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Long-term mental health outcome of returning migrant children and adolescents

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Abstract We examined how remigration influences the prevalence of psychiatric symptoms among children and adolescents in the long term. We investigated depressive and behavioral symptoms in 320 Finnish children and adolescents who moved back from Sweden while of school-age during the years 1984–1985 and in a series of controls. The data were gathered in two phases, with questionnaires sent to the parents, children and teachers in 1986, and with further questionnaires sent to the parents and children in 1992. Depression was measured by means of the Children's Depression Inventory (CDI) (8) and behavioral symptoms with the Children's Behavioral Questionnaire, filled in by the teachers (14) in the first phase and by the parents (15) in the second. We compared prevalence of these psychiatric symptoms between the migrants and controls in groups divided by age and sex in the two phases and examined how

depressiveness or behavioral disturbance shortly after migration served to predict later psychiatric symptoms. The following findings emerged: The boys who moved before puberty had more psychiatric symptoms than their controls in both phases, while the best-adapted group consisted of the girls who moved before puberty. Those migrant children who moved during puberty had more psychiatric symptoms than their controls only in the second phase. The depressive features and behavioral disturbances observed among the migrants during the first phase did not lead to disturbances in the second phase, whereas an association was found between psychiatric disturbances among the native controls in the first and second phases.

Key words Migration – child – adolescent – adaptation – mental-disorders

Introduction

Migration between neighboring countries is increasing along with the development of the European Union, and research into children's adaptation to such situations is of current interest. From a short-term point of view, migration is a stressful life event which is processed by the

migrant child. Depending on the coping mechanisms available and characteristics of migration, it can have either positive or negative effect to the mental well-being of the child.

When the migrant faces a change in culture, a need for acculturation arises (i.e. behavioral and psychological changes that occur as a result of contact between people belonging to different culture groups). Unsuccessful

acculturation may lead to acculturative stress, manifested as a decline in health status, including physical and psychological aspects. Acculturative stress may also lead to more positive adaptations, such as taking advantage of new opportunities provided by contacts with society at large. Thus, psychological or social pathology is not an inevitable outcome of acculturative stress as such (3). This variation in acculturation probably explains the different results obtained in assessments of the effects of migration among children (11). Other important factors which influence children's adaptation to stressful life events in addition to their own coping abilities are parental attitudes to social change and parents' abilities to provide support for their children (1). In addition, the consequences of stressful life events such as migration are still poorly known and in general have been studied very little among children (5).

Boys tend to have more depressive symptoms than girls before adolescence, whereas girls are much more likely to have such symptoms at an older age (2, 13). Nolen-Hoeksema and Girgus (13) suggest that girls have characteristics which may render them susceptible to depression, but that this happens only if the characteristics are triggered by challenges occurring in adolescence. On the other hand, Avison et al. (2) did not find any indication that this could be attributed to their greater responsiveness to recent stressful life experience such as serious illness or injuries, parental conflicts or death of a family member or a friend.

Depressiveness has been found to continue several years among adolescents and young adults in previous studies (4, 12). Nolen-Hoeksema et al. (12) followed up on 352 children of age 9–10 years for 5 years and found that undesirable events earlier in life are predictive of a continuation of their levels of depression over the next five years.

In his description of Finnish remigrant children from Sweden, Vikman (17) found that migration is more difficult in puberty than before, and noted that older children in general, and older girls in particular, had difficulties in making friends after moving, so that they all regarded migration less favorably than did the younger children or the boys of their own age.

There has been continuous migration between Finland and Sweden, and during the years 1971–83 a total of 36 000 Finnish children returned from Sweden to Finland (7). The two countries are quite similar in their culture and religion, but their languages are different. Swedish is not entirely unfamiliar to Finns, since it is the country's second official language and the native language of 7% of its inhabitants. We are, therefore, concerned here with a more moderate degree of acculturation than in the case of migration between industrialized and developing countries, for

example (16). The most powerful single stressful life event for children in this case is almost certainly the change of language, while other significant aspects are the move itself, the reconstruction of social networks and some differences in the school systems and practises.

Population mobility between Finland and Sweden correlates largely with changes in the employment situation. In the late 1960s and early 1970s unemployment was higher in Finland than in Sweden, and many Finns migrated to Sweden (peak of migration was in the year 1970 when about 1% of the Finnish population moved to Sweden). In the 1980s the situation changed and many Finnish migrants moved back (6). Migrants were usually young families and had lower socio-economic status than Finns in general. This was also the case in our study group (10).

