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Immigrant Adolescents in Sweden Acculturation and Mental Health

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Abstract

This study examined the acculturation strategies of immigrant adolescents in Sweden and their relation to the mental health symptoms. The participants were 101 immigrant adolescents and 52 Swedish adolescents 15 to 19 years old. 'Immigration paradox' was examined comparing the mental health of first and second generation of immigrants and the native Swedes. Youth Self Report was used to assess mental health symptoms and Life Orientation Test Revised to measure optimism as a positive aspect of mental health. The acculturation strategies were assessed with Acculturation Index. The results partially supported 'Immigration paradox' indicating that Swedish adolescents have more mental health issues (anxiety/depression and social problems) compared to their immigrant peers from second generation and report more somatic complaints compared to both generations of immigrant peers. Moreover, the results indicated that the first generation of immigrant adolescents has more mental health issues (social problems and withdrawal/depression) than the second generation. Also, assimilation as acculturation strategy is proved to be the most used by participants and the most beneficial to mental health. Unexpectedly, separated immigrant adolescents reported being most optimistic. The given findings are expected to expand knowledge on the acculturation process of current immigrant adolescents and its related outcomes with the aim to improve social policies and mental health interventions for this vulnerable population.

Keywords: immigrant adolescents, acculturation strategies, mental health, 'immigration paradox', optimism

In recent times, the immigrant crisis issues are one of the highlights of socio-political situation in Europe. Among few others, Sweden is one of the countries with significantly high rate of immigration and asylum seekers. Last year a total number of 163,000 immigrants arrived to Sweden and approximately 35,000 unaccompanied children were registered by the Swedish authorities (Nearly 163,000 people, 2016). These changes prompted Sweden to improve strategies and policies for the organization of an increased number of immigrants. As former Swedish Prime Minister Fredrik Reinfeldt stated: 'If you are not prepared, you are unprepared' (Lifvendahl, 2016).

For purpose in this study an immigrant is defined as an individual who himself and caregivers are from Middle Eastern countries, who has a permanent residence in Sweden and who came to live in Sweden due to reasons of escaping military conflicts. These immigrants are entitled as war refugees by Swedish Migration Agency with permit of residence.

The immigrant youth is a highly important population and of great concern for social services, policy makers and educational institutions as this youth endures difficulties due to the immigration itself and consequently due to the challenging process of acculturation. These life changes may be associated with, for example, perceptions of discrimination, negative stereotypes, lack of social support, no sense of belonging, discrepancy of educational systems, adapting to different social norms, etc. (Berry, 1997). From a psychological perspective, children and adolescents are considered to be a specifically vulnerable population as they endure a number of normative, biological and psychological transformations (Erikson, 1968).

According to Erikson's (1959) theory of psychosocial development, adolescents are experiencing a developmental stage of identity establishment. Among other components the identity is also identified by ethnic categorization. An adolescent is in search of how to identify with social norms and how to fit into society. Immigrant adolescents may develop ethnic minority identity and host national identity (Phinney, 1991). Erikson (1968) described a healthy identity formation of an adolescent as when a confusion of identity is overcome by a coherence of identity. Confusion of identity among immigrant adolescents may be related to the gap between two different cultures and the confusion over belonging to a certain culture. According to this theory, if an adolescent endures confusion of identity, he/she may experience higher rate of negative developmental outcomes such as negative mental health symptoms (Erikson, 1968). On the other hand, successful balance between minority identity and host national identity may have the strongest impact on positive psychological adaptation of adolescent immigrants (Sam, 2000).

Acculturation

The evident challenge immigrant adolescents encounter is primarily the way how to cope with the new receiving culture and how to maintain a relation to the culture of origin. This bidimensional process is in theory defined as *acculturation*. The underlying constructs of this process are the degree to which an acculturating individual remains in contact with their culture of origin - defined as *cultural maintenance*, whereas *contact and participation* is the degree of how much an acculturating individual embraces the receiving culture or remains isolated (Berry, 1997).

Berry and his associates (Berry, Kim, Power, Young, & Bujaki, 1989) gave an exhaustive explanation and a definition of possible approaches to how a person who immigrates balances the relation between the culture of origin and the receiving culture. They named the following four strategies: assimilation, separation, integration, and marginalization. The strategy when an immigrant completely immerses the new receiving culture with no or little relation to the culture of origin is defined as *assimilation*. The opposite strategy, *separation* could be described as when an immigrant remains disconnected from the new receiving culture and remains in relation to the origin culture. On the other hand, the strategy of *integration* occurs if an immigrant equally cultivates relations with both the origin culture and the receiving culture. Lastly, when an immigrant employs the strategy of complete isolation towards both the receiving and the origin culture, it is defined as *marginalization*.

Building upon the previous theory, Ward, and Kennedy (1994) classified these four acculturation strategies into two fundamental dimensions of acculturation: *co-national identification* and *host national identification*. These dimensions are related to the constructs of *psychological* and *sociocultural adaptation*, meaning that high co-national identification is a predictor of positive psychological functioning of an acculturating individual, whereas high host national identification is a predictor of successful sociocultural adaptation (Ward & Rana-Deuba, 1999). Therefore, how immigrants adjust to the new culture in terms of well-being and stress coping styles refers to psychological adaptation, whereas sociocultural adaptation could be described as adjustment to the new culture and its social norms and rules (Ward & Kennedy,1993).

Acculturation and mental health

As acculturation is a process that is primarily psychologically demanding, a large amount of research examined its relation to the mental health of immigrants. Solely the plain fact that people who immigrate are confronted with transitions to a different living place,

climate, language, values, traditions, customs, etc. could be identified as a significantly stressful event (Guarnaccia & Lopez, 1998). Stress hypothesis argues that the phenomenon of migration and interaction of people from different cultures and origins is a process that could result in negative outcomes such as mental health issues (Berry, Kim, Minde & Mok, 1987). Nevertheless, the negative impact of acculturation on mental health is moderated by both individual factors such as immigrant's age, gender, personality, socioeconomic status, motivation, education, and group level factors such as characteristics of host culture and its social attitudes, prejudices and discrimination (Berry, 1997).

A meta-analysis on acculturation and mental health by Yoon et al. (2013) showed that the acculturation process is significantly related to different positive and negative aspects of mental health such as depression, anxiety, psychological distress, negative affect, self-esteem, life satisfaction or positive affect.

Along with the theory of acculturation, Berry (1997; Berry & Sam, 1997) analysed the relation of acculturation strategies to mental health. These studies showed that integration is the strategy that is most beneficial for positive mental health outcomes, whereas marginalization is the one resulting with the most negative mental health symptoms. On the other hand, assimilation and separation are proved to have intermediate effect on mental health.

Sam (1994) found that in general integrated individuals have better well-being and less psychological disorders. A large international study by Berry, Phinney, Sam and Vedder (2006) confirmed that integrated immigrants tend to have the most successful psychological and sociocultural adaptation. Namely, immigrant adolescents who are maintaining contact with both origin and host culture are proved to be less prone to suffer from internalizing symptoms and to have more positive mental health (Nguyen & Benet-Martinez, 2013).

According to studies (Berry et al., 2006), the acculturation strategy of marginalization is proved to be related to negative mental health symptoms such as anxiety and depression. Marginalized individuals tend to perceive high discrimination that is also associated with poor adaption (Virta, Sam & Westin, 2004). According to Sam (1994), marginalized youth have higher symptoms of depression and somatization. Also, these individuals tend to experience the feeling of hostility and lack of social support due to their isolation towards both origin and host culture (Berry, 1997). A possible explanation would be that mental health issues of marginalized immigrants are a consequence of experiencing discrimination and racism that are proved to be a risk factor for mental health (Liebkind & Jasinskaja-Lahti, 2000).

According to the previously mentioned research, the hypothesis of this study is that integrated and assimilated immigrant adolescents will have less negative mental health symptoms than marginalized and separated immigrant adolescents.

Acculturation and optimism

In the current study, the construct of *optimism* is included in order to examine the positive aspect of well-being and not focus only on negative mental health symptoms, since previous research did not investigate the exact relation of optimism to acculturation strategies on a population of immigrant adolescents.

Since optimism could be described as the perception of expecting positive outcomes of life events (Scheier & Carver, 1985), this study assumes that an individual with higher optimism will have a more successful acculturation. We argue that immigration, as a clearly stressful life event, is probably better coped with and experienced less stressfully by individuals who anticipate positive overall outcomes such as for example new job opportunities, better social standards, improved education services, etc.

For example**,** optimism is found to be related to positive psychological well-being and successful adaptive coping styles (Scheier & Carver, 1985, 1992). Numerous studies (Peterson, Seligman & Vailant, 1988; Scheier & Carver, 1985) are done on a correlation between optimism and mental health and the results show that optimism is correlated with better reaction to stressful situations. Model by Scheier and Carver (1985) suggests that individuals who are more optimistic have a tendency to react better to stressful situations and they adapt easier. It could be argued that successful psychological adjustment is moderated by a congruence of immigrants' perceptions of reality, their expectations, and the outcome (Landau-Stanton, 1985).

Therefore, the hypothesis of this study is that integrated and assimilated immigrant adolescents will have higher optimism than marginalized and separated immigrant adolescents.

Immigration paradox

The often-studied phenomenon within the topic of immigration is the *'immigration paradox'*. This could be described as a tendency of the first generation of immigrants (born in the native country and arrived to host country after the age of 6) having better psychological adaptation and less negative symptoms of mental health compared to the second generation of immigrants (born in the host country or arrived before the age of 7). Furthermore, according to this theory of paradox, it is also argued that immigrants tend to have less mental health issues

in comparison to their native peers (Sam, Vedder, Liebkind, Neto & Virta, 2008; Coll & Marks, 2012). The *resilience perspective* theory suggests the explanation of why paradoxically, immigrants tend to have the same degree of or fewer mental health issues compared to their native peers. The theory argues that the protective factors that decrease the tendency for mental health issues are found to be strong family support, secure ethnic identity, and strong motivation for academic achievement (Van Geel & Vedder, 2011). Interestingly, it would be more intuitive if the immigrants would have worse mental health compared to natives considering the acculturative stress they endure, usually poorer socioeconomic status, poorer education, loss of connection with family and friends (McDonald & Kennedy, 2004; Guarnaccia & Lopez, 1998).

Furthermore, a possible explanation of why, according to the paradox, the first generation is the one with less negative mental health symptoms compared to the second generation would be the motivation as a factor that influences better adaptation of the first generation as newcomers that strive to improve their life in various domains such as reaching better economic or educational opportunities. The second generation does not experience the same motivation, comparing themselves more to the natives, who have better living conditions and economic opportunities (Buriel, 2012). Moreover, perhaps the second generation experiences more discrimination as the generation that is more involved in larger society than the first one, which leads to a higher rate of mental health issues (Pérez, Jennings & Gover, 2008).

On the other hand, quite a lot of research does not go along with this theory. A research by Shoshani, Nakash, Zubida and Harper (2016) showed that immigrant adolescents have a higher rate of negative mental health outcomes such as phobic anxiety, hostility, somatization, and obsessive-compulsive symptoms compared to native-born adolescents. An international study of Stevens et al. (2015) suggested that both the first and the second generation of immigrant adolescents tend to have a higher rate of emotional and behavioural problems compared to their native peers. Study done on Swedish adolescents (Safipour, Schopflocher, Higginbottom & Emami, 2013) showed that adolescents with caregivers of Swedish ethnicity have a lower rate of mental health symptoms than immigrant adolescents with caregivers of Middle East ethnicity.

In order to examine the incongruence of theories and recent research findings of this phenomenon, this study aims to compare the first and second generation on a sample of adolescent immigrants in Sweden and their native Swedish peers.

Overall, the research questions of the present study are:

(1) Do different acculturation strategies and symptoms of mental health differ among immigrant adolescents in Sweden?
(2) Do different acculturation strategies differ among immigrant adolescents in Sweden regarding optimism?
(3) Do the first generation of immigrant adolescents in Sweden, the second generation of immigrant adolescents in Sweden and their native peers differ regarding mental health symptoms?

Method

Participants

The sample consisted of 153 participants (101 immigrants and 52 Swedes) aged 15 to 19 (M = 17.6; SD = 1.28). In total, there were 90 (58.8%) male and 60 (39.2%) female participants. The immigrant sample consisted of 31.7% female and 66.3% male participants, whereas the Swedish sample included 53.8% female and 44.2% male participants.

The largest number of immigrants was born in Sweden (46.5%), whereas a slightly lower number was born outside Sweden (26.7%). The largest number of immigrants was born in Syria (n = 11) and Iraq (n = 10). There was one participant born in each of the following countries: Ghana, Iran, Kurdistan, Morocco, Palestine, and Tunisia.

Both parents of the Swedish participants were born in Sweden, whereas every first caregiver of immigrant participants was born outside Sweden. The exception were second caregivers, of whom 4% were born in Sweden, and 96% outside Sweden. However, around half of the participants gave a precise answer to where their first and second caregiver was born. Of those who gave the answer, the largest number of immigrant caregivers are from Iraq (19.8% first caregivers, 14.9% second caregivers), Syria (11.9% first caregivers, 8.9% second caregivers) and Palestine (5.9% first caregivers, 5.9% second caregivers).

Regarding ethnicity, Swedish participants identify themselves and their caregivers as Caucasian/White, whereas 91% of immigrants are of Arabic ethnicity. 4% of immigrants are Caucasian/White, 3% identify themselves as other, 1% as Black and 1% as Asian/Pacific Islander. Also, most of immigrant caregivers are of Arabic ethnicity. First caregivers are

classified 90.1% as Arab, 3% as Caucasian/White, 3% as other, 2% as Black and 2% as Asian/Pacific Islander. Second caregivers are 80.2% of Arabic ethnicity, 11.9% Caucasian/White, 5% other,
2% Asian/Pacific Islander and 1% Black.

The length of living in Sweden varies from 2 to 19 years (M = 11.15, SD = 6.50), while the length of immigrants' living in their country of birth varies from 1 to 19 years (M = 13.24, SD = 4.69). The age of the participants when they moved to Sweden varies from birth to 17 years of age (M = 7.15, SD = 6.34).

The largest number of immigrants have Arabic as primary language (85.1%), followed by Swedish (5.9%) and English (1%). On the other hand, almost all Swedish participants have Swedish as primary language (98.1%), and only 1.9% have Arabic as primary language.

In table 1 it is possible to see the distribution of immigrants and Swedish participants regarding the highest level of education and years spent in education. Most immigrants have high school as highest achieved educational level (50.5%) and have spent 8 to 11 years in education (82.2%). Similarly, Swedish participants also have high school as highest achieved educational level (42.3%) and have spent 8 to 11 years in education (67.3%).

Table 1. Distribution of immigrants (N = 101) and Swedes (N = 52) regarding highest educational level and years spent in education

		Immigrants		Swedes	
		f	*%*	*f*	*%*
The highest completed level of education	No schooling completed	0	0	0	0
	Some high school	41	40.6	19	36.5
	High school graduate	51	50.5	22	42.3
	Some college	8	7.9	11	21.2
	Vocational training	0	0	0	0
Years spent in education	0-3 years	4	4	0	0
	4-7 years	2	2	0	0
	8-11 years	83	82.2	35	67.3
	12-15 years	12	11.9	17	32.7

Instruments

The questionnaires were drafted in two versions: one for Swedish students and another one for immigrant students. Both versions included assessments of sociodemographic

information, optimism, acculturation, and mental health symptoms. The only difference was in the items on sociodemographic section and acculturation index section.

Sociodemographic items in both version of questionnaires included age, gender, country of birth, ethnicity, caregiver's country of birth, caregiver's ethnicity, primary language, highest achieved educational level, and years of education completed. The items: length of residence in Sweden, length of residence in home country and age at immigration to Sweden were occurred only in the questionnaire for immigrant students.

Life Orientation Test Revised (LOT-R; Scheier, Carver, & Bridges, 1994) is a 10-item measure assessing dispositional optimism within two subscales: Optimism and Pessimism. Optimism is assessed by three items, as well as pessimism, whereas four items have function of fillers. An example of the item of optimism is: 'Overall, I expect more good things to happen to me than bad', whereas for pessimism it is: 'I hardly ever expect things to go my way'. Participants evaluate their answer on the scale ranging from 0 (strongly disagree) to 4 (strongly agree). Items which measure pessimism are scored reversely to calculate the total score of optimism. The Cronbach's alpha reliability in this study is .88.

The Acculturation Index (AI; Ward & Kennedy, 1994) measures two dimension of acculturation: co-national identification and host national identification. Based on these dimensions by using median split technique it is possible to assess the following four categories established on Berry's model of acculturation: assimilation, integration, separation, and marginalization. It includes 21 items of cognitive and behavioural function (e.g. self-identity, worldview, religious beliefs, cultural activities, etc.). The items are constructed in the form of questions: 'Are your experiences and behaviour regarding a certain item similar to most people from your home country (co-national identification) or to people from Sweden (host national identification)?' The answer is given on a scale ranging from 1 (strongly dissimilar) to 7 (strongly similar). The Cronbach's alpha reliability of the present study for the dimension of
co-national identification is .93 and for host national identification is .87.

The Youth Self Report (YSR; Achenbach & Rescorla, 2001) is a 112-item measure of emotional and behavioural problems for children and adolescents aged 11 to 18 years. These problems are assessed through two categories: Internalizing and Externalizing symptoms on 8 subscales: withdrawn, somatic complaints, anxiety and depression, social problems, thought problems, attention problems, aggressive behaviour, and delinquent behaviours. The responses are in the form of open-ended questions and 3-point Likert-type scale ranging from 0 (Not true), 1 (Somewhat or Sometimes true) and 2 (Very true or often true). In this study, the

Cronbach's alpha reliability of the total score of scale was .98. The dimension of somatic complaints had the highest Cronbach's alpha .92, and the lowest Cronbach's alpha was .77 for the withdrawn/depressed dimension.

The obtained coefficients of reliability indicate a satisfactory reliability of the internal consistency of all the measuring scales in this study ($\alpha > .70$).

Design

A correlational study design was used. The convenience sample consisted of immigrant and non-immigrant participants which completed questionnaires assessing acculturation strategies, optimism, mental health symptoms and sociodemographics.

Procedure

A native Swedish speaker translated the original measures from English to Swedish and all the participants were given the surveys in Swedish. Two versions of surveys were prepared, one for Swedish adolescents and one for immigrant students. These versions differed in the sociodemographic section and the acculturation index section. The participants were recruited in several different ways. Swedish participants were recruited in a Swedish summer school in a city in southern Sweden as well as on online social websites. The immigrant participants were approached in their living facilities in a big city and a smaller town in the countryside. After introducing the topic of the study and getting their approval, they were sent a link to the survey, which they could then complete in their own time on their mobile device or computer. Additionally, the link to the survey was posted online on social groups of young immigrants from Malmö. The survey took around 20 to 35 minutes to complete. The data was collected during June 2017.

Statistical analysis

IBM SPSS Statistics (version 21.0) was used for the statistical analysis of the study data. Two-tailed limit was used for significant results. In order to check the multivariate normality distribution of the eight dimensions of mental health, a Mardia test was used, which showed statistically significant deviation from multivariate normality ($b1p = 17.51$, $p < .001$; $b2p = 105.50$, $p < .001$). The Kolmogorov-Smirnov test, for the univariate normality of distribution, indicates that distributions on all dimensions of mental health deviate statistically from the normal ($p < .001$), whereas all dimensions of mental health have a positive asymmetric

distribution. Although there are asymmetric distributions, it is important to indicate that all the variables are asymmetric in the same direction and that the coefficients of skewness in all dimensions mostly do not exceed +/- 2, indicating that there are no extreme variations in asymmetry (Bulmer, 1979). Therefore, due to the absence of extreme deviations in the kurtosis and symmetry of distribution and due to the robustness of the univariate F test in the case of a disturbance of normality (studies have shown that ANOVA is not too sensitive to moderate deviations from normality (Glass, Peckham & Sanders, 1972), a necessary precondition for the normal distribution of parametric statistics is satisfied (Tabachnik & Fidell, 2007).

In order to answer the first and third research problem, two unidirectional MANOVAs were conducted, while one-way ANOVA was conducted for the second research problem. Prerequisites for matrix homogeneity of variances and covariances for the first and third research problem were not satisfied. Thus, the Box's test of equality of the covariance matrix was statistically significant for the first research problem (Box's $M = 212.45$, $F(108, 6017.63) = 1.56$, $p < .001$) and for the third research problem (Box's $M = 241.06$, $F(72,17754.8) = 2.97$, $p < .001$). By inspecting Levene's test for equality of variances at the first research problem, it can be seen that on most dimensions of the mental health the variances are homogeneous ($p > .05$). Variances are heterogeneous only on the dimensions of thought problems ($p = .049$), rule breaking behaviour ($p = .02$) and aggressive behaviour ($p = .04$). On the other hand, in the third research problem on all dimensions of mental health the variances are heterogeneous ($p < .001$). Considering the mentioned distorted assumptions of the equality of matrix of variances and covariances as well as the homogeneity of variance, the Pillai's Trace criterion will be used instead of Wilks's lambda when performing the MANOVA interpretation. As Games-Howell post hoc test for heterogeneous variances will be used and this should maintain the robustness of MANOVA (Tabachnik & Fidell, 2007). The precondition for homogeneity of variances for second research problem is satisfied, i.e. Levene's test for equality of variances shows that there is no statistically significant difference in variances ($F(3,96) = 1.00$, $p = .395$), that is variances between the groups with regard to optimism are homogeneous.

Ethics

This study received approval from the University's Research Ethics Committee. It was obligatory that the study included no use of sensitive data (Data Protection Act), physical interventions, influence on participants in any physical or mentally harmful way or collected any biological substance connected to the participants.

The participants were informed through instructions at the beginning of the survey about the anonymity of their answers, confidentiality and voluntariness of participation and the possibility to withdraw at any moment during the completion of the survey.

Results

First research question aimed to identify the differences between different strategies of acculturation regarding mental health of immigrant adolescents in Sweden.

MANOVA has obtained a statistically significant difference between different types of acculturation strategies with regard to the dimensions of mental health (Pillai's $T = .77$, $F(24,270) = 3.89$, $p < .001$, $\eta_p^2 = .26$). Thus, different types of acculturation strategies can explain 26% of variance of mental health.

Table 2. *Differences in acculturation strategies regarding dimensions of mental health (N =100)*

Dimensions of mental health	Acculturation strategies	*n*	*M*	*SD*	η_p^2	*F*
Anxious depressed	Integration	13	5.8	4.26	.22	8.66**
	Marginalization	17	6.2	4.85		
	Assimilation	36	3.0	3.64		
	Separation	34	8.1	4.41		
Withdrawn depressed	Integration	13	3.1	2.39	.33	15.80**
	Marginalization	17	5.1	2.15		
	Assimilation	36	2.6	1.82		
	Separation	34	5.5	1.74		
Somatic complaints	Integration	13	2.6	3.63	.04	1.36
	Marginalization	17	2.7	3.02		
	Assimilation	36	1.8	2.27		
	Separation	34	2.9	1.43		
Social problems	Integration	13	4.4	3.34	.23	9.35**
	Marginalization	17	5.0	2.87		
	Assimilation	36	2.7	1.88		
	Separation	34	5.8	2.46		
Thought problems	Integration	13	4.3	2.99	.18	6.96**
	Marginalization	17	5.0	4.24		
	Assimilation	36	2.6	1.87		
	Separation	34	5.5	2.71		
Attention problems	Integration	13	5.2	3.10	.27	11.62**
	Marginalization	17	6.1	3.28		
	Assimilation	36	4.3	3.12		
	Separation	34	8.7	3.28		
Rule breaking behaviour	Integration	13	6.8	4.14	.11	3.82*
	Marginalization	17	6.9	4.68		
	Assimilation	36	7.3	4.29		

	Separation	34	10.6	5.89		
Aggressive behaviour	Integration	13	10.7	5.21	.09	3.13*
	Marginalization	17	7.5	4.73		
	Assimilation	36	8.2	4.10		
	Separation	34	11.1	5.92		

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

ANOVA showed that there are statistically significant differences between different strategies of acculturation regarding almost all dimensions of mental health ($p < .05$) (table 2). The exception is the somatic complaints dimension where no statistically significant difference between the acculturation strategies is found ($p = .26$). Next, the interpretation of ANOVA results and post hoc tests for each statistically significant dimension of mental health are explained separately.

Anxious/depressed

There are statistically significant differences between the strategies of acculturation regarding the anxious depressed dimension ($F(3,96) = 8.66$, $p < .001$, $\eta_p^2 = .22$). Thus, with different strategies of acculturation a 22% variance of anxious depressed dimension is explained. In order to determine between which exact groups there are differences, Tukey's HSD post hoc test was performed. Statistically significant differences were obtained only between separation and assimilation ($p < .001$), with those who use the separation strategy ($M = 8.1$, $SD = 4.41$) being more anxious depressed than those who use the assimilation strategy ($M = 3.0$, $SD = 3.64$). Among the other acculturation strategies there were no statistically significant differences in anxious depressed dimension ($p > .05$).

Withdrawn/depressed

Statistically significant differences between the acculturation strategies regarding the withdrawn depressed dimension were given ($F(3,96) = 15.80$, $p < .001$, $\eta_p^2 = .33$). Hence, with different acculturation strategies, a 33% variance of withdrawn depressed dimension can be explained. In order to determine between which exact groups there are differences, Tukey's HSD post hoc test was performed. Statistically significant differences in integration with marginalization were obtained ($p = .03$) and with separation ($p = .002$), with those who use the strategy of integration ($M = 3.1$, $SD = 2.39$) being less withdrawn depressed than those who use the strategy of marginalization ($M = 5.1$, $SD = 2.15$) and separation ($M = 5.5$, $SD = 1.74$). Also, statistically significant differences in assimilation with marginalization were obtained ($p < .001$) and with separation ($p < .001$), with those who use the strategy of assimilation ($M = 2.6$, $SD =$

1.82) being less withdrawn depressed than those who use marginalization (M = 5.1, SD = 2.15) and separation (M = 5.5, SD = 1.74). Between integration and assimilation (p = .90) as well as between marginalization and separation (p = .89) no significant statistical differences were obtained.

Social problems

There are statistically significant differences between the acculturation strategies with regard to the dimension of social problems ($F(3,96) = 9.35$, $p < .001$, $\eta_p^2 = .23$). Thus, different acculturation strategies can explain a 23% variance of social problems. In order to determine between which exact groups there are differences, Tukey's HSD post hoc test was performed. Statistically significant differences in assimilation with marginalization were obtained (p = .01) and with separation ($p < .001$), with those who use the strategy of assimilation (M = 2.7, SD = 1.88) having less social problems than those who use the strategy of marginalization (M = 5.0, SD = 2.87) and separation (M = 5.8, SD = 2.46). No statistically significant differences in social problems were found among the other strategies of acculturation ($p > .05$).

Thought problems

There were statistically significant differences between the acculturation strategies considering the dimension of thought problems ($F(3,96) = 6.96$, $p < .001$, $\eta_p^2 = .18$). Thus, different strategies of acculturation can explain an 18% variance of thought problems. In order to determine between which exact groups there are differences, the Games-Howell post hoc test was performed due to variance heterogeneity. There was a statistically significant difference between assimilation and separation ($p < .001$), with those who are assimilated (M = 2.6, SD = 1.87) having less thought problems than those who are separated (M = 5.5, SD = 2.71). No statistically significant differences in thought problems were obtained among the other strategies of acculturation ($p > .05$).

Attention problems

There were statistically significant differences between the strategies of acculturation considering the dimension of attention problems ($F(3,96) = 11.62$, $p < .001$, $\eta_p^2 = .27$). Therefore, different strategies of acculturation can explain a 27% variance of attention problems. In order to determine between which exact groups there are differences, Tukey's HSD post hoc test was performed. There were statistically significant differences in separation with integration (p = .007), marginalization (p = .035) and assimilation ($p < .001$). Participants with separation

strategy (*M* = 8.7, *SD* = 3.28) have more attention problems than those who use the strategy of integration (*M* = 5.2, *SD* = 3.10), marginalization (*M* = 6.1, *SD* = 3.28) and assimilation (*M* = 4.3, *SD* = 3.12). No statistically significant differences in attention problems were shown among all the other strategies of acculturation ($p > .05$).

Rule breaking behaviour

There were statistically significant differences between the strategies of acculturation given the dimension of rule breaking behaviour ($F(3,96) = 3.82$, $p = .01$, $\eta_p^2 = .11$). Thus, various strategies of acculturation can explain an 11% variance of rule breaking behaviour. In order to determine between which exact groups there are differences, the Games-Howell post hoc test was performed due to variance heterogeneity. There was a statistically significant difference between assimilation and separation ($p = .046$), with those who are assimilated (*M* = 7.3, *SD* = 4.29) showing less rule breaking behaviour than those who are separated (*M* = 10.6, *SD* = 5.89). No statistically significant differences in rule breaking behaviour were shown among all the other strategies of acculturation ($p > .05$).

Aggressive behaviour

There were statistically significant differences between the strategies of acculturation regarding the dimension of aggressive behaviour ($F(3,96) = 3.82$, $p = .03$, $\eta_p^2 = .09$). Thus, different strategies of acculturation can explain a 9% variance of aggressive behaviour. In order to determine between which exact groups there are differences, the Games-Howell post hoc test was performed due to variance heterogeneity. There was no statistically significant difference between the groups by the post-hoc test ($p > .05$).

To sum up, the first research question indicates that participants who use the strategy of assimilation are less anxious/depressed, have less thought problems and less rule breaking behaviour compared to those who use the separation strategy. Also, they are less withdrawn/ depressed and have less social problems in comparison to those with separation or marginalization as a strategy. The participants who use integration as a strategy are less withdrawn depressed than those with the strategy of marginalization or separation. The participants who use the strategy of separation have more attention problems in comparison with participants who use other acculturation strategies. There was no difference between participants with different acculturation strategies regarding the dimension of aggressive behaviour.

The second research question aimed to identify the differences between different strategies of acculturation of immigrant adolescents in Sweden regarding optimism.

Table 3. *Differences in acculturation strategies regarding optimism (N = 100)*

Acculturation strategies	*n*	*M*	*SD*	η_p^2	*F*
Integration	13	14.9	4.94	.35	16.84**
Marginalization	17	14.2	3.73		
Assimilation	36	12.0	3.88		
Separation	34	19.1	4.49		

Note. ** $p < .001$

Statistically significant differences between different types of acculturation strategies with regard to optimism were obtained with ANOVA ($F(3,96) = 16.84$, $p < .001$, $\eta_p^2 = .35$) (table 3). Thus, different types of acculturation strategies can explain a 35% variance of optimism. In order to determine between which exact groups there are differences, Tukey's HSD post hoc test was performed. There are statistically significant differences between separation and all other types of acculturation strategies with regard to optimism, i.e. integration ($p = .02$), marginalization ($p = .001$) and assimilation ($p < .001$). So, immigrants who use acculturation strategy of separation have statistically significant higher optimism ($M = 19.1$, $SD = 4.49$) than immigrants who use the strategy of integration ($M = 14.9$, $SD = 4.94$), marginalization ($M = 14.2$, $SD = 3.73$) and assimilation ($M = 12.0$, $SD = 3.88$). Other groups do not significantly differ statistically regarding optimism ($p > .05$).

Third research question aimed to identify differences between the first generation of immigrant adolescents in Sweden, the second generation of immigrant adolescents in Sweden and their native peers with regard to mental health.

MANOVA has obtained a statistically significant difference between different types of participants with regard to the dimensions of mental health (Pillai's $T = .46$, $F(16,222) = 4.18$, $p < .001$, $\eta_p^2 = .23$). Thus, by different types of participants, a 23% variance of mental health can be explained.

Table 4. *Differences between first and second generation of immigrant adolescents and Swedes regarding dimensions of mental health (N = 120)*

Dimensions of mental health	Type of participant	*n*	*M*	*SD*	η_p^2	*F*
Anxious depressed	First generation	24	5.9	3.30		
	Second generation	44	4.2	4.50	.05	3.28*
	Swedes	52	7.7	8.98		
Withdrawn depressed	First generation	24	4.6	1.53		
	Second generation	44	3.3	2.47	.06	3.75*
	Swedes	52	5.1	4.37		
Somatic complaints	First generation	24	2.6	2.16		
	Second generation	44	2.0	2.70	.11	7.12**
	Swedes	52	5.7	7.08		
Social problems	First generation	24	5.0	2.06		
	Second generation	44	3.4	2.63	.06	3.84*
	Swedes	52	6.5	7.76		
Thought problems	First generation	24	4.6	2.43		
	Second generation	44	3.6	3.24	.04	2.30
	Swedes	52	6.2	8.08		
Attention problems	First generation	24	7.4	2.89		
	Second generation	44	4.9	3.16	.05	2.91
	Swedes	52	5.7	5.15		
Rule breaking behaviour	First generation	24	9.1	4.05		
	Second generation	44	7.2	4.43	.01	0.81
	Swedes	52	8.7	8.74		
Aggressive behaviour	First generation	24	8.5	4.15		
	Second generation	44	9.2	4.69	.01	0.35
	Swedes	52	9.9	9.81		

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

ANOVA has established that there are statistically significant differences between the first generation of immigrants, the second generation of immigrants and the Swedes with regard to the dimensions of mental health: anxious depressed, withdrawn depressed, somatic complaints and social problems ($p < .05$) (table 4). Also, no statistically significant difference was found between the first generation of immigrants, the second generation of immigrants and Swedes with regard to the dimensions of thought problems ($p = .10$), attention problems ($p = .06$), rule breaking behaviour ($p = .45$) and aggressive behaviour ($p = .71$). Thus, the interpretation of

ANOVA results and post hoc tests for each statistically significant dimension of mental health is explained separately.

Anxious/depressed

There were statistically significant differences between different types of participants with regard to the anxious depressed dimension ($F(2,117) = 3.28$, $p = .04$, $\eta_p^2 = .05$).Thus, by different types of participants a 5% variance of anxious depressed can be explained. In order to determine between which exact groups there are differences, the Games-Howell post hoc test was performed due to variance heterogeneity. There was a statistically significant difference between the Swedes and the second generation of immigrants ($p = .04$), with the Swedes ($M = 7.7$, $SD = 8.98$) being more anxious depressed than the second generation of immigrants ($M = 4.2$, $SD = 4.50$). No statistically significant differences in the anxious depressed dimension were obtained among all other types of participants ($p > .05$).

Withdrawn/depressed

There were statistically significant differences between different types of participants with regard to the withdrawn depressed dimension ($F(2,117) = 3.75$, $p = .03$, $\eta_p^2 = .06$). Thus, by different types of participants a 6% variance of withdrawn depressed can be explained. In order to determine between which exact groups there are differences, the Games-Howell post hoc test was performed due to variance heterogeneity. There was a statistically significant difference between the second generation of immigrants and the first generation of immigrants ($p = .02$) and Swedes ($p = .03$), with the second generation of immigrants ($M = 3.3$, $SD = 2.47$) being less withdrawn depressed than the first generation of immigrants ($M = 4.6$, $SD = 1.53$) and Swedes
($M = 5.1$, $SD = 4.37$). Between the first generation of immigrants and Swedes, no statistically significant differences were obtained in the withdrawn depressed dimension ($p = .74$).

Somatic complaints

There were statistically significant differences between different types of participants with regard to the somatic complaints dimension ($F(2,117) = 7.12$, $p = .001$, $\eta_p^2 = .11$). Thus, by different types of participants a 11% variance of somatic complaints can be explained. In order to determine between which exact groups there are differences, the Games-Howell post hoc test was performed due to variance heterogeneity. There was a statistically significant difference

between the Swedes and the first generation of immigrants (p = .01) and second generation of immigrants (p = .003), with the Swedes (M = 5.7, SD = 7.08) showing more somatic complaints than the first generation of immigrants (M = 2.6, SD = 2.16) and second generation of immigrants (M = 2.0, SD = 2.70). No statistically significant differences in somatic complaints were obtained between the first and second generation of immigrants (p = .60).

Social problems

There were statistically significant differences between different types of participants with regard to the dimension of social problems ($F(2,117) = 3.84$, p = .02, η_p^2 = .06). Thus, by different types of participants a 6% variance of social problems can be explained. In order to determine between which exact groups there are differences, the Games-Howell post hoc test was performed due to variance heterogeneity. There was a statistically significant difference between the second generation of immigrants and the first generation of immigrants (p = .02) and Swedes (p = .02), with the second generation of immigrants (M = 3.4, SD = 2.63) reporting less social problems than the first generation of immigrants (M = 5.0, SD = 2.06) and Swedes (M = 6.5, SD = 7.76). Between the first generation of immigrants and the Swedes no statistically significant differences in social problems were obtained (p = .40).

Thus, the overall result of the third research question indicates that participants who are Swedish adolescents are more anxious depressed than their second generation immigrants peers. Also, Swedes report more somatic complaints compared to both the first and the second generation of immigrant adolescents. Secondly, Swedes and their peers from the first immigrant generation display more social problems compared to the second generation of immigrant adolescents. Additionally, adolescents from the first immigrant generation report more symptoms of withdrawal depression compared to the second generation.

Discussion

Acculturation and mental health

The present study explored the differences between different strategies of acculturation regarding mental health symptoms of immigrant adolescents in Sweden. Interestingly, the

assimilation is proved to be the most used strategy among sample of immigrant adolescents in Sweden followed by separation, marginalization, with a lowest number of adolescents using the integration strategy. Thus, it can be concluded that the participants completely adopt Swedish culture with little or no contact with their origin culture.

Furthermore, the results indicate that immigrant adolescents who use acculturation strategy of assimilation compared to the separation strategy have less negative mental health symptoms. Concretely, these assimilated adolescents are less anxious depressed, have less thought problems and show less rule breaking behaviour than separated adolescents. Moreover, assimilated adolescents are less withdrawn depressed and have less social problems in comparison to both separated and marginalized adolescents.

The immigrant adolescents who use integration as a strategy are less withdrawn depressed than those with the strategy of marginalization or separation. The immigrants who use the strategy of separation have more attention problems in comparison with participants that use other acculturation strategies. Finally, there were no difference between participants with different acculturation strategies regarding the dimension of aggressive behaviour.

These results are somewhat congruent with expectations. Although assimilation is expected to be related with less mental health issues compared to the strategies of separation and marginalization, it was not expected that assimilation would be the most beneficial strategy to mental health. Namely, most past studies (Berry, 1997; Berry & Sam, 1997) suggest that integration is the most beneficial strategy, whereas assimilation has the intermediate influence on mental health. This is contrary to our results, which indicate that assimilation, followed by separation is the most used strategy among a sample of immigrant adolescents in Sweden and that assimilation is the strategy related to the least negative mental health symptoms.

According to our results, it may be more important for immigrant adolescents in Sweden to assimilate into Swedish culture and adopt it completely, while having no or little contact with their home culture. Immigrant adolescents using this acculturation strategy show the lowest rate of negative mental health symptoms compared to immigrant adolescents who use other acculturation strategies.

Interestingly, some studies conducted on a sample on immigrants of Arabic ethnicity acculturating to American culture showed that using integration as a strategy did not relate to the most positive mental health (Amer & Hovey, 2007).

A study of Berry & Hou (2016) on adult immigrants concluded that immigrants that are disconnected with their home culture and assimilated to the host culture also gain benefits (e.g. success on labour market) and express the same life satisfaction as integrated immigrants.

A study of Amer & Hovey (2007) concluded that immigrants with Arabic ethnicity who mostly kept their Arabic values and practices and did not connect at all with the host society experienced greater acculturative stress since the values of western world significantly differ from their home culture. Perhaps for immigrant adolescents being assimilated is a protective factor against greater acculturative stress.

Namely, adolescents are at that stage of development when they strive to find their fit into society and their role (Erikson, 1959). As 91 % of participants in this study are of Arabic ethnicity, we argue that the possible reason for choosing assimilation as a strategy among immigrant adolescents might be cultural distance between Sweden and the cultures of Middle East.

Perhaps integration is too complex at this age since the two cultures are too diverse regarding value orientations, religion, social norms, and therefore adolescents choose rather to assimilate completely and become more like their Swedish peers, disregarding their relation to the origin culture and embracing Swedish culture.

Berry (1997) suggests the existence of moderating factors that influence the relationship of acculturation and mental health such as, for example, cultural distance, language, religion, values, socio-political situation, feelings of prejudice, discrimination.

To sum up, future research is necessary to verify the result and to examine the possible underlying factors of why assimilation is the most preferred acculturating strategy among immigrant adolescents in Sweden. As Berry et al. (1987) indicate, even though integration is found to be the most preferred strategy, the most beneficial acculturation strategy in a certain society will be the one that successfully accommodates the differences between the host society and the acculturating immigrant group.

Acculturation and optimism

The second research question aimed to examine the positive aspect of immigrant's well-being with the construct of optimism. Optimism is defined as a tendency to expect positive outcomes of live event**s** (Scheier & Carver, 1985). Initially, it was hypothesized that the participants who use the strategies of integration and assimilation will score higher on optimism than those who employ separation or marginalization. This hypothesis assumed that individuals who cope more easily with stressful events such as immigration also have a tendency to adapt easier during stressful situations (Scheier & Carver, 1985).

As optimism is proven to be a significant predictor of psychological well-being (Uskul & Greenglass, 2005), in line with previous hypothesis on acculturation and mental health it is

to assume that those immigrants who use acculturation strategies that are most beneficial to mental health will be the most optimistic.

Unexpectedly, the results showed that participants who use the acculturation strategy of separation statistically have a significantly higher optimism than immigrants who use the strategy of integration, marginalization and assimilation. The result suggests that immigrant adolescents who have no relation to Swedish culture and remain only connected to their culture of origin are the most optimistic compared to immigrant adolescents who use other acculturation strategies.

This finding is counterintuitive since in this study separation is proved to be related with rather negative mental health symptoms. On the other hand, previous studies suggest that separation has an intermediate effect on successful adaptation (Berry, 1997; Berry & Sam, 1997). The study of Jasinskaja-Lahti, Liebkind, Horenczyk and Schmitz (2003) suggested that immigrants who choose separation as acculturation strategy are also psychologically well adapted. Schmitz (2001) claims that a population of separated immigrants uses strong involvement into their origin culture to receive social support, a sense of belonging and security. This in turn decreases their anxiety and facilitates feelings of separation from a perceived threatening host culture. Neto, Barros & Schmitz (2005) argue that separated immigrants have the same level of life satisfaction, self-esteem and acculturative stress as integrated immigrants.

This finding could be explained by the fact that separated adolescents have a firm and close connection to their heritage culture and this connection with familiarity keeps them expecting positive outcomes of life events.

Study of Berry and Hou (2016) found that immigrants who are separated from host society and engage into home culture experience also have a certain advantage and are being protected from negative stress factors of balancing between the origin and host culture.

Study of Schwartz et al. (2015) on Hispanic immigrant adolescents indicated that maintaining firm relations to origin culture is associated with self-esteem and prosocial behaviour. Interestingly, the authors also argue that maintaining the relations with the origin culture facilitates the stressful event of immigration and initial adjustment of adolescents to a new culture.

Overall, based on this result, the suggestion is to test again the relations of these variables since this unexpected result could be explained only by assumptions, primarily from methodological aspects. The questionnaire used might not be the most reliable measure of

optimism, so it would be advised to use a different measure of optimism and to examine these variables by using qualitative study and potentially finding out possible moderating factors.

Immigration paradox

The third research question investigated if there were any differences between the first generation of immigrant adolescents, the second generation of immigrant adolescents and their native Swedish peers regarding mental health symptoms. This research question sought to test the phenomenon of 'immigration paradox'.

Namely, the results showed that Swedish adolescents are more anxious depressed compared to the second generation of immigrant adolescents in Sweden. Also, Swedish adolescents proved to report more somatic complaints compared to both the first and the second generation of immigrant adolescents. Furthermore, Swedish adolescents and their peers from the first immigrant generation report more social problems compared to the second generation of immigrant adolescents in Sweden. Finally, the first generation immigrants report being more withdrawn depressed than the second generation of immigrants.

As has been noted, this study suggested that Swedish adolescents have more mental health issues (anxiety depression and social problems) compared to their immigrant peers from the second generation and report more somatic complaints compared to both generations of immigrant peers. Moreover, the study results indicated that the first generation of immigrant adolescents has more mental health issues (social problems and withdrawal depression) than the second generation.

Therefore, the results partially confirmed the existence of 'immigration paradox'. Interestingly, it is found that Swedish adolescents report more mental health issues, which supports the paradox. On the other hand, the finding that the first generation has poorer mental health compared to the second generation contradicts the paradox.

In line with the result of our study, Davies and McKelvey (1998) found that non-immigrant adolescents scored significantly higher on the Youth Self Report questionnaire compared to their immigrant adolescent peers. In line with our results, a study of Janssen et al. (2004) found that Dutch native adolescents score higher on the somatic complaints dimension, showing that native adolescents significantly differ from both the first and the second generation of immigrants on this dimension. Berry & Hou (2016) proved that a sample of immigrants in Canada reported higher life satisfaction and less negative mental health symptoms than natives.

Another study (Sirin, Ryce, Gupta, & Rogers-Sirin, 2013) demonstrated that adolescent immigrants from the first generation experience a higher level of anxiety and withdrawal

depression compared to the immigrants from the second generation. These findings could be explained by the role of acculturative stress. Namely, the first generation as newcomers usually experiences the loss of connection with their family and friends, poorer socioeconomic situation, adjustment to a new language, etc. (Suarez-Orozco et al., 2010). All these factors pose a risk for poorer mental health (Li & Browne, 2009).

Furthermore, the finding that the first generation has poorer mental health could be supported by the 'classical assimilation theory', which states that assimilation through generations goes more successfully, meaning that the second generation will be assimilated more than the first one, which will result in better related psychological outcomes (Gordon, 1964). Also, based on the data from a large study ICSEY conducted in five European countries, Sam et al. (2008) concluded that regarding psychological adaptation (anxiety, depression and psychosomatic symptoms, self-esteem and life satisfaction) of immigrant adolescents, immigration paradox theory is not supported, which is in line with our research, suggesting that the second generation immigrants have a better adaptation compared to the first generation of immigrants.

Overall, the partially supported hypothesis on 'immigration paradox' might be due the fact that the theory of immigration paradox is based on studies mostly conducted on the sample of immigrants in the USA. The studies in Europe that compared the generations produced mixed results and mostly did not confirm the phenomenon, suggesting weak support of this phenomenon (Berry et al., 2006).

Limitations and implications for future research

This study has several limitations to discuss. Primarily, the participants were questioned only through self-report measures that could yield socially desirable answers, therefore future studies could include more objective measures such as adolescent parents' reports.

Secondly, although participants were asked if they have Swedish language competence, Swedish is not a mother tongue to most of the immigrant participants, future research should provide questionnaires in their primary languages to secure accurate understanding.

A sample consisted of immigrants with mostly Arabic ethnicity, therefore a larger and more diverse sample of immigrant adolescents would, in future studies, improve generalizability of findings.

Moreover, the groups of first generation immigrants, second generation immigrants and natives were not equal regarding quantity so future research should correct this drawback.

Next, the participants are not distributed evenly regarding gender. According to Berry and Sam (1997) significant differences are found in acculturation and mental health by gender.

Furthermore, the distribution of immigrants into groups of the first or the second generation was calculated on the age of arrival to Sweden and country of birth. Maybe a more precise measure of generational status would yield more accurate results.

The measure of Acculturation Index assesses acculturation strategies based on co-national and host national identification using median split technique. By Ward & Rana-Deuba (1999) the classification of the participants to acculturation strategies by using this technique might not be the most accurate representation of the four acculturation strategies.

Moreover, in further studies it is recommended to examine the relation of optimism and acculturation strategies to verify the unexpected result of this study and to possibly find underlying factors. This could be done with different measures of optimism and with combining quantitative and qualitative measures. Also, it could be useful to include other variables as indices of positive aspect of mental health such as self-esteem and life satisfaction.

Primarily, future studies using the present study as research idea should examine other possible moderating factors of the relation of acculturation and mental health. For example, religion, among the sample of Arab American immigrants, is found to be a significant moderating factor. Namely, Christian Arabs are found to be mostly integrated and assimilated into American culture, whereas Muslim Arabs tend to be more separated (Amer & Hovey, 2007).

Next, it would be useful to include in the analysis, immigration at a certain age and length of residence in the origin culture, as these are also significant moderating factors. For example, a study of Faragallah, Schumm and Webb (1997) found that immigration at a younger age and of longer length of residence in the host culture is associated with a more successful acculturation.

Another drawback of this study is correlational design that is not suitable to draw causal inferences, therefore the longitudinal research should be used to examine the causal relationship of acculturation strategies and mental health.

It would be interesting to conduct a longitudinal research to examine the developmental trajectories of acculturation and its mental health outcome since, at a sensitive age of adolescence, the process of acculturation influences adolescents' development significantly over time (Cheung, Chudek & Heine, 2011). The Swedish adolescents that use assimilation as the most favourable strategy could be monitored during adulthood and examine if their acculturation strategies change and what is the influence on mental health.

Finally, it would be useful from a clinical perspective to carry out an applied research to examine what kind of clinical intervention helps adolescent immigrants to have a more successful acculturation and therefore less negative consequences on mental health.

Conclusion

The idea for this study emerged from the authors' involvement in practical interventions of immigrant adolescents settling in Sweden and undergoing the process of cultural adjustment.

The aim was to identify the most favourable acculturation strategy among these youth and its related mental health outcomes. The results indicated that Swedish immigrant youth primarily chooses assimilation as acculturation strategy. The study also implies that the first generation of immigrant adolescents in Sweden has more mental health issues than the second generation.

Overall, the current study emphasized significant mental health vulnerability of the population of newcomer immigrant adolescents. It is implied that the mental health vulnerability is related to the way immigrant youth balances between their origin and host culture. Since adolescence is a sensitive period, immigrant adolescents are important population to study in order to identify and prevent possible harming factors to their mental health. This youth should be received adequate intervention upon arrival to host culture. These intervention strategies should be culturally sensitive and provide optimal solutions for healthy adjustment in order to secure healthy development of adolescents' ethnic identity.

Thus, it is important to promote awareness on cultural adjustment improvement to empower immigrant adolescents to successfully adjust to host culture.

It is highly important for social services, educational and mental health institutions to constantly renew and improve their policies to offer the most optimal solutions and protection for immigrant youth. By considering the most recent research finding, we believe it is possible to improve and adjust social policies and mental health services to the needs of immigrant youth.

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Appendix A: Life Orientation Test Revised

Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

A = I agree a lot

B = I agree a little

C = I neither agree nor disagree

D = I disagree a little

E = I disagree a lot

1. In uncertain times, I usually expect the best.
2. It's easy for me to relax.
3. If something can go wrong for me, it will.
4. I'm always optimistic about my future.
5. I enjoy my friends a lot.
6. It's important for me to keep busy.
7. I hardly ever expect things to go my way.
8. I don't get upset too easily.
9. I rarely count on good things happening to me.
10. Overall, I expect more good things to happen to me than bad.

Appendix B: Acculturation Index (for Immigrant students)

Acculturation to Sweden

This section is concerned with how you see yourself in relation to other people from your home country and in relation to people from Sweden. You are asked to consider two questions about your current life style:

1) Are your experiences and behaviours generally similar to people from your home country?

2) Are your experiences and behaviours generally similar to people from Sweden?

Use the following scale to indicate to what extent you agree or disagree that your various experiences of daily life are similar to those of people from **your home country** and to those of people **from Sweden.**

Enter your responses (1, 2, 3, 4, 5, 6, or 7) in the boxes. Please respond to all the items.

1 Strongly Disagree

2 Disagree

3 Somewhat Disagree

4 Neither Agree nor Disagree

5 Somewhat Agree

6 Agree

7 Strongly Agree

My experiences and behaviours regarding _____ are similar to most:

	People from my home country	**People from Sweden**
1. Clothing		
2. Pace of life		
3. General knowledge		
4. Food		
5. Religious beliefs		
6. Material comfort (standard of living)		
7. Recreational activities		
8. Self-identity		
9. Family life		
10. Accommodations/residence		
11. Values		
12. Friendships		

13. Communication styles
14. Cultural activities
15. Language
16. Perceptions of co-nationals
17. Perceptions of host nationals
18. Political ideology
19. World view
20. Social customs
21. Employment activities

Appendix C: Acculturation Index (for Swedish students)

Acculturation to Sweden

This section is concerned with how you see yourself in relation to other people from Sweden. You are asked to consider the following question about your current life style: Are your experiences and behaviours generally similar to people from Sweden?

Use the following scale to indicate to what extent you agree or disagree that your various experiences of daily life are similar to those of people from Sweden.

Enter your responses (1, 2, 3, 4, 5, 6, or 7) in the boxes. Please respond to all the items.

1 Strongly Disagree

2 Disagree

3 Somewhat Disagree

4 Neither Agree nor Disagree

5 Somewhat Agree

6 Agree

7 Strongly Agree

My experiences and behaviours regarding _____ are similar to those of most people from Sweden:

1. Clothing
2. Pace of life
3. General knowledge
4. Food
5. Religious beliefs
6. Material comfort (standard of living)
7. Recreational activities
8. Self-identity
9. Family life
10. Accommodations/residence
11. Values
12. Friendships
13. Communication styles
14. Cultural activities
15. Language
16. Perceptions of co-nationals

17. Perceptions of host nationals
18. Political ideology
19. World view
20. Social customs
21. Employment activities