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ORIGINAL PAPER

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Psychosocial adaptation of adolescent migrants in a Swiss community survey

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Abstract *Objective* The aim of this study was to compare psychosocial adaptation in adolescent (first generation) migrants, double-citizens (mainly second generation with one migrant parent), and native Swiss, and to compare migrants from various European regions. *Method* Data from a community survey were based on 1,239 participants (mean age 13.8, SD = 1.6 years) with 996 natives, 55 double-citizens, and 188 migrants. The adolescents completed the youth self-report measuring emotional and behavioural problems, and various questionnaires addressing life events, personality variables, perceived parental behaviour (PPB), family functioning, school environment, and social network. *Results* Adolescent migrants had significantly higher scores for internalizing and externalizing problems. There was a pattern of various unfavourable psychosocial features including life events, coping, self-related cognitions, and PPB that was more common among adolescent migrants than natives. Double-citizens were similar to natives in all domains. Young adolescents from South and South-East Europe differed from natives in terms of more unfavourable psychosocial features. Migrant status was best predicted by adverse psychosocial features rather than emotional and behavioural problems. *Conclusion* There is some indication that certain migrant adolescents are at risk of psychosocial mal-adaptation. Obviously, ethnic origin is an important moderator.

Key words cross-cultural comparison – migration – psychosocial adaptation – adolescents – epidemiology

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Introduction

Since the second half of the last century, Central Europe has been confronted with large immigration waves. Whilst in the beginning predominantly males had been seeking labour, their families had soon followed from the migrant countries or families had been founded in the host countries. Thus, the stresses and strains associated with migration that was imposed in the first place on the migrant workers soon extended to the families and the second generation of children either born in the migrant or the host country. Switzerland has been strongly involved in these processes due to the fact that since the second half of the twentieth century the country has one of the highest immigration rates in Europe with one-fifth of its population being foreigners.

Given the large number of children and adolescents on the move in the world including Central Europe, it is surprising to note that relatively limited emphasis has been placed on the mental health and psychosocial adaptation in this generation of migrants [6]. In a recent review [28], only 12 European among 20 international studies published since the 1990s have concentrated on internalizing and externalizing behaviour as an indicator of mental health in young migrants. The review did not unequivocally find an increased risk of mental health problems in migrant children. However, conclusions based on the review were hampered, since the impact of migration on mental health varied with the informants studied and the characteristics of the migrant group and of the host country. Studies from the US, Canada, Australia and Israel will be left out for the following considerations because migrants to these countries usually have different motivations than European labour migrants.

Despite the above-mentioned shortcomings of research in the mental health of young migrants, there are a number of recent studies from continental

Europe on the mental health of migrant children and adolescents which have found significantly higher prevalence rates of disorders among migrants as compared to native children and adolescents [2, 8, 10, 15, 26, 32]. However, these differences were not apparent in younger children when the native control group was taken from similar inner city areas and low socioeconomic status (SES), whereas the differences remained significant in older children and adolescents [34]. Furthermore, there may be a significant interaction of migrant status by gender with either boys or girls in the migrant population showing excesses of certain disorders [10, 13] and only some ethnic groups may be particularly vulnerable to the development of mental disorders [10, 33–35]. Findings were controversial in a number of European studies when different informants (i.e., parents, teachers, and the adolescent themselves) were used and/or differed also for the outcome scales of the studies (internalizing vs. externalizing problems) [27, 31]. Finally, a few European studies did not find any significant differences in mental health problems among migrants and natives [3, 9, 30] or even found some indication of better mental health in some ethnic groups than in the native population [7, 18].

In addition to outcome parameters, various moderators of the process of psychosocial adaptation in migrant children and adolescents have been studied and again led to at least partially controversial findings. These studies looked at disturbed family functioning [11, 13, 20, 24, 25, 29], negative experiences in the school environment [10, 13], lack of social support [13], and various socioeconomic conditions including low parental education [10] and discrimination in the host country [14]. So far, very little emphasis has been placed on personality variables that could have an effect on psychosocial adaptation of migrant children like coping styles or self-esteem and there is only one recent study that assessed the importance of life events as an indicator of stress in the process of adaptation in this population [13].

The present study had three major aims. First, by using a broad approach of assessment with various constructs, an attempt was made to study psychosocial adaptation from various perspectives. Second, by differentiating between migrants, double-citizens, and natives on one level and various regions of origin on another level, the impact of these migration-specific variables was studied. Migrant children had been born either outside Switzerland before migration of the family or inside the host country. Double-citizens most frequently had one native and one migrant parent and mostly grew up in Switzerland. Thus, one may expect that double-citizens had the chance to form an identity that was closer to the cultural norms of the natives than in young migrants. Third, the impact of gender and age was considered in all analyses with a special interest in potential interactions of nation by gender and developmental effects within a large sample covering a wide age range from early to late adolescence.