Previous studies of Finnish children returning from Sweden have focused mainly on school achievement, language, identity, and overall adaptation, but not specifically on psychiatric symptoms. In this paper we examine the differences in the prevalence of psychiatric symptoms among Finnish children who have remigrated from Sweden and their controls, assessing the permanence of depression and behavioral symptoms over a period of six years after migration. We also examine how sex and age influence the migrants' mental health in the long run.

Methods

The series consisted of all 320 Finnish 7–16 year olds who had moved back from Sweden to Northern Finland with their families in 1984–1985. A control group was formed by assigning each migrant child a nonmigrant counterpart of the same sex and age and in the same class and school in Finland. Questionnaires were sent to all the migrants and their controls in the first phase and six years later to the 625 who had not denied to participate in the second phase. Response percentages were lower among the migrants than among their controls and lower in the second phase than in the first (Table 1).

Three sets of questionnaire were used to gather the information in 1986. The children and adolescents filled in the Children's Depression Inventory (CDI, 8), the parents reported on their children's health and psychosomatic symptoms, family characteristics and the linguistic abilities of all the members of the family, and the teachers reported on the children's school achievements and filled in the Children's Behavioral Questionnaire (Rutter B2, 14).

In the second phase, in 1992, when the subjects were aged 13–22 years, questionnaires were sent to them and

Table 1 Numbers and percentages of respondents

	Migrants		Controls	
	Boys (n = 187)	Girls (n = 133)	Boys (n = 189)	Girls (n = 131)
1. Phase	Parents 132 (71%)	96 (72%)	157 (83%)	114 (87%)
	Teachers 173 (93%)	121 (91%)	172 (91%)	119 (91%)
	Children 131 (70%)	96 (72%)	155 (82%)	114 (87%)
2. Phase	Parents 83 (44%)	59 (44%)	132 (70%)	94 (72%)
	Children 98 (52%)	90 (68%)	134 (71%)	108 (82%)
1. and 2. Phase	Parents 73 (39%)	50 (38%)	116 (61%)	87 (66%)
	Children 80 (43%)	72 (54%)	117 (62%)	98 (75%)

their parents but not to the teachers, as many had already finished school. The subjects filled in the CDI modified to be suitable for their age group, and the parents answered those items of the Rutter A2 scale which together make up the sum variables for neurotic and antisocial types of behavior, modified for the adolescent age category. This procedure makes it possible to analyze the behavior on these two dimensions as reported by an adult person close to the adolescent.

The Children's Depression Inventory (CDI) constructed by Kovacs is a self-report form for children and contains 27 items. We omitted the item concerning suicidality because of ethical reasons. Questions about suicide could raise underlying suicidal ideas into conscious level, which can be dangerous when questions are mailed, and answered without the presence of a supervisor. We divided the CDI into three components according to the factorization in the Finnish school-aged population (9): *low self-confidence*, *anhedony*, and *sadness*. Low self-confidence consisted of six items: hating oneself, not being loved by anybody, looking ugly, being bad, doing everything wrong, and doing very badly. Anhedony was made up of three items: having never fun, being bothered by many things, and never having fun at school. Sadness was also made up of three items: being sad all the time, feeling like crying, and feeling alone.

Neurotic, *anti-social*, and *hyperactive sub-scores* can be extracted from the Children's Behavioral Questionnaire scale (Rutter B2, 14). The neurotic sub-score is made up of the items worrying about many things, often appearing miserable, being afraid of new things and crying on arrival at school, the anti-social sub-score of destroying things, fighting with other children, being disobedient, telling lies, stealing things, and bullying other children and the hyperactive sub-score of very restless, fidgety child, and difficulties to settle. The parents' questionnaire (Rutter A2, 15) was used in the second phase. This has some minor

differences relative to the B2 scale and includes five questions concerning neurotic features and four with anti-social behavior.

Because our subjects' age varies substantially, we should keep in mind that subjects developmental stage can influence subjects' answers to questionnaires, although questions were modified for older subjects. This effect of age is partly omitted in analysis of prevalence by comparing relative differences between migrants and controls, not absolute scores.

For the analysis of the mean scores for psychiatric symptoms, the migrant children and their controls were divided by sex and by age at remigration (i.e., 1986), the boys into those under 13 years and those aged 13 years or older, and the girls using a corresponding cut-off point of 12 years. In other words, the groups were divided roughly into children who migrated before puberty and those who migrated during puberty.

