Mental health in migrant children

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Many factors have been identified to explain differences in mental health problems between migrant and native children: the process of migration, the ethnic minority position of migrants, their specific cultural background and the selection of migrants. In this paper, the international literature regarding mental health of migrant children is reviewed using strict selection criteria. An extensive search was carried out to locate journal articles on the subject of mental health in migrant youth published since the 1990s. Only 20 studies met all inclusion criteria. Besides the conclusion that the studies did not unequivocally find an increased risk of mental health problems in migrant children, it proved to be very difficult to draw any sound conclusions with respect to these children's risk of mental health problems, since the impact of migration on children's mental health varied with the informants used and the characteristics of the migrant group and of the host country. The lack of univocal definitions of key terms further complicated generalised conclusions in this research field. As such, this research field is in urgent need of more research using standardised research designs, methodology and definitions. A proposition for this research design is made. Keywords: Adolescents, children, externalising problems, internalising problems, mental health, migrant, review, ethnicity.

Owing to global technological, political and economic developments, current international migrations are of an unprecedented volume. These processes are highly heterogeneous since it involves a large diversity of sending and receiving societies, temporary or permanent migration, and both labour migrants who seek upward social mobility in new countries as well as refugees who avoid persecution in their country of origin (e.g., Bhugra, 2004; Rogler, 1994). It is widely assumed that migration and migration-related processes affect the mental health of people (both adults and their children) considerably, but we are only at the beginning of understanding this phenomenon (e.g., Aronowitz, 1984; Barrett, Turner, & Sonderregger, 2000; Guarnaccia & Lopez, 1998; Hicks, Lalonde, & Pepler, 1993). In this paper, we focus on mental health (broadly defined as both internalising and externalising problem behaviour and psychiatric disorders) in migrant children, with a restriction to labour migrants (as opposed to refugees and asylum seekers) originating from all around the world, in order to address two major issues: are migrant children at an increased risk of mental health problems, and if so, can we explain this phenomenon?

Many (early) studies state that migrant children are at increased risk of mental health problems (e.g., Munroe-Blum, Boyle, Offord, & Kates, 1989), and predominantly give three reasons for this. The first and by far the most often suggested reason is that the migration process causes stress, not only because migration entails extensive loss of family and friends, customs and surroundings (e.g., Hicks et al., 1993; James, 1997), but also because migrants have to adapt to a new cultural environment, often including different moral values and standards and a new language (Berry, 1990; Pawliuk et al., 1996). Incompatibilities between the home culture and the host culture may appear, resulting from differences between family and societal values, interaction styles and social roles (Guarnaccia & Lopez, 1998), which may lead to feelings of alienation in the newcomers (Davies & McKelvey, 1998). Since large groups of migrants originate from countries with low educational resources, and have to start 'from scratch' in their new homes, migrant families are frequently confronted with poverty, unemployment and accommodation problems (e.g., Rogler, 1994). Asymmetric acculturation within families, a common pattern in which children acquire the host country culture and language much faster than their parents, sets the stage for inter-generational conflict and accompanying stress in migrant families (e.g., Beiser, Dion, Gotowiec, Hyman, & Vu, 1995; Sluzki, 1979). Children may suffer both directly and indirectly from these processes. As they are migrants themselves, all the above-mentioned processes may apply; however, they may also be confronted with inadequate support from their parents owing to their parents’ preoccupation with their own migration stresses (Hicks et al., 1993).

A second explanation put forward to explain the assumed increased risk of mental health problems in migrant children points to the stress caused by restrictive processes in the host society. Migrant populations often take the minority position in their host countries, and as such occupy a weak social position at the bottom of the existing social hierarchy (García Coll et al., 1996; Harrison, Wilson, Pine, Chan, & Buriel, 1990), not so much because of a lack of personal, cultural or educational resources in their ethnic group, but because their integration in

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the host society is hindered by discrimination and restrictive policies regarding newcomers. García Coll et al. (1996) argued that the effect of such social positions on developmental outcomes in migrant children is mediated through pervasive social mechanisms of racism, prejudice, discrimination and oppression. These factors, in turn, may create segregated residential, economic, social and psychological environments that have adverse effects on mental health.