Method

Subjects

Originally, the present sample was based on a cohort of 1,964 students aged 6–17 who were living in the German-speaking Canton of Zurich, Switzerland in 1994. The cohort was a stratified randomized sample representing the 12 counties of the canton, the school grades, and the types of schools and formed the basis of the Zurich Epidemiological Study of Child and Adolescent Psychopathology (ZESCAP). Data collection took place in school classes. A full description of details of the sampling procedure has been previously reported [26].

The sample contained a total of 1,239 subjects aged 10–17 years who responded to self-report questionnaires. Mean age at assessment was 13.8 (SD = 1.6) years and there were 52.1% males in the sample. Three national groups were distinguished, namely, Swiss natives (N = 996), double-citizens with Swiss and foreign nationality (N = 55), and migrants with a single non-Swiss nationality only (N = 188). The distinction was based on self-identification in terms of an item of the questionnaire asking for current nationality and passport. In general, double-citizens had one native Swiss parent and one migrant parent. The gender distribution was as follows: there were 513 (51.5%) males among the natives, 25 (45.5%) males among the double-citizens, and 108 (57.4%) males among the migrants. The differences in gender distribution across sub-samples were not significant. In addition, the following regions of origin were considered: North-West Europe (NWE; Austria, Germany, UK), South Europe (SE; Italy and Spain), South-East Europe (SEE; former Yugoslavia, Turkey), and other continents (OC; Africa, Americas, Asia, Australia). Due to missing items, sample sizes in these sub-groups varied with the different modules of the assessment and will be reported in the tables.

Procedure

The ZAPPS is based on a theoretical model in order to study conditions and processes that are essential to the mental health of growing young people as well as to the development of mental problems and disorders. A broadband questionnaire was chosen in order to obtain information on relevant behavioural and emotional problems of adolescents. In order to analyze potential risk, compensatory, vulnerability, and protective factors of psychopathology [22], life events were hypothetically seen as stressors, and various psychosocial variables including coping and self-related cognitions (SRC), and features of the social network (SN) including parents and school environment were regarded as moderating factors with regard to behavioural and emotional problems. All questionnaires reflect raw scores and are positively keyed, i.e., high scores represent high expression of the content of the scale.

Youth self-report

The problem behaviour section of the youth self-report (YSR) [1] and its Swiss adaptation [21] consists of the following primary subscales: withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behaviour, and aggressive behaviour. Two second-order scales reflecting internalizing and externalizing and a total score can be calculated. Internalizing is based on the syndrome scales measuring withdrawn, somatic complaints, and anxious/depressed. The scales measuring delinquent and aggressive behaviour are the basis of

externalizing. The YSR was used at times 1 and 2. Alpha coefficients of internal consistency ranged from 0.61 to 0.93 across scales and time.

Life event scale

A total of 36 items were chosen from pre-existing questionnaires on life events. The time frame was defined as the 12 months prior to completing the questionnaire. Beside frequencies of life events, a total impact score was calculated. This was based on a scale attached to each item ranging from −2 to +2 and indicating how unpleasant or pleasant the respective event was [23]. The life event scale (LES) was used at both times. The alpha coefficients of internal consistency for the total number of life events ranged from 0.71 to 0.73 and for the total impact score from 0.71 to 0.84.

Coping capacities (CC)

Our modified version of the *German Coping Across Situations Questionnaire* [19] addresses coping in four problem areas with school, parents, peers, and the opposite sex. Factor analysis resulted in two scales measuring active coping and avoidant behaviour. The CC was used at times 1 and 2 and the alpha coefficients of internal consistency for the two scales ranged from 0.56 to 0.70.

Self-related cognitions

The ten-item scale for the measurement of self-esteem by Rosenberg [17] and items from a German questionnaire assessing self-awareness [5] were also added to the questionnaire. The latter scale assesses introspective capacities for one's feelings, actions, and past. Alpha coefficients for the two scales across the two assessments ranged from 0.77 to 0.89.

Perceived parental behaviour

Based on pre-existing literature, we developed an inventory that consisted of 32 items [16]. Factor analysis resulted in three factors explaining 34% of the variance for mothers and 35% of the variance for the fathers. Alpha coefficients of internal consistency ranged between 0.68 and 0.89 at the various times of assessment. The three scales were labelled "acceptance" (e.g., "my mother/my father praises me when I do something good"), "rejection" (e.g., "my mother/father easily becomes upset if I don't do what she/he says") and "control" (e.g., "my mother/father has clear rules for my behaviour").

Family adaptability and cohesion scales (FACES)

This instrument was used at time 2 only. The two main factors of adaptability and cohesion [12] were well replicated in our own factor analyses based on the entire sample of wave 2 data. Reliability coefficients alpha were 0.61 (adaptability) and 0.88 (cohesion). The internal consistency for the adaptability subscale is lower than in the original version. Given the fact that the scale has been used in a large number of studies and that group rather than individual effects were analyzed in the present study, it was decided not to change the composition of the scale.

Perceived school environment

These scales were derived from a German project on development in adolescence [4] and consist of 32 items that deal with the perceived psychosocial qualities of the school environment. Our own factorial analyses re-identified the five factors. The resulting scales had Alpha coefficients between 0.65 and 0.79 at the two times of assessment. The five scales are labelled "competition among students" (e.g., "in our class, each student tries to be more successful than the other"), "control by the teacher" (e.g., "many of our teachers treat us like small children"), "performance stress" (e.g., "we hardly manage our homework"), "possibility to participate" (e.g., "our teachers ask for our opinion before deciding"), and "peer acceptance" (e.g., "I consider myself to be one of the most accepted students in our class").

Social network

These newly developed scales cover six situations in which emotional or instrumental support is required. For each situation, the questionnaire asks whether or not nine close individuals (family members, relatives, friends, and teachers) provide support. In addition, the efficiency of each of these individuals is also rated. Factor analyses across situations revealed two stable dimensions, namely size and efficiency of the SN with alpha coefficients ranging from 0.70 to 0.87 across times of assessment.

Statistical analyses

Comparisons between the three national groups were based on multivariate and univariate analyses of covariance (MANCOVA and ANCOVA) with gender and age as covariates. Subgroups with different regions of origin were compared by multivariate and univariate analyses of variance (MANOVA and ANCOVA). Post hoc tests used the Scheffe procedure in order to compare subsamples.

Tables include the omnibus test findings from the multivariate statistical tests at the bottom and the univariate and post hoc tests at the top. Multivariate analyses were performed separately for the various questionnaire modules because of slightly varying sample size due to missing items in some questionnaires. If less than 10% of items of all questionnaires were missing, these items were substituted by the grand means of the items. Questionnaire modules with more than 10% of items missing were discarded from analyses.

In order to test for multiple associations of mental health indicators and psychosocial variables with ethnic status, log-linear regressions were computed.

Results

Comparisons of emotional and behavioural problems in the three national groups at time 1 are shown in Table 1. There were no significant differences between the three groups in the multivariate comparison of the eight primary scales. However, on a univariate level compared to natives, migrants had higher scores on the YSR scales measuring anxious/depressed, attention problems, and aggression. In addition, both in multivariate and univariate comparisons they scored also significantly higher on internalizing,

Table 1 Comparisons of emotional and behavioural problems in Swiss natives, double-citizens, and migrants

