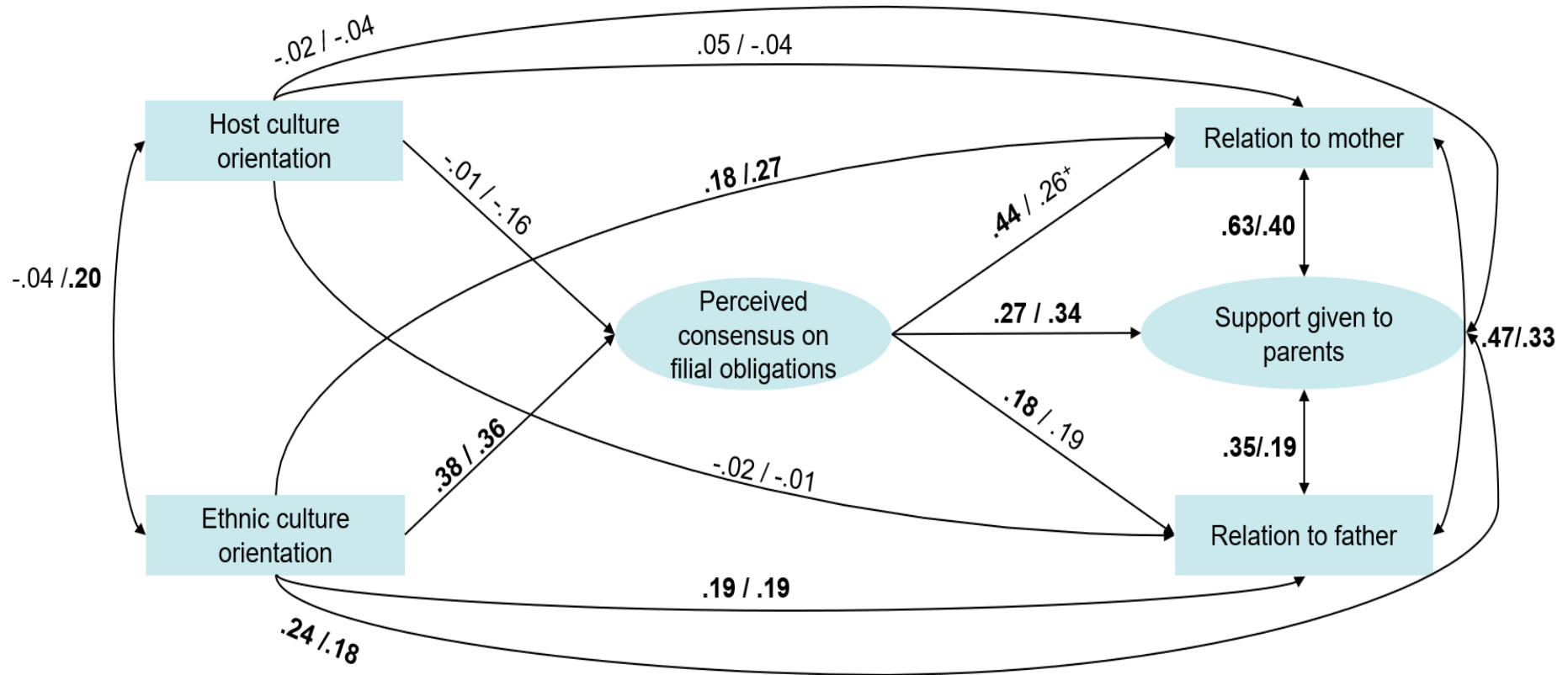
Indirect Effects of Consensus on Filial Obligations as a Mediator for the Association Between Acculturation and Aspects of Intergenerational Relations

Indirect paths	<i>B (SE)</i>	β	<i>p</i>
<i>Indirect paths for female immigrants</i>			
Host culture orientation → CFO → Support given to Parents	-.004 (.020)	-.004	.839
Host culture orientation → CFO → Relationship to Mother	-.007 (.035)	-.006	.838
Host culture orientation → CFO → Relationship to Father	-.003 (.013)	-.002	.839
Ethnic culture orientation → CFO → Support given to Parents	.112 (.046)	.101	.015
Ethnic culture orientation → CFO → Relationship to Mother	.197 (.060)	.167	.001
Ethnic culture orientation → CFO → Relationship to Father	.071 (.032)	.067	.026
<i>Indirect paths for male immigrants</i>			
Host culture orientation → CFO → Support given to Parents	-.061 (.059)	-.055	.299
Host culture orientation → CFO → Relationship to Mother	-.047 (.047)	-.043	.315
Host culture orientation → CFO → Relationship to Father	.031 (.033)	-.030	.345
Ethnic culture orientation → CFO → Support given to Parents	.136 (.092)	.122	.142
Ethnic culture orientation → CFO → Relationship to Mother	.105 (.073)	.095	.152
Ethnic culture orientation → CFO → Relationship to Father	.070 (.061)	.066	.252

Note. CFO = Consensus on Filial Obligations. *n*(Female) = 326, *n*(Male) = 166.

Figure 1

The Association of Acculturation with Aspects of Intergenerational Relations, Mediated by the Consensus on Filial Obligations, Separately for Women and Men



Note. Standardized coefficients. Left estimate women, right estimate men. $N = 492$, $\chi^2 = 198.61$, $df = 128$, $\chi^2/df = 2.26$, $p < .001$, CFI = .919, IFI = .924, RMSEA = .047, 90% CI [.034, .060], $p = .616$, SRMR = .051, Estimator = weighted least-squares with robust standard errors (WLSMV). Bold values are significant at $p < .05$. $^+p < .10$.

Appendix C: Study III

Schwarz, B., & Pfammatter, P. (2023). *The association of acculturation and well-being: second-generation immigrants in Switzerland* [Manuscript under review after revision]. Psychological Institute, Zurich University of Applied Sciences.

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Title

The Association of Acculturation and Well-Being: Second-Generation Immigrants in Switzerland

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Abstract

Keywords

Authors' Note

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Abstract

In recent decades, there has been a rapid increase in immigration rates throughout Europe, and many immigrants remained permanently. Resultantly, at present, a substantial segment of society is composed of second-generation immigrants. Despite an increase in research related to this population, predominantly from the US, much remains unknown. The present study investigated the association between acculturation (here heritage and mainstream culture orientation) and well-being of second-generation immigrants in Switzerland. We further ran a multigroup analyses for women and men separately. Data of $N = 492$ adult children of immigrants (66% women; $M_{age} = 32.39$, $SD_{age} = 10.46$) were analyzed. Structural equation modelling showed that both orientation toward heritage and toward mainstream culture were positively related to well-being, and that this was moderated by gender. Furthermore, the interaction between both kinds of orientation had a significant effect on well-being. The study adds a valuable European perspective to the research on bilinear acculturation of adult second-generation immigrants.