Thirdly, it can be argued that the particular cultural background of particular migrant groups might contribute to the development of their children's mental health problems. In this line of argumentation, it is not the migration or the minority position, but the specific cultural background of the migrant population that increases the risk of these kinds of problems. The concept of culture here is meant to indicate a large variety of social peculiarities, such as familial roles, communication patterns, affective styles, and values regarding personal control, individualism, collectivism, spirituality and religiosity (e.g., Triandis et al., 1980). Two major models have been proposed to relate these cultural characteristics to child mental health (Mohler, 2001). The problem-suppression model suggests that cultural factors influence child behaviour directly, as children are likely to adopt, internalise and thus behave in accordance with the cultural norms of acceptable and unacceptable behaviour. In the adult-distress threshold model, however, culture is assumed to indirectly influence the likelihood of certain child problems, because parents and adults in general suppress (e.g., via punishment or social pressure) the development of unwanted behaviour, and facilitate (e.g., via teaching, modelling or reward) the development of behaviour that is considered appropriate (e.g., via teaching, modelling or reward). This suppression and facilitation may not only result in the absence of unwanted and the presence of wanted behaviour, but might also have other unexpected effects: strong parental suppression of children’s disrespectful behaviour may, for instance, lead to anxiety (Bengi-Arslan, Verhulst, Van der Ende, & Erol, 1997).

In contrast, others argued that migrant youth in general may be at decreased risk of mental health problems. The supposed ‘healthy migrant’ effect holds that overcoming the immigration hurdles before migration results in selection of the fittest people, and therefore in migrants having fine physical and mental health (e.g., Alati, Najman, Shuttlewood, Williams, & Bor, 2003; Bhugra, 2004). It has also been hypothesised that there often is a coherent and supportive family culture within migrant families which protects them against the development of mental health problems (e.g., Hackett, Hackett, & Taylor, 1991; Harker, 2001).

The foregoing makes clear that many processes have been hypothesised to explain why migrant children show more, or fewer, mental health problems than native children, but the empirical evidence for these predictions is rather limited (e.g., Aronowitz, 1984; Barrett et al., 2000; Guarnaccia & Lopez, 1998; Hicks et al., 1993). Therefore, in this paper, we review the international literature regarding the mental health (psychiatric disorders and internalising and externalising problem behaviour) of migrant children from recent decades using strict selection criteria. We study whether general conclusions regarding the prevalence of mental health problems in migrant youth are warranted, what attempts have been made to explain differences in these problems between migrant and native youth, and to what extent these studies lend support to the above-mentioned reasoning.

**Literature search**

An extensive search was carried out in PSYCINFO and MEDLINE to locate journal articles on the subject of mental health in migrant youth. To cover the broad range of mental health, the following keywords were used in the search: Affective-Disorders, Anxiety-Disorders, Attention-Deficit-Disorder(with-Hyperactivity), Behavior-Disorders, Chronic-Mental-Illness, Conduct-Disorder, Impulse-Control-Disorders, Neuroses, Personality-Disorders, Psychosis, Mental-Health, Psychopathology, Psychiatric Problems, Psychiatric Disorder(s), Internalising, Externalising, Behavior(al) Problems, Emotional Problems and Problem Behavior(al). Subsequently, the search was limited to studies on youth (keywords: Children, Adolescents, or Youth) and migrants (keywords: (Im)migration, (Im)migrant(s), Ethnic, or Cross-Cultural). The resulting material was limited in the following ways. First, within PSYCHINFO and MEDLINE, we constrained our search to published, peer-reviewed, journal articles in English since the 1990s. Because our main aim was to gain insight into the effects of migration on the development of child problem behaviour (as opposed to the effects of belonging to an ethnic minority group), we included only studies on first-, second-, or third-generation migrants in which this migrant population was compared to the native population in the same country (as a minimal ‘benchmark’ for comparison; it was beyond the scope of this review to investigate at-risk children within the immigrant population, which has been subject to elaborate investigation), using at least 100 respondents in each category (to prevent power problems). Furthermore, studies on refugees and asylum seekers were excluded, since these populations are often faced with other difficulties and on the whole may have different (personal and social) resources from labour migrants. Next, studies in clinical samples and at-risk groups were excluded, because these do not provide us with information on the impact of migration in general (i.e., only general problems).
Thus, migrants who identify with the host culture, country (e.g., American) are no longer detectable, whereas those who identify as belonging to their host identify with their original ethnic background, possibly constitute a selective group within the total belonging to their ethnic origin (e.g., Mexican) possibly constitute a selective group within the total. Studies on eating-disorders and suicide were excluded, as these were too specific.