Primary scales	Swiss (CH) $N = 986$		Double-citizens (DC) $N = 55$		Migrants(MI) $N = 174$		F_{Nation} $df = 2$	F_{Gender} $df = 1$	$F_{Interaction}$ $df = 2$	F_{Age} $df = 1$	Nation effects
	Boys $N = 509$ M (SD)	Girls $N = 477$ M (SD)	Boys $N = 25$ M (SD)	Girls $N = 30$ M (SD)	Boys $N = 100$ M (SD)	Girls $N = 74$ M (SD)					
Withdrawn	2.29 (2.03)	2.51 (2.18)	1.88 (1.96)	3.00 (2.94)	2.48 (2.19)	3.07 (2.24)	1.96	7.97**	1.56	0.82	
Somatic complaints	2.11 (2.07)	2.85 (2.48)	2.34 (2.72)	3.41 (3.14)	2.55 (2.34)	2.86 (2.21)	1.30	8.36**	0.76	0.34	
Anxions/depressed	4.09 (3.44)	5.06 (4.30)	4.51 (3.51)	5.97 (5.05)	4.94 (4.15)	6.53 (4.81)	6.05**	10.02**	0.52	1.81	CH < MI**
Social problems	1.94 (2.02)	1.73 (2.06)	2.09 (2.91)	1.57 (2.13)	2.29 (2.27)	1.85 (2.35)	1.39	3.02	0.32	5.25*	
Thought problems	1.77 (1.83)	1.93 (1.96)	1.71 (2.86)	2.10 (2.52)	2.32 (2.00)	1.97 (1.84)	1.47	0.11	1.31	1.25	
Attention problems	3.42 (2.43)	3.58 (2.66)	3.79 (2.75)	3.88 (2.72)	4.14 (2.77)	4.28 (2.96)	4.86**	0.19	0.02	4.76*	CH < MI**
Delinquent behaviour	3.09 (2.04)	2.70 (2.21)	3.48 (2.22)	3.03 (2.63)	3.54 (2.59)	2.81 (1.89)	1.64	5.48*	0.43	10.10**	
Aggressive behaviour	7.11 (4.67)	6.24 (4.12)	7.82 (5.54)	7.40 (4.73)	8.83 (5.45)	6.50 (4.55)	3.98*	6.34*	1.94	1.32	CH < MI**
Secondary scales											
Internalizing problems	8.25 (5.89)	10.03 (7.23)	8.41 (7.16)	11.78 (9.27)	9.67 (7.17)	11.98 (7.28)	4.43*	11.95**	0.41	1.37	CH < MI*
Externalizing problems	10.19 (6.05)	8.94 (5.69)	11.30 (7.39)	10.44 (6.94)	12.37 (7.35)	9.30 (5.78)	3.73*	7.41**	1.59	3.97*	CH < MI*
Total score	30.29 (16.72)	31.03 (18.57)	32.43 (22.14)	35.27 (21.91)	37.20 (19.35)	35.57 (19.21)	7.20**	0.10	0.38	1.36	CH < MI***
Primary scales (multivariate)											
Nation	Wilks' Lambda = 0.984, $F = 1.25$, $df = 16/2402$, $P = 0.221$										
Gender	Wilks' Lambda = 0.946, $F = 8.62$, $df = 8/1201$, $P < 0.001$										
Nation × gender	Wilks' Lambda = 0.981, $F = 1.48$, $df = 16/2402$, $P = 0.098$										
Age	Wilks' Lambda = 0.975, $F = 3.82$, $df = 8/1201$, $P < 0.001$										
Secondary scales (multivariate)											
Nation	Wilks' Lambda = 0.991, $F = 2.82$, $df = 4/2414$, $P < 0.05$										
Gender	Wilks' Lambda = 0.968, $F = 19.77$, $df = 2/1207$, $P < 0.001$										
Nation × gender	Wilks' Lambda = 0.995, $F = 1.60$, $df = 4/2414$, $P = 0.174$										
Age	Wilks' Lambda = 0.997, $F = 2.00$, $df = 2/1207$, $P = 0.136$										

*$P < 0.05$, **$P < 0.01$, ***$P < 0.001$

externalizing, and total problems. Girls had more abnormalities in certain areas of internalizing problems, whereas boys showed more externalizing problems. Regions of origin did have significant main effects on the same scales of emotional and behavioural problems like nationality in the MANOVA. However, post hoc comparisons did not allow any differentiation between groups.

Comparisons of further psychosocial variables across the three main groups are shown in Table 2. As can be seen, there were a number of significant nation effects indicating that, compared to natives, foreigners had been exposed to a higher number and a more negative impact of life events, showed more avoidant coping, had lower self-esteem and higher self-awareness, and experienced less warmth from their mothers but more rejection and control by both parents. Migrants had also more abnormal scores than double-citizens with regard to self-esteem, perceived maternal warmth, parental rejection, and paternal control.

In addition, there were a number of significant gender effects. Girls experienced a higher number and more negative impact of life events, and had lower self-esteem and higher self-awareness. In contrast, boys perceived more parental rejection and a less efficient SN. There were two significant nation by gender interactions indicating that male double-citizens perceived more paternal warmth than the two other groups and native males had smaller SNs than females, whereas the opposite was true in double-citizens.

In the set of psychosocial variables, there were also a number of significant region of origin effects as shown in Table 3. Most differences pertained to Southern European adolescents and South-East European adolescents in comparison to natives. Migrants from Southern Europe had been subjected to more negative life event impact, used more avoidant coping, had lower scores on self-esteem and perceived more rejection from both parents. South-East European adolescents also showed lower self-esteem and felt less accepted by their mother but more rejected by both parents than the native Swiss adolescents.

Finally, findings based on logistic regression analysis are shown in Table 4. Because of the similarities between Swiss and double-citizens, these two groups were combined and compared with the migrants across the entire range of variables that had been assessed in the study. As one can see from Table 4, migrant status was not significantly predicted by any scale measuring emotional and behavioural problems but, rather, by other psychosocial variables only, i.e., less perceived maternal acceptance and more perceived maternal rejection, lower self-esteem and higher self-awareness, more avoidant coping behaviour, and less experienced performance stress at school.

Discussion

The present findings are based on a community survey that was performed in school classes during the 1990s in Switzerland, which is a country with a large population of migrants for many decades. The study was based on representative sampling stratified for county, school grades and types of school in the canton of Zurich. Given the fact that there is not a very strong social gradient in the country with no sizeable population of poor people, there are no clear ghetto areas with a concentration of minority populations. Further strengths of the study include the broad range of variables that have been assessed with a selection based on a theoretical model and the reliance on the adolescence as the best informant in this age range.

In the first step of the analyses, Swiss natives, double-citizens, and migrants were compared for a wide range of emotional and behavioural problems when the subjects had a mean age of 13 years. There was some indication that at least at the aggregated level of secondary scales migrants had significantly higher scores both for internalizing and externalizing problems. These findings are in support of those European studies that found a higher risk of maladaptation in migrants [2, 8, 10, 15, 32]. However, as outlined in the introduction there are other studies which found no significant differences in the rates of psychiatric disorders between natives and migrants.

In addition, there were rather typical gender effects like the association of male gender with externalizing and female gender with internalizing problems but there was no significant interaction of nation by gender. These findings contrast with other studies which either found migrant males to exceed natives with regard to problem behaviour in Norway [13], or larger differences for girls than for boys between Turkish and native children in the Netherlands [2, 3], or even both genders among the migrants to have distinct patterns of behavioural problems in comparison to natives [10]. Age was not a real significant moderator of any outcome variable in the present study covering the full age range from pre-adolescence to late adolescence so that developmental effects may only have been of minor importance.

Further analyses revealed a relatively large series of significant psychosocial differences with a clear differentiation of foreigners from native Swiss adolescents. Particularly migrants had been experiencing a greater number and more negative impact of life events, were characterized by a greater amount of negative personality features composed of more avoidant coping, lower self-esteem and higher self-awareness, and perceived less favourable relationships with their parents. Additional analyses revealed that many of these features were particularly true for migrants from South and South-East Europe. It should

Table 2 Comparison of various psychosocial variables in Swiss natives, double-citizens, and migrants

	Swiss (CH)		Double-citizens (DC)		Migrants (MI)		F_{Nation}	F_{Gender}	$F_{Interaction}$	Nation effects
	Boys *M* (SD)	Girls *M* (SD)	Boys *M* (SD)	Girls *M* (SD)	Boys *M* (SD)	Girls *M* (SD)	*df* = 2	*df* = 1	*df* = 2	
Life events										
Total score	4.30 (3.04)	4.86 (3.31)	4.93 (3.38)	6.22 (4.47)	5.56 (3.64)	5.77 (3.94)	9.38***	3.87*	0.57	MI > CH***
Impact score	−4.39 (4.17)	−5.65 (5.04)	−4.96 (3.64)	−7.71 (6.27)	−6.25 (5.92)	−7.07 (5.76)	9.47***	9.77**	0.82	MI > CH***
N = 1198	*N* = 498	*N* = 473	*N* = 25	*N* = 30	*N* = 99	*N* = 73				
Nation (multivariate)	Wilks' Lambda = 0.983, *F* = 5.18, *df* = 4/2382, *P* < 0.001									
Gender	Wilks' Lambda = 0.991, *F* = 5.47, *df* = 2/1191, *P* < 0.01									
Nation × gender	Wilks' Lambda = 0.998, *F* = 0.45, *df* = 4/2382, *P* = 0.774									
Coping										
Active coping	4.88 (1.52)	5.25 (1.36)	4.84 (1.32)	4.78 (1.39)	4.91 (1.47)	4.86 (1.32)	1.79	0.32	1.97	
Avoidant coping	3.12 (1.69)	2.89 (1.58)	3.43 (1.70)	3.16 (1.73)	3.72 (1.83)	3.48 (1.79)	9.15***	1.90	0.00	MI > CH***
N = 1194	*N* = 503	*N* = 470	*N* = 25	*N* = 29	*N* = 96	*N* = 71				
Nation (multivariate)	Wilks' Lambda = 0.983, *F* = 5.17, *df* = 4/2374, *P* < 0.001									
Gender	Wilks' Lambda = 0.998, *F* = 1.05, *df* = 2/1187, *P* = 0.352									
Nation × gender	Wilks' Lambda = 0.997, *F* = 1.00, *df* = 4/2374, *P* = 0.406									
Self-related cognitions										
Self-esteem	27.65 (5.42)	26.02 (5.99)	28.40 (4.59)	25.41 (6.47)	25.45 (5.30)	23.21 (5.44)	14.18***	14.53***	0.53	MI < CH***, <DC*
Self-awareness	18.29 (6.58)	19.29 (6.80)	17.21 (7.23)	20.51 (6.82)	19.18 (7.00)	21.96 (7.48)	4.96**	10.80**	1.83	MI > CH*
N = 1,212	*N* = 508	*N* = 477	*N* = 25	*N* = 30	*N* = 100	*N* = 72				
Nation (multivariate)	Wilks' Lambda = 0.973, *F* = 8.27, *df* = 4/2410, *P* < 0.001									
Gender	Wilks' Lambda = 0.982, *F* = 10.75, *df* = 2/1205, *P* < 0.001									
Nation × gender	Wilks' Lambda = 0.997, *F* = 1.04, *df* = 4/2410, *P* = 0.384									
Parental behaviour										
Maternal acceptance	26.26 (5.60)	27.32 (5.48)	28.52 (4.43)	27.16 (6.48)	24.44 (6.73)	24.83 (6.34)	11.68***	0.00	1.34	MI < CH***, MI < DC**
Maternal rejection	7.66 (4.80)	6.61 (4.59)	7.84 (4.59)	6.88 (5.13)	10.55 (6.21)	8.25 (5.51)	15.24***	7.61**	1.18	MI > CH***, MI > DC*
Maternal control	11.51 (3.46)	11.26 (3.54)	11.12 (3.10)	11.05 (4.12)	12.47 (3.76)	11.76 (3.90)	3.32*	0.83	0.34	MI > CH*
Paternal acceptance	24.16 (6.30)	25.26 (6.04)	28.19 (4.12)	23.94 (7.62)	23.81 (7.50)	23.65 (5.93)	3.22*	2.74	5.10**	
Paternal rejection	7.45 (4.60)	6.38 (4.27)	7.36 (3.46)	6.43 (4.29)	10.21 (5.98)	8.41 (5.17)	19.38***	6.69*	0.46	
Paternal control	10.33 (3.63)	10.43 (3.50)	9.56 (3.70)	9.72 (3.41)	11.41 (4.00)	10.70 (3.95)	3.88*	0.15	0.89	MI > CH***, MI > DC**
N = 1201	*N* = 503	*N* = 471	*N* = 25	*N* = 30	*N* = 100	*N* = 72				MI > CH*, MI > DC*
Nation (multivariate)	Wilks' Lambda = 0.941, *F* = 6.16, *df* = 12/2380, *P* < 0.001									
Gender	Wilks' Lambda = 0.985, *F* = 3.10, *df* = 6/1190, *P* < 0.01									
Nation × gender	Wilks' Lambda = 0.986, *F* = 1.42, *df* = 12/2380, *P* = 0.149									
School environment										
Competition	9.00 (5.13)	8.41 (5.05)	7.36 (5.32)	7.81 (5.37)	10.08 (5.48)	8.53 (5.08)	2.42	1.06	0.98	
Teacher control	14.92 (6.64)	14.48 (6.10)	14.15 (7.71)	14.58 (6.66)	14.68 (6.69)	14.73 (7.00)	0.07	0.00	0.21	
Participation	15.80 (4.24)	15.31 (4.63)	15.32 (5.23)	13.10 (5.69)	15.44 (5.11)	14.93 (4.78)	2.56	4.95*	0.93	
Pressure to achieve	6.42 (3.99)	6.21 (3.87)	5.20 (3.64)	5.67 (4.07)	5.89 (3.40)	5.61 (3.54)	2.66	0.00	0.21	
Acceptance by peers	13.93 (3.47)	13.91 (3.70)	13.28 (4.43)	14.37 (3.39)	13.50 (4.00)	13.66 (4.00)	0.63	1.11	0.62	
N = 1212	*N* = 507	*N* = 476	*N* = 25	*N* = 30	*N* = 100	*N* = 74				
Nation (multivariate)	Wilks' Lambda = 0.985, *F* = 1.80, *df* = 10/2404, *P* = 0.056									
Gender	Wilks' Lambda = 0.994, F = 1.44, df = 5/1202, p = 0.206									
Nation × gender	Wilks' Lambda = 0.992, *F* = 0.91, *df* = 10/2404, *P* = 0.519									
Social network										
Size	19.77 (6.96)	21.28 (5.90)	22.70 (7.38)	19.10 (5.33)	20.07 (8.52)	19.99 (6.41)	0.49	0.98	4.27*	
Efficiency	21.83 (3.64)	23.20 (2.84)	23.28 (3.01)	23.56 (3.48)	21.60 (4.32)	24.09 (2.74)	2.25	14.16***	2.74	
N = 1140	*N* = 473	*N* = 456	*N* = 23	*N* = 29	*N* = 91	*N* = 68				
Nation (multivariate)	Wilks' Lambda = 0.995, *F* = 1.47, *df* = 4/2266, *P* = 0.208									
Gender	Wilks' Lambda = 0.984, *F* = 9.01, *df* = 2/1133, *P* < 0.001									
Nation × Gender	Wilks' Lambda = 0.987, *F* = 3.63, *df* = 4/2266, *P* < 0.01									

* *P* < 0.05, **P* < 0.01, ***P* < 0.001

Table 3 Comparison of psychosocial variables among sub-groups of migrants with different ethnic origin

	Swiss *M* (SD)	Migrants NWE *M* (SD)	Migrants SE *M* (SD)	Migrants SEE *M* (SD)	Migrants OC *M* (SD)	F_{Region} *df* = 4	Region effects
Life events							
Total score	4.57 (3.19)	5.59 (3.86)	5.63 (3.69)	5.54 (3.88)	5.92 (4.08)	4.90**	
Impact score	−5.01 (4.65)	−5.27 (4.69)	−7.20 (5.42)	−5.98 (6.36)	−7.46 (5.90)	6.27***	SE > CH**
N = 1198	*N* = 971	*N* = 35	*N* = 83	*N* = 71	*N* = 38		
Region (multivariate)	Wilks' Lambda = 0.970, *F* = 4.58, *df* = 8/2384, *P* < 0.001						
Coping							
Active coping	5.06 (1.45)	4.87 (1.32)	4.99 (1.44)	4.96 (1.39)	4.44 (1.32)	1.82	
Avoidant coping	3.01 (1.64)	3.20 (1.73)	3.74 (1.84)	3.54 (1.75)	3.40 (1.80)	5.14***	SE > CH**
N = 1194	*N* = 973	*N* = 34	*N* = 81	*N* = 68	*N* = 38		
Region (multivariate)	Wilks' Lambda = 0.978, *F* = 3.37, *df* = 8/2376, *P* < 0.01						
Self-related cognitions							
Self-esteem	26.84 (5.77)	26.56 (5.56)	24.82 (5.57)	24.28 (5.24)	25.23 (6.71)	5.98***	SE < CH*, SEE < CH**
Self-awareness	18.79 (6.68)	19.45 (6.51)	21.07 (6.45)	19.53 (8.50)	18.64 (7.58)	2.44*	
N = 1212	*N* = 985	*N* = 34	*N* = 84	*N* = 71	*N* = 38		
Region (multivariate)	Wilks' Lambda = 0.970, *F* = 4.58, *df* = 8/2384, *P* < 0.001						
Parental behaviour							
Maternal acceptance	26.77 (5.56)	26.89 (6.93)	25.57 (6.96)	24.50 (5.56)	25.18 (6.51)	3.78**	SEE < CH*
Maternal rejection	7.15 (4.73)	7.54 (4.84)	9.73 (5.81)	9.83 (6.54)	7.47 (4.93)	9.33***	SE > CH***, SEE > CH**
Maternal control	11.39 (3.50)	11.06 (3.55)	12.19 (3.58)	12.37 (3.97)	11.23 (4.13)	2.25	
Paternal acceptance	24.70 (6.20)	25.64 (6.44)	24.79 (6.19)	23.49 (6.99)	23.26 (8.13)	1.28	
Paternal rejection	6.93 (4.47)	6.58 (3.48)	9.29 (5.26)	9.85 (6.34)	8.01 (4.96)	11.02***	SE > CH*, SEE > CH***, SEE > NWE*
Paternal control	10.38 (3.57)	9.98 (2.92)	10.97 (3.78)	11.47 (4.28)	9.73 (4.11)	2.43*	
N = 1201	*N* = 974	*N* = 35	*N* = 83	*N* = 70	*N* = 39		
Region (multivariate)	Wilks' Lambda = 0.937, *F* = 3.24, *df* = 24/4156, *P* < 0.001						
School environment							
Competition	8.72 (5.10)	8.69 (4.80)	8.93 (5.30)	9.67 (5.62)	8.11 (5.65)	0.75	
Teacher control	14.71 (6.39)	15.61 (6.34)	14.00 (7.03)	15.26 (6.47)	13.94 (7.63)	0.68	
Participation	15.56 (4.44)	15.00 (4.64)	14.94 (5.18)	15.20 (5.44)	14.50 (4.96)	0.97	
Pressure to achieve	6.32 (3.94)	6.43 (3.59)	5.70 (3.43)	5.53 (3.42)	5.32 (4.01)	1.65	
Acceptance by peers	13.92 (3.58)	12.49 (4.14)	13.81 (3.97)	13.68 (4.28)	14.26 (3.00)	1.47	
N = 1212	*N* = 983	*N* = 35	*N* = 84	*N* = 71	*N* = 39		
Region (multivariate)	Wilks' Lambda = 0.978, *F* = 1.32, *df* = 20/3991, *P* = 0.152						
Social network							
Size	20.51 (6.50)	21.00 (5.42)	19.63 (6.15)	21.23 (9.29)	18.31 (7.34)	1.72	
Efficiency	22.51 (3.34)	22.43 (3.07)	23.62 (3.64)	22.70 (3.61)	21.89 (4.66)	2.31	
N = 1140	*N* = 929	*N* = 33	*N* = 78	*N* = 64	*N* = 38		
Region (multivariate)	Wilks' Lambda = 0.985, *F* = 2.19, *df* = 8/2268, *P* < 0.05						

NWE North-West Europe, *SE* South Europe, *SEE* South-East Europe, *OC* other countries
*P < 0.05, **P < 0.01, ***P < 0.001

be noted, however, that these ethnic groups did not stand out when emotional and behavioural problems were compared as shown above. Interestingly, migrants did not differ significantly in terms of the perceived school environment (PSES) and the size and quality of their SN.

From these sets of analyses one has to conclude that there is a sizeable proportion of first-generation adolescent migrants particularly from South and South-East Europe who are not only coping inadequately but also suffering from less harmonious family relationships, whereas they feel as well at school and equally socially supported as their Swiss counterparts. These findings concur with similar results of other studies which also found some evidence of less positive family relationships among migrants in various European countries [11, 13, 20, 24, 25, 29]. On the other hand, the present findings contrast with some results pointing to more negative experiences in the school environment among migrants in both a Norwegian and a Dutch study [10, 13] and a lack of social support in the same Norwegian study [13]. Perhaps the school environment in the area under study, i.e., the canton of Zurich contributed more favourably to the integration process of the young migrants.

Table 4 Significant predictors of ethnic status in logistic regression analysis (0 = Swiss and double-citizens, 1 = migrants)

	B	SE	OR	(95% CI)	*P*
Perceived maternal acceptance	−0.048	0.016	0.95	(0.92–0.98)	0.003
Perceived maternal rejection	0.057	0.019	1.06	(1.02–1.10)	0.003
Self-esteem	−0.036	0.017	0.97	(0.93–0.99)	0.04
Self-awareness	0.037	0.015	1.04	(1.01–1.07)	0.01
Avoidant behaviour	0.139	0.056	1.15	(1.03–1.28)	0.01
Performance stress	−0.096	0.027	0.91	(0.86–0.96)	<0.001

Obviously, both Northern European adolescent migrants due to their cultural vicinity to the German-speaking part of Switzerland and double-citizens due

to their cultural integration with all of them having at least one Swiss parent did not share any major burden of the immigration process. The present findings also point to the central role of the family in this process. The less harmonious family relationships among adolescent migrants from Southern and South-East Europe may reflect different family structures, roles and values which are relevant for parents of Mediterranean, Yugoslavian, and Turkish origin. In addition, some of the Yugoslavian participants in the study may have had experienced particular distress due to being refugees from the time of the Balkan wars.

In addition to these migration effects, some general gender effects emerged. Girls showed a pattern of greater susceptibility to life events and their negative impact, lower self-esteem and higher self-awareness. In contrast, boys were more vulnerable in terms of experiencing less positive parental relationships and support from their SN. These findings may reflect either differential vulnerabilities or differences in reporting styles among the two genders at this age. The few interactions of nation by gender indicate that particularly male double-citizens enjoyed more paternal warmth and female double-citizens a larger SN. Thus, the positive effects coming from double-citizenship are again emphasized with some additional differentiation for the two genders in this group.

When all variables including scales measuring emotional and behavioural problems and further psychosocial constructs as obtained in the survey were considered as predictors, only indicators of a poor relationship with the mother, a lack of self-esteem with an increased self-awareness, avoidant coping skills and a lack of perceived performance stress at school differentiated migrants from Swiss indigenous adolescents and double-citizens as a combined group. These findings indicate that problems in the areas of relating to the family and intrapersonal features rather than emotional and behavioural problems may play a more important role in the process of psychosocial adaptation of young migrants.

The present study has some limitations. First and most noteworthy, SES was not controlled for because of lacking information. Some of the apparent differences between migrants and natives might have become less pronounced if information on SES had been available. Second, the sample size of the double-citizens and the various migrant sub-groups with different ethnic origin was relatively small. However, the multivariate statistical approach guarded against type 1 error findings. Third, as in many other migrant studies the present study did not control for various key features of migration like the background of migration including motivational factors, the specific distress imposed on the migrants in the host country, the age at migration, and the duration of stay in the host country. Particularly, no information on refugee status was available. However, this may have accounted for only a very small group of participants from either former Yugoslavia or outside Europe. The large majority of participants came from labour migrant families. Finally, as with most other studies in the field no direct control of the linguistic capacities in German was made in the migrants. However, all migrants were attending normal classes of the host country; no classes run by the country of origin in the host country or special classes for immigrants were used for recruitment in the present study.

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