Keywords

Acculturation; Subjective Well-Being; Second-Generation Immigrants

The Association of Acculturation and Well-Being: Second-Generation Immigrants in Switzerland

Introduction

In recent decades, many European countries have experienced a massive influx of immigration. This is also the case for Switzerland, where the number of immigrants has been continuously increasing since the 1950s. Although guest workers (i.e., those that immigrated for work) were expected to return to their home countries after several years, many of them started families and stayed in Switzerland (Bolzmann et al., 2006). The same is true for other groups of immigrants in Switzerland, such as refugees from former Yugoslavia. As a result, a high number of individuals with a migratory background, the second-generation, grew up with at least two cultures: the culture of their parents (i.e., the heritage culture) and the culture of their host country (i.e., the mainstream culture). Although there has been an increase in the attention these populations have been receiving from the scientific community (Sabatier et al., 2016), there is still a blatant lack of studies on adult second-generation immigrants. Namely, it is still unknown whether for adult second-generation immigrants living with two cultures is a burden due to higher acculturative stress, or a benefit due to a broader range of resources. The present study adds to the endeavors towards resolving this dispute by performing an investigation on adult second-generation immigrants in Switzerland.

The Acculturation Process of Second-Generation immigrants

Acculturation has often been defined as the process that takes place when people from different cultures come into contact with each other (e.g., Schwartz et al., 2010). In his seminal work, Berry (e.g., 2005) emphasized that the individual acculturation of immigrants is a bilinear process, covering the orientation toward the heritage and the mainstream culture. According to his theoretical approach, a high orientation toward both cultures (i.e., the acculturation strategy of integration) is seen as the most favorable acculturation strategy for mental health and well-being (Berry, 2005). Moreover, several authors have underlined that

the acculturation process is multidimensional and varies depending on the cultural dimensions. Moreover, Schwartz et al. (2010) distinguished between practices, values, and identification while Arends-Tóth and Van de Vijver (2006) defined two main dimensions of acculturation (i.e., public vs. private). They also added the critic that proxy measures and single item assessments do not capture the complex multifaceted construct of acculturation. Thus, the present study will investigate acculturation as a bilinear and multidimensional construct.

The acculturation process of second-generation immigrants (here children of immigrants who were born in the host country or immigrated at a young age), differs remarkably from the acculturation process of the first generation (Schwartz et al., 2010). According to Sam and Oppedal's theoretical approach (2003), development generally entails adaptation to a culture and society (i.e., enculturation and socialization). In the case of second-generation immigrants, the natural development involves adapting to two cultures, namely their heritage and mainstream culture. The simultaneous acculturation to both cultures is supported by interactions with protagonists from the respective culture. For second-generation children and adolescents these interactions are often part of their daily life. The acquisition of cultural competence in both cultures is therefore a fundamental part of their developmental process from childhood to adolescence (Sam & Oppedal, 2003). While adolescence is a time when developmental challenges and (cultural) identity exploration occurs (Titzmann & Lee, 2018), in adulthood, identity seems to have reached a certain stability (Sneed et al., 2012). Research findings on acculturation during adolescence might therefore not be fully applicable to adulthood (Yoon et al., 2013). Thus, the meaning of acculturation of adult second generation individuals, needs further investigation.

The Role of Acculturation in Subjective Well-being

Subjective well-being (SWB) is a multifaceted construct, which includes affective (e.g., low negative affect) and cognitive evaluations (e.g., high global life satisfaction) of

one's life (Diener, 1994; Diener et al. 2003). In acculturation research, Ward and Kennedy (1994) referred to the term psychological adjustment, which includes very similar aspects, such as life satisfaction, positive and negative affect, self-esteem, or loneliness. SWB has been positively related to several aspects of functioning, such as psychological and physical health (Oishi et al., 2021). Additionally, a recent global study has shown that stress is negatively associated with SWB (Ng & Diener, 2022). Thus, it is highly relevant to understand the association between acculturation, and the multi-faceted construct SWB among adult second-generation immigrants.

In general, studies have pointed to a lower life satisfaction of immigrants compared to natives, for instance with data of the European Social Survey (ESS; e.g., Arpino & de Valk, 2018; Hadjar & Backes, 2013). This is often explained by stress caused in the acculturation process. In these studies, life satisfaction of the second generation was higher compared to the first generation (also Morawa et al., 2020). This is in line with the acculturation process described by Sam and Oppedal (2003). Namely, that acculturation is an integral part of the general development of the second generation and therefore less stressful.

Several meta-analyses have examined the association between acculturation and well-being. In a recent meta-analysis, Yoon et al. (2013) investigated the association between acculturation and mental health. The measures of mental health comprised further indicators of well-being such as positive and negative affect and life satisfaction. They found that both the orientation to the mainstream culture and to the heritage culture were positively related to mental health. In another meta-analysis, Bak-Klimek et al. (2015) have analyzed time since migration as a proxy measure of acculturation into the mainstream culture. Here, they found no significant association with well-being measures. Other meta-analyses have investigated the acculturation strategies (Schmitz & Schmitz, 2022) or biculturalism, which correspond with the integration strategy (Berry et al., 2022; Nguyen & Benet-Martínez, 2013; Stogianni et al., 2021). In these meta-analyses, integration was positively related to life-satisfaction and

self-esteem (Schmitz & Schmitz, 2022) and to psychological adjustment (Berry et al., 2022; Nguyen & Benet-Martinez, 2013; Stogianni et al., 2021). Thus, both orientations seemed to be positive for well-being.

According to recent research, the cultural and societal contexts shapes the acculturation processes of individual immigrants, for instance by prevailing attitudes towards immigrants' adaptation to the mainstream culture or integration policies (Berry, 2005; Berry et al., 2022). The meta-analysis of Yoon et al. (2013) emphasized that heritage culture orientation plays a different role for well-being in North America compared to Europe. Only European studies found that higher heritage culture orientation was associated with better mental health. No regional differences were found for the positive relationship between the mainstream culture orientation and mental health. However, the number of European studies in the meta-analysis was too small to draw definite conclusions on the role of the societal context on acculturation. According to Nguyen and Benet-Martinez (2013), in comparison to studies conducted in Europe and other parts of the world (mostly on a sample of adolescents), in the US it is the strategy of integration that has a stronger association with adjustment (composite score for psychological and social adaptation). Recent meta-analyses failed to demonstrate that the associations between integration and SWB differed significantly depending on macro-level conditions for immigrants (Berry et al., 2022; Stogianni et al., 2021). In part, this was due to an insufficient number of studies from outside the US. Hence, among immigrants in Europe, the association of both cultural orientations with SWB may differ from results derived from the US. However, more studies from different European countries are needed to draw definite conclusions on these associations.