The continuity of depression was measured by dividing the children into initially depressive and nondepressive groups, taking a cut-off point of 10, which classed 11.3% of the children as depressive. The cut-off point selected for analyzing the continuity of behavioral disturbance was 9, based on Rutter's suggestion regarding the division of groups into clinical and nonclinical cases (14). This labeled 10.8% of the children as disturbed.

The significances of the differences in scores between the migrants and the controls were assessed with the Mann-Whitney U test. The statistical analysis of the characteristics of the dropouts employed Goodman and Kruskal's Tau when independent variables were nominal (e.g., mother absent), Somers' D when independent variables were ordinal (e.g., mothers social class), and the Mann-Whitney U test when they were numerical (e.g., age of child). The parents were grouped by socio-economical status into white-collar workers, blue-collar workers (including farmers), unskilled workers, and others (students, housewives, etc.).

Results

Dropouts

The questionnaires sent out at the second phase were returned by 52% of the migrant boys, 68% of the migrant girls, and 44% of their parents (Table 1). Comparison of both the migrant and control children who answered in the second phase with those who did not showed the latter to have had a higher Rutter B2 score (mean 4.74 vs. 3.24, $p = 0.046$ and mean 3.72 vs. 2.42, $p = 0.025$ for migrants and controls, respectively) in the first phase and lower mean marks for all subjects at school (mean 7.29 vs. 7.42, $p = 0.006$ and mean 7.40 vs. 7.87, $p = 0.000$, respectively). They were also more frequently boys than girls (67% vs. 52%, $p = 0.006$ and 71% vs. 55%, $p = 0.018$, respectively). The control children who did not answer were significantly older than the respondents (mean age 18.4 vs. 17.5, $p = 0.008$).

The control children whose *parents* did not answer in the second phase had a higher CDI score (mean 5.36 vs. 4.07, $p = 0.046$) than the children of the respondents in the first phase. A lower percentage response among parents was associated with a lower mean mark for all school subjects among all the children (mean 7.27 vs. 7.49, $p = 0.008$ and mean 7.40 vs. 7.90, $p = 0.000$ for migrants and controls, respectively) and with the fathers' absence from the family (26% vs. 10%, $p = 0.002$ and 13% vs. 4.5%, $p = 0.011$, respectively).

Psychiatric symptoms

We analyzed the prevalence of psychiatric symptoms in four groups of migrants: boys and girls both before puberty and during or after puberty. For the migrant boys there was a strong tendency to have more psychiatric symptoms in the first phase only if they had migrated before puberty whereas no such difference was observed in the second phase. The younger migrant boys were more depressive than their controls in the first phase (mean 5.36 vs. 4.07, $p = 0.003$) and had more behavioral symptoms (mean 5.29 vs. 3.12, $p = 0.013$), especially regarding neurotic (mean 0.66 vs. 0.38, $p = 0.044$) and hyperactive (mean 1.26 vs. 0.71, $p = 0.020$) behavior. In the second phase both the younger and older migrant boys had significantly higher anhedony subscores than their controls (mean 1.13 vs. 0.82, $p = 0.021$ and 1.08 vs. 0.51, $p = 0.011$, respectively) and the older ones a higher CDI score (mean 4.76 vs. 2.58, $p = 0.008$).

All the significant differences between the migrant girls and their controls were found among those who had

migrated during puberty and only in the second phase. At that time these had higher scores for total depressiveness (mean 7.81 vs. 4.83, $p = 0.006$), anhedony (mean 1.49 vs. 0.87, $p = 0.008$), and sadness (mean 0.58 vs. 0.19, $p = 0.004$) than their controls.

Comparison of the initially depressed and non-depressed groups showed no significant differences among the migrants in the second phase, but there was significantly more total depressiveness (mean 10.20 vs. 5.31, $p = 0.001$), low self-confidence (mean 2.10 vs. 1.20, $p = 0.024$), anhedony (mean 2.10 vs. 0.97, $p = 0.002$), and sadness (mean 0.70 vs. 0.24, $p = 0.027$) in the initially depressed group among the control girls. The only significant difference among the control boys was in the total score for depression, which was higher among the initially depressed subjects (mean 7.00 vs. 3.49, $p = 0.020$).

Initial behavioral disturbance led to more pronounced symptoms only among the control girls, where the 5 who had initially shown behavioral disturbance had higher total scores for depression (mean 10.20 vs. 5.57 for nondisturbed, $p = 0.025$) and lower self-confidence (mean 2.40 vs. 1.22, $p = 0.022$). More detailed results of these analyses are available from the authors.

Discussion

The result suggest that migration influences the mental health of children in various ways. The major findings of this study are that the boys who moved before puberty had more psychiatric symptoms than their controls in both phases, while the best-adapted group consisted of the girls who moved before puberty. Those migrant children who moved during puberty had more psychiatric symptoms than their controls only in the second phase. The depressive features and behavioral disturbances observed among the migrants during the first phase did not lead to disturbances in the second phase, whereas an association was found between psychiatric disturbances among the native controls in the first and second phases.

There were substantial dropout percentages, especially in the second phase, and the answering percentages were higher among controls than among the migrants. If we assume that the children and families who did not answer had more problems than those who answered, we can take this difference as reflecting poorer coping on the part of the migrant children and their families.

In view of the high answering percentage of the teachers in the first phase we analysed how teachers' information on the children and parents who answered differed from that on those who did not. Teachers reported

that the migrant and control children who did not answer had lower mean scores on school subjects but higher Rutter total scores. The children of the parents who did not answer in the second phase had a lower mean score on school subjects and more often belonged to families where the father was absent. This supports our hypothesis, and points to a dropout pattern that should be borne in mind when analyzing this sample. As so many did not answer in the second phase, we are completing our study by analyzing available register information about all these migrants and controls, e.g., national registers of hospital discharges.

The outcome of the analysis of the continuity of behavioral disturbances may also have been influenced by the fact that the source of the Rutter score in the second phase was the parents' questionnaires and not the teachers'. This may partly explain why we did not find any correlation between behavioral disturbances in the first phase and the second phase.

Among the younger migrant boys there were more psychiatric symptoms in the short term, but these diminished over the next six years. This was also the only migrant group that had more behavioral symptoms than their controls. On the contrary, the best adapted group was that of the younger girls, who had no more symptoms than their controls in either phase. In earlier studies it has been found that boys tend to have more depressive symptoms than girls before adolescence (13). Our results show that boys at this age are also more vulnerable than girls to life changes such as migration.

Symptoms emerged in the older migrant children only in the course of the subsequent six years. In addition, contrary to the situation among the younger children, we found no differences in response to migration between boys and girls who moved at puberty, as total CDI scores arose among them both. This leads to the conclusion that adolescent migrant girls' higher scores can not be explained by greater responsiveness to migration. This finding is also supported by the findings of Avison et al. (2).

Nolen-Hoeksema and Girgus (13) suggest that girls have characteristics which may render them susceptible to depression, but that this happens only if the characteristics are triggered by challenges occurring in adolescence. Accordingly, migration does not seem to be among the challenges discussed by Nolen-Hoeksema and Girgus in connection with adolescent girls.

Vikman (17) found that migration is more difficult at puberty than before it. This is consonant with our finding that symptoms did not emerge until a few years after migration in the case of the children, who migrated after puberty. The boys who moved before puberty were obviously more ready to express their adaptational difficulties

in a visible manner, and therefore also received the attention and care that they needed. The older children, whose reactions often are less visible, had not received this additional attention, and this may have led to the increase in psychiatric symptoms six years later.

Examination of the continuity of depression indicated that initial depressiveness in migrants did not lead to elevated psychiatric symptom scores after six years, although such a trend was noted among the controls, especially the girls. This depression in the controls was apparently more often of the chronic type, while depression among the migrants often was transient and connected to migration. Depressiveness has also been found to continue several years among adolescents and young adults in other studies (4, 12). Though in these previous studies no separate analysis have been made between boys and girls, their result is in agreement with that obtained here for the controls.

Nolen-Hoeksema et al. (12) found that undesirable events earlier in life are predictive of a continuation of their levels of depression over the next five years. Our findings support this partly as in the second phase there were more depressive symptoms (i.e., anhedony or sadness) among the migrants than among the native controls except for the pre-pubertal girls. For some groups migration is predictive of psychiatric symptoms even six years afterwards, but if symptoms are visible immediately after migration they do not usually continue that long. This might be due to possible extra attention or treatment that symptomatic children possibly have received.

Of all the forms of migration, remigration could be regarded as one of the least vulnerable situations for the parents, as they are coming home. Although, in general, 60% of the returning parents maintained that the primary reason for doing so was their children's future (6), the feelings of the children and adolescents might well be different. Having spent many essential years of growth and development in Sweden, they are now being forced to leave it all behind. One of the most important factors in this connection is linguistic ability. Many researchers suggest the formation of therapeutic groups for children who recently have returned from abroad, and the present findings support the significance of such groups. They could also be useful for the parents, whose integration into the surrounding society also affects the well-being of their children (11). From that point of view preventive mental health care for migrant children could have wide repercussions for the whole of society.

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