Our literature search on peer-reviewed journal articles since the 1990s using the keywords listed above yielded an enormous number of hits. PSYCINFO revealed around 750 published articles and even more articles were found using MEDLINE (about 4,000 articles). All titles and abstracts were studied by the first author to conduct a first rough selection of relevant articles. In this phase, only studies that clearly did not meet our inclusion criteria were excluded. Next, all potentially important articles were assessed (about 200): virtually all articles were available on the internet, from scientific libraries or from the authors of the respective articles. Then, the first author examined the methods and if necessary the results section of each article to find out whether the inclusion criteria were met, which was checked by the second author.

In total, only 24 articles representing 20 studies satisfied all our selection criteria. The reasons underlying the exclusion of studies were numerous. A considerable number of the papers did not aim to gain insight into problem behaviour but were concerned with related themes such as help-seeking behaviour or treatment. Many studies were not conducted among (labour) migrant populations but among refugees or indigenous ethnic minorities (Costello, Farmer, Angold, Burns, & Erkanli, 1997; Dion, Gotowiec, & Beiser, 1998; Fazel & Stein, 2003; Kvernmo & Heyerdahl, 2003; Sam, 1994), or compared mental health in native youths from different countries (e.g., Crijnen, Achenbach, & Verhulst, 1999; Verhulst et al., 2003). Most US studies were not primarily interested in the impact of migration but in the impact of ethnicity or race. Accordingly, these studies assessed ethnicity or race (using self-identification such as ‘What is your racial/ethnic background?’ reported by the adolescent or parent) and did not provide information on the country of birth of the adolescents and their parents (e.g., Austin & Chorpita, 2004; Cuffe, Moore, & McKeown, 2005; McLeod & Nommaker, 2000; Pastor & Reuben, 2005; Roberts, Roberts, & Xing, 2006; Stansfeld et al., 2004; Tolan & Henry, 1996; Twenge & Nolen-Hoeksema, 2002). In addition to the possibility that these children might not be first-, second- or third-generation migrants, a major reason for not including these studies is that youths identifying as belonging to their ethnic origin (e.g., Mexican) possibly constitute a selective group within the total group of migrants, namely those that choose still to identify with their original ethnic background, whereas those who identify as belonging to their host country (e.g., American) are no longer detectable. Thus, migrants who identify with the host culture, who might in fact be quite successful, will be left out of the comparison, leading to a biased picture of mental health in migrant youth. Moreover, many studies were excluded because they studied populations in care or at-risk groups (e.g., Loo & Rapport, 1998; Pan & Farrell, 2006; Tolmac & Hodes, 2004), because of the small number of children in the studies (e.g., Atzaba-Poria & Pike, 2005; Davies & McKelvey, 1998; Greenberger & Chen, 1996; Steinhausen et al., 1990), or because of the lack of a native comparison group in the same country (e.g., Chang, Morrisey, & Koplewicