Dissertation

Acculturation, adaptation, and health among Croatian migrants in Austria and Ireland

submitted by
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TO MY MOTHER

I dedicate this thesis to my beloved mother.
Thank you for being my guardian angel and
always encouraging me to follow my dreams.
You are my hero.

STATUTORY DECLARATION

I hereby declare that this thesis is my own original work and that I have fully acknowledged by name all of those individuals and organisations that have contributed to the research for this thesis. Due acknowledgement has been made in the text to all other material used. Throughout this thesis and in all related publications I followed the "Guidelines of the Medical University of Graz on Good Scientific Practice".

Graz, November 2023 *Izolda Pristojković Šuko e.h.*

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PREFACE

Since I moved from Croatia to Austria 10 years ago, migration and its connection with health began to interest me. After completing my bachelor's degree in physiotherapy, I researched through my master's studies the relationship between intercultural communication and competence in physiotherapy, i.e., how migrants can receive adequate and culturally competent treatment.

As I could see from the examples of my friends and myself that migration impacts individual health differently, I decided to take part in the doctoral program in medical sciences to address the connection between adaptation to a new environment, perceived health, and quality of life.

Another reason that encouraged me to deal with this topic is that many Croats migrated to Ireland in addition to Austria, including my Croatian neighbors, who went searching for work and a better life.

However, some scientific studies show a connection between migration and poorer health and quality of life. It seems paradoxical that people move to a different country for a better life and, ultimately, have poorer health and quality of life. On the other hand, other studies show a positive connection between migration, health, and quality of life. Therefore, I concluded that there is a need for further research on these topics and comparing self-perceived health and quality of life among migrants and non-migrants.

Most research on Croatian migrants focuses on the motivations behind the movement without posing the issues of how these immigrants adjust to their new surroundings, learn the local language, and how all this affects their health and quality of life.

For all the stated reasons, this dissertation aims to reveal the connection between the abovementioned factors so that Croatian migrants in Austria and Ireland can better integrate into society and have higher perceived health and quality of life.

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ABBREVIATIONS AND DEFINITIONS

BAOS – Brief Acculturation Orientation Scale

BAOS-Home – Home orientation

BAOS-Host – Host orientation

BPAS – Brief Psychological Adaptation Scale

BSAS – Brief Sociocultural Adaptation Scale

CFI – Comparative fit index

CHIF – Croatian Health Insurance Fund

CI – confidence interval

GRR – Generalized resistance resources

EU – European Union

ICD-10 – International Statistical Classification of Diseases and Related Health Problems

MANOVA – Multivariate analysis of variance

MANCOVA – Multivariate analysis of covariance

MIDA – Multidimensional Individual Difference Acculturation

OECD – Organization for Economic Cooperation and Development

OR – odds ratio

QoL – Quality of life

RMSEA – Root mean square error of approximation

SF-36 – Short Form-36 Health Survey

SLIQ – Simple Lifestyle Indicator Questionnaire

SOC – Sense of coherence

SSS-8 – Somatic Symptom Scale-8

TLI – Tucker-Lewis index

UN – United Nations

WHO – World Health Organization

WHOQOL - BREF – Brief version of the World Health Organization Quality of Life

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ABSTRACT IN GERMAN

Nach dem EU-Beitritt Kroatiens setzte eine neue Auswanderungswelle ein. Bislang befassen sich Studien über kroatische Migranten nur mit den Veränderungen der digitalen Demografie und den Ursachen der Migration. Migration ist ein Lebensereignis, das sich auf die Gesundheit und Lebensqualität von Migranten auswirken kann. Das Hauptziel dieser Arbeit bestand darin, die Beziehung zwischen selbst wahrgenommenen Gesundheitszustand, Kohärenzgefühl, Akkulturation, Adaptation und Lebensqualität bei kroatischen Migranten der ersten Generation in Österreich und Irland zu untersuchen. Darüber hinaus zielte die Arbeit darauf ab, die Rolle soziodemografischer Variablen und des Gesundheitsverhaltens in diesem Zusammenhang zu analysieren. Ein weiteres Ziel dieser Arbeit war es, den wahrgenommenen Gesundheitszustand und die Lebensqualität von Kroaten, die in ihrem Heimatland und im Ausland leben, zu vergleichen.

Eine Online-Umfrage wurde in Österreich (N = 112), Irland (N = 116) und Kroatien (N = 121) mit dem LimeSurvey-Tool durchgeführt. Die Quoten wurden nach Alter und Geschlecht (jeweils 50 %) erfüllt. Der Fragebogen umfasste eine Reihe von Themen wie soziodemografische Faktoren, Gesundheitsverhalten, Kohärenzgefühl, wahrgenommener Gesundheitszustand (einschließlich somatischer Symptome und Einschätzung des allgemeinen Gesundheitszustandes) und Lebensqualität (einschließlich physischer und psychischer Gesundheit, soziale Beziehungen und Umwelt) für Kroaten in ihrem Heimatland. Außerdem enthielt der Fragebogen Fragen zur Akkulturation und Adaptation der Kroaten im Ausland. Um die Prädiktoren für den wahrgenommenen Gesundheitszustand und Lebensqualität der Kroaten in Österreich, Irland und Kroatien zu ermitteln, wurden multiple lineare Regressionsanalysen durchgeführt. Letztendlich wurden eine multivariate Varianzanalyse und eine multivariate Kovarianzanalyse durchgeführt, um die drei Länder zu vergleichen und die Unterschiede zwischen dem selbst wahrgenommenen Gesundheitszustand und der Lebensqualität zu verstehen.

In Österreich und Irland waren das Kohärenzgefühl und die psychologische Adaptation die stärksten Prädiktoren für den wahrgenommenen Gesundheitszustand und die Lebensqualität. Außerdem war in Kroatien das Kohärenzgefühl der stärkste Prädiktor für den wahrgenommenen Gesundheitszustand und die Lebensqualität. Die Ergebnisse zeigten Unterschiede zwischen allen drei Ländern in der Lebensqualität in der Domäne Umwelt,

nachdem sie um die soziodemografischen Variablen und das Gesundheitsverhalten angepasst wurden.

Das Wissen über die Prädiktoren des wahrgenommenen Gesundheitszustandes und der Lebensqualität kann die Barrieren beim Zugang zur Gesundheitsversorgung minimieren und die präventive Versorgung von Migranten verbessern. Das Salutogenese-Modell sollte in gesundheitspolitischen Maßnahmen und Programmen eingesetzt werden, um die psychologische Adaptation kroatischer Migranten und die gesundheitsbezogene Lebensqualität zu verbessern. Des Weiteren könnten salutogenetische Komponenten in der Gesundheitsförderung für Migranten und Nicht-Migranten eingesetzt werden.

ABSTRACT IN ENGLISH

A new wave of emigration started after Croatia's admission to the EU. Up to now, the research on Croatian migrants has only covered the changes in digital demographics and the causes of migration. Migration is a life event that may affect migrants' health and quality of life (QoL). The primary goal of this thesis was to investigate the interplay between self-perceived health, sense of coherence (SOC), acculturation, adaptation, and QoL among first-generation Croatian migrants in Austria and Ireland. Furthermore, the thesis aimed to analyze the impact of sociodemographic factors and health behavior on this relationship. Another objective of this thesis was to compare the perceived health status and QoL of Croats living in their home country with those living abroad.

An online survey was carried out in Austria ($N = 112$), Ireland ($N = 116$), and Croatia ($N = 121$) using the LimeSurvey tool. The quotas were fulfilled according to age and gender (50% each). The questionnaire consisted of a range of topics, such as sociodemographic factors, health behavior, SOC, self-perceived health (comprising somatic symptoms and overall general health perception), and QoL (covering physical and psychological health, social relationships, and the environment) for Croatian individuals residing in their native country. Furthermore, questions were included to assess the acculturation and adaptation of Croats abroad. To discover the predictors of perceived health and QoL for Croats in each country, multiple linear regression analyses were performed. Ultimately, multivariate analysis of variance and multivariate analysis of covariance were used to compare the three countries to understand the differences between self-perceived health and QoL.

In Austria and Ireland, SOC and psychological adaptation were the most significant predictors of self-perceived health and QoL. Furthermore, in Croatia, the SOC was the strongest predictor of perceived health and QoL. The results showed differences between all three countries after adjusting for sociodemographic variables and health behavior in the environmental domain of QoL.

Knowledge about the predictors of perceived health status and QoL can minimize barriers to accessing healthcare and enhance the preventive care of migrants. The salutogenic model should be used in health policies and programs to improve the psychological adaptation of Croatian migrants and health-related QoL. In addition, salutogenic components could be used in health promotion for migrants and non-migrants.

1 INTRODUCTION

Every year, millions of people immigrate to other countries, and this trend has been increasing over time (McAuliffe & Triandafyllidou, 2021). The European Union (EU) faces several demographic concerns, such as a declining population caused by falling fertility rates and a rising elderly population (McAuliffe & Khadria, 2019). Furthermore, emigration trends from the EU periphery to the core represent another issue.

The Western Balkans region has been facing one of the largest migrations. Croatia and this region have lost many citizens in the last few years. Therefore, these regions are declared one of the world's most demographically threatened regions (McAuliffe & Khadria, 2019). According to demographic projections from the United Nations (UN), Croatia and the Western Balkans will lose 20% of their population by 2050 (McAuliffe & Khadria, 2019). Although these numbers seem worrying, these predictions can be avoided with adequate national and EU-level measures to prevent further population decline and preserve overall well-being (Jurić, 2021b).

Although migration has become a global trend, in addition to the negative side, one should also see the positive side of emigration, e.g., a chance for education, better income, and health, to name a few. When we look at the health aspect, on the one hand, migration can increase one's exposure to health risks, and on the other hand, it can be associated with improved health (McAuliffe & Khadria, 2019). Furthermore, adaptation to the new environment, although initially challenging, can provide conditions for a better quality of life (QoL). Hence, the complex and dynamic link between migration, adjustment, and health should be further explored.

1.1. Migration

Migration to a foreign country represents an opportunity for a better life and simultaneously is a stressful process. It includes leaving one's social position and adapting to an entirely new way of living. The International Organization for Migration defines migration as "the movement of persons away from their place of usual residence, either across an international border or within a State" (Sironi, Bauloz & Emmanuel, 2019). Migrants do not represent a homogeneous group because of their different legal statuses and varied reasons for migration.

Migration can be voluntary or forced. The first one occurs when people decide to relocate in search of employment or education (immigrants and sojourners), and the latter one happens

when violence, such as war or natural disaster, forces people to move (refugees) (Daniel & Ottemöller, 2022). In addition, migration-influencing factors can be divided into push and pull factors. The difference is that the push factors force individuals to leave their homes, whereas the pull factors include elements that draw people to a specific location (Urbański, 2022).

1.1.1 History background

Even before the recent wave of emigration, Croatia was one of the European countries with the most pronounced and longest-lasting emigration, caused by numerous historical, political, and economic circumstances. Since the Second World War, Austria has been a guestworker receiving country. Labor migration from Yugoslavia to Austria began in the 1960s, followed by a larger wave during the 1970s and 1980s. The third big wave was after 1990 as the consequence of the war in the Republic of Croatia and Bosnia and Herzegovina (Grbić Jakopović, 2014).

Although Ireland was not a guestworker-receiving country, Croats began to immigrate to Ireland in the late 1990s. However, at the beginning of the 2000s, migration decreased. With the entry of Ireland into the economic crisis, the number of arrivals was almost halved (The Central State Office for Croats Abroad, 2022).

The observation of a rising pattern of emigration since the Republic of Croatia joined the European Union on July 1, 2013, has been noted. Although many predicted a moderate impact, it turned out that the entry into the European Union was a significant moment that created new perspectives and facilitated the departure of the Croatian population in search of a better life (Jurić, 2021b).

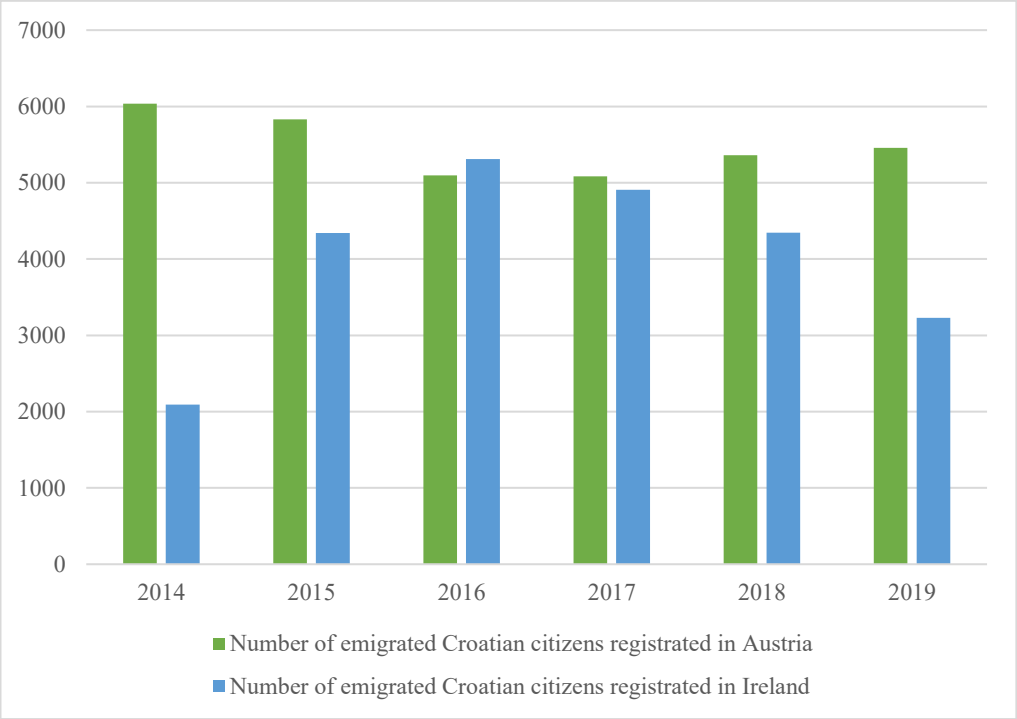
A recent study on Croatian migrants showed that the main reason for migration is not the economy but the perception of social inequality in Croatia and the lack of the values of work ethic and honesty (Jurić, 2022). Moreover, studies indicate that Croatian migrants perceive that Croatian society is morally broken due to corruption, legal uncertainty, and the immorality of political elites (Jurić, 2017; Rajković & Horvatin, 2017). Thus, push factors in the home country outweigh the pull factors from abroad (Jurić, 2018).

In the published book Gastarbeiter Millennials, Jurić (2021b) compared the past migration waves and concluded that youth is characteristic of the last wave, and most emigrants are between 20 and 39 years old. In addition, employed, highly educated, and married people were more prone to migration, whereas, in the past, the emigrants were unskilled or semi-skilled workers (Jurić, 2021b). This suggests that Croats willingly left their country, and the last wave was external labor migration.

Apart from Germany, Croatian emigrants have also targeted Austria and Ireland as their preferred destination countries. Due to its English-speaking population, Ireland is a target country for Croats because the majority of Croats have learned English at school. Although Croats are less fluent in German, Austria is an attractive country for them because of its close geographical location. In relative numbers, Osijek-Baranja and Brod-Posavina counties are Croatia's central emigration areas, and Zagreb in absolute numbers (Jurić, 2022). In addition, strong interest was shown in Međimurje county (Jurić, 2022).

However, there were differences in the accessibility to the labor market in these two countries. For example, Ireland immediately opened their labor market to Croats, allowing them to work without a work permit. On the other hand, Austria lifted the restrictions on employment for Croatian citizens on June 30, 2020. Until then, Croats had limited access to the labor market, but fewer bureaucratic obstacles to work permits existed. Despite these obstacles, many Croats emigrated to Austria and Ireland between 2014 and 2019 (Figure 1.1).

Figure 1.1: Emigration from Croatia to Austria and Ireland



Source: Author's construction based on data from Statistic Austria (2022) and Department of Social Protection (2020).

The emigration trend is a well-known phenomenon in Croatian society, and abundant research primarily focuses on the underlying reasons for migration and future predictions. Health is another relevant factor that often remains unobserved, especially among migrants. In addition, other factors, such as sociodemographic and cultural factors, contribute to adjusting to a new environment.

1.1.2 Culture

In developed countries, migration has contributed to the diversity of cultures, races, and ethnicities (Bhugra & Becker, 2005). The cultural background determines many factors, e.g., perception of health, health behavior patterns, QoL, emotional experiences, and experience of symptoms (Greimel et al., 2016). Culture consists of people's shared meanings, perspectives, or points of view, and these beliefs, rules, behaviors, and value systems are learned and passed down through generations (Triandis, 1995; Shore, 2002; Shah, 2004). Our identity is shaped by the culture in which we grew up. Nevertheless, it can change in the course of life.

When a person migrates from one culture to another, many components of their self-identity must change to incorporate the new culture's information (Ryder, Alden & Paulhus, 2000). According to Rudmin (2003), similarities between the original and host culture can indicate how much acculturation is needed for immigrants to adapt to the host culture.

Another cultural marker is a language, both written and spoken (Bhugra, 2004). In a new country, an individual might be challenged to learn another language. Most adult immigrants acquire the host language through their interactions with the social environment (Yilmaz & Schmid, 2015). However, not every immigrant has the same opportunity to interact with locals or is competent enough to acquire a new language and become fully proficient in this language.

Language, religion, and leisure activities are essential elements in understanding and connecting with one's culture - and these aspects may change when living in a place with a completely different culture (Bhugra & Becker, 2005). Furthermore, health behavior is another culture-linked factor that may change in the case of migration, especially among migrants who transit from one culture to another.

1.1.3 Health behavior

Culture can influence health behavior, thereby affecting health outcomes. Health behaviors are people's actions that impact their health (Short & Mollborn, 2015). They include patterns of dietary intake, physical activity, as well as alcohol consumption, and smoking. According to

Short & Mollborn (2015), health behaviors are determined by personal, institutional, environmental, and policy factors.

Furthermore, health behavior can promote or deteriorate health, and migration can positively or negatively influence health behavior, depending on the country of origin and destination. Previous research is predominantly focused on the negative influence. For example, moving to a Western country can change migrants' eating habits and activity patterns, increasing the risk of obesity or diabetes (Ebrahim & Smeeth, 2005). These chronic health conditions are a significant risk factor for overall health status and can be prevented through a healthy lifestyle.

In a recent systematic review, Juárez et al. (2023) synthesized 20 years of international literature addressing the changes in health risk behaviors among migrants. The authors concluded that the immigrants' length of residence affects patterns of health risk behavior and that this parameter can be an instrument for monitoring changes in immigrants' health. Furthermore, variations in immigrant populations and circumstances in receiving countries forecast the magnitude and direction of these changes (Juárez et al., 2022). The researchers also note that acculturation is linked to health risk behaviors in the migrant population (Juárez et al., 2022).

1.2 Acculturation

Migrants face challenges in their everyday life in the new country and come in contact with two cultures simultaneously, i.e., home and host culture. There are several definitions of acculturation. In social psychology, acculturation is described as a longer-term process of an individual or a group that arises through permanent contact with a second culture (Lenthe, 2016).

A further definition of acculturation is the adoption of new beliefs, values, identities, or behaviors in the host culture, including modifications to traditions, diet, language, and social interactions (Fox, Thayer & Wadhwa, 2017). This calls for a change in the original cultural patterns. Moreover, acculturation is described as the psychological and cultural change process resulting from contacts between immigrants and members of the host culture (Redfield, Linton & Herskovits, 1936; Berry et al., 2006).

According to Berry (1997) as well as Ward (2001), the foundation of acculturation theory is rooted in Lazarus and Folkman's (1984) transactional theory of stress and coping. Further proof that the acculturation theory is related to the stress-coping theory is the theoretical importance of "acculturative stress" (Berry, 1997; 2006a). Acculturative stress occurs when an individual

copes with stressors during contact with the new host culture, and it also relates to adverse outcomes of acculturation, including sadness, anxiety, and other types of maladaptation (Berry, 1997; 2005; 2006b).

The migration-related stressors can also be seen as conflicts during intercultural contact, e.g., new roles in the host country, change of status, language acquisition, and so on (Riedel, Wiesmann & Hannich, 2011). However, not every individual perceives these conflicts in the same way. Some consider them a part of life in the new country, while others see them as obstacles they must face daily.

Berry's (1997) definition of cultural adaptation represents groundbreaking research on acculturation because, according to him, acculturation is seen as a necessary process that migrants go through when managing and coping with stressors caused by the lengthened contact with the host culture. Furthermore, according to Berry (2006a), there are two perspectives of cultural adaptation, i.e., "stress, coping, and adaptation" and the "cultural learning/shedding" model. The cultural learning/shedding model states that migrants gain specific cultural skills that help them navigate the new cultural landscape, which leads to cultural adaptation (Ward, 2001). Moreover, as a part of this model, migrants are taught new intercultural skills, new knowledge, and new language (Kuo, 2014).

On the other hand, the stress, coping, and adaptation model is often used in acculturation research because it analyzes responses to stresses and conflicts resulting from intercultural connections (Ward & Kennedy, 2001; Kuo, 2014). This model differentiates between the "individual" and "group" level impacts of acculturation, which occur before and during acculturation and may impact the adaptation process (Kuo, 2014).

Berry created a categorical approach based on the degree of preservation of one's native culture and the level of adaptation to the new host culture, which describes the individual-level impact of acculturation (Berry et al., 2002). His model distinguishes four acculturation strategies: assimilation, integration, separation, and marginalization (Berry, 1997). Assimilation is defined as rejecting one's home culture and adopting the customs and values of the host culture. Integration amounts to preserving the home culture while adopting the host culture. Separation entails upholding the native culture while rejecting the foreign one. Both cultures are rejected as a result of marginalization.

At the group level impact of acculturation, the acculturation group first identifies the stressors and develops coping mechanisms to deal with them (Berry, 2006a; Kuo, 2014). Ideally, the chosen coping mechanisms will impact the stressor and result in a successful adaptation (Kuo, 2014).

During acculturation, the changes mentioned above at the individual and group levels can shape disease risk and patterns of minority health (Fox, 2017). As a result, acculturation was noted in earlier research to have an impact on migrants' health (Schumann et al., 2020). Acculturation can have a favorable or unfavorable impact on health, depending on the healthcare systems of the origin and destination country.

Specific individual, contextual, and structural elements, as well as a particular country's social, historical, and political circumstances, should be considered when assessing correlations between acculturation and health outcomes (Schwartz et al., 2010). Although there are discrepancies in the size and orientation of the impacts, it is challenging to make statements regarding how acculturation and health are associated because there is a possibility of generalization (Hunt, Schneider & Comer, 2004).

To better understand the health disparities associated with migration, more studies are required to investigate the aspects of migration that might account for these disparities (Schumann et al., 2020). The length and type of migration, as well as the acculturation environment of the migrants, among other factors, could be important factors influencing health outcomes.

1.2.1 The Rudmin acculturative learning model

Compared to Berry's model, Rudmin defined acculturation as a learning process, which in his model is not the outcome but the mediator, and sociodemographic status and discrimination are used as covariates that control the acculturation process (Arends-Tóth & Van de Vijver, 2006; Castro, 2012). In Rudmin's perspective, motivation for acculturation can be neglected due to concentration on acculturative stress (Rudmin, 2003). Some immigrant categories, e.g., missionaries, students, business agents, and diplomats, can acculturate despite the host culture's negative or not entirely positive attitudes (Fathi et al., 2018). According to Rudmin's model, attention should be given to immigrants' "motivation of utility" to acculturate (Rudmin, 2009).

The three stages of Rudmin's model of acculturation as second-culture acquisition are acculturative motivations, acculturative learning, and alterations in the individual (Rudmin, 2009). In this process, acculturative motivations lead to acculturative learning, which causes changes in behaviors, attitudes, social interactions, abilities, and values, among other things (Fathi et al., 2018; Andronic & Constantin, 2022). Due to their influence on the learning process, all of them are viewed as conditions or antecedents (Castro, 2012).

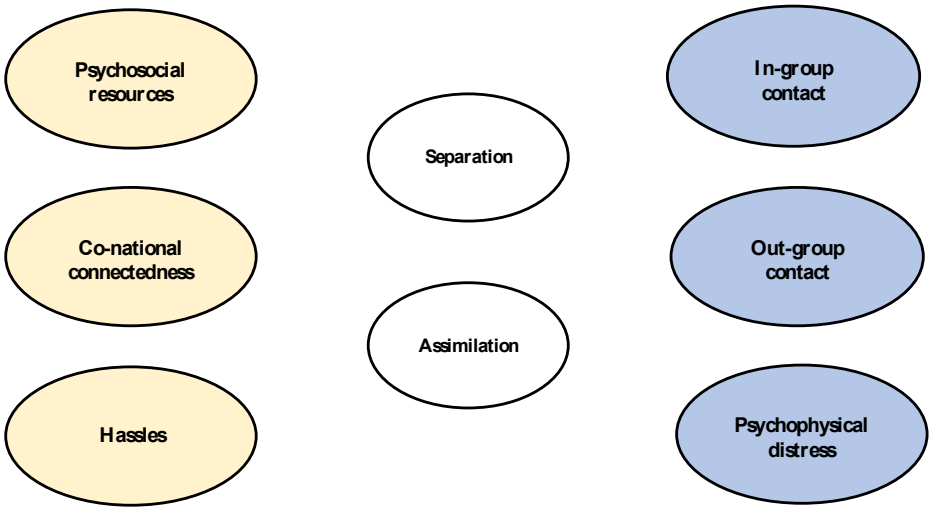
The motivation to acculturate comprises ethnic identity, cultural attitudes, coping, and utility, involving the benefits and costs of second-culture acquisition (Ward, 2004; Fathi, 2018).

Moreover, there are four main acculturative learning techniques, i.e., information about the new culture, receiving instructions, imitating new cultural behaviors, and receiving mentoring from people who are proficient in the host culture and care enough about the person who is acculturating to provide individual support (Fathi et al., 2018). Finally, the changes brought about by acculturative learning might result from discrimination in addition to family circumstances, creativity, accomplishments, disappointments, and political activity (Fathi et al., 2018).

1.2.2 The multidimensional individual difference acculturation model

Another acculturation model is the Multidimensional Individual Difference Acculturation (MIDA) model created by Safdar, Lay & Struthers (2003), which suggests that psychological resources, co-national connections, and hassles are three predictor variables influencing acculturation attitudes and adaptation results. According to this model, psycho-physical health outcomes are more strongly influenced by coping mechanisms and acculturation attitudes than demographic factors (Safdar, Lay & Struthers, 2003). The MIDA model provides a framework for analyzing how individuals acculturate by concentrating on the factors influencing immigrants' adaptation to the new society (Safdar et al., 2021) (Figure 1.2).

Figure 1.2: Multidimensional Individual Difference Acculturation Model



Source: Author's construction (adapted from Safdar, Lay & Struthers, 2003).

Cultural competence, resilience, and out-group social support (social support from the host society's members) are the three components of psychosocial resources (Safdar, Lay & Struthers, 2003). Additionally, family allocentrism (the quality of familiar links and relationships), ethnic identity, and in-group social support (felt support from family and in-group members) are all components of co-national connectedness (Fathi et al., 2018). Hassles are persistent irritants that people confront, such as financial issues, time pressure, conflicts with family members or friends, and being overloaded with obligations (Safdar, Lay, & Struthers, 2003). Finally, the MIDA model's outcome variables include out-group contact resulting from psychosocial resources, in-group contact resulting from co-national connectedness, and psychophysical distress resulting from hassles (Safdar, Struthers & van Oudenhoven, 2009; Safdar, Calvez & Lewis, 2017).

Moreover, separation and assimilation as acculturation strategies are analyzed in the MIDA model and are viewed as mediating factors in linking the psychological dimensions to the output (Safdar, Lay & Struthers, 2003). In this instance, separation is predicted by co-national connectedness, and in-group contact is predicted by separation (Safdar, Lay & Struthers, 2003). In addition, hassles predict separation and psychophysical distress, psychosocial resources predict assimilation, and assimilation predicts out-group contact (Fathi et al., 2018).

1.2.3 Measurements of acculturation

Initially, acculturation was considered unidimensional, assuming that immigrants would take on the new country's values, beliefs, and customs while rejecting those from their own (Tanenbaum et al., 2013). Given that acculturation is impacted by various contextual factors and both cultures experience change as a result of the effect of one another, it is now frequently thought of as multidimensional (Berry & Sam, 1997; Sam & Berry, 2006). As a result, there are several conceptualizations of acculturation measurements: unidimensional, bidimensional, and multidimensional (Schumann et al., 2020).

Whereas the unidimensional model describes acculturation as a spectrum that varies from unacculturated to acculturated, the bidimensional model is broader and more inclusive (Schachner et al., 2017). It assesses how well the original culture is being maintained and how well the new host culture is being adopted on two independent scales (Berry, 2001). According to Thomson & Hoffman-Goetz (2009), the multidimensional model views acculturation as a multifaceted process that individually examines the various dimensions of acculturation.

Based on Berry's bidimensional model, acculturation strategies are divided into four quadrants regarding orientation toward the home and host cultures (Rudmin, 2009).

Nevertheless, his work has been criticized for conceptual and statistical problems (Rudmin, 2003). According to other authors (Arends-Tóth & van de Vijver, 2007; Rudmin, 2009; Demes & Geeraert, 2014), orientation toward the home and host country should be measured as independent and continuous variables in order to allow the individuals to be in transition from one category to another. Demes & Geeraert (2014) developed new scales to address the previously mentioned limitation in measuring acculturation. Furthermore, these scales measure the adaptation of migrants to the new environment.

1.3 Adaptation

Acculturation outcomes can be distinguished between psychological and sociocultural adaptation. According to researchers, the adaptation process depends on the individual and situational variables that exist before or appear during the acculturation process (Ward, 2004; Sam & Berry, 1995). Ward, Bochner & Furnham (2001) defined adaptation of migrants "as the process of "fitting in" to the society of settlement and functioning successfully in a new environment."

Psychological adaptation refers to internal adjustment and involves life satisfaction and physical and psychological well-being (Searle & Ward, 1990). In contrast, sociocultural adaptation refers to a person's capacity to manage everyday tasks and the social skills they have gained to "fit in" in a new cultural setting (Ward & Kennedy, 1993). Although both adaptations are interrelated, different factors predict each one differently (Ward & Kennedy, 1993). Psychological adaptation is predicted by life changes, social difficulty, extroversion, homesickness, satisfaction with contact with hosts, and sociocultural adaptation (Ward & Kennedy, 1993). Conversely, cultural distance, language proficiency, the quality of migrant-host relations, and psychological adaptation can predict sociocultural adaptation (Ward & Kennedy, 1999).

Additionally, it has been discovered that time has a significant influence; psychological issues are more variable, typically increase in the beginning, and then get lower with time, whereas sociocultural adaptation increases with time spent abroad (Vulić-Prtorić & Oetjen, 2017). Previous studies also showed that sociodemographic variables positively relate to psychological and sociocultural adaptation (Mokounkolo & Taillandier-Schmitt, 2008; Polek, van Oudenhoven & Ten Berge, 2008).

Additionally, according to Demes and Geeraert (2014), psychological and sociocultural adaptation are linked to general measures of well-being. Psychological adaptation is also

considered important for immigrants' health (Maydell-Stevens, Masgoret & Ward, 2007). Previous studies operationalized psychological adaptation using measures of general well or ill-being, such as mood scales or depression. The outcomes of these studies showed that immigrants suffer from poorer mental health and higher levels of emotional distress (Maydell-Stevens, Masgoret & Ward, 2007). However, Demes & Geeraert (2014) argue that psychological adaptation needs to be evaluated in relation to cultural relocation before being associated with general well-being measures.

Sociocultural adaptation includes day-to-day living in the host culture. The existing scales for sociocultural adaptation refer particularly to the difficulties of the relocation experience and are lengthy (Demes & Geeraert, 2014). Therefore, the scales developed by Demes & Geeraert (2014) are brief, concise, and generalizable across various relocating populations, such as immigrants and expatriate workers.

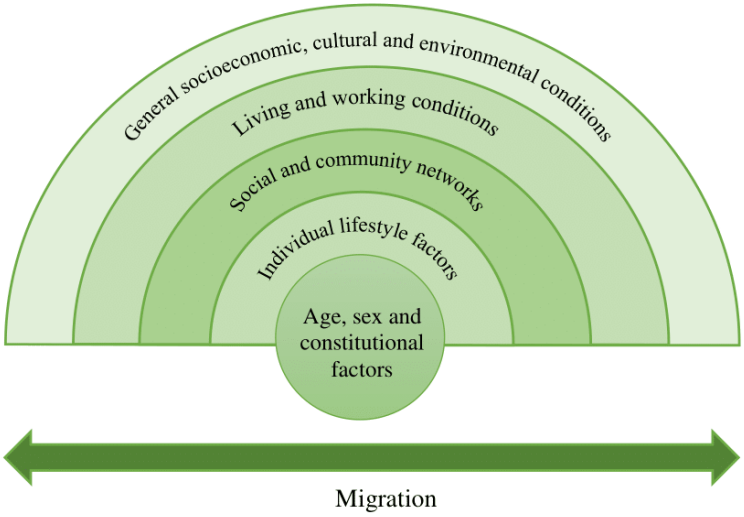
1.4 Health status

In the migration process, health plays an important role. The different burdens that come with moving to a foreign nation could be harmful to the physical as well as mental health of migrants (Ha, 2008). Furthermore, migrants are exposed to health risks before and during migration that could affect their health (Kristiansen et al., 2016). The World Health Organization (WHO) defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1948).

According to Wickramage et al. (2018), the association between health and migration is complex and frequently understudied. The social determinants of migrants' health include age, lifestyle, behavioral characteristics, and socioeconomic, environmental, cultural, and physical surroundings (Migration Data Portal, 2021). Moreover, migrants experience specific health challenges in the destination country. Therefore, they are exposed to certain determinants of health, whereby simultaneously, migration may be a social determinant of health and well-being (Davies, Basten & Frattini, 2009) (Figure 1.3).

The social determinants of health are interrelated and complex, shaped by the migrant's experience during migration and in the destination country (Kuo, 2014). Compared to the people in the host community, migrants are socially disadvantaged and experience barriers to accessing the healthcare system, which also represents a social determinant of migrants' health (Kuo, 2014).

Figure 1.3: Social determinants of health



Source: Author's construction (adapted from Dahlgren & Whitehead, 1991).

Most migrants come to the host country in good health because predominantly young and healthy people migrate (Marceca, 2017). This "healthy migrant effect" declines over time, and migrants find it difficult to access positive determinants of health (McAuliffe & Khadria, 2019). One explanation is that low socioeconomic status plays a significant role because, after some time, migrants can be affected by poverty in the host country (McAuliffe & Khadria, 2019). Different studies have found inconclusive results regarding migrants' health, which may change over time.

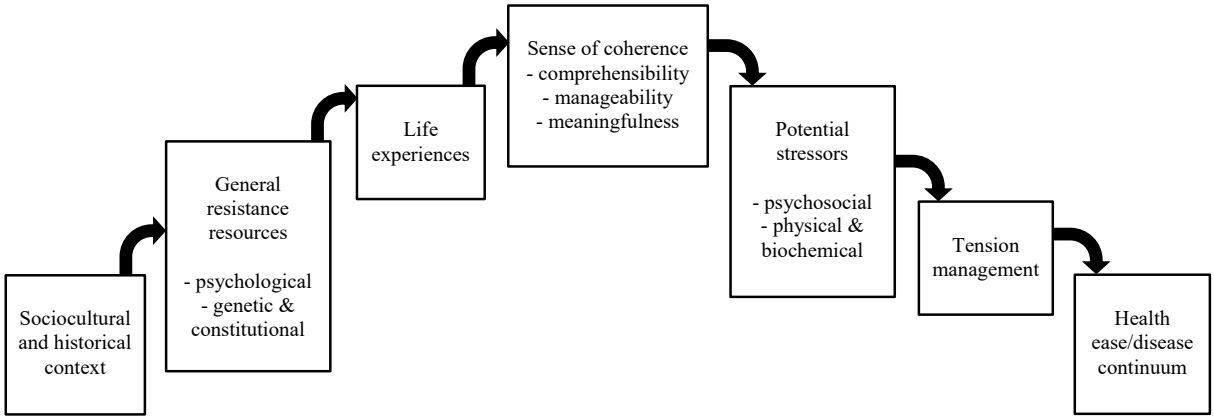
In a systematic review, Castañeda et al. (2015) discussed that public health research on migration and health is dominated by three frameworks, i.e., behavioral, cultural, and structural. The most common is the behavioral framework that focuses on migrant health behaviors. The second framework focuses on the culture of migrants, and the third one on economic, social, political, and institutional structures affecting migrant health. The authors recommended further exploration of the structural framework and, besides healthcare, including social and economic resources such as food security, housing, and working and living conditions (Castañeda et al., 2015). These factors change due to immigration and can potentially influence migrants' health and well-being.

1.4.1 Sense of coherence

Another starting point for explaining the state of health of migrants from a health-psychological perspective is the concept of salutogenesis by Aaron Antonovsky (Antonovsky, 1997;

Faltermaier, 2023). He developed a salutogenic model to explain why some people remain healthy while others do not. This approach considers factors affecting people's health and is connected to the WHO definition of health and QoL (Greimel et al., 2016). According to Antonovsky's salutogenic model, health is a movement on the health ease/disease continuum that emphasizes positive well-being instead of illness (Lindström & Eriksson, 2005; Eriksson, 2022) (Figure 1.4).

Figure 1.4: Simplified diagram of the salutogenic model of health



Source: Author's construction (adapted from Antonovsky, 1979, pp. 184-185).

Sense of coherence (SOC), a central concept of the salutogenic model, focuses on people's capacity to manage stressors in life and maintain their health (Eriksson & Lindström, 2006). According to Antonovsky's philosophy, life is fundamentally stressful, and health is an exception to the rule (Antonovsky, 1987). Furthermore, Antonovsky suggests that a SOC works as a filter for information processing and describes it as a relatively stable life orientation or personality disposition that leads to a certain attitude towards the social environment (Geiger, 2001; Schmitz, 2001). The strength of this concept lies in its universal applicability and adaptability because it is problem-solving-focused (Lindström & Eriksson, 2005).

The SOC comprises three elements: comprehensibility, manageability, and meaningfulness (Antonovsky, 1993; Faltermaier, 2023). Comprehensibility refers to "the extent to which one perceives internal and external stimuli as rationally understandable, and as information that is orderly, coherent, clear, structured rather than noise - that is, chaotic, disordered, random, unexpected, and unexplained" (Antonovsky, 1987). The second component, manageability, is the extent to which a person believes that the resources at their disposal are sufficient to cope

with demands posed by the constantly present stimuli (Antonovsky, 1984). The last component, meaningfulness, is defined as individuals' perception that some problems deserve their engagement and commitment (Antonovsky, 1987).

Another factor contributing to the components of SOC, according to Antonovsky, is generalized resistance resources (GRR). According to him, GRR is a phenomenon related to one's sense of consistency, the harmony between underload-overload, and involvement in shaping outcomes in life experiences (Antonovsky, 1987; Faltermaier, 2023). Moreover, GGR are resources at the individual's disposal that are also connected to the environment (Lindström & Eriksson, 2005).

Antonovsky stated that GGR help develop a strong SOC, and individuals with better consistency, better load balance, and more power to make decisions have a stronger SOC (Antonovsky, 1987). Additionally, using GRR repeatedly in various life events leads to a relatively stable SOC (Hochwälder, 2022). Hence, individuals with high SOC have enough resources, perceive their environment as coherent, and move towards the health-ease continuum, and individuals with a weak SOC with inadequate resources will move towards the disease continuum.

Empirical evidence showed a strong association between SOC and perceived health, whereby individuals with strong SOC indicate a better health status (Eriksson & Lindström, 2006; Riedel, Wiesmann & Hannich, 2011). Furthermore, SOC affects several health dimensions, e.g., well-being, life satisfaction, physical health, etc. (Antonovsky, 1993; Bengel, Strittmatter & Willmann, 1999), and anticipates health-related QoL (Rakizadeh & Hafezi, 2015; Eriksson & Lindström, 2007).

However, the question is how stable these resources stay regarding radical changes in an individual's life, e.g., in the case of migration. A significant shift in living conditions and sociocultural influences resulting from migration could affect a strong SOC and thus threaten the comprehensibility of the new culture, manageability of outcomes, and meaningfulness of a person's life (Riedel, Wiesmann & Hannich, 2011).

Previous research showed that sociodemographic variables affect SOC (Lundberg & Nystrom Peck, 1994; Larsson & Kallenberg, 1996; Wainwright et al., 2007). However, these studies showed conflicting results. Nonetheless, when comparing SOC levels in different populations, Sardu et al. (2012) observed that sociodemographic variables should be included as confounders because of their impact on the SOC.

1.4.2 Integrative framework of acculturation and salutogenesis

Riedel, Wiesmann & Hannich (2011) connected Berry's acculturation theory with Antonovsky's salutogenic model to better understand the connection between migration and mental health. SOC and GRR were referred to by the authors in their theoretical framework as moderating factors before and during the acculturation process (Riedel, Wiesmann & Hannich, 2011). In addition, they showed how SOC and GRR help migrants cope with acculturation stress (Riedel, Wiesmann & Hannich, 2011). This approach opens another perspective on acculturation and its outcomes.

According to the authors, migration as a life event implies that profound and persistent changes in one's life may endanger a strong SOC (Riedel, Wiesmann & Hannich, 2011). Migrants with scarce GRR and weak SOC might experience migration as a stressful life event. This, in turn, may affect the acculturation outcome. Contrariwise, migrants with strong SOC have a better chance for a positive acculturation outcome (Sundquist et al., 2000; Jibeen & Khalid, 2010). The authors emphasized the scarcity of empirical evidence of salutogenesis and migration, as well as studies on the effects of the SOC on acculturation processes and psychological adjustment (Riedel, Wiesmann & Hannich, 2011).

1.4.3 Healthcare systems

The health of migrants may be impacted by differences in the standard and expense of healthcare between their home and destination country. For example, the Croatian healthcare system provides health services as a part of the compulsory health insurance scheme financed by the Croatian Health Insurance Fund (CHIF), which serves as the country's single health insurer and primary provider of health services (Džakula et al., 2021). In addition, CHIF covers almost the entire population.

Similarly, in Austria, a near-total population is guaranteed healthcare coverage, funded by the federal level, regional level, and social health insurance funds (OECD Austria, 2021). This culminates in a healthcare coverage rate of 99.9%. Although Austria has a complex and relatively expensive health system, this country has the lowest unmet needs compared with other national health systems EU-wide. (OECD Austria, 2021). In addition, Austria provides complete financial protection for vulnerable groups (OECD Austria, 2021).

Compared to Croatia and Austria, Ireland does not offer a universal right to public health care, and the population is divided into two categories. Approximately one-third of Ireland's population (32%) holds a Medical Card, which grants them free access to specific healthcare services, such as hospital care, GP visits, and prescription drugs – category I (OECD Ireland,

2021). The remaining two-thirds of the population is without a Medical Card and must pay for medical treatment – category II (OECD Ireland, 2021).

In the European Union in 2019, Ireland had the third lowest, and Austria had the third highest number of hospital beds per 1,000 residents (OECD Austria, 2021; OECD Ireland, 2021). This explains why Austria has some of Europe's highest inpatient care expenditures and hospital discharge rates (OECD Austria, 2021). Compared to Austria and Ireland, in Croatia, the number of hospital beds decreased in 2019 but is still on the EU average, with 5.7 beds per 1000 inhabitants (OECD Croatia, 2021).

Despite the healthcare disparities between Austria, Ireland, and Croatia, each country provides an adequate healthcare system. However, for migrants, accessing these systems can be difficult. Cultural competency, language barriers, and lack of financial means are all formidable obstacles that can compromise their health. According to a systematic review, the health of migrants often suffers due to these access barriers, indicating that inequalities between migrants and non-migrants remain (Lebano et al., 2020).

Furthermore, additional costs arise if migrants only seek medical attention when they feel sick. Therefore, preventive and curative health services should be easily accessible to address the health requirements of migrants before they become seriously ill and, in this way, reduce the cost to healthcare systems (McAuliffe & Khadria, 2019).

1.4.4 Country health profiles

Another indicator of health status and population health is life expectancy in the country. Despite increases in life expectancy before the COVID-19 pandemic, Croatia still lags three years behind the EU average in 2019 (European Commission, 2019). Moreover, due to the pandemic, life expectancy decreased by over nine and a half months in 2020 compared to 2019 and reached 77.8 years (European Commission, 2022). One of the reasons for this gap is underdeveloped public health interventions, e.g., lack of effective anti-tobacco laws, widespread indoor smoking in public areas, and rising obesity rates (particularly among children).

In Austria, life expectancy was 81.3 years in 2020, which is above the EU average but still below the levels of the best-performing countries (European Commission, 2022). The majority of Austrians report being in good health. However, about two in five adults report at least one chronic condition (European Commission, 2022). Unhealthy lifestyles and risk factors such as alcohol, smoking, dietary risks, and low physical activity are the main mortality drivers. In

addition, alcohol consumption and smoking among adolescents and adults remain above the EU average (European Commission, 2022).

Ireland's life expectancy was 82.6 years in 2020, greater than the EU average and Austria's life expectancy. However, there are two risk factors for health, i.e., alcohol consumption and smoking, both drivers of mortality in Ireland (European Commission, 2022). Furthermore, heavy alcohol consumption is higher than in most EU countries, especially among adults, and obesity rates are higher than the EU average (European Commission, 2022).

Moreover, Eurostat statistics showed differences in self-rated health between all three countries. In Croatia, for example, 63.7% of the population reported being in good health in 2020, which is lower than the EU average of 69.2% (Eurostat, 2023). Austria had higher proportions than the EU average, with 74% of adults reporting good health (Eurostat, 2023). This proportion was significantly higher in Ireland, where 83.7% of adults reported being in good health (Eurostat, 2023). However, in each of these countries, as in the other EU countries, there were disparities between income groups, and people with the highest incomes reported being in good health.

Considering overall life satisfaction rated by domain, sex, age, and educational attainment level, there were also differences between these three countries. In 2021, life satisfaction was the highest in Austria, with 8.0 (Eurostat, 2022). Conversely, life satisfaction levels in Croatia were relatively low at 6.8 (Eurostat, 2022). In Ireland, life satisfaction was 7.3, slightly above the European average. In addition, comparing the statistics in 2013, 2018, and 2021, the average satisfaction with life was consistently higher in Austria and Ireland, whereas it was consistently lower in Croatia (Statistics Explained, 2022). Nevertheless, Croatia showed a stable increase in life satisfaction in this period (2013-2021), with an increase of 0.5 points (Statistics Explained, 2022). Furthermore, overall life satisfaction is an indicator of QoL and is related to this concept.

1.5 Quality of life

WHO (2012) defines QoL as "individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns." Moreover, QoL is a multidimensional concept based on subjective criteria (Buchcik et al., 2013). This comprises a subjective evaluation of a person's living circumstances, such as physical and psychological health, personal beliefs, independence, social relationships, and environmental features (WHO, 1998).

Health is an essential dimension of QoL. Social networks, health behaviors, education, employment, and working circumstances are some elements that influence health and QoL (Greimel et al., 2016). When people decide to migrate to another country, all of these factors go through change. Predominantly, individuals migrate in search of better QoL because industrialized countries have a high QoL (Oliveira et al., 2017; Mocanu et al., 2020).

However, expectations differ from migrant to migrant, as do the economic conditions before moving to the new country. Some of them might be affected by social inequalities, especially in the beginning (Pristojkovic Suko et al., 2022). Buchcik et al. (2013) analyzed 28 studies in a systematic review and evaluated migrant populations' indicators of health-related QoL. The researchers found that the health-related QoL of migrants is generally poorer compared to natives (Buchcik, 2013).

Nevertheless, a study on Romanian immigrants in Belgium revealed that migration improves job satisfaction, QoL in the financial aspect, access to medical and educational resources, and various leisure activities (Mocanu et al., 2020). The values of immigrants' home country shape their view of the QoL, influencing their life and work goals (Mocanu et al., 2020).

In previous research on the immigrant population, sociodemographic factors, e.g., age, gender, education, income, and marital status, were related to QoL (Aghapour et al., 2012; Gottvall, 2020). Moreover, living conditions, employment, educational system, and healthcare in the host country can influence an individual's QoL (Mocanu et al., 2020). Therefore, elements such as economic conditions, an efficient education and healthcare system, social protection, political stability, the quality of the environment, and individual and equality rights are equally important to increase migrants' QoL (Mocanu et al., 2020).

There are several approaches to measuring health-related QoL; the basic two are generic and specific instruments. The first summarizes the health-related QoL and comprises physical and mental health, and the second concentrates on particular disease stages, patient populations, or functional domains (Guyatt, Feeny & Patrick, 1993). Generic measures can be divided into two main categories: health profiles, e.g., Short Form-36 Health Survey (SF-36), and measures of health utilities, e.g., Health Utilities Index (Feeny et al., 2013). Specific measures are frequently more adaptable to modification compared to generic ones; however, they have limited utility in cost-effectiveness evaluations (Feeny et al., 2013).

A recent systematic literature review on health-related QoL among Korean migrant workers showed that the Short Form Health Survey (SF-36 and SF-12), World Health Organization Quality of Life Brief (WHOQOL-BREF) questionnaire, and Concise Measure of Subjective Well-Being are frequently used when measuring QoL among migrants (Cho, Kang & Park,

2023). This review showed that migrants' health-related QoL is affected by social factors and acculturative stress, implying that integration programs should be enlarged to enable migrant workers to assimilate into the local culture quickly (Cho, Kang & Park, 2023).

Hence, studying the QoL of migrants is necessary to understand and improve this vulnerable population's well-being, health status, and integration into the new society.

2 AIMS OF THE STUDY

This thesis focuses on Croats living in Austria and Ireland because these countries have similar living standards yet different cultures and ways of living. Most studies on Croats have focused solely on emigration motivations and predicting Croatian emigration trends (Jurić, 2017; Rajković & Horvatin, 2017; Jurić, 2021b). This thesis concentrates on other factors that also affect the migration process.

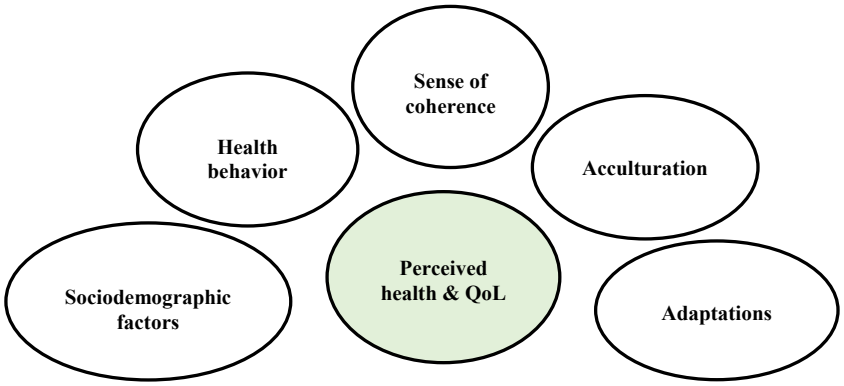
Acculturation is associated with a migrant's health status. This complex process often remains unobserved or neglected, especially by countries losing many citizens. SOC is also connected to the health of migrants and plays an important role in the migration process. Although many studies address the associations between SOC and health, there is still a literature gap concerning acculturation and SOC in association with self-perceived health and QoL.

Another aim of this thesis is to compare self-perceived health and QoL among migrants and non-migrants to explore the differences between Austria, Ireland, and Croatia.

2.1 Objectives

Based on Berry's acculturation model, Searle and Ward's adaptation theory, Antonovsky's salutogenic model, and as the result of previous studies, variables affecting perceived health status and QoL were defined (Figure 2.1).

Figure 2.1: Variables affecting perceived health and QoL among migrants



Source: Author's construction

The primary goal of this thesis is to identify the relationships between first-generation Croatian migrants' self-perceived health, QoL, SOC, health behavior, acculturation, and psychological and sociocultural adaptation. The second goal is to determine whether sociodemographic variables, health behavior, SOC, acculturation, and adaptations can predict self-perceived health and QoL. The final goal was to assess Croats' perceived health status and QoL at home and abroad.

2.2 Research questions

The theoretical background was the foundation for developing this thesis's research questions and hypotheses (see also Pristojkovic Suko et al., 2022).

Question 1: What are the predictors of perceived health and QoL of first-generation Croatian migrants?
Hypothesis 1: Sociodemographic variables, health behavior, SOC, acculturation, psychological, and sociocultural adaptation are significant predictors of perceived health and QoL of first-generation Croatian migrants.

Question 2: How are acculturation outcomes (i.e., psychological and sociocultural adaptation), SOC, and sociodemographic characteristics associated with the perceived health and QoL of first-generation Croatian migrants?
Hypothesis 2: Acculturation outcomes (i.e., psychological and sociocultural adaptation) and SOC are positively associated with the perceived health and QoL of first-generation Croatian migrants after adjusting the sociodemographic variables.

Question 3: Does the perceived health and QoL differ between Croats living in Austria, Ireland, and Croatia?
Hypothesis 3: The perceived health and QoL of Croats living abroad differ from those living in their home country.

The results of this thesis can capture the differences between Austria, Ireland, and Croatia, particularly how the acculturation process is associated with perceived health status and QoL and what are the predictors of these constructs.

Based on the findings, recommendations for Croats residing abroad can be created to promote health-related QoL as well as psychological and sociocultural adjustment. This thesis is the first to examine these factors among first-generation Croatian migrants in Austria and Ireland.

3 MATERIALS AND METHODS

This chapter contains parts based on the following publication: Pristojkovic Suko et al. (2022).

3.1 Research design

The study was designed as a cross-sectional, questionnaire-based case-control study. An online survey was carried out with comparison groups in Austria, Ireland, and Croatia using the LimeSurvey tool. In addition, the target number of study participants in each city was 100. The G*power generated at 80% power and a 0.05 one-tailed significance level was used to calculate this sample size.

A survey was conducted between October 2019 and April 2020 in Graz, Dublin, and Zagreb. Graz and Dublin were the chosen cities because the numbers of Croatian immigrants in these cities were similar. The control group was recruited from Zagreb. The response data were stored in a database with a username and password for the LimeSurvey Cloud instance, available only to the author. All measures were conducted following the Good Scientific Practice guidelines.

3.2 Study population

The participants were first-generation immigrants, aged 20 to 55, who had lived in the immigration country for ten months to five years (Pristojkovic Suko et al., 2022). The period of ten months was chosen based on a prior study on Croatian immigrants, which showed that immigrants could develop sufficient linguistic proficiency in the host country in that amount of time (Kosić, 2002). According to sex and age (a quota of 50% each), quotas in all three cities were filled.

In addition, the participants were divided into three age groups: 40% aged 20–31, 40% aged 32–43, and 20% old 44–55. This parameter was chosen based on previous research, which showed that emigrated Croats were primarily between 20 and 39 years of age (Jurić, 2021b). In total, 745 participants partially completed the survey, of which 506 (Austria = 160, Ireland = 191, Croatia = 155) fully completed the survey. Out of 506, 349 participants fulfilled the quotas. The resulting sample size was $N = 349$ Croats living in Ireland (116), Austria (112), and Croatia (121). Participation was voluntary and anonymous, and Table 3.1 shows how the quotas were met. By responding to the survey, participants gave their full consent.

Table 3.1: Fulfilment of the quotas according to sex and age

		Austria	Ireland	Croatia
20-31 years	Female	33 (64.7%)	28 (57.1%)	26 (50%)
	Male	18 (35.3%)	21 (42.9%)	26 (50%)
	Total	51	49	52
	% within country	45.5%	42.2%	43.8%
32-44 years	Female	22 (52.4%)	30 (66.7%)	26 (56.5%)
	Male	20 (47.6%)	15 (33.3%)	20 (43.5%)
	Total	42	45	46
	% within country	37.5%	38.8%	38.0%
45-55 years	Female	10 (52.6%)	18 (81.8%)	10 (45.5%)
	Male	9 (47.4%)	4 (18.2%)	12 (54.5%)
	Total	19	22	22
	% within country	17.0%	19.0%	18.2%

All quotas for sex and age within all three countries were adequately fulfilled, except in Ireland in the last age group. Moreover, Austria and Ireland had more women who fulfilled quotas in all age groups. On the other hand, in Croatia, the ratio of men and women almost reached the targeted 50% in all age groups.

3.3 Data collection

The data were gathered simultaneously in each of the three countries. Social networks like Instagram, Facebook, LinkedIn, and email were the primary channels for online recruitment. The snowball technique, in which participants forward the survey link to other participants to fill out the questionnaire, was used to recruit the participants (Sadler et al., 2010).

All participants interested in participating obtained the survey link and filled out the questionnaire in an average time of 15–20 minutes for Croats abroad and 10–15 minutes for Croats in their home country. All scales were administrated in Croatian. Moreover, a few Croatian participants in Graz, Austria, were recruited directly through the Croatian community. These participants completed online or paper surveys.

3.4 Ethical considerations

The study obtained approval from the Ethics Committee of the Medical University of Graz, Austria (document number 31-328 ex 18/19).

All participants received detailed information about the research and provided informed consent (see Appendix A). The investigation conforms to the principles defined in the Declaration of Helsinki.

3.5 Measurements

The questionnaire included sociodemographic characteristics, somatic symptoms, health behavior, SOC, acculturation orientations (home and host orientation), adaptations (psychological and sociocultural), and QoL. All questions were mandatory to answer, and standardized questionnaires were used.

Perceived health was operationalized by somatic symptoms and a separate question from the WHOQOL-BREF questionnaire about the individual's overall perception of general health. This construct was chosen because physical health was assessed based on somatic symptoms, and to better evaluate the participant's perceived health, their subjective psychological perspective was examined. In the sense of a comprehensive health model, social and health aspects were operationalized through four QoL dimensions.

3.5.1 Sociodemographic characteristics

The participants of the study were selected based on a variety of sociodemographic factors, including gender, age, duration of stay (measured in months), level of education (secondary or tertiary), living situation (alone or with a partner), net household income, and occupational status (Pristojkovic Suko et al., 2022).

3.5.2 Quality of life

To measure the QoL, the World Health Organization Quality of Life (WHOQOL - BREF) questionnaire, a valid and cross-culturally applicable survey with 26 questions, was employed. It covers four different dimensions: physical health, psychological health, social relationships, and environment (WHO, 1996) - and includes two distinct questions about the respondents' overall perception of general health and QoL.

Participants rated their agreement with each statement on a 5-point Likert scale; higher scores signified higher QoL. The overall score is between 0 and 100. According to psychometric properties, WHOQOL-BREF is a valid and reliable instrument with a high correlation with WHOQOL-100 (around 0.89) (WHOQOL Group, 1998). In addition, the WHOQOL-BREF Croatian version has demonstrated high internal consistency and test-retest stability

(Radošević-Vidaček, Macan & Košćec, 2004). Thus, this instrument is an effective and accurate measure of the QoL.

3.5.3 Health behavior

The Simple Lifestyle Indicator Questionnaire (SLIQ) was used to evaluate health behavior. This questionnaire has five different components that give an overall picture of lifestyle choices: the diet part, which consists of three questions; the activity section, which consists of three questions; the alcohol consumption part, which consists of three questions; the smoking habit section, which consists of two questions, and the stress in daily life section, which consists of one question. Answers to the questions were calculated to produce both raw and categorical scores for each section.

Since every aspect has a category score ranging from 0, 1, or 2, the SLIQ score can range from 0 to 10 (Godwin et al., 2008). The healthier the lifestyle, the higher the score. Furthermore, a smoking-related question was added to estimate how many cigarettes, pipes, cigars, or other tobacco products are typically smoked daily. Internal consistency for the three items about diet was 0.58, and for the three activity questions, it was 0.6 (Godwin et al., 2008).

3.5.4 Somatic symptoms

A brief self-report questionnaire called the Somatic Symptom Scale-8 (SSS-8) was used to evaluate the level of somatic symptom burden. The questionnaire contains questions about the following somatic symptoms: gastrointestinal, fatigue, pain, and cardiopulmonary.

On a 5-point scale from 0-4 (0 being not at all and 4 being very much), respondents rated their symptoms within the last seven days (Gierk et al., 2014). A total score ranges between 0 and 32, with higher scores implying a higher somatic symptom burden. The internal consistency ranged from 0.77 to 0.93 for different language versions (Nesterko et al., 2019).

3.5.5 Sense of coherence

The 13-item Sense of Coherence Scale (SOC-13) assessed the SOC. The original version of the questionnaire was developed by Antonovsky (1987) and contained 29 questions. The shorter version with 13 questions was also developed by Antonovsky (Antonovsky, 1987). According to Eriksson & Mittelmark (2016), the SOC-13 scale is a reliable and accurate measurement tool.

The questionnaire consists of three subscales: comprehensibility (five items), manageability (four items), and meaningfulness (four items). On a 7-point Likert scale, participants rated their agreement with each statement. The overall score spans from 13 to 91, with higher scores

indicating a stronger SOC. The reliability range in a systematic review of 127 studies using SOC-13 was 0.70 to 0.92 (Eriksson & Lindstrom, 2005). Furthermore, the scale has been evaluated among the Croatian population (Kardum, Hudek-Knežević, & Kola, 2005).

3.5.6 Acculturation and adaptations

Acculturation orientations, psychological adaptation, and sociocultural adaptation were assessed using questionnaires created by Demes & Geeraert (2014). The scales showed good internal consistency and were tested in student and migrant samples.

3.5.6.1 Brief Acculturation Orientation Scale

The Brief Acculturation Orientation Scale (BAOS) was employed to assess the degree of acculturation orientation. This scale contains the orientation toward the home (BAOS-Home) and host country (BAOS-Host). On a 7-point Likert-type scale, participants indicated their level of agreement with the four indicators of acculturation orientation, i.e., friendship, traditions, characteristics, and actions. The internal consistency for the different language versions was 0.70 – 0.86 for BAOS-Home and 0.61 – 0.89 for BAOS-Host (Demes & Geeraert, 2014).

3.5.6.2 Brief Psychological Adaptation Scale

The Brief Psychological Adaptation Scale (BPAS) was used to measure psychological adjustment. This scale was developed using Mumford's (1998) Culture Shock Questionnaire, stress and adjustment difficulties extracted from the International Statistical Classification of Diseases and Related Health Problems (ICD-10), and interviews conducted with people who lived abroad (Demes & Geeraert, 2014).

The measure includes eight items addressing positive and negative attitudes about home and host country. The participants were asked to consider their feelings about the host nation and indicate how much they agreed with each statement on a 7-point Likert-type scale (Pristojkovic Suko et al., 2022). The internal consistency for the various language versions ranged from 0.71 to 0.90 (Arends-Tóth & van de Vijver, 2007).

3.5.6.3 Brief Sociocultural Adaptation Scale

The Brief Sociocultural Adaptation Scale (BSAS) was employed to measure sociocultural adjustment. This scale is based on five scales: the Sociocultural Adaptation Scale (Ward & Kennedy, 1999), the Social Situations Questionnaire (Furnham & Bochner, 1982), the Cultural Readjustment Rating Scale (Spradley & Phillips, 1972), Cultural Distance Index (Mumford & Babiker, 1998), and Acculturation Index (Ward & Kennedy, 1994; Ward & Rana-Deuba, 1999).

The BSAS consists of twelve questions. After considering how easy or difficult it is for them to adapt to living in the host nation, participants assessed each item on a 7-point Likert-type scale, with one representing "very difficult" and seven representing "very easy" (Pristojkovic Suko et al., 2022). According to Arends-Tóth & van de Vijver (2007), Cronbach's alpha coefficient range in the different languages was 0.79 to 0.91.

3.5.7 Reliability of scales

The reliability of the abovementioned questionnaires was assessed using Cronbach's alpha (Table 3.2).

Table 3.2: Reliability coefficients of the instruments

Abbreviations	Scale	No. of items	Range	*M*	*SD*	Cronbach α
WHOQOL-BREF	World Health Organization Quality-of-Life Scale	26				.908
	Physical Health	7	6-20	16.01	2.31	.783
	Psychological Health	6	7-20	15.05	2.48	.786
	Social Relationships	3	7-20	15.35	3.03	.669
	Environment	8	7-20	14.82	2.48	.784
SLIQ	Simple Lifestyle Indicator Questionnaire	12	0-10	5.88	1.71	.491
SSS-8	Somatic Symptom Scale	8	0-23	6.14	4.75	.796
SOC	Sense of Coherence	13	35-71	55.76	6.07	.799
BAOS	Brief Acculturation Orientation Scale					
BAOS-Home	Home Orientation	4	4-28	15.53	6.52	.852
BAOS-Host	Host Orientation	4	4-28	17.30	5.04	.788
BPAS	Brief Psychological Adaptation Scale	8	18-53	40.13	8.02	.851
BSAS	Brief Sociocultural Adaptation Scale	12	33-84	65.05	12.63	.894

Internal consistency was considered adequate when values were 0.70 or above (Taber, 2018). The scales demonstrated good reliability, with three scales – BAOS-Home, BPAS, and BSAS – demonstrating very good reliability (Pristojkovic Suko et al., 2022). However, due to the small number of items on the scale, the SLIQ questionnaire had a poor Cronbach's alpha for diet and activity questions, consistent with the literature.

3.5.8 Psychometric analysis

The SSS-8, SLIQ, BAOS, BPAS, and BSAS were five scales translated into Croatian and back-translated by bilingual speakers (Pristojkovic Suko et al., 2022). The translations were assessed by comparing them to the original text in order to avoid translation mistakes. Additionally, a confirmatory factor analysis was performed to verify the questionnaire translations and determine whether the factor structure from the literature could be seen in the translations (Pristojkovic Suko et al., 2022). The number of factors in each model varied depending on the original structure of the questionnaires, with five factors for SLIQ, four for SSS-8, two for BAOS, one for BPAS, and one for BSAS (Pristojkovic Suko et al., 2022).

The Tucker-Lewis index (TLI), comparative fit index (CFI), and root mean square error of approximation (RMSEA) were calculated to evaluate the model's fit. Hu & Bentler (1999) state that RMSEA values can range from 0 to 1, whereby a lower value indicates a better fit. Furthermore, they considered an RMSEA of less than 0.05 as a good fit, one between 0.05 and 0.08 as adequate, and one greater than 0.08 as a bad fit (Hu & Bentler, 1999). TLI and CFI values also range from 0 to 1, with larger numbers suggesting a better fit.

The fit statistics were obtained after the estimation of the models. Except for BPAS, all models showed a good fit, as shown in Table 3.3. For BPAS, it was assumed that eight items were loaded on one factor, as in the literature. The data fit the latent factor except for the Croatian version, where the fit indices were insufficient. The items did not appear to load onto the factor as anticipated, and other studies provided no comparison of the factor structure. There is a possibility that some response categories may have been selected only by a small number of participants. Another explanation is the low sample size (N = 228), which could have contributed to the poor model fit.

Table 3.3: Confirmatory factor analysis

	RMSEA (95% CI)	**TLI**	**CFI**
SLIQ	0.059 (0.046 – 0.072)	0.875	0.896
SSS-8	0.093 (0.072 – 0.115)	0.862	0.901
BAOS	0.095 (0.068 – 0.123)	0.936	0.954
BPAS	0.266 (0.241 – 0.29)	0.639	0.742
BSAS	0.144 (0.129 – 0.16)	0.894	0.913

3.6 Statistical analysis

In the data analysis, descriptive statistics, including mean and standard deviation, were used to evaluate the variables by country. To compare the means of self-perceived health and QoL in Austria and Ireland, an independent group t-test was used. Furthermore, Pearson's correlation coefficient was determined between the BAOS-Home, BAOS-Host, BPAS, and BSAS, and the association between acculturation and adaptations among Croats living abroad was evaluated using a regression approach.

3.6.1 Multiple linear regression analysis

To evaluate the association between variables and determine the predictors of self-perceived health and QoL in all three countries, a multiple linear regression analysis was performed. In a regression model, the amount of variance in the dependent variable that can be explained by the independent variables in the model is indicated by the coefficient of determination or R^2. When more independent variables are added to the model, this measure increases.

To compensate for this overestimation, the adjusted R^2 is used. The adjusted R^2 reveals the proportion of variance that can be accounted for by the independent variables that have an actual effect on the dependent variable. Because it reflects the model complexity (number of variables) relative to the data, this measure is always somewhat lower than the R^2 value. As a result, the adjusted R^2 was reported for each dependent variable in all regression models for Croats living abroad and in Croatia.

For Croats abroad, self-perceived health (somatic symptoms and perception of overall general health) and the four QoL dimensions were included as dependent variables (Pristojkovic Suko et al., 2022). As independent variables, sex, age, education, net household income, living situation, duration of stay, health behavior, SOC, BAOS-Home, BAOS-Host, BPAS, and BSAS were used (Pristojkovic Suko et al., 2022). The country was also included as the independent variable in the joint model for Austria and Ireland.

Health behavior and sociodemographic factors were considered to be potential confounders. First, an unadjusted regression model only with central predictors – namely, SOC, BAOS-Home, BAOS-Host, BPAS, and BSAS – was calculated (Pristojkovic Suko et al., 2022). Afterward, the central predictors and confounders were calculated in an adjusted regression model. Finally, the contribution of these predictors to the assumptions was calculated using the delta of the R^2 value between the unadjusted and adjusted effects (Pristojkovic Suko et al., 2022).

In the multiple linear regression analysis for Croats in their home country, the independent variables were sociodemographic factors, i.e., sex, age, education, net household income, living situation, health behavior, and SOC, and the dependent variables were self-perceived health and four domains of QoL.

The standardized beta coefficient (ß), unstandardized coefficient (B), explained variance (adjusted R^2), standard error (SE), F-value, and probability value (p) were all estimated for each regression model. Dummy coding was used for nominal and ordinal variables such as sex, education, living situation, and country (Pristojkovic Suko et al., 2022). Furthermore, several tests were carried out to verify linear regression assumptions, i.e., tests for linear relationships, multicollinearity, multivariate normality, and homoscedasticity. A p-value < 0.05 was considered statistically significant.

In addition, the dependent variable "Perception of overall general health" was dichotomized (0-not satisfied, 1-satisfied) for all countries, and a binary logistic regression was performed (Pristojkovic Suko et al., 2022). As a result, the Nagelkerke R^2 value was provided for this variable rather than the adjusted R^2 (Pristojkovic Suko et al., 2022). Also calculated were odds ratios (OR) with 95% confidence intervals (CI).

3.6.2 Multivariate analysis of variance and covariance

Lastly, a one-way multivariate analysis of variance (MANOVA) was performed to compare perceived health status and QoL in all three countries. In MANOVA, the country was included as an independent variable, and perception of overall general health, somatic symptoms, and four domains of QoL (physical health, psychological health, social relationships, environment) as dependent variables.

Moreover, multivariate analysis of covariance (MANCOVA) was calculated. The independent and the dependent variables were the same as in MANOVA, whereby sociodemographic variables and health behavior were accounted for as covariates.

3.6.3 Statistical software

The descriptive statistics, multiple linear regression models, MANOVA, and MANCOVA, were computed using SPSS statistical software (version 27.0; IBM Corp, Armonk, NY, USA). Using R software (version 4.0.3) and the Multidimensional Item Response Theory packages "mirt" (Chalmers, 2012) and "lavaan" (Rosseel et al., 2014), the factorial structure of the questionnaires was examined.

3.6.4 Data cleaning

After gathering the responses from participants and filling out the quotas, the data were entered into the database. Frequencies were calculated to identify any missing values or outliers. Furthermore, collinearity among continuous variables was investigated. The data were examined for normal distribution.

4 RESULTS

4.1 Sociodemographic data

The sample consisted of 349 Croats, with 116 living in Ireland, 112 in Austria, and 121 in Croatia. The sample's gender distribution was 58.5% female with an average age of 34.03 years, compared to 41.5% male with an average age of 33.99 years. The socioeconomic data for Austria and Ireland are presented in Table 4.1 (see also Pristojkovic Suko et al., 2022) and for Croatia in Table 4.2.

Table 4.1: Sociodemographic characteristics of Croats in Austria and Ireland

	Austria *N* = 112 ***N* (%)**	**Ireland *N* = 116** ***N* (%)**
Sex		
Female	65 (58%)	76 (65.5%)
Male	47 (42%)	48 (34.5%)
Age		
20-31	51 (45.5%)	49 (42.2%)
32-44	42 (37.5%)	45 (38.8%)
45-55	19 (17%)	22 (19%)
Living situation		
Living with partner	66 (58.9%)	78 (67.2%)
Living alone	46 (41.1%)	38 (32.8%)
Education		
Secondary	61 (54.5%)	59 (50.9%)
Tertiary	51 (45.5%)	57 (49.1%)
Occupation		
Full time (above 36 hours)	55 (49.1%)	89 (76.7%)
Part time (under 36 hours)	22 (19.7%)	12 (10.3%)
Other type of employment	2 (1.8%)	3 (2.6%)
Unemployed	12 (10.7%)	4 (3.4%)
Student	10 (8.9%)	2 (1.8%)
Maternity leave	9 (8.0%)	2 (1.8%)
Other type of inactivity	2 (1.8%)	4 (3.4%)
Net household income in €		
Up to 1.300	20 (17.9%)	4 (3.4%)
Up to 2.500	44 (39.3%)	30 (25.9%)
Up to 4.000	41 (36.5%)	42 (36.2%)
Above 4.500	7 (6.3%)	40 (34.5%)
Length of stay (in months)		
10-12	9 (8.0%)	5 (4.3%)
13-24	19 (17.0%)	32 (27.6%)
25-36	19 (17.0%)	23 (19.8%)
37-48	19 (17.0%)	22 (19.0%)
49-61	46 (41.0%)	34 (29.3%)

In Austria and Ireland, most participants (58.9% and 67.2%) resided with their partners. Croats abroad had predominantly secondary education (54.5% and 50.9% Croats, respectively). In both countries, most participants worked full-time (49.1% Croats in Austria vs. 76.7% Croats in Ireland). Regarding net household income in euros, in Austria, most participants reported an income of up to 2,500 euros per month (39.3%). In Ireland, most participants reported a higher net household income of up to 4,000 euros (36.2%). While Croats in Austria spent 39.05 months (*SD* = 17.18) abroad, those in Ireland spent 35.19 months (*SD* = 15.58).

Table 4.2: Sociodemographic characteristics of Croats in Croatia

	Croatia *N* = 121 ***N* (%)**
Sex	
Female	63 (52.1%)
Male	58 (47.9%)
Age	
20-31	53 (43.8%)
32-44	46 (38.0%)
45-55	22 (18.2%)
Living situation	
Living with partner	52 (43%)
Living alone	69 (57%)
Education	
Secondary	38 (31.4%)
Tertiary	83 (68.6%)
Occupation	
Full time (above 36 hours)	96 (79.3%)
Part time (under 36 hours)	1 (0.9%)
Other type of employment	4 (3.3%)
Unemployed	5 (4.1%)
Student	10 (8.3%)
Maternity leave	5 (4.1%)
Other type of inactivity	0 (0%)
Net household income in €	
Up to 1.300	39 (32.2%)
Up to 2.500	62 (51.2%)
Up to 4.000	18 (14.9%)
Above 4.500	2 (1.7%)

In Croatia, the majority of the participants lived alone (57%). Regarding education, Croats in their home country had predominately tertiary education (68.6%). Most of the participants worked full-time (79.3%). Concerning net household income in euros, most participants reported an income of up to 2,500 euros per month (51.2%).

4.2 Croats abroad

To understand the differences between Croats who have migrated to Austria and Ireland, an independent group t-test was performed to compare health behavior, SOC, acculturation, adaptation, perceived health status, and QoL. Once the comparisons were made, correlations between acculturation and adaptations were calculated. Subsequently, BPAS and BSAS were regressed on the BAOS subscale. Finally, multiple linear regressions were calculated to determine predictors of perceived health status and QoL for emigrated Croats.

4.2.1 Acculturation, adaptation, perceived health status and QoL

The independent t-test results revealed that Croats living in Ireland showed higher levels of psychological adaptation than those living in Austria (Table 4.3). On the other hand, the mean score on the BAOS-Home subscale was significantly higher for Croats living in Austria compared to those residing in Ireland. In addition, the environmental domain of QoL also showed a higher mean score for Croats residing in Austria.

Table 4.3: Difference between Croats living in Austria and Ireland

	Austria Mean (*SD*)	**Ireland Mean (*SD*)**	**p**	**Cohen's d**
SLIQ	5.93 (1.92)	5.66 (1.67)	.267	0.15
SOC	62.17 (13.12)	62.55 (13.52)	.829	-0.03
BAOS-Home	17.36 (6.42)	13.77 (6.14)	<.001	0.57
BAOS-Host	17.93 (4.79)	16.69 (5.23)	.064	0.25
BPAS	38.89 (8.09)	41.32 (7.80)	.022	-0.31
BSAS	65.66 (11.85)	64.46 (13.36)	.473	0.09
SSS-8	6.61 (4.48)	6.22 (5.16)	.551	0.08
Perception of overall general health	3.88 (0.86)	3.81 (0.85)	.570	0.08
QoL Physical health	15.96 (2.18)	16.14 (2.65)	.580	-0.07
QoL Psychological health	15.08 (2.62)	15.08 (2.49)	.993	0.00
QoL Social relationships	15.65 (2.96)	15.09 (3.09)	.162	0.18
QoL Environment	15.47 (2.27)	14.26 (2.80)	<.001	0.47

4.2.2 Acculturation and adaptations

The correlation between BAOS-Home and BAOS-Host was low but statistically significant (r = .242, p < .001) (Pristojkovic Suko et al., 2022). This finding suggested that participants exhibited a weak tendency to orient themselves towards one culture if they were more oriented

towards the other (Pristojkovic Suko et al., 2022). With $r = .624$, $p < .001$, the correlation between BPAS and BSAS was strong and statistically significant.

Moreover, BPAS and BSAS were regressed separately on the BAOS subscale to examine the relationships between acculturation and adaptation. BAOS-Home and BAOS-Host scores accounted for 13.6% of the variance in BPAS, with BAOS-Home being negatively related ($\beta = -.339$, $p < .001$) and BAOS-Host being positively related to BPAS ($\beta = .270$, $p < .001$) (Pristojkovic Suko et al., 2022). In the case of a BSAS, similar results were obtained.

Regression analysis showed that BAOS-Home and BAOS-Host accounted for 13.3% of the variance in BSAS. Anew, BAOS-Home was negatively related to BSAS, with values of $\beta = -.129$ and $p = .044$, whereas BAOS-Host was positively related ($\beta = .384$, $p < .001$) (Pristojkovic Suko et al., 2022). These results indicated a negative relationship between home orientation and adaptation while demonstrating a positive relationship between host orientation and adaptation (Pristojkovic Suko et al., 2022).

4.2.3 Multiple linear regression analysis

The multiple linear regression analysis revealed a statistically significant relationship between the predictor variables, self-perceived health, and the four QoL dimensions (Pristojkovic Suko et al., 2022). First, five central predictors were included in the unadjusted linear regression model: SOC, BAOS-Home, BAOS-Host, BPAS, and BSAS. Afterward, a second model, adjusted for potential confounders, i.e., sociodemographic characteristics and health behavior, was calculated. Additionally, the length of stay was added as a predictor in all adjusted linear regression models for Croats abroad, and the country was also taken as a predictor in the adjusted linear regression model for Croats in Austria and Ireland (joint model). Lastly, the R^2 delta between these two models was obtained.

4.2.3.1 Croats in Austria

The strongest predictor of self-perceived health and QoL in the unadjusted and adjusted linear regression model was SOC for all QoL domains except for social relationships. Furthermore, in both models, psychological adaptation was a significant predictor of somatic symptoms, physical and psychological health domains, and the environmental domain of QoL. The delta R^2 was the highest for the perception of overall general health, where sociodemographic variables and health behavior explained 12.9% of the variance. Both regression models (Tables 4.4 and 4.5) showed the same central predictors.

Table 4.4: Unadjusted linear regression model of self-perceived health, QoL, and predictor variables for Croats in Austria

					QoL							
	Somatic symptoms		Perception of overall general health		Physical Health		Psychological Health		Social relationships		Environment	
Variables	β	p	OR	p	β	p	β	p	β	p	β	p
SOC	-.468	<.001	1.07 (1.02-1.12)	.005	.304	.002	.418	<.001	.153	.138	.344	<.001
BAOS-Home	.060	.507	1.02 (0.94-1.11)	.639	-.053	.549	.238	.003	.164	.095	-.012	.878
BAOS-Host	-.050	.581	1.00 (0.89-1.11)	.955	.056	.531	-.043	.580	-.040	.687	-.054	.496
BPAS	-.228	.039	1.04 (0.96-1.13)	.292	.354	.001	.340	<.001	.221	.061	.207	.031
BSAS	.192	.077	1.01 (0.96-1.07)	.695	-.017	.874	.052	.573	.137	.241	.314	<.001
Adjusted R^2	22.6%		25.9%*		29.6%		47.1%		15.0%		44.6%	

*Nagelkerke R^2

Table 4.5: Adjusted linear regression model of self-perceived health, QoL, and predictor variables for Croats in Austria

					QoL							
	Somatic symptoms		Perception of overall general health		Physical Health		Psychological Health		Social relationships		Environment	
Variables	β	p	OR	p	β	p	β	p	β	p	β	p
Sex[a]	.016	.861	1.54 (0.42-5.69)	.519	-.034	.712	-.016	.840	.005	.961	-.061	.438
Age	-.006	.952	0.98 (0.91-1.04)	.450	-.065	.490	.053	.507	.098	.327	-.069	.387
Education[b]	-.081	.370	1.34 (0.44-4.10)	.606	-.037	.684	.030	.699	.035	.713	.166	.030
Living situation[c]	.185	.064	0.58 (0.16-2.12)	.410	-.101	.305	.013	.875	.242	.023	-.134	.109
Net household income	-.052	.604	1.63 (0.74-3.57)	.222	-.045	.653	.070	.413	.029	.783	.071	.397
Length of stay	-.076	.418	0.97 (0.95-1.00)	.697	.051	.582	-.078	.330	-.056	.572	.025	.753
Health behavior	-.102	.260	1.01 (0.97-1.04)	.011	.085	.339	.147	.057	.025	.795	.089	.241
SOC	-.433	<.001	1.51 (1.10-2.07)	.018	.290	.005	.363	<.001	.110	.311	.316	<.001
BAOS-Home	.063	.507	1.00 (0.91-1.10)	.963	-.073	.439	.228	.005	.156	.119	.008	.920
BAOS-Host	-.096	.322	1.00 (0.88-1.13)	.960	.101	.289	-.045	.578	-.093	.359	-.006	.944
BPAS	-.256	.027	1.08 (0.98-1.20)	.119	.361	.002	.341	<.001	.217	.074	.251	.010
BSAS	.217	.051	1.00 (0.93-1.06)	.878	.004	.974	.020	.833	.103	.378	.265	.005
Adjusted R^2	27.0%		38.8%*		28.3%		47.3%		19.0%		48.7%	
Delta R^2	4.4%		12.9%		-1.3%		0.2%		4.0%		4.1%	

*Nagelkerke R^2

a) female is a reference value. b) tertiary education is a reference value. c) living with partner is a reference value.

Lower SOC and lower psychological adjustment were significant predictors of somatic symptoms in both regression models. For the perception of overall general health, significant predictors were higher SOC in the unadjusted model, explaining 25.9% of the variance. In the adjusted model, higher SOC and positive health behavior were significant predictors of the perception of overall general health, explaining 38.8% of the variance.

Regression analyses indicated that higher SOC and higher psychological adjustment were significant predictors of the physical health domain of QoL. Additionally, higher SOC, higher home orientation, and better psychological adaptation were significant predictors of the psychological health domain of QoL, which explained 47.1% and 47.3% of the variance in the unadjusted and adjusted models, respectively. In the adjusted regression model, living with a partner was the only significant predictor of the social relationships domain of QoL. Higher SOC and greater psychological and sociocultural adaptation were significant predictors of the environmental domain of QoL in both regression models. Higher education was also a significant predictor of this QoL domain in the adjusted linear regression model.

4.2.3.2 Croats in Ireland

The results of linear regression models (Tables 4.6 and 4.7) showed that SOC was the strongest predictor of self-perceived health and QoL, except for the environmental domain of QoL, for Croats living in Ireland. As in Austria, sociodemographic characteristics and health behavior significantly contributed to the explanation of the perception of overall general health (delta R^2 = 16.6%).

Table 4.6: Unadjusted linear regression model of self-perceived health, QoL, and predictor variables for Croats in Ireland

					QoL							
	Somatic symptoms		**Perception of overall general health**		**Physical Health**		**Psychological Health**		**Social relationships**		**Environment**	
Variables	**β**	**p**	**OR**	**p**	**β**	**p**	**β**	**p**	**β**	**p**	**β**	**p**
SOC	-.298	.002	1.08 (1.03-1.12)	<.001	.268	.005	.504	<.001	.188	.042	.100	.211
BAOS-Home	.140	.122	1.00 (0.91-1.09)	.918	.046	.607	.110	.126	.303	<.001	.045	.549
BAOS-Host	.012	.893	1.04 (0.95-1.15)	.410	-.010	.907	.038	.588	-.010	.902	.023	.753
BPAS	-.237	.062	0.99 (0.90-1.08)	.766	.195	.117	.208	.039	.398	.001	.342	.001
BSAS	-.090	.450	1.03 (0.99-1.09)	.163	.245	.039	.181	.058	.121	.292	.382	<.001
Adjusted R^2	28.4%		31.4%*		30.4%		55.1%		33.9%		50.0%	

*Nagelkerke R^2

Table 4.7: Adjusted linear regression model of self-perceived health, QoL, and predictor variables for Croats in Ireland

					QoL							
	Somatic symptoms		Perception of overall general health		Physical Health		Psychological Health		Social relationships		Environment	
Variables	**β**	**p**	**OR**	**p**	**β**	**p**	**β**	**p**	**β**	**p**	**β**	**p**
Sex[a]	.197	.021	1.07 (0.32-3.59)	.914	-.182	.024	-.137	.041	-.013	.872	-.122	.070
Age	.035	.686	0.94 (0.87-1.01)	.098	-.150	.063	-.095	.158	-.226	.007	-.080	.234
Education[b]	.024	.781	0.38 (0.11-1.28)	.118	-.062	.450	-.062	.368	-.119	.159	.056	.413
Living situation[c]	-.115	.240	0.51 (0.11-2.27)	.374	-.144	.120	.094	.223	-.052	.580	-.104	.180
Net household income	-.109	.260	2.82 (1.21-6.56)	.016	.201	.028	.089	.240	.000	.997	.241	.002
Length of stay	-.097	.264	0.95 (0.91-0.98)	.006	-.078	.339	-.067	.328	-.001	.992	-.001	.992
Health behavior	.058	.543	0.79 (0.53-1.20)	.267	.065	.465	.110	.141	.064	.480	.089	.232
SOC	-.310	.003	1.12 (1.54-1.20)	<.001	.317	<.001	.504	<.001	.276	.006	.071	.385
BAOS-Home	.170	.073	1.00 (0.90-1.11)	.957	.089	.314	.078	.291	.299	.001	.082	.270
BAOS-Host	.014	.869	1.11 (0.99-1.24)	.080	.017	.841	.053	.446	.036	.672	.018	.800
BPAS	-.139	.297	0.97 (0.88-1.08)	.623	.125	.319	.100	.342	.393	.003	.256	.016
BSAS	-.131	.275	1.04 (0.96-1.10)	.152	.261	.022	.197	.038	.082	.476	.409	<.001
Adjusted R^2	30.6%		48.0%*		38.6%		57.1%		35.8%		56.9%	
Delta R^2	2.2%		16.6%		8.2%		2.0%		1.9%		6.9%	

*Nagelkerke R^2

a) female is a reference value. b) tertiary education is a reference value. c) living with partner is a reference value.

Lower SOC was a significant predictor of somatic symptoms in the unadjusted and adjusted linear regression model. Additionally, somatic symptoms were positively associated with the female gender in the adjusted model. Higher SOC was found to be a significant predictor of perception of overall general health in the unadjusted model with the central predictors, explaining 31.4% of the variance. Higher net household income and higher SOC were significant predictors in the adjusted model, explaining 48% of the variance. Additionally, the length of stay was negatively related to the perception of overall general health in the same linear regression model.

Higher SOC and greater sociocultural adaptation were significant predictors of the physical health domain in both linear regression models. Furthermore, the female gender was negatively and net household income positively related to the physical health domain of QoL. In the unadjusted linear regression model, higher SOC and higher psychological adjustment were

significant predictors of the psychological health domain of QoL, accounting for 55.1% of the variance. Male gender, higher SOC, and higher sociocultural adaptation were significant predictors of the psychological health domain in the adjusted model, explaining 57.1% of the variance. Results from both regression models showed that higher levels of SOC, home orientation, and psychological adjustment were predictors of the social relationships domain of QoL. In addition, age was negatively related to the social relationships domain in the adjusted linear regression model.

In the unadjusted linear regression model, better psychological and sociocultural adaptation were significant predictors of the environmental domain of QoL, explaining 50% of the variance. Additionally, higher psychological and sociocultural adjustment and higher net household income were significant predictors of this QoL domain in the adjusted linear regression model, explaining 56.9% of the variance.

4.2.3.3 Croats in Austria and Ireland

Both linear regression models showed similar central predictors (Tables 4.8 and 4.9; see also Pristojkovic Suko et al., 2022). In Austria and Ireland, SOC and psychological adjustment were the strongest predictors of self-perceived health and all domains of QoL. Furthermore, sociodemographic variables and health behavior contributed the most to explaining the environmental domain of QoL (delta R^2 = 11.9%).

Table 4.8: Unadjusted linear regression model of self-perceived health, QoL, and predictor variables for Croats in Austria and Ireland

					QoL							
	Somatic symptoms		**Perception of overall general health**		**Physical Health**		**Psychological Health**		**Social relationships**		**Environment**	
Variables	**β**	**p**	**OR**	**p**	**β**	**p**	**β**	**p**	**β**	**p**	**β**	**p**
SOC	-.371	<.001	1.07 (1.04-1.11)	<.001	.288	<.001	.453	<.001	.180	.008	.203	.001
BAOS-Home	.129	.044	1.01 (0.95-1.07)	.819	-.018	.777	.175	.001	.245	<.001	.047	.400
BAOS-Host	-.025	.685	1.02 (0.95-1.10)	.550	.019	.757	-.002	.969	-.015	.814	.015	.783
BPAS	-.219	.008	1.02 (0.96-1.08)	.588	.274	.001	.290	<.001	.282	.001	.209	.004
BSAS	.010	.895	1.03 (0.99-1.06)	.158	.113	.137	.120	.060	.142	.072	.393	<.001
Adjusted R^2	27.1%		28.0%*		30.5%		51.5%		25.4%		44.0%	

*Nagelkerke R^2

Table 4.9: Adjusted linear regression model of self-perceived health, QoL, and predictor variables for Croats in Austria and Ireland

					QoL							
	Somatic symptoms		Perception of overall general health		Physical Health		Psychological Health		Social relationships		Environment	
Variables	**β**	**p**	**OR**	**p**	**β**	**p**	**β**	**p**	**β**	**p**	**β**	**p**
Sex[a]	.095	.119	0.95 (0.44-2.07)	.898	-.107	.068	-.080	.106	-.022	.719	-.092	.054
Age	.058	.357	0.96 (0.92-1.01)	.122	-.120	.046	-.022	.657	-.045	.476	-.088	.071
Education[b]	-.021	.739	0.73 (0.34-1.56)	.410	-.054	.368	-.011	.831	-.037	.580	.102	.037
Living situation[c]	.021	.752	0.50 (0.21-1.23)	.132	-.111	.089	.052	.338	.139	.044	-.102	.053
Net household income	-.064	.391	1.88 (1.12-3.17)	.017	.085	.234	.070	.244	-.000	.995	.155	.008
Country[d]	-.030	.660	1.59 (0.70-3.61)	.264	-.003	.965	.017	.750	.084	.219	.281	<.001
Length of stay	-.084	.174	0.97 (0.95-1.00)	.025	-.051	.384	-.080	.107	-.049	.432	.009	.856
Health behavior	-.044	.487	1.13 (0.91-1.40)	.262	.064	.290	.128	.013	.044	.491	.101	.041
SOC	-.356	<.001	1.08 (1.04-1.12)	<.001	.314	<.001	.413	<.001	.169	.022	.176	.002
BAOS-Home	.141	.036	1.01 (0.95-1.08)	.754	-.006	.931	.159	.003	.202	.003	.015	.777
BAOS-Host	-.041	.525	1.04 (0.96-1.13)	.309	.056	.364	.004	.938	-.022	.741	.020	.687
BPAS	-.210	.015	1.01 (0.95-1.08)	.748	.252	.002	.250	<.001	.272	.002	.255	<.001
BSAS	.027	.730	1.02 (0.98-1.06)	.291	.107	.155	.110	.083	.129	.108	.322	<.001
Adjusted R^2	27.2%		36.3%*		33.4%		52.8%		25.1%		55.9%	
Delta R^2	0.1%		8.3%		2.9%		1.3%		-0.3%		11.9%	

*Nagelkerke R^2

a) female is a reference value. b) tertiary education is a reference value. c) living with partner is a reference value. d) Austria is a reference value.

The data revealed that lower SOC, higher home orientation, and decreased psychological adaptation were significant predictors of somatic symptoms. Higher SOC was a significant predictor of the perception of overall general health, accounting for 28% of the variance in the unadjusted linear regression model. After adjusting the model, higher SOC and net household income were both found to be significant predictors of the perception of overall general health, explaining 36.3% of the variance. In addition, in the adjusted model, length of stay was negatively related to the perception of overall general health.

Significant predictors of the physical health domain of QoL included higher SOC and better psychological adjustment. Moreover, the adjusted model showed a negative association between age and this QoL domain. The unadjusted and adjusted effects showed that lower home orientation, higher SOC, and better psychological adaptation were significant predictors of the

psychological health domain of QoL. Positive health behavior was additionally a significant predictor of the psychological health domain in the adjusted model. Results indicated a positive association between SOC, home orientation, and psychological adjustment with the social relationships domain of QoL in both regression models. Additionally, results showed that living with a partner was positively associated with this domain of QoL.

Higher SOC and better psychological as well as sociocultural adaptation were significant predictors when looking at the environmental health domain of QoL, accounting for 44% of the variance in the unadjusted model. After adjusting the model, higher education, higher net income, life in Austria, positive health behavior, higher SOC, and better psychological and sociocultural adaptation were significant predictors, explaining 55.9% of the variance.

4.3 Croats in the home country

For Croats living in Croatia, a multiple linear regression analysis was performed using sociodemographic characteristics, health behavior, and SOC as predictor variables and self-perceived health and four dimensions of QoL as dependent variables (Table 4.10).

Table 4.10: Linear regression model of self-perceived health, QoL, and predictor variables for Croats in Croatia

					QoL							
	Somatic symptoms		Perception of overall general health		Physical Health		Psychological Health		Social relationships		Environment	
Variables	β	p	OR	p	β	p	β	p	β	p	β	p
Sex[a]	.282	<.001	.69 (0.26-1.86)	.467	-.172	.039	.060	.417	.137	.089	-.057	.479
Age	.049	.562	0.96 (0.91-1.02)	.214	-.250	.005	-.063	.420	-.210	.015	-.145	.092
Education[b]	-.049	.558	0.74 (0.26-2.21)	.588	-.052	.546	-.059	.441	-.180	.032	-.080	.340
Living situation[c]	.060	.485	1.57 (0.51-4.83)	.431	.012	.891	.041	.606	.064	.454	-.060	.488
Net household income	.087	.288	1.28 (0.63-2.60)	.488	-.110	.195	-.099	.189	-.027	.736	.103	.211
Health behavior	-.135	.092	1.44 (1.04-2.01)	.029	.211	.011	.192	.010	.132	.101	.145	.074
SOC	-.476	<.001	1.05 (1.01-1.10)	.015	.406	<.001	.594	<.001	.498	<.001	.504	<.001
Adjusted R^2	31.3%		21.1%*		26.5%		41.4%		31.2%		30.0%	

*Nagelkerke R^2

a) female is a reference value. b) tertiary education is a reference value. c) living with partner is a reference value.

For Croats in their home country, SOC was the strongest predictor of all domains of QoL, as well as self-perceived health. The models accounted for 31.3%, 21.1%, 26.5%, 41.4%, 31.2%,

and 30% of the variance. Positive health behavior was a significant predictor of the perception of overall general health as well as physical and psychological health domains of QoL.

Additionally, the female gender was observed to be positively related to somatic symptoms and negatively to the physical health domain of QoL. Age was negatively related to physical health and social relationships domain of QoL. Lastly, education was negatively related to the social relationships domain of QoL.

4.4 Differences between all three countries

4.4.1 One-way multivariate analysis of variance (MANOVA)

To measure the difference in self-perceived health and QoL between Croats living abroad and in Croatia, a one-way multivariate analysis of variance was performed (Tables 4.11 and 4.12). Post hoc comparisons were performed when significant differences were found to determine which countries varied (Table 4.13).

Table 4.11: Means and standard deviations for the country on self-perceived health and QoL

	Country	***N***	***M***	***SD***
Somatic symptoms	Austria	112	6.61	4.477
	Ireland	116	6.22	5.164
	Croatia	121	5.63	4.557
Perception of overall general health	Austria	112	3.88	.861
	Ireland	116	3.81	.854
	Croatia	121	3.91	.753
Physical Health	Austria	112	15.96	2.183
	Ireland	116	16.14	2.649
	Croatia	121	15.92	2.063
Psychological Health	Austria	112	15.08	2.617
	Ireland	116	15.08	2.491
	Croatia	121	14.99	2.346
Social relationships	Austria	112	15.65	2.956
	Ireland	116	15.09	3.094
	Croatia	121	15.32	3.041
Environment	Austria	112	15.47	2.267
	Ireland	116	14.26	2.800
	Croatia	121	14.76	2.211

Note: *N*-number of cases, *M*-Mean, *SD*-standard deviation

As dependent variables, somatic symptoms, perception of overall general health, physical health, psychological health, social relationships, and environment were used. The independent variable was the country. None of the assumptions for performing MANOVA was violated.

Table 4.12: One-Way MANOVA for the country on self-perceived health and QoL

	Value	*F*	*Hypothesis df*	*Error df*	*p*
Pillai's trace	.108	3.255	12	684	<.001
Wilk's lambda	.894	3.290	12	682	<.001
Hotelling's trace	.117	3.325	12	680	<.001

Dependent variables	Source	*F* (2, 346)	η_p^2	*p*
Somatic symptoms	Country	1.266	.007	.283
Perception of overall general health	Country	.438	.003	.646
Physical Health	Country	.297	.002	.743
Psychological Health	Country	.059	.000	.943
Social relationships	Country	.993	.006	.371
Environment	Country	7.077	.039	<.001

Note: *df*-degrees of freedom, η_p^2-partial eta squared

The results of MANOVA showed a significant difference between countries, F (12, 682) = 3.290, $p < 0.001$, Wilk's $\Lambda = .894$, $\eta_p^2 = .055$.

Table 4.13: Post hoc of the environmental domain of QoL grouped by country using Scheffe

						95% CI	
			Mean difference	*SE*	*p*	Lower bound	Upper bound
QoL Environment	Austria	Ireland	1.21*	.323	.001	.42	2.00
		Croatia	.71	.320	.085	-.07	1.50
	Ireland	Austria	-1.21*	.323	.001	-2.00	-.42
		Croatia	-.50	.317	.293	-1.28	.28
	Croatia	Austria	-.71	.320	.085	-1.50	.07
		Ireland	.50	.317	.293	-.28	1.28

* p < .05

The post hoc Scheffe test showed one significant difference in the environment subscale between Croats in Austria and Ireland, F (2, 346) = 7.077, $p < .001$, $\eta_p^2 = .039$. Croats living in Austria (M = 15.47, SD = 2.27) had a significantly higher environmental domain of QoL than those living in Ireland (M = 14.26, SD = 2.80). Nevertheless, the results did not reveal a statistically significant difference between Austria and Croatia (p = .085) or between Ireland and Croatia (p = .293).

4.4.2 One-way multivariate analysis of covariance (MANCOVA)

Lastly, one-way between-groups multivariate analyses of covariance using sociodemographic factors and health behavior as covariates were undertaken to define the differences in self-perceived health and QoL between Croats living abroad and in Croatia.

The descriptive statistics showed that means and standard deviations for the country on self-perceived health and QoL with covariates were the same as in Table 4.11. As dependent variables, somatic symptoms, perception of overall general health, and the four QoL dimensions were used. Furthermore, the country was used as an independent variable, and sociodemographic characteristics and health behavior were considered covariates in the model (Table 4.14). None of the assumptions for performing MANCOVA was violated.

Table 4.14: One-Way MANCOVA for the country on self-perceived health and QoL with covariates

	Value	***F***	***Hypothesis df***	***Error df***	***p***
Pillai's trace	.145	4.390	12	672	<.001
Wilk's lambda	.857	4.477	12	670	<.001
Hotelling's trace	.164	4.563	12	668	<.001

Dependent variables	**Source**	***F* (2, 340)**	η_p^2	***p***
Somatic symptoms	Country	1.389	.008	.251
Perception of overall general health	Country	2.138	.013	.119
Physical Health	Country	.173	.001	.841
Psychological Health	Country	.131	.001	.877
Social relationships	Country	1.507	.009	.223
Environment	Country	11.778	.065	<.001

Note: *df*-degrees of freedom, η_p^2-partial eta squared

The results of MANCOVA yielded a significant difference between countries, F (12, 670) = 4.477, $p < .001$, Wilk's $\Lambda = .857$, $\eta_p^2 = .074$. The post hoc Scheffe test shows one significant difference in the environment subscale between all three countries, F (2, 340) = 11.778, $p < .001$, $\eta_p^2 = .065$.

After including sociodemographic variables and health behavior in the model, a significant difference was found between Croats in Austria, Ireland, and Croatia in the environmental

domain of QoL. Croats living in Austria (M = 15.47, SD = 2.27) had the highest environmental subscale, followed by Croats living in Croatia (M = 14.76, SD = 2.21) and those living in Ireland (M = 14.26, SD = 2.80).

5 DISCUSSION

This thesis aims to analyze the relationships between SOC, acculturation, psychological and sociocultural adaptation, self-perceived health, and QoL. Furthermore, another aim is to examine the role of sociodemographics and health behavior within this relationship between Croats living in Austria and Ireland. Lastly, the thesis intends to compare Croats' perceived health status and QoL living abroad and in their home country. Among other calculations, multiple linear regression analyses, MANOVA, and MANCOVA were calculated in order to confirm or disprove the hypotheses. The results of these calculations are reviewed in the following sections. In addition, the answers to the research questions are discussed in more detail below.

5.1 Summary of the results

5.1.1 Sociodemographic characteristics

In this thesis, sociodemographic characteristics showed that the majority of the participants in Austria and Ireland lived with their partners compared to those in Croatia who lived alone. The continuous growth of one-person households was also shown in the Census of Population, Households, and Dwellings conducted by the Croatian Bureau of Statistics in 2021. The Census revealed that the share of households with three or more members is decreasing, and the percentage of one-person and two-person households in the total number is increasing. For example, the share of single-person households was 24.6% in 2011; in 2021, it rose to 27.8% (Croatian Bureau of Statistics, 2023). In addition, migrants often live together so as to be able to pay monthly rent. Studies also showed that married people, rather than single persons, are prone to migration (Jurić, 2021b).

The results of this thesis showed that Croatian migrants are well-educated, which is in line with the previous study (Jurić, 2021b). However, most Croats in Croatia within the sample had tertiary education, whereas those abroad had secondary education. This indicates that although well-educated individuals migrate, highly educated individuals remain in Croatia. One potential explanation is that people in Croatia are required to complete a university degree to have a greater chance of finding jobs.

Concerning net household income, the results showed that most participants in Ireland reported a higher net income than those in Austria and Croatia. Statistics from 2020 in Austria and Ireland show that the median net disposable household income in Ireland was 43,915 euros and 39,549 euros in Austria (Central Statistics Office, 2021; Statistics Austria, 2022). In

Croatia, this number amounted to 113,516 kunas (approximately 15,066.16 euros), which is significantly less compared to Austria and Ireland (Croatian Bureau of Statistics, 2021). Furthermore, the salary of employees working in Ireland is paid out weekly, compared to the monthly salary in Austria and Croatia, which could account for the higher net income in Ireland.

5.1.2 Predictors of perceived health status and QoL

Concerning the first hypothesis, the results indicated that sociodemographic variables, health behavior, SOC, acculturation (home orientation), as well as psychological and sociocultural adaptation were significant predictors of perceived health and QoL of first-generation Croatian migrants in Austria and Ireland (see also Pristojkovic Suko et al., 2022).

Furthermore, after adjusting the sociodemographic variables, the results revealed that significant central predictors and health behavior were positively related to self-perceived health and QoL. Thus, the second hypothesis can be confirmed. The specifics are covered in the following two subsections.

5.1.2.1 Central predictors

The multiple linear regression analysis's results revealed that among the central predictors in the unadjusted and adjusted linear regression model in Austria and Ireland (joint model), the SOC was the strongest predictor of perceived health and all domains of QoL (Pristojkovic Suko et al., 2022). In the Croatian model, SOC was also the strongest predictor of all QoL domains and perceived health status.

Except for somatic symptoms, SOC was positively associated with self-perceived health and all QoL domains in all three countries. This finding aligns with a study conducted among immigrants, which discovered a favorable relationship between SOC and QoL (Morawa & Erim, 2015). On the other hand, SOC shows a negative association with somatic symptoms, suggesting a decrease in somatic symptoms with increasing SOC. In addition, in the joint model for Austria and Ireland, psychological adjustment was another significant central predictor, negatively related to somatic symptoms and positively related to all domains of QoL.

This indicated that the higher the psychological adaptation, the lower the somatic symptoms. Thus, SOC and psychological adaptation can be observed as protective mechanisms for migrants in the new country. Additionally, García-Sierra et al. (2020) suggested that utilizing adaptive strategies may lessen the effects of migration on somatization. As a psychological dimension, somatization manifests with somatic symptoms, and it is associated with migrant status and is disadvantageous for health (Lanzara, Scipioni & Conti, 2019).

Moreover, this thesis showed that home orientation was negatively associated with somatic symptoms in the joint model for Austria and Ireland, indicating that home-oriented individuals had more somatic symptoms. A systematic review of 42 study reports examined the association between migration and somatization. The authors concluded that migrants with somatization experienced more post-migration issues than those without (Lanzara, Scipioni & Conti, 2019). Hence, higher home orientation can increase somatic symptoms, which can cause difficulties in adapting to the new environment.

Conversely, home orientation was positively related to the psychological health and social relationships domain by Croats abroad in both linear regression models in the joint model for Austria and Ireland. According to earlier research (Urzúa et al., 2017), acculturation and QoL are positively correlated, and higher acculturation contributes to better QoL (Lim, Yi & Zebrack, 2008). However, in this study, acculturation was measured as home and host orientation, but host orientation was not significantly associated with self-perceived health or QoL.

The last central predictor positively related to the environmental domain of QoL among Croats abroad (all linear regression models) was sociocultural adaptation. Moreover, sociocultural adaptation was positively related to the physical health domain in both regression models in Ireland and the psychological health domain of QoL in the adjusted linear regression model in Ireland. Both psychological and sociocultural adaptation were significant predictors of QoL in the environmental domain, which indicates that both adaptations are related to the host society, as noted in previous research (Searle & Ward, 1990). According to these findings, the higher the psychological and sociocultural adaptation, the higher the environmental domain of QoL. In other words, if the migrants successfully adapt to the new environment, they will have higher QoL, especially in the environmental domain.

5.1.2.2 Sociodemographic predictors and health behavior

Several sociodemographic factors were linked to self-perceived health and QoL in the linear regression models in all three counties. Age was negatively associated with the social relationships domain of QoL for both Croats living in Ireland and those living in their home country. In addition, age had a negative association with the physical health domain for Croats in Croatia and the joint model for Croats in Austria and Ireland. These results can be explained by the fact that as migrants and non-migrants age, their physical health deteriorates. Moreover, previous studies found that migrants' higher age was a strong predictor of poorer physical health (Lam, Yip & Gee, 2012). Previous research also showed that the lower physical health domain

of QoL is associated with higher age among non-migrant populations (Brett et al., 2019; Singh et al., 2022).

Female gender was positively associated with somatic symptoms by Croats living in Ireland. According to studies conducted on the immigrant population, a risk factor for increased somatic symptoms is female gender (Aragona, 2012; Morawa et al., 2017; García-Sierra et al., 2020). Furthermore, the female gender was negatively related to the QoL domain of physical health by Croats in Croatia and Croats living in Ireland. Moreover, among Croats living in Ireland, the female gender was also negatively associated with the psychological health domain of QoL. This finding aligns with another study that compared the QoL between immigrants and native people in their home country and found that male immigrants had a higher QoL than female immigrants (Bayram et al., 2007).

Education was negatively related to the social relationships domain in Croatia and positively to the environmental domain of QoL in the Austrian and Austria-Ireland joint models. Monthly net household income was positively associated with the perception of the overall general health, physical health domain, and environment domain of QoL in Ireland. Additionally, monthly net household income was positively related to the perception of the overall general health and the environmental domain of QoL in the Austria-Ireland joint model. Findings of a previous study showed that higher household income and higher education were positively related to the QoL of migrants (Wong, Chou & Chow, 2012; Zabeer et al., 2019). Another study showed that higher income and financial stability, compared to the home country, results in an increased QoL of the migrants (Mocanu et al., 2020).

In the Austrian and joint model for Austria and Ireland, living with a partner was a significant predictor of the social relationships domain of QoL. This result is in alignment with a study on Iraqi immigrants, which found that being married or living with a partner was associated with a higher QoL (Daher et al., 2011). In addition, according to another study, the QoL and health of immigrants living alone are lower than those living with someone (Oliveira et al., 2017).

Health behavior was a significant predictor of self-perceived health and QoL in Austria, Croatia, and the Austria-Ireland joint model. Positive associations were observed between health behavior and overall general health in the Austrian and Croatian models. Furthermore, positive associations were found between health behavior and the physical health domain as well as the psychological health domain of QoL in Croatia. Moreover, positive associations were seen between health behavior and the psychological health and environmental domains of QoL in the Austria-Ireland joint model. The previous study among migrant workers showed that health-promotion behaviors directly affect health-related QoL (Cho et al., 2020). This result

demonstrates that positive health behavior is vital for migrants' and non-migrants' better perception of overall general health.

The length of stay was the last significant sociodemographic predictor, with results indicating a negative association between length of stay and perceived overall general health in both Ireland and Austria-Ireland joint models. This finding aligns with Adedeji et al.'s (2021) research on the migrant population. A potential explanation is that with extended time spent abroad, the migrants' health deteriorates as they might be affected by social inequalities.

5.2 Differences between Austria and Ireland

Home and host country orientations were examined using a regression approach to explore the acculturation among Croats in Austria and Ireland. A positive correlation was found between the BPAS and BSAS, which aligns with prior research (Demes & Geeraert, 2014). As expected, the findings demonstrated that migrants with a greater affinity for the host culture were better adapted than those with a greater affinity for the home culture. In addition, another study on Croatian and Polish immigrants living in Italy concluded that those with a positive approach toward the host nation and who felt accepted were better adjusted psychologically and socioculturally (Kosić, 2002).

Migrants deal with challenges in their everyday lives as they attempt to adapt to the host country. Adaptation to the new environment depends on the resources available to them during migration and the conditions in the destination country. In addition, other external or host country elements, such as job prospects, the economy, or a migrant-friendly healthcare environment, determine adaptation (Pristojkovic Suko et al., 2022). Adapting to a new culture is crucial for a successful transition. For migrants, the key to success is their willingness to immerse themselves in the host culture. By interacting with individuals from the host country, they can better understand the culture, gain a better command of the language, and make a smoother transition than their counterparts who interact exclusively with individuals from their home country.

The results of this thesis indicated differences in acculturation, adaptation, and QoL among Croatian migrants living abroad. Croatian migrants in Ireland had higher mean scores on psychological adaptation (Pristojkovic Suko et al., 2022). Psychological adaptation is a component of overall satisfaction in the host environment (Ouarasse & van de Vijver, 2005). Based on this result, it can be concluded that Croats in Ireland have demonstrated greater psychological adaptation and satisfaction than their Austrian counterparts, indicating their

willingness to embrace Irish culture. This finding aligns with the study on Croatian immigrants in Dublin, which showed that the immigrants' openness and interest in Irish culture provide a foundation for successful integration into the host country (Ljubić & Pavlović, 2017).

However, the results showed that Croatian migrants living in Austria tended to be more oriented toward their homeland. A potential explanation is that they are nostalgic and feel homesick for their homeland, which a previous study on Croatian migrants in Austria showed (Ščukanec, 2017). Another possible explanation for this outcome is geography, with Austria, especially Graz, being closer to Croatia than Dublin, which allows migrants frequent visits to their home country. Furthermore, language skills can be another reason. Croats in Croatia begin learning English at a young age, as English series and movies are not dubbed. On the other hand, German is taught in schools but not commonly used in daily life. As a result, Croatian migrants in Austria might find it more challenging to acquire German, potentially leading to more socialization with other Croats.

The mean scores in the environmental domain of the QoL, higher among Croatian migrants in Austria than those residing in Ireland, represent the final difference examined between Croats abroad. The MANOVA results also confirmed this outcome. The environmental health domain of the QoL consists of dimensions of the physical environment, accessibility of health services, financial resources, security, and safety (WHOQOL Group, 1998). This result can be explained by the differences between Austria and Ireland, including housing, transportation, accessibility, and health and social care quality (Pristojkovic Suko et al., 2022). For example, the differences concerning healthcare systems were mentioned in the introduction and pointed out that almost the whole population in Austria is insured, whereas, in Ireland, around one-third of the population is entitled to healthcare free of charge.

Furthermore, differences in the housing market show that Austrian cities are more focused on social housing than Irish cities, and the housing market in Ireland is more commercialized (Holzner & Römisch, 2021). The report on the QoL in European cities in 2020 also showed that finding suitable housing for a reasonable price in Dublin is harder than in Graz (Bolsi et al., 2020).

Additionally, the results showed that Croatian migrants in Ireland have higher monthly net household income than those in Austria (Pristojkovic Suko et al., 2022). However, the greater living expenses in Ireland compared to Austria potentially impact the migrants' environmental domain of QoL.

5.3 Differences between Austria, Ireland, and Croatia

Contrary to the expectation, the MANOVA results revealed no significant difference between migrants and non-migrants considering self-perceived health, and therefore, the third hypothesis can be partially confirmed. Furthermore, in this thesis, the differences in the QoL between Croats living in Austria, Ireland, and Croatia were discovered only in the environment subscale between Croats residing in Austria and Ireland. Several studies concluded that immigrants' health status and life satisfaction are lower than natives (La Parra-Casado et al., 2017; Reus-Pons et al., 2018; Arpino & de Valk, 2018). This thesis did not reveal such findings.

One possible explanation is sample diversity. Since the participants were recruited through the snowball technique, it was impossible to control this process. Several studies showed that household income is positively associated with QoL and that income inequality damages QoL (Tan et al., 2018; Zhang & Xiang, 2019). Therefore, there is a possibility that only good-standing participants filled out the questionnaire, which may have led to a particular bias. Furthermore, Zagreb's monthly net household income was relatively high (up to 2,500 euros) compared to the Croatian average.

Another possible explanation is the participants' subjectivity while assessing their self-perceived health and QoL. Furthermore, in Croatia, where the participants were highly educated, there is a possibility that they assessed their QoL higher. Previous studies showed that adults with higher educational status (especially tertiary education) report higher well-being as well as QoL and have better health and lifespan than less-educated adults (Edgerton, Roberts & Below, 2012; Raghupathi & Raghupathi, 2020; Möwisch, Brose & Schmiedek, 2021). Moreover, people with higher net income perceive their health as higher (Eurostat, 2022).

Nevertheless, the results of MANCOVA yielded one significant difference in the environmental domain of QoL between Austria, Ireland, and Croatia. Although the MANCOVA results showed that Austria had the highest mean score in the environmental domain, followed by Croatia and Ireland, Eurostat statistics from 2020 on the QoL showed that the mean satisfaction in the dimension living environment was 8.4 in Austria, 8.0 in Ireland, and 6.3 in Croatia (Eurostat, 2021). This ranking does not reflect the results of MANCOVA. However, the result is explainable due to the abundance of differences between these three countries and the before-mentioned potential subjectivity of the participants in Croatia.

Moreover, the environmental domain of QoL consists of several dimensions, as mentioned in the previous chapter. This domain of QoL is complex and consists of various aspects such as

financial resources, accessibility and quality, home environment, physical safety and security, health and social care, opportunities for acquiring new information and skills, recreation/leisure activities, transport, and physical environment (Ogunseitan, 2019). These facets consistently cluster together, substantially contributing to overall QoL (Ogunseitan, 2019). Furthermore, the QoL and its dimensions are influenced by external, predominantly environmental factors; therefore, each individual's environment can significantly impact health status and QoL.

5.4 General discussion

To the best of my knowledge, this thesis is the first to investigate not only the predictors of perceived health and QoL for first-generation Croatian migrants in Austria and Ireland but also compares perceived health status and QoL between Croats residing abroad and those living in Croatia. As mentioned in the introduction, migration may affect the health and QoL of each individual. The previous studies shed light exclusively on the reasons for migration, and there is a lack of studies addressing the adaptation of Croatian migrants to the new environment, their health status, and QoL. Thus, this study aimed to close this literature gap and offer insight into the acculturation and adjustment of emigrated Croats as well as the differences between all three countries considering self-perceived health and QoL.

Although a country like Croatia has much to offer young, educated individuals, they were unsatisfied with their life there and decided to migrate for several reasons. The Croatian government is aware of the increasing number of emigrants yearly, yet it shows no responsibility or initiative to reduce emigration (Jurić, 2021a). The last migration wave from Croatia is therefore characterized by young, highly educated migrants disappointed in the Croatian system, where corruption prevails, and who are searching for a better life outside of Croatia. Joining the EU has made this situation more accessible, with little to no bureaucratic obstacles, depending on the country of choice.

Austria and Ireland have been attractive countries for Croats, Austria due to its geographical proximity and Ireland because it is an English-speaking country. However, there are many differences between these two countries, e.g., culture, language, working permits, and health care systems, to name a few. Another difference is, for example, that the Irish are considered friendly, with similar characteristics and mentality to Croats. According to InterNations' Expat Insider Survey from 2020, Austrians are less immigrant-friendly compared to immigrant-friendly Irish (InterNations, 2020). This offers a potential explanation for better psychological adjustment and higher orientation toward the host culture among Croats in Ireland.

Distance is another explanation. The airway distance between Zagreb and Dublin is approximately 1,798.78 km compared to Graz, with only 145.77 km. The significantly smaller distance between Zagreb and Graz can explain higher home orientation among Croats in Austria because they drive home more often than those in Ireland, who come home less frequently. Furthermore, Austria's Croatian community is larger than Ireland due to the long historical migration to Austria.

The question that arises is whether there would be a difference in home orientation and psychological adaptation among Croats in Ireland if the distance between Ireland and Croatia was shorter and Croats in Ireland had more opportunities to drive home more often. The length of stay is one parameter that could also influence acculturation and adaptation. The period between ten months and five years is relatively short, and as the literature shows, psychological adaptation increases in the beginning and decreases over time. In addition, if a longer length of stay were taken as a parameter, there could potentially be a significant difference between the home and host orientation of the migrants, and sociocultural adaptation could also be a significant predictor of self-perceived health and QoL.

This thesis showed that sociodemographic variables, health behavior, SOC, acculturation (home orientation), and psychological and sociocultural adjustment were significant predictors of self-perceived health and QoL among Croats in Austria and Ireland. The results of this thesis also showed that SOC, adaptations, and the sociodemographic variables, e.g., monthly net household income, education, and health behavior, were positively associated with first-generation Croatian migrants' self-perceived health and QoL. Of all the predictors of perceived health status and QoL, SOC was the most significant predictor among Croats abroad. Interestingly, SOC was also the strongest predictor of perceived health status and QoL by Croats in Croatia.

Thus, it can be concluded that SOC is an indicator of health status and QoL, which is also reflected in the literature. Furthermore, a high SOC assists migrants in coping with stressors during the migration process and adjusting to the new environment more quickly. Many conventional initiatives only address changing health-related behaviors. Instead, salutogenic components should be included in health promotion initiatives targeting migrant communities (Pristojkovic Suko et al., 2022). Moreover, salutogenesis is an approach for preparing health promotion interventions for the migration population (Daniel & Ottemöller, 2022). Salutogenic components can also be used in the health promotion of non-migrants. Besides, comprehensible, manageable, and meaningful interventions can directly strengthen the SOC in several settings (Bauer, 2022).

In this thesis, the third hypothesis was only partially confirmed since the results revealed no differences in self-perceived health between Austria, Ireland, or Croatia. One possible explanation is that migration can deteriorate health because migrants cope with many stressors and experience inequalities in the new host country. A study conducted in Germany compared life satisfaction and health-related QoL between migrants and native-born Germans and concluded that there were minor differences due to immigration-related factors (Nesterko et al., 2013). According to the study's authors, the association of these factors with migrants' QoL is a good approach to identifying migrants' subgroups with lower QoL (Nesterko et al., 2013).

Furthermore, in this thesis, self-perceived health was operationalized by two variables, i.e., somatic symptoms and one question about the perception of overall general health. In future research, other factors determining perceived health, e.g., satisfaction with life, chronic illness, social support, and health literacy, can be included in order to find differences between the countries. The sample size and its representativity could also play a role in calculating the self-perceived health in this thesis. A study on a larger sample could yield different results.

Nevertheless, after adjusting for sociodemographic variables and health behavior, this thesis showed a significant difference in the environmental domain of QoL between all three countries. Based on this outcome, future research should highlight the differences between the countries more strongly, especially their association with migration status. In addition, other elements, e.g., housing, living conditions, working conditions (employment or unemployment), educational system, and their impact on the environmental domain of QoL, should be considered.

Migration is a dynamic process, and the conclusions drawn from this thesis can only be applied to the migrant population recruited up to the beginning of 2020, which does not include changes caused by the COVID-19 pandemic. Accordingly, Jurić (2022) recommended avoiding periods characterized by changes in immigration or unforeseen circumstances, e.g., the COVID-19 pandemic. This pandemic influenced immigration in Europe, thereby changing the immigration trends.

However, the period between preparing for emigration and migration has grown longer due to the COVID-19 pandemic. Still, the trend of emigration of Croats to Austria has not stopped (Jurić, 2022). On the other hand, the interest in migrating to Ireland significantly declined following the pandemic (Department of Social Protection, 2022). A potential explanation for this is the small geographical distance to Austria, which can give a sense of security in case an individual decides to return to their home country if the pandemic does not end or worsens.

Furthermore, little is known about the number of migrants who returned to Croatia due to the COVID-19 pandemic. This outcome has several reasons, e.g., economic conditions or sudden unemployment. Considering the fact that each country's healthcare system functioned differently in fighting the pandemic, this potentially influenced each individual's self-perceived health and QoL. Nevertheless, future studies could examine how the COVID-19 pandemic affected the parameters previously mentioned and highlight the potential changes in migration flows.

5.5 Strengths and limitations

The established scales with good internal consistency and good Cronbach's alpha values (except for SLIQ) represent this thesis's first strength. Standardized measurement reduces measurement error and increases the comparability with other international studies (Riedel, Wiesmann & Hannich, 2011). The scales used were relatively short. Shorter scales were preferred because the participant can show signs of fatigue when filling out the questionnaire for a longer time. In addition, the motivation for filling out the questionnaire sinks if the stated length of the questionnaire is long (Galesic & Bošnjak, 2009). Based on these two facts, it is evident that significant effort was exerted to minimize potential biases in this thesis.

The second strength of this thesis is that all three hypotheses were confirmed or partially confirmed, clearly indicating the predictors of perceived health status and QoL, as well as the differences between all three countries. Furthermore, statistical techniques were applied to control for cofounders, e.g., multiple linear regression analysis (unadjusted and adjusted model) and MANCOVA.

The third strength is its novelty. Other studies on Croatian immigrants in the new immigration wave since 2013 address migration trends using digital demography (Jurić, 2021a; 2021b; 2022). These studies mainly concentrated on the migration of Croatian citizens to Germany as the statistics showed that since 2013, 50,000 people have migrated from Croatia annually, and 85% of all migrants to Germany (Jurić, 2017). Interestingly, one study addressed the problem of the medical brain drain from Croatia to Germany and Austria (Jurić, 2021c). Moreover, this study points out that Croatia should be included in the WHO's list of countries with healthcare worker shortages to address this problem, enable a better response to these shortages, and ensure the functioning of the health system (Jurić, 2021c).

However, none of these studies addresses the adaptation of migrants. Despite abundant research on migration, little has been done to investigate the adaptation process and its influence

on the well-being of those affected. These factors were this thesis' primary focus to shed light on the adjustment of the Croatian migrants to the new environment.

The last strength is the sample size of over 100 participants in each city and the quota sample, which allowed the comparison of all three cities and countries more objectively. Attempts were made to recruit participants of both genders and all age groups; however, not all quotas were met. In Ireland, the age group between 44 and 55 comprised 81.8% females, accounting for this thesis's first limitation. One possibility is that women are more engaged in the Facebook groups where the link was shared and more willing to complete the online questionnaire. Furthermore, many men did not fill out the questionnaires appropriately, and these were therefore excluded. The responses to questions concerning the number of drinks consumed in an average week were illogical. One possible explanation is that some men did not understand these questions.

The second limitation is the questionnaire translation. Although great care was taken in translating all questionnaires into Croatian by bilingual speakers and further retranslated to ensure accuracy, the BPAS questionnaire failed to meet expectations, as suggested by the poor fit indices captured in the confirmatory factor analysis. In addition, the eight items did not load on one factor as was expected, and no comparative studies could be found.

Since the survey was conducted online, the third limitation is the possibility that Croatian migrants living outside Dublin and Graz may have participated in the study. This could not be verified after the questionnaires were completed. In addition, it was not possible to determine how many Croats from Bosnia and Herzegovina with double citizenship (Bosnian and Croatian) filled out the questionnaire. Croats from Bosnia and Herzegovina who hold dual citizenship make up a large portion of the new immigration wave, according to alternative external statistics from Croatian Catholic missions in Germany and on Facebook (Jurić, 2018). However, the exact numbers are unidentified since this statistical problem is not adequately addressed by Croatian statistics, which hold citizenship information (Jurić, 2022).

The last limitation is that the participants were recruited through the snowball technique and mainly through social networks, which may lead to sampling bias. Therefore, given the method, the outcomes cannot be generalized to the entire population of Croatian migrants in Austria and Ireland and non-migrants in Zagreb. In addition, the cross-sectional design is observational at one specific time (Wang & Cheng, 2020). Although this study's results contributed to the understanding of Croatian migrants' self-perceived health and QoL, a longitudinal approach is highly desirable.

Riedel, Wiesmann & Hannich (2011) also recommended the longitudinal research design. Furthermore, these researchers suggest a prospective study design to map cause-effect relations

(Riedel, Wiesmann & Hannich, 2011). Thus, future research should monitor how perceived health and QoL vary over time and highlight the reasons for those changes.

6 CONCLUSION AND OUTLOOK

This is the first thesis on several hundred Croatian migrants living abroad in Austria and Ireland, which provides new insight into the factors that predict their self-perceived health and QoL. The results indicate that higher levels of SOC and psychological adjustment are significantly associated with better-perceived health and QoL. These results offer a great opportunity to improve health promotion and monitoring of Croatian migrants, minimize the barriers to accessing the healthcare system, guarantee appropriate healthcare, and enhance the preventive care of this vulnerable group.

Although migration gives an individual a chance for a better life, it also means facing difficulties potentially connected to adjustment in the new country. Therefore, a protective mechanism such as SOC could minimize these difficulties and encourage the adaptation of each migrant. Thus, health programs and public policies should use the salutogenic model in health interventions to promote health-related QoL, reduce stress while adapting to the new country, and lead to the psychological adaptation of the growing number of Croatian immigrants. In the longer term, this could eventually lead to reduced healthcare costs if these migrants were to partake in these interventions.

However, due to the differences between Austria and Ireland, each country should set a unique focus when addressing the needs of Croatian migrants. Based on the findings of this thesis, Croats in Ireland are better psychologically adjusted, whereas those in Austria are more oriented towards their home country. Thus, future interventions in Austria should concentrate on the better integration of Croatian migrants in order to enhance host culture orientation and psychological adaptation. Overall, all interventions should be culturally sensitive in order to promote adaptation and health of Croatian migrants.

The last difference between these two countries was that Croatian migrants in Austria had a significantly higher environmental domain of QoL than those in Ireland. The background of this discrepancy lies in the distinctive functioning of both countries and their systems. Since migrants are frequently affected by social inequality, the environmental domain of QoL plays an important role. This is supported by the fact that this domain had the most predictors among Croatian migrants in the joint model for Austria and Ireland. Ensuring an efficient healthcare and education system, equal opportunities without discrimination, physical safety, and social and economic resources can increase migrants' QoL, especially in the environmental domain of QoL.

In addition, after adjusting for sociodemographic variables and health behavior, there were significant differences in the environmental domain of QoL between all three countries. As this domain of QoL presents each country's working and living conditions, these differences can be explained by the general differences between these three countries. Although Croatia is constantly developing, some parameters, e.g., self-rated health, overall life satisfaction, and life expectancy, remain below the EU average. Conversely, Austria and Ireland are highly developed countries, attracting migrants from all over the globe. Disparities in some living and working conditions in Croatia, in combination with migration status for Croats abroad, offer another explanation for these differences.

Nevertheless, there were also some similarities between all three countries, i.e., SOC was the strongest predictor of perceived health and QoL among migrants and non-migrants. As mentioned in the discussion, the salutogenic approach has an unrealized potential and a wide possibility of application in different settings. Thus, salutogenic elements can help develop future migrant and non-migrant health promotion strategies.

6.1 Recommendations for future work

This thesis sheds light on the predictors of perceived health and QoL among Croats in Austria, Ireland, and Croatia, as well as the differences between these factors. Future studies should include more countries in the comparison and a larger number of Croatian migrants to gain more information from other countries and highlight the different needs of migrants. In addition, other factors, e.g., stress and coping, could be used in future research when calculating self-perceived health because they play a significant role in the process of acculturation. Both factors are a part of Berry's acculturation model, Antonovsky's salutogenic model, and the integrative framework of acculturation and salutogenesis.

Secondly, future research should include discrimination in predicting the perceived health of migrants. Previous research has shown that discrimination directly affects health among migrants (Baron-Epel et al., 2017). Additionally, comparing the levels of discrimination in different countries where Croatian migrants live could refine the information on whether this factor is a predictor of perceived health status and QoL.

Thirdly, including a larger sample of non-migrants from Croatia (also unemployed) from different cities can enlighten the diversity of economic backgrounds within the country. Furthermore, the questions could be expanded to deepen the knowledge about the availability of resources and their effect on non-migrants' self-perceived health and QoL. Afterward, Croats

remaining in Croatia and emigrants can be compared to shed more light on differences associated with economic resources and their association with self-perceived health and QoL.

Lastly, conducting a longitudinal study could lead to deep insight into changes in perceived health status and QoL with greater time spent abroad and which factors might most greatly affect these changes.

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APPENDIX A

Quantitative questionnaire in German

Teilnehmerinneninformation

Sehr geehrte Teilnehmerin, sehr geehrter Teilnehmer,
vor Ihnen liegt ein anonymer Fragebogen, der den Zusammenhang zwischen der Anpassung an eine neue Kultur und der wahrgenommenen Gesundheit von kroatischen Migranten der ersten Generation, die in Österreich und Irland leben, untersucht. Wir bitten um Ihre Mitarbeit bei dieser Untersuchung, um die Probleme der Menschen im Ausland besser zu definieren und zu erklären. Diese Untersuchung wird helfen, die Unterschiede zwischen den Ländern (Österreich, Irland und Kroatien) zu verstehen und zur Förderung der gesundheitsbezogenen Lebensqualität sowie Förderung der psychologischen und soziokulturellen Anpassung der im Ausland lebenden Kroaten beizutragen. Die Ergebnisse dieses Fragebogens werden für die Erstellung einer Dissertation im Rahmen des Doktoratsstudiums der Medizinischen Wissenschaft an der Medizinischen Fakultät in Graz verwendet. Der Fragebogen richtet sich an Personen im Alter von 20 bis 59 Jahren, die zwischen 10 Monaten und 5 Jahren in Graz/Dublin leben. Bitte seien Sie beim Ausfüllen des Fragebogens so ehrlich und objektiv wie möglich, damit die Forschungsergebnisse zuverlässig sind. Das Ausfüllen des Fragebogens dauert etwa 15 Minuten. Bei Fragen zum Ausfüllen des Fragebogens wenden Sie sich bitte an: izolda.pristojkovic@stud.medunigraz.at. Wir danken Ihnen im Voraus für Ihre Mitarbeit.

Einwilligungserklärung

Ich bin damit einverstanden, dass im Rahmen dieser Studie personenbezogene Daten erhoben und gespeichert werden. Die Daten werden nicht an Dritte weitergegeben und ausschließlich für diese Studie verwendet. Die von Ihnen angegebenen Daten werden nur in anonymisierter Form verarbeitet. Alle Daten werden nur zu Forschungszwecken verwendet und selbstverständlich strengstens aufbewahrt. Ich bin mit der wissenschaftlichen Auswertung der anonymisierten Daten sowie der möglichen Veröffentlichung der Ergebnisse der Studie einverstanden. Mir ist bekannt, dass meine Teilnahme an der Studie freiwillig ist und ich sie jederzeit ohne Angabe von Gründen abbrechen kann.
Wenn Sie diese Informationen gelesen haben und damit einverstanden sind, aktivieren Sie dieses Kontrollkästchen, um die Umfrage zu starten.

Soziodemographische Daten

1) Geschlecht: □ weiblich □ männlich

2) Alter: Jahre

3) Aufenthaltsdauer in Österreich / Irland: Monate oder Jahre

4) Welchen höchsten allgemeinbildenden Schulabschluss haben Sie?

□ Volksschule
□ NMS, AHS Unterstufe
□ BMS, BHS, AHS Oberstufe
□ Gesundheits- und Krankenpflegeschule
□ HAK, HTL Kurzstudium
□ Bachelor
□ Master
□ Doktorat

5) Welchen Familienstand haben Sie?

□ ledig
□ verheiratet
□ in Lebensgemeinschaft
□ geschieden/getrennt lebend
□ verwitwet
□ keine Angabe

6) Bitte geben Sie an, welchen Beruf Sie derzeit ausüben:

□ voll berufstätig (über 36 Stunden)
□ Teilzeit (unter 36 Stunden)
□ geringfügig beschäftigt
□ andere Form der Berufstätigkeit (z.B. Werkvertrag)
□ arbeitslos
□ in Karenz
□ in Pension
□ im Haushalt tätig ohne Einkommen
□ Student/in
□ andere Form der Nichterwerbstätigkeit

7) Wie hoch ist das monatliche Nettoeinkommen Ihres Haushaltes? Rechnen Sie bitte alle Einkommen zusammen.

□ bis 750 Euro
□ bis 1.000 Euro
□ bis 1.300 Euro
□ bis 1.600 Euro
□ bis 2.000 Euro
□ bis 2.500 Euro
□ bis 3.000 Euro
□ bis 3.500 Euro
□ bis 4.000 Euro
□ über 4.500 Euro
□ keine Angabe

Erfassung der Lebensqualität (WHOQOL-BREF)

Bitte lesen Sie jede Frage, überlegen Sie, wie Sie sich in den vergangenen zwei Wochen gefühlt haben, und markieren Sie die Zahl auf der Skala, die für Sie am ehesten zutrifft.

		Sehr schlecht	Schlecht	Mittel-mäßig	Gut	Sehr gut
1 (G1)	Wie würden Sie Ihre Lebensqualität beurteilen?	1	2	3	4	5
		Sehr unzufrieden	Unzufrieden	Weder unzufrieden noch zufrieden	Zufrieden	Sehr zufrieden
2 (G4)	Wie zufrieden sind Sie mit Ihrer Gesundheit?	1	2	3	4	5

In den folgenden Fragen geht es darum, **wie stark** Sie während der vergangenen zwei Wochen bestimmte Dinge erlebt haben.

		Überhaupt nicht	Ein wenig	Mittel-mäßig	Ziemlich	Äußerst
3 (F1.4)	Wie stark werden Sie durch Schmerzen daran gehindert, notwendige Dinge zu tun?	1	2	3	4	5
4 (F11.3)	Wie sehr sind Sie auf medizinische Behandlung angewiesen, um das tägliche Leben zu meistern?	1	2	3	4	5
5 (F4.1)	Wie gut können Sie Ihr Leben genießen?	1	2	3	4	5
		Überhaupt nicht	Ein wenig	Mittel-mäßig	Ziemlich	Äußerst
6 (F22.1)	Betrachten Sie Ihr Leben als sinnvoll?	1	2	3	4	5
7 (F5.3)	Wie gut können Sie sich konzentrieren?	1	2	3	4	5
8 (F16.1)	Wie sicher fühlen Sie sich in Ihrem täglichen Leben?	1	2	3	4	5
9 (F22.1)	Wie gesund sind die Umweltbedingungen in Ihrem Wohngebiet?	1	2	3	4	5

In den folgenden Fragen geht es darum, **in welchem Umfang** Sie während der vergangenen zwei Wochen bestimmte Dinge erlebt haben oder in der Lage waren, bestimmte Dinge zu tun.

		Überhaupt nicht	Eher nicht	Halbwegs	Über-wiegend	Völlig
10 (F2.1)	Haben Sie genug Energie für das tägliche Leben?	1	2	3	4	5
11 (F7.1)	Können Sie Ihr Aussehen akzeptieren?	1	2	3	4	5
12 (F18.1)	Haben Sie genug Geld, um Ihre Bedürfnisse erfüllen zu können?	1	2	3	4	5

13 (F20.1)	Haben Sie Zugang zu den Informationen, die Sie für das tägliche Leben brauchen?	1	2	3	4	5
14 (F21.1)	Haben Sie ausreichend Möglichkeiten zu Freizeitaktivitäten?	1	2	3	4	5
		Sehr schlecht	Schlecht	Mittel-mäßig	Gut	Sehr gut
15 (F9.1)	Wie gut können Sie sich fortbewegen?	1	2	3	4	5

In den folgenden Fragen geht es darum wie **zufrieden, glücklich oder gut** Sie sich Sie während der vergangenen zwei Wochen hinsichtlich verschiedener Aspekte Ihres Lebens gefühlt haben.

		Sehr unzufrieden	Unzufrieden	Weder unzufrieden noch zufrieden	Zufrieden	Sehr zufrieden
16 (F3.3)	Wie zufrieden sind Sie mit Ihrem Schlaf?	1	2	3	4	5
17 (F10.3)	Wie zufrieden sind Sie mit Ihrer Fähigkeit, alltägliche Dinge erledigen zu können?	1	2	3	4	5
18 (F12.4)	Wie zufrieden sind Sie mit Ihrer Arbeitsfähigkeit?	1	2	3	4	5
19 (F6.3)	Wie zufrieden sind Sie mit sich selbst?	1	2	3	4	5
20 (F13.3)	Wie zufrieden sind Sie mit Ihren persönlichen Beziehungen?	1	2	3	4	5
21 (F15.3)	Wie zufrieden sind Sie mit Ihrem Sexualleben?	1	2	3	4	5
22 (F14.4)	Wie zufrieden sind Sie mit der Unterstützung durch Ihre Freunde?	1	2	3	4	5
23 (F17.3)	Wie zufrieden sind Sie mit Ihren Wohnbedingungen?	1	2	3	4	5
24 (F19.3)	Wie zufrieden sind Sie mit Ihren Möglichkeiten, Gesundheitsdienste in Anspruch nehmen zu können?	1	2	3	4	5
25 (F23.3)	Wie zufrieden sind Sie mit den Beförderungsmitteln, die Ihnen zur Verfügung stehen?	1	2	3	4	5

In den folgenden Fragen geht es darum, **wie oft** sich während der vergangenen zwei Wochen bei Ihnen negative Gefühle eingestellt haben, wie zum Beispiel Angst oder Traurigkeit.

		Niemals	Nicht oft	Zeitweilig	Oftmals	Immer
26 (F8.1)	Wie häufig haben Sie negative Gefühle wie Traurigkeit, Verzweiflung, Angst oder Depression?	1	2	3	4	5

Gesundheitsverhalten (Short Lifestyle Indicator Questionnaire)

Um diese Fragen zu beantworten, denken Sie über Ihre Essgewohnheiten im vergangenen Jahr nach. Bitte schließen Sie alle Mahlzeiten, Snacks und Essen, die Sie verzehrt haben, ein. Wählen Sie die Antwort, die am besten zu Ihren Essgewohnheiten passt.

1. Wie oft haben Sie Kopfsalat oder grüner Blattsalat mit oder ohne anderen Gemüse gegessen?

   0 Weniger als einmal pro Woche
   1 Einmal pro Woche
   2 2 – 3 Mal pro Woche
   3 4 – 6 Mal pro Woche
   4 Einmal täglich
   5 Zwei oder mehrmals am Tag

2. Wie oft haben Sie Obst gegessen (einschließlich frisches, in Dosen oder tiefgefrorenes, ausgenommen Säfte)?

   0 Weniger als einmal pro Woche
   1 Einmal pro Woche
   2 2 – 3 Mal pro Woche
   3 4 – 6 Mal pro Woche
   4 Einmal täglich
   5 Zwei oder mehrmals am Tag

3. Wie oft haben Sie ballaststoffreiches Getreide oder Vollkornbrot gegessen? Dazu gehören Getreide wie Rosinenmehl, Obst Getreide und Ballaststoffe, gekochte Haferflocken sowie Vollkornbrot, Mehrkornbrot, Roggen oder Pumpernickel.

   0 Weniger als einmal pro Woche
   1 Einmal pro Woche
   2 2 – 3 Mal pro Woche
   3 4 – 6 Mal pro Woche
   4 Einmal täglich
   5 Zwei oder mehrmals am Tag

Um diese Fragen zu beantworten, denken Sie über Ihre körperliche Aktivität im vergangenen Jahr nach. Wählen Sie die Antwort, die am besten zu Ihrer körperlichen Aktivität passt.

4. Wie oft haben Sie sich mindestens 30 Minuten oder länger an leichten körperlichen Aktivitäten beteiligt?

   Beispiele für leichte körperliche Aktivität:
   • leichte Gartenarbeit und leichte Hausarbeit (z. B. abstauben, fegen, staubsaugen)
   • gemütliches Gehen (z. B. mit Ihrem Hund spazieren gehen)
   • Bowling, Angeln, Zimmerhandwerk, Musikinstrument spielen

   0 Nie
   1 1 – 3 Mal pro Woche
   2 4 – 7 Mal pro Woche
   3 8 oder mehrmals pro Woche

5. Wie oft haben Sie mindestens 30 Minuten oder länger an mäßigen körperlichen Aktivitäten teilgenommen?
   Beispiele für mäßige körperliche Aktivität:
   • zügiges Gehen
   • Radfahren, Eislaufen, Schwimmen, Eisstockschießen
   • Gartenarbeit (harken, jäten, graben)
   • Tanzen, Tai Chi oder moderate Übungskurse

   0 Nie
   1 1 – 3 Mal pro Woche
   2 4 – 7 Mal pro Woche
   3 8 oder mehrmals pro Woche

6. Wie oft haben Sie mindestens 30 Minuten oder länger an intensiven körperlichen Aktivitäten teilgenommen?
   Beispiele für intensive körperliche Aktivität:
   • Laufen, Radfahren, Langlaufen, Bahnenziehen, Aerobic

• schwere Gartenarbeit
• Krafttraining
• Fußball, Basketball oder andere Ligasportarten

0 Nie
1 1 – 3 Mal pro Woche
2 4 – 7 Mal pro Woche
3 8 oder mehrmals pro Woche

Denken Sie über Ihren Alkoholkonsum im vergangenen Jahr nach.

7. Wie oft haben Sie in einer durchschnittlichen Woche Wein getrunken?
   _____ Getränke (Achtel Wein – 125 ml)

8. Wie oft haben Sie in einer durchschnittlichen Woche Bier getrunken?
   _____ Getränke (Glas Bier – 300 ml)

9. Wie oft haben Sie in einer durchschnittlichen Woche Spirituosen getrunken?
   _____ Getränke (40 ml)

10. Rauchen Sie?
    ❍ Ja
    ❍ Nein

11. Haben Sie jemals geraucht?
    ❍ Ja
    ❍ Nein

12. Wenn Sie ein Raucher sind, wie viele Zigaretten, Zigarren, Pfeifen oder andere Tabakwaren rauchen Sie durchschnittlich pro Tag?
    _____ /Tag

13. Wählen Sie die Zahl, die Ihrer Meinung nach am besten dem Stressniveau in Ihrem Alltag entspricht (1 steht für "überhaupt nicht stressig" und 6 für "sehr stressig"):
    ❍ 1 ❍ 2 ❍ 3 ❍ 4 ❍ 5 ❍ 6

Chronische Erkrankungen

Sind Sie **in den letzten Monaten** in ärztlicher Behandlung gewesen wegen einer oder mehreren der folgenden Krankheiten?

	Ja	Nein
Diabetes (Zuckerkrankheit)	1	0
Rheumatismus (Rücken-, Glieder-, Gelenkbeschwerden)	1	0
Asthma	1	0
Chronische Bronchitis	1	0
COPD	1	0
Hoher Blutdruck	1	0
Hohe Blutfette (z. B. Cholesterin, Triglyceride)	1	0
Herzinfarkt	1	0
Gallensteine	1	0
Nierenkrankheit, Nierensteine	1	0

Krebs, Geschwulst	1	0
Heuschnupfen oder andere Allergien	1	0
Magengeschwüre	1	0
Leberleiden	1	0
Unfall	1	0
Psychiatrische/psychologische Probleme	1	0
Migräne	1	0

Somatische Symptomskala
SSS-8

Wie stark fühlten Sie sich im Verlauf der letzten 7 Tage durch die folgenden Beschwerden beeinträchtigt?	Gar nicht	Wenig	Mittel	Stark	Sehr stark
Bauchschmerzen oder Verdauungsbeschwerden	0	1	2	3	4
Rückenschmerzen	0	1	2	3	4
Schmerzen in Armen, Beinen oder Gelenken	0	1	2	3	4
Kopfschmerzen	0	1	2	3	4
Schmerzen im Brustbereich oder Kurzatmigkeit	0	1	2	3	4
Schwindel	0	1	2	3	4
Müdigkeit oder Gefühl, keine Energie zu haben	0	1	2	3	4
Schlafstörungen	0	1	2	3	4

Kohärenzgefühl (SOC-13 Skala)

Die folgenden Fragen beziehen sich auf verschiedene Aspekte Ihres Lebens. Auf jede Frage gibt es 7 mögliche Antworten. Bitte markieren Sie jeweils die Zahl, die Ihre Antwort ausdrückt. Geben Sie auf jede Frage nur eine Antwort.

1	Bis jetzt hatte mein Leben...	überhaupt keine klaren Ziele und Vorsätze	1 2 3 4 5 6 7	sehr klare Ziele oder Vorsätze
2	Kommt es vor, dass es Ihnen ziemlich gleichgültig ist, was um Sie herum passiert?	sehr oft	1 2 3 4 5 6 7	sehr selten oder nie
3	Waren Sie schon überrascht vom Verhalten von Menschen, die Sie gut zu kennen glaubten?	das ist mir nie passiert	1 2 3 4 5 6 7	das ist immer wieder passiert
4	Wurden Sie schon von Menschen enttäuscht, auf die Sie gezählt hatten?	das ist mir nie passiert	1 2 3 4 5 6 7	das ist immer wieder passiert
5	Haben Sie das Gefühl, dass Sie ungerecht behandelt werden?	sehr oft	1 2 3 4 5 6 7	sehr selten oder nie
6	Haben Sie manchmal das Gefühl, dass Sie in einer ungewohnten Situation sind und nicht wissen, was Sie tun sollen?	sehr oft	1 2 3 4 5 6 7	sehr selten oder nie

7	Die Dinge, die Sie täglich tun, sind für Sie eine Quelle...	tiefer Freude und Zufriedenheit	1	2	3	4	5	6	7	von Schmerz und Langeweile
8	Wie oft sind Ihre Gefühle und Ideen ganz durcheinander?	sehr oft	1	2	3	4	5	6	7	sehr selten oder nie
9	Kommt es vor, dass Sie Gefühle in sich spüren, die sie lieber nicht hätten?	sehr oft	1	2	3	4	5	6	7	sehr selten oder nie
10	Viele Leute – auch solche mit einem, starken Charakter - fühlen sich in bestimmten Situationen wie traurige Versager („Pechvogel“). Wie oft haben Sie sich so gefühlt?	sehr selten oder nie	1	2	3	4	5	6	7	sehr oft
11	Wenn etwas passierte, hatten Sie im allgemeinen den Eindruck, dass Sie dessen Bedeutung...	über- oder unterschätzen	1	2	3	4	5	6	7	richtig einschätzen
12	Wie oft haben Sie das Gefühl, dass die Dinge, die Sie täglich tun, eigentlich wenig Sinn haben?	sehr oft	1	2	3	4	5	6	7	sehr selten oder nie
13	Wie oft haben Sie Gefühle, bei denen Sie sich nicht sicher sind, ob Sie sie unter Kontrolle halten können?	sehr oft	1	2	3	4	5	6	7	sehr selten oder nie

Akkulturation, psychologische und soziokulturelle Adaptation
BAOS, BPAS, BSAS

Bitte markieren Sie jeweils eine Zahl von 1 bis 7. Die Zahlen 1 und 7 stellen die Extremwerte dar. Wenn Sie Ihre Antwort irgendwo zwischen 1 und 7 sehen, markieren Sie die Zahl, die Ihrer Beurteilung am besten entspricht.

	Denken Sie darüber nach in *Österreich / Irland* zu sein. Wie sehr stimmen Sie mit den folgenden Sätzen überein? Wenn ich in *Österreich / Irland* bin, dann ist mir wichtig, dass ich:	stimme überhaupt nicht zu	stimme nicht zu	stimme teilweise nicht zu	weder noch	stimme teilweise zu	stimme zu	stimme voll und ganz zu
1	*Kroatische* FreundInnen habe	1	2	3	4	5	6	7
2	an *kroatische* Traditionen teilnehme	1	2	3	4	5	6	7
3	an meinen *kroatischen* Eigenschaften festhalte	1	2	3	4	5	6	7
4	Dinge so tue, wie es die *KroatInnen* tun	1	2	3	4	5	6	7
5	*Österreichische / irländische* FreundInnen habe	1	2	3	4	5	6	7
6	an *österreichischen / irländischen* Traditionen teilnehme	1	2	3	4	5	6	7
7	meinen *österreichischen / irländischen* Eigenschaften entwickle	1	2	3	4	5	6	7
8	Dinge so tue, wie es die *ÖsterreicherInnen / IrländerInnen* tun	1	2	3	4	5	6	7

Denken Sie darüber nach in *Österreich / Irland* zu leben. Wie oft haben Sie sich in den letzten Wochen … gefühlt?		nie	sehr selten	selten	manchmal	häufig	normaler-weise	immer
1	begeistert davon in Österreich / Irland zu sein	1	2	3	4	5	6	7
2	sich am falschen Ort fühlen, als ob Sie nicht in die *österreichische / irländische* Kultur passen	1	2	3	4	5	6	7
3	traurig, nicht in *Kroatien* zu sein	1	2	3	4	5	6	7
4	nervös darüber, wie man sich in bestimmten Situationen verhält	1	2	3	4	5	6	7
5	einsam ohne Ihre *kroatische* Familie und Freunde	1	2	3	4	5	6	7
6	Heimweh haben, wenn Sie an *Kroatien* denken?	1	2	3	4	5	6	7
7	frustriert, weil Sie Schwierigkeiten beim Anpassen an *Österreich / Irland* haben	1	2	3	4	5	6	7
8	glücklich mit Ihrem täglichen Leben in *Österreich / Irland*	1	2	3	4	5	6	7

Denken Sie darüber nach wie ist es für Sie in *Österreich / Irland* zu leben. Wie schwierig oder einfach fällt es Ihnen, Euch … anzupassen?		sehr schwierig	schwierig	ein bisschen schwierig	weder noch	ein bisschen einfach	einfach	sehr einfach
1	**Wetter** (Temperatur, Regen, Feuchtigkeit)	1	2	3	4	5	6	7
2	**Natur und Umwelt** (Pflanzen, Tiere, Verschmutzung, Umgebung)	1	2	3	4	5	6	7
3	**soziales Umfeld** (Stadtgröße, Geschwindigkeit des Lebens, Lautstärke)	1	2	3	4	5	6	7
4	**Leben** (Hygiene, Schlafgewohnheiten, Sicherheitsgefühl)	1	2	3	4	5	6	7
5	**Praktisches** (sich fortbewegen, öffentliche Verkehrsmittel benutzen, Einkaufen)	1	2	3	4	5	6	7
6	**Nahrung und Essen** (welches Essen wird gegessen, wie wird gegessen, wann wird gegessen)	1	2	3	4	5	6	7
7	**Familienleben** (wie nahe sich Familienmitglieder stehen, wie viel Zeit die Familie miteinander verbringt)	1	2	3	4	5	6	7
8	**soziale Verhaltensregeln** (wie man sich in der Öffentlichkeit benimmt, Kleidungsstil, was die Leute als lustig empfinden)	1	2	3	4	5	6	7
9	**Werte und Glauben** (was denken die Leute über Religion und Politik, was die Leute als richtig und falsch empfinden)	1	2	3	4	5	6	7
10	**Leute** (wie freundlich sind Leute, wie gestresst oder locker sind Leute, Haltung AusländerInnen gegenüber)	1	2	3	4	5	6	7
11	**FreundInnen** (FreundInnen finden, Häufigkeit der sozialen Interaktion, was Leute machen, um Spaß zu haben und sich zu entspannen)	1	2	3	4	5	6	7
12	**Sprache** (die Sprache lernen, Leute verstehen, von anderen verstanden werden)	1	2	3	4	5	6	7