Since the meta-analysis of Yoon et al. (2013), further studies from Europe have been published on the association between acculturation and well-being among adult individuals with an immigrational background. However, several studies suffer from shortcomings. Many studies have used proxy, single item measures only referring to acculturation into the

mainstream culture such as time since immigration (Barbiano di Belgiojoso et al., 2020; Dominguez-Fuentes & Hombrados-Mendieta, 2010; Paloma et al. 2014; Paparusso, 2019; Safi, 2010) or citizenship (Kirmanoglu & Basleven, 2014; Paparusso, 2019) for first-generation immigrants. Moreover, other studies measured acculturation bilinearly, using a variety of single indicators, such as language competencies, contact with peers from both cultures and identification with both cultures (Amit, 2010; Angelini et al., 2015), but these analyses suffer from a lack of direct measures of acculturation (Arends-Toth & Van de Vijver, 2006).

To date, few European studies on adult immigrants have used bilinear, multidimensional composite scales to measure acculturation reliably and validly. Dimitrova et al. (2014) indicated that orientation to mainstream culture in a sample of first and second generation immigrants was positively related to life satisfaction. Conversely, orientation to heritage culture showed no relation to life satisfaction. In a study on first generation immigrants, Polek et al. (2010) found positive associations between orientation toward mainstream culture and psychological health and life satisfaction for first-generation immigrants, while the respective associations with orientation toward heritage culture were negative. In two studies on first generation immigrants by Neto and colleagues (Neto 2019; Neto et al., 2016), the acculturation strategies of assimilation (high mainstream, low heritage culture orientation) and separation (high heritage, low mainstream culture orientation) were included. Assimilation and separation were negatively and positively related to *saudade*, respectively (which covers many negative emotions; Neto, 2019). The correlation between life satisfaction and separation and assimilation was negatively and not significantly correlated, respectively (Neto et al., 2016). In sum, there is evidence for a positive relation between orientation toward mainstream culture and well-being. However, the few results from European studies on the association between orientation toward heritage culture and well-being are inconclusive. Additionally, there is a blatant lack of European studies on adult

second-generation immigrants and particularly with measures of acculturation and SWB that meet the requirements for reliable and valid assessments (Arends-Tóth and Van de Vijver, 2006; Diener et al., 2003).

According to Yoon et al. (2013), older immigrants' mental health had a stronger association with orientation toward the mainstream culture compared to younger immigrants' mental health. Conversely, orientation toward heritage culture had a stronger association with the mental health of younger immigrants compared to older immigrants. However, the study did not indicate whether younger immigrants were second-generation. Nevertheless, the results indicate that orientation toward heritage culture is especially relevant for the second generation. Being rooted in the heritage culture might promote a higher level of support from members of this culture (Oppedal et al., 2004). Thus, studies focusing on the second generation are still missing.

With respect to gender as an important moderator variable for the analyses of associations between acculturation and SWB, the few results of meta-analyses are inconclusive. In the meta-analysis of Yoon et al. (2013) the orientation to the heritage culture was more important for women's mental health than for men's. Nguyen and Benet-Martinez (2013) did not find a gender difference in the association between integration and adjustment. Other meta-analyses (Berry et al., 2022, Schmitz and Schmitz, 2022) have not analyzed gender as a moderator. The same is true for recent European studies (Dimitrova et al., 2014; Neto, 2019; Polek et al., 2010). Thus, there is a lack of evidence on the question, whether acculturation is differently associated with SWB for women and men. Therefore, the associations between acculturation and SWB will be analyzed separately for women and men.

Immigrants in Switzerland

The present study refers to acculturation of second-generation immigrants living in Switzerland. Switzerland is one of the European countries with the highest rate of foreigners (2019: 25%; Federal Statistical Office [FSO], 2020b) and with a large population with an

immigrational background (38% in 2019; FSO 2020a). Switzerland has a long history of immigration, especially as from the 1950s onwards, the numbers have been continuously growing (FSO, 2020b). Most of the labor immigrants in the 1950s and 1960s immigrated from Italy and Spain. In the late 1980s, a significant number of immigrants came from Portugal and Turkey. In the 1990s, many immigrants arrived from former Yugoslavia due to upheavals in Eastern Europe. A long history of immigration can also be observed from Switzerland's neighboring countries France and Germany. As a result, most immigrants in Switzerland have a European origin (D'Amato, 2008).

Given the long history of immigration in Switzerland and the fact that many immigrants have settled permanently in Switzerland and started families, a substantial number of the permanent residents in Switzerland are second-generation immigrants (7%; FSO, 2020a). Because of strict naturalization laws in Switzerland, one third of the second-generation individuals are still foreigners. Among those second-generation immigrants who are Swiss citizens, 75% are Swiss citizens by naturalization (FSO, 2020a).

The Migrant Integration Policy Index (MIPEX), a comprehensive study of European and non-European countries, assessed how much different countries support the integration of immigrants along eight policy fields. According to the MIPEX-data from 2014, Switzerland ranked 21st among 38 MIPEX-countries, with an overall score of 49. This score is slightly under the MIPEX38-average and can be interpreted as a "halfway favorable" integration policy (Huddleston et al. 2015). Switzerland was in the lower average range in terms of access to education and the labor market for immigrants. However, Switzerland ranked high with respect to access to health care services. Therefore, on the one hand, Switzerland provides second-generation immigrants a certain security in terms of health. On the other hand, Switzerland does not facilitate societal acculturation.

The Present Study

The aim of the present study was to add a European perspective to the ongoing debate on the effects of acculturation on immigrants' well-being. In accordance with established immigration research, acculturation is seen as a bilinear and multidimensional construct. Here, we focus on second-generation immigrant adults, an understudied subpopulation of the immigrant population.

We studied three hypotheses: both the orientation toward heritage and the orientation toward mainstream culture are positively related to second-generation adult immigrants' well-being (Hypothesis 1). Consistent with Berry (2005) and Nguyen and Benet-Martinez (2013), we hypothesize that the acculturation strategy integration (high orientation toward both cultures) is the most favorable strategy (Hypothesis 2). In line with the results of Yoon et al. (2013), we assumed that orientation toward the heritage culture is more important for the well-being of women than to the well-being of men (Hypothesis 3). We do not expect gender differences in the association between orientation toward mainstream culture and SWB.

Method

Procedure

We conducted a standardized online survey in the German-speaking part of Switzerland. To obtain an ethnically-diverse sample of immigrants, we recruited participants via several channels (e.g., a Swiss university of applied sciences, a job center, a non-profit organization for second-generation immigrants in Switzerland, a center for cultural and language integration, a political organization for second generation immigrants, and through social media [i.e., Facebook, Instagram, and WhatsApp]).

We only included participants who reported on (1) having at least one parent who immigrated to Switzerland and (2) who were either born in Switzerland or moved to Switzerland with their parents before the age of six.

Participants

Our sample consisted of $N = 496$ adult children of immigrants in Switzerland. The sample included $n = 326$ self-identified women (66%), $n = 166$ self-identified men (34%) and four participants (0.8%) that identified themselves as neither female nor male. Due to the small sample size and the gender specific hypothesis, we excluded the four non-binary participants from the analysis, reducing the final sample to $N = 492$. Participant's age ranged from 19 to 69 years ($M = 32.39$, $SD = 10.46$). Seven participants (1%) reported on having finished obligatory school, $n = 287$ participants (59%) reported on having finished secondary school (e.g., vocational training) and $n = 198$ (40%) reported on having a tertiary degree (i.e., high education level). This distribution is slightly higher than official educational statistics for second-generation immigrants in Switzerland (FSO, 2019a). However official Swiss statistics include adolescents under the age of 18, whose highest degree is obligatory school, whereas our sample only included adults (>18), who already finished school education. The household income in Swiss francs per year and person in our sample was distributed as follows: less than 50'000 ($n = 88$, 18%), 50'000 to 80'000 ($n = 119$, 24%), 80'000 to 120'000 ($n = 132$, 27%) and more than 120'000 ($n = 153$, 31%). Even though, this income seems rather high, it represents the median annual household income per person (approx. 95'000 CHF ~ 100'000 USD) in Switzerland (FSO, 2019b).

About a third of the sample, $n = 135$ (27%) was married or in a registered partnership, whereas the remaining $n = 357$ (63%) were not married, separated, divorced, or widowed. Given the mean age of the participants, the high number of unmarried individuals can be explained by the average age at first marriage for females (30.1 years) and males (32.3 years) in Switzerland (FSO, 2020c). About one-third of our participants stated that they have one or more children $n = 147$ (30%). The characteristics of the sample match official statistics. In Switzerland, the mean maternal age at birth of the first child is 31.0 years, the paternal age is 35.1 years (FSO, 2020d).

Most of our participants grew up with two parents that were born outside of Switzerland ($n = 356$, 72%), and 61% ($n = 301$) reported that their parents come from the same region of origin. Finally, 84% ($n = 411$) of our participants have the Swiss nationality either from a parent or by naturalization.

The ethnic culture of the participants was defined by the maternal culture of origin, since mothers seem to be more important in ethnic socialization than fathers (Safa et al., 2020). However, for participants whose mother was Swiss ($n = 69$, 14%), we chose the fathers' culture of origin. Most participants had parents, who immigrated from a European country (77%), in line with official statistics (FSO, 2020e). For the analyses, we grouped participants into four regions with respect to their ethnic culture. Here, we followed other studies on migrants in Switzerland in delineating the groups (e.g., Steinhausen et al., 2009). We distinguished (1) North-Western European countries (e.g., France; $n = 101$, 21%), (2) South-Western European countries (e.g., Italy; $n = 127$, 25%), (3) Eastern European countries (e.g., Poland) and former Yugoslavian countries (e.g., Serbia; $n = 152$, 31%), and due to sample size, (4) non-European/non-Western countries (e.g., Sri Lanka; $n = 112$, 23%). This distribution is in line with the Swiss distribution across immigrant groups (FSO, 2020e).

Measures

Acculturation

We used the Vancouver Index of Acculturation (Ryder et al., 2000), a bilinear and multidimensional (e.g., capturing traditions, values, social relations, adhesion to cultural norm) measure for acculturation. According to two recent studies (Celenk & Van de Vijver, 2013; Testa et al., 2019) this instrument has good psychometric properties, covering acculturation orientations and sociocultural outcomes. Further, it has the advantage that it was developed for multi-ethnic samples like ours.

We followed the TRAPD guidelines to translate and adapt the questionnaire to the German language and the Swiss context (Mohler et al., 2016). Both authors translated and

adapted the questionnaires to German and to the Swiss context independently from each other. Differences between the two versions of each measure were resolved in discussion.

Items were rated on a 5-point scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. A sample item for the orientation toward the heritage culture is “I often participate in my heritage culture traditions” ($M = 3.83$, $SD = 0.72$, $\alpha = .89$) and “I believe in Swiss values” for the mainstream culture orientation ($M = 4.10$, $SD = 0.58$, $\alpha = .83$). Separate analyses of subdimensions of acculturation (e.g., private and public) were not feasible because of high intercorrelations of these subscales. We evaluated the Measurement Invariance (MI) of both subscales of acculturation according to the criteria by Chen (2007) and Cheung and Rensvold (2002). The detailed MI results are presented in Tables E1 for the heritage culture orientation and E2 for mainstream culture orientation in the Electronic Supplemental Material (ESM 1). The analyses showed partial scalar invariance for both subscales of the acculturation measure.

Well-being

Following Diener et al. (2003), the well-being measures comprised life satisfaction and positive and negative affect. The cognitive aspect of well-being was measured with the German version of the Satisfaction with Life Scale (SWLS; Schumacher et al., 2003). It consists of five items on a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). A sample item is “The conditions of my life are excellent.” ($M = 5.26$, $SD = 1.15$, $\alpha = .87$). SWLS has shown to be consistent across cultures (Oishi & Diener, 2001) and measurement invariant across immigrant groups in a large US sample (Schwartz et al., 2013). In our sample, the SWLS proved to be partially scalar invariant across the four ethnic groups. The in-detail MI analysis is presented in Table E3 in ESM 1.

The affective aspect of well-being was measured with the German version of the Positive and Negative Affectivity Schedule (PANAS, Krohne et al., 1996). It consists of two subscales containing ten adjectives on positive and negative emotional states, respectively. Sample items are “excited” for Positive Affect ($M = 3.30$, $SD = 0.65$, $\alpha = .83$) and

“distressed” for Negative Affect ($M = 2.04$, $SD = 0.69$, $\alpha = .85$). Following Tov et al. (in press), who criticized that measurement invariance across cultures of SWB measures has often not been shown, we again tested for measurement invariance of PANAS across the four ethnic groups. Here, we established partial scalar invariance for both the Positive and the Negative Affectivity subscales (see Tables E4 for the Positive Affectivity and E5 for the Negative Affectivity analyses in ESM 1).

Analytical Plan

We prepared and analyzed our data with R Studio (Version 4). We investigated all three hypotheses by estimating structural equation models (SEM) using lavaan for R (Rosseel, 2012) and ggplot2 for visualization (Wickham, 2016). For all SEM analyses, we chose the robust maximum-likelihood estimator (MLR), which was shown to perform well for non-normally distributed data and estimate parameters and standard errors in unequal sample sizes (Brown, 2015). Each ethnic group in our sample meets the minimal sample size requirements according to a recent SEM simulation study ($n > 100$; Wolf et al., 2013). We evaluated the SEM model fit with the standard cut off values: $\chi^2 / df < 3$ (Bollen, 1989); Confirmatory Fit Index (CFI $> .95$); Incremental-Fit-Index (IFI $> .95$), root-mean-square-error-of approximation (RMSEA $< .06$); and standardized-root-mean-residual (SRMR $< .08$) following Hu and Bentler’s (1999) recommendations. For Hypothesis 2 (integration strategy and SWB), we decided to model integration as an interaction between the two cultural orientations (Abu-Rayya & Sam, 2017). We built the interaction by multiplying the centered mean of the orientation toward each culture with each other, and included this product term as an observed variable in the SEM following the original idea by Aiken & West (1991). To plot the interaction, we used three groups of orientation toward the mainstream culture based on the mean and standard deviation of orientation toward the mainstream culture (i.e., $M-SD$, M , and $M+SD$). For hypothesis 3 (gender differences in the associations between acculturation and well-being), we ran a multi-group SEM, with gender as the grouping variable.

Results

Preliminary Analyses

First, we analyzed the four ethnic groups on socio-demographic variables, acculturation and well-being as depicted in Table 1. The results showed no systematic differences regarding the socio-demographic and the orientation to the heritage and mainstream culture. No differences were found regarding well-being. Hence, we decided to analyze the four ethnic groups together in the SEM analyses. In Table 2, we present the correlation table among socio-demographic variables, acculturation, and well-being. Heritage and mainstream orientation correlated positively with well-being ($r = .14, p = .002$ and $r = .22, p < .001$ respectively), in line with Hypothesis 1.

The Association Between Acculturation and Well-being

The SEM for the interaction of orientations with well-being (Hypothesis 2) are presented in Figure 1. The fit indices showed a very good model fit, $\chi^2 = 36.06, df = 14, \chi^2/df = 2.58, p = .001, CFI = .929, IFI = .936, RMSEA = .057, 90\% CI [.035, .079], p = .283,$ and $SRMR = .033$. Both the orientation toward the heritage and the mainstream culture were associated with higher well-being ($\beta = .17, p = .002$ and $\beta = .24, p < .001$ respectively), confirming Hypothesis 1. The interaction term was significant ($\beta = -.19, p = .002$). The interaction plot (Figure 2) shows the following: if mainstream culture orientation is high, the degree of heritage culture orientation is not related to well-being ($\beta = .08, p = .403$). When mainstream culture orientation is low, heritage culture orientation is positively associated with SWB ($\beta = .33, p = .048$). With respect to the acculturation strategy of integration, the results did not support Hypothesis 2. Instead, Figure 2 shows that those who were neither oriented to the mainstream culture nor to the heritage culture (acculturation strategy marginalization) reported the lowest well-being.

The Association Between Acculturation and Well-being Separated by Gender

We further tested whether the associations between acculturation and well-being differed for men and women (Hypothesis 3). The respective results are presented in Figure 3 (the corresponding correlations are presented in Table 3). The fit indices indicated a very good model fit, $\chi^2 = 44.43$, $df = 24$, $\chi^2/df = 1.85$, $p = .007$, CFI = .933, IFI = .942, RMSEA = .059, 90% CI [.030, .086], $p = .273$, and SRMR = .033. The orientation toward the heritage culture was positively related to higher well-being among women ($\beta = .17$, $p = .014$), but not men ($\beta = .07$, $p = .412$), however, the difference between the two groups was not significant ($\chi^2 = 0.24$, $df = 1$, $p = .619$). The bivariate correlations presented in Table 3 show, that the orientation toward the heritage culture was positively associated with well-being among men ($r = .17$, $p = .033$), which contradicts the corresponding SEM result. Therefore, Hypothesis 3 was not supported. Furthermore, a stronger orientation toward the mainstream culture was associated with a higher well-being among women ($\beta = .33$, $p < .001$), but not among men ($\beta = .07$, $p = .413$), and again the difference between the estimates for men and women was not significant ($\chi^2 = 2.21$, $df = 1$, $p = .137$).

Discussion

In this study, we aimed to shed light on the association of acculturation and well-being by taking the bilinearity of acculturation (orientation toward the heritage and mainstream culture), and its multidimensional character into account. We did this whilst focusing on second-generation immigrants from diverse ethnic backgrounds in Switzerland. We further studied the role of gender on the association between cultural orientations and well-being. Both cultural orientations were positively related to second-generation immigrants' well-being. The results did not confirm that the acculturation strategy of integration was the most favorable one among immigrants in Switzerland. Furthermore, we found no strong evidence that the heritage culture was more important among second-generation women compared to men.

In line with our first hypothesis, orientation toward both cultures was positively associated with immigrants' well-being. The result is consistent with Yoon et al.'s (2013) finding that in (the few) European studies, both types of orientation toward mainstream and heritage culture were related to immigrants' well-being. In line with Sam and Oppedal (2003), both orientations, toward heritage and toward mainstream culture, are a valuable resource for second-generation immigrants. However, a recent study conducted in Europe (i.e., the Netherlands and Bulgaria), using a bilinear and comprehensive measure of acculturation, suggested a positive association only between mainstream culture orientation and well-being (Dimitrova et al., 2014). In this study, well-being was assessed as life satisfaction. In our data analyses (not shown) with life satisfaction as the dependent variable, the results were consistent with Dimitrova et al.'s (2014) findings. Our data showed no association between heritage culture orientation and life satisfaction but found a small positive association between mainstream culture orientation and life satisfaction. Considering the positive association with the comprehensive measure of well-being in our study, we could conclude that the affective part of well-being is more strongly related to the orientation toward heritage culture than the cognitive evaluation of life satisfaction.

Furthermore, the interaction effect between orientation toward heritage and mainstream culture did not support our hypothesis that being high in both orientations is most beneficial for well-being. Instead, our data indicated that a high orientation toward either culture was sufficient for high well-being. This is not in accordance with Berry's (2005) theory or the results of several meta-analyses (Berry et al., 2022; Nguyen & Benet-Martinez, 2013; Yoon et al., 2013). However, this literature is in line with our finding that being low in both orientations, consistent with the acculturation strategy of marginalization, decreases well-being.

Berry (2005) underlined that the host society influences immigrants' acculturation process. Switzerland can be characterized as ambivalent with respect to its immigrants. Since

the 1950s, Switzerland has not defined itself as an immigrant society and even today, referendums show that substantial numbers of the general population reject specific cultural traditions, such as minarets or veiling of Muslim women as well as unlimited immigration (D'Amato, 2008). As a result, the acculturation strategy of separation (i.e., high orientation toward the heritage culture and a low orientation toward the mainstream culture) might protect some immigrants from rejection. In the last decades, Switzerland has endeavored to assimilate immigrants (D'Amato, 2008). Therefore, some immigrants also benefit from the acculturation strategy of assimilation (i.e., high orientation toward the mainstream culture, low orientation toward the heritage culture), because it fits the declared goal of their host society. Future studies should investigate further which acculturation strategy is beneficial for which immigrant group in different European societies.

Notably, our results showed no significant gender differences regarding the association of heritage culture with well-being. However, in the SEM only women's associations between both cultural orientations and SWB were significant, in line with Yoon et al. (2013). The authors pointed out that women from immigrant families often take the role of cultural keepers. Fulfilling this task seems to have a positive effect on well-being. Additionally, our data suggests that women's well-being was higher, the more they were oriented toward the mainstream culture. If women were to be considered the cultural keepers in the family, for second-generation immigrants this might also include the culture of the host country. However, since the SEM results and the bivariate correlations showed a different picture, these gender differences should be interpreted with caution.

Limitations

To interpret the results of this study, several limitations should be kept in mind. First, the cross-sectional design of our data does not allow causal interpretations. Well-being may also promote higher acculturation and therefore the association between acculturation and

well-being may be a feedback relation or may even be directed from well-being to acculturation.

Second, a recent simulation study (Wolf et al., 2013) indicated that our sample is large enough for the conducted analyses. However, simulation studies may not reflect real data accurately. Especially for the moderator analysis with gender, the male sample in our study may have been unfavorably small for the SEM analyses.

Third, one strength of our study is the cultural diversity in our sample, which represents the characteristics of immigrants in Switzerland well. However, we cannot dismiss the possibility that the associations between acculturation and immigrants' well-being we found, might not apply to all immigrant groups. The size of the ethnic subgroups (e.g., Spanish, or Portuguese) were too small for separate analyses for each immigrant group. Very similar limitations can be discussed for other aspects of diversity in immigrant groups, such as the comparison of findings between (a) those who came to Switzerland before the age of six and those who were born in Switzerland and (b) second-generation immigrants with and without a Swiss passport.

Finally, for most participants, we chose the maternal ethnic background as the ethnic culture of the second-generation, due to the central socialization role of mothers. Future studies should be more precise and choose the ethnic background of the main agent of socialization. As a more general note, further studies are needed to understand the influence of the maternal and paternal ethnic backgrounds on children's ethnic socialization and acculturation. However, this was beyond the scope of the present study.

Conclusion

This study provides evidence for the positive association of both heritage and mainstream culture orientation with well-being among adult second-generation immigrants. It is one of a few European studies to investigate this association with a bilinear and multidimensional measure of acculturation, and multidimensional measure for subjective

well-being. Further European studies are needed to shed light on the interplay between heritage and mainstream culture orientation with well-being in different host societies. Future studies on well-being among the same immigrant groups across different countries would allow the disentanglement of the role of immigrants' ethnic culture with the role of different host societies.

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Table 1*Differences in Socio-Demographics, Acculturation and Well-being by Participant's Ethnic Culture*

Variable	North-Western-EU (<i>n</i> = 101)		Southern-EU (<i>n</i> = 127)		Eastern-EU and Former Yugoslavian (<i>n</i> = 152)		Non- European/Non- Western (<i>n</i> = 112)		<i>F</i>	Post Hoc
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Gender (0 = <i>female</i>)	0.44	0.50	0.31	0.47	0.32	0.47	0.29	0.46	1.92	
Participant age	33.80	11.57	38.00	11.89	30.38	7.91	27.46	7.04	26.69***	S > NW > EFY, N
Educational level	2.52	0.50	2.34	0.52	2.41	0.51	2.29	0.51	4.12**	NW > S, N
Income (low to high)	3.65	1.31	3.65	1.14	3.77	1.24	3.36	1.34	2.41	
Both p. immigrants (0 = <i>no</i>)	0.66	0.47	0.76	0.43	0.84	0.37	0.59	0.49	7.65***	EFY, S > N
Heritage orientation	4.05	0.49	3.91	0.71	3.70	0.76	3.70	0.79	6.87***	NW > EFY, N
Mainstream orientation	4.17	0.56	4.21	0.59	4.04	0.57	4.00	0.57	3.70*	S > N
Well-being	3.22	0.46	3.19	0.55	3.16	0.59	3.18	0.52	0.22	

Note. *N* = 492. NW = north-western EU, S = southern-EU, EFY = East-European and Former Yugoslavian countries, N = non-European countries, both p. immigrants = Both parents are immigrants. > in Post Hoc Analysis indicates a difference at $p < .05$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2*Correlation Table among Socio-Demographic Variables, Subscales of Acculturation and Well-being*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Gender (0 = <i>female</i>)	0.34	0.47											
2. Age	32.39	10.46	.04										
3. Education (low to high)	2.39	0.52	.02	.20**									
4. Income (low to high)	3.62	1.26	.09*	.25**	.13**								
5. Both parents immigrants (0 = <i>no</i>)	0.72	0.45	-.07	.13**	-.06	.09*							
6. Heritage culture orientation	3.83	0.72	.03	-.08	.00	.08	-.05						
7. Heritage orientation (private)	3.71	0.80	.05	-.08	.02	.06	-.05	.91**					
8. Heritage orientation (public)	3.82	0.72	.05	-.07	.02	.09	-.10*	.89**	.79**				
9. Mainstream culture orientation	4.10	0.58	.04	.14**	.02	.09*	.12**	.03	.04	.03			
10. Mainstream orientation (private)	4.23	0.61	.03	.18**	-.02	.12**	.17**	.03	.05	.04	.85**		
11. Mainstream orientation (public)	4.19	0.63	-.00	.11*	.04	.10*	.15**	.01	-.01	.03	.88**	.70**	
12. Well-being	3.52	0.54	.02	.20**	-.00	.16**	.03	.14**	.11*	.15**	.22**	.16**	.21**

Note. $N = 492$ * $p < .05$. ** $p < .01$.

Table 3

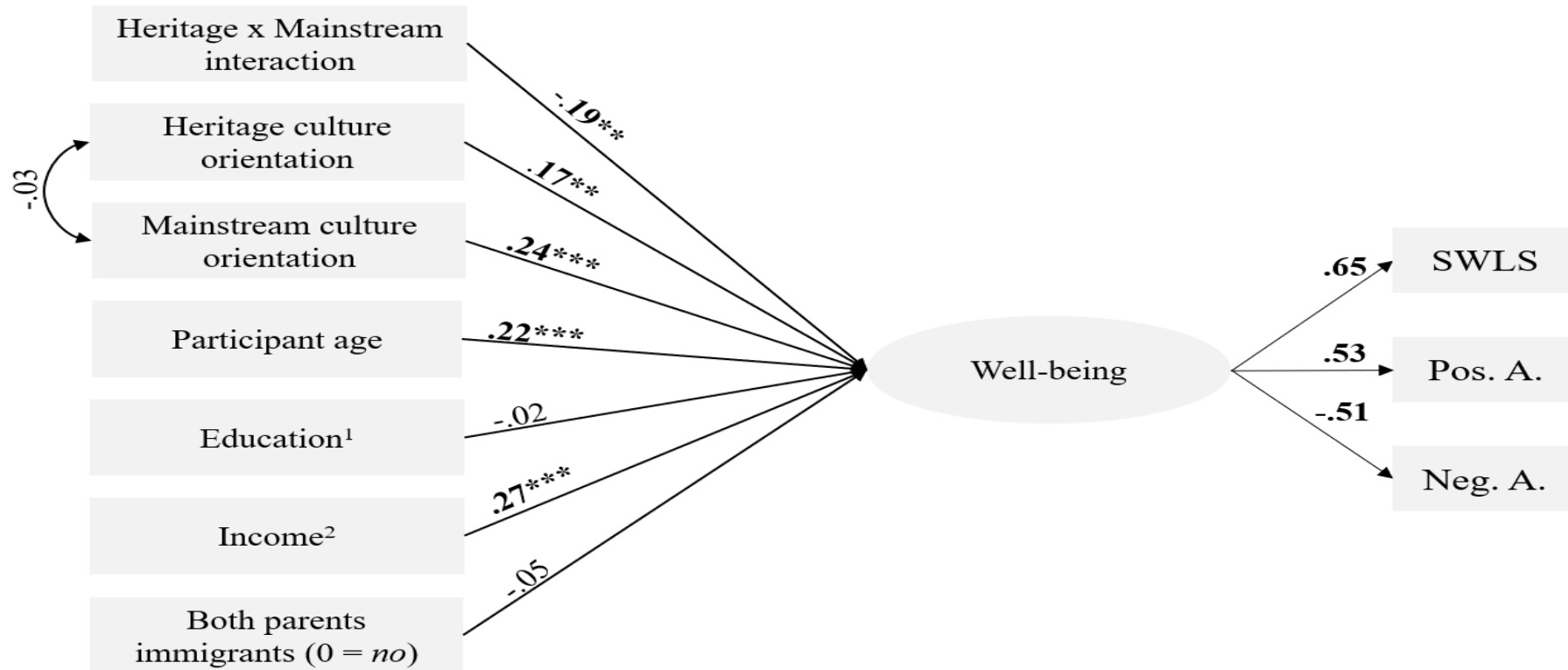
Correlation Table Among Sociodemographic Variables, Acculturation and Subjective Well-being, for Women and Men separately

Variable	1	2	3	4	5	6	7	8	9	10
1. Age		.15*	.25**	.29*	-.01	.19*	.17*	.07	-.18*	.14
2. Education (low to high)	.22**		.19*	-.06	.01	.05	.02	-.07	.15	-.12
3. Income (low to high)	.25**	.10		.14	.13	.17*	.41**	.09	-.12	.12
4. Both parents immigrants (0 = no)	.03	-.06	.08		.04	.03	.19*	.09	-.21**	.16*
5. Heritage culture orientation	-.12*	-.00	.06	-.09		.18*	.09	.18*	-.06	.17*
6. Mainstream culture orientation	.11*	.01	.05	.17**	-.04		.13	.07	-.07	.09
7. Satisfaction with Life	.18**	.11	.24**	-.10	.06	.15**		.35**	-.32**	.42**
8. Positive Affectivity	.19**	.08	.13*	-.08	.08	.27**	.38**		-.24**	.90**
9. Negative Affectivity	-.20**	.02	-.18**	-.07	-.15**	-.14**	-.31**	-.27**		-.64**
10. Well-being	.23**	.06	.18**	-.03	.12*	.28**	.43**	.92**	-.63**	

Note. $n(\text{female}) = 326$, $n(\text{male}) = 166$. Values below diagonal are for women, values above the diagonal are for men. * $p < .05$. ** $p < .01$.

Figure 1

SEM of the Association of Orientation toward the Heritage Culture and Well-being, moderated by the Orientation toward the Host Culture



Note. Standardized coefficients. $N = 492$. ¹ low to high, ² low to high; $\chi^2 = 36.06$, $df = 14$, $\chi^2/df = 2.58$, $p = .001$, CFI = .929, IFI = .936, RMSEA = .057 [.035, .079]. $p = .283$, SRMR = .033; Estimator = MLR. $^{**}p < .01$. $^{***}p < .01$.

Figure 2

Moderation Graphic of the Interaction Effect of the Heritage and Mainstream Culture Orientation on Subjective Well-being

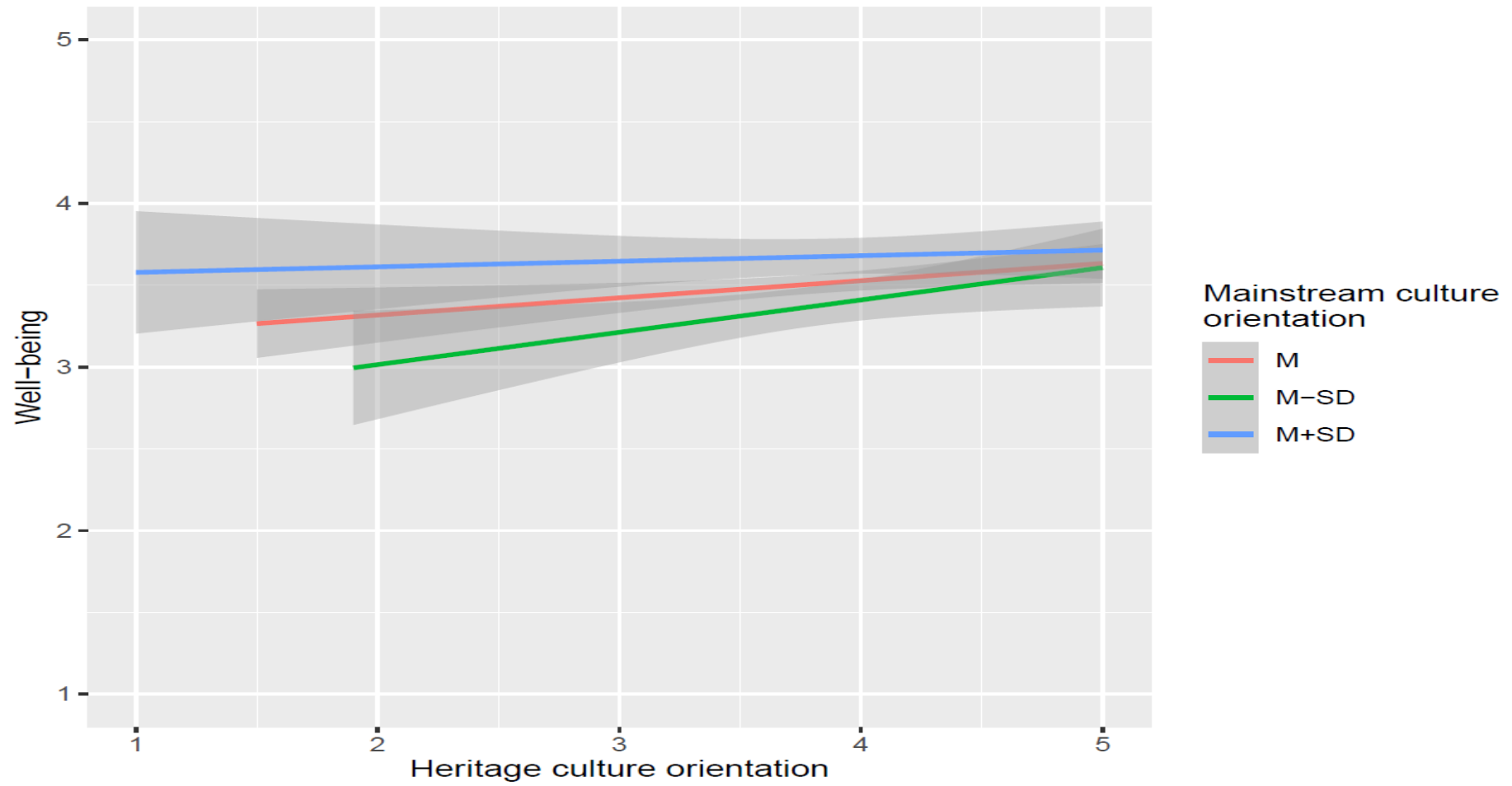
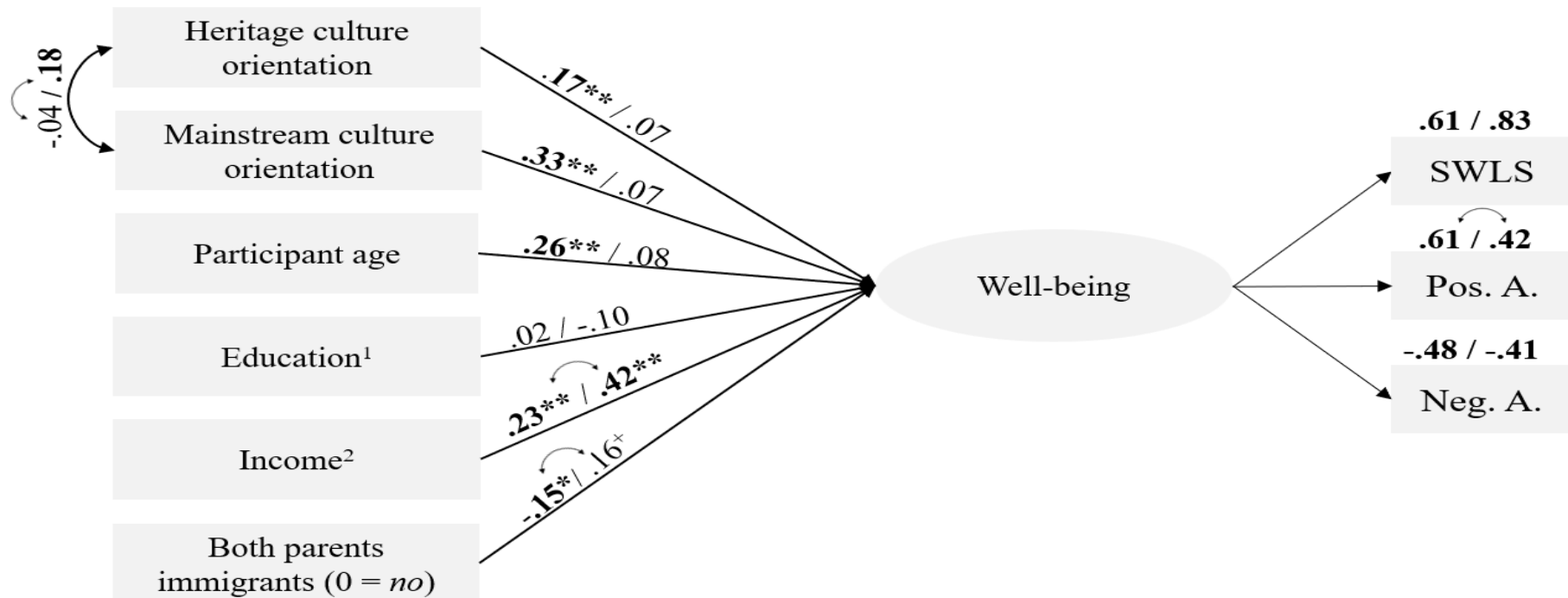


Figure 3

Association of Acculturation and Well-being, for Women and Men Separately



Note. Standardized coefficients for women (left) and men (right). Arrow above the parameter estimates indicate a significant difference between parameter estimates for women and men at $p < .05$. ¹ low to high, ² low to high; $n(\text{woman}) = 326$, $n(\text{male}) = 166$; $\chi^2 = 44.43$, $df = 24$, $\chi^2/df = 1.85$, $p = .007$, CFI = .933, IFI = .942, RMSEA = .059, 90% CI [.030, .089], $p = .273$, SRMR = .033; Estimator = MLR. ⁺ $p < .10$. * $p < .05$. ** $p < .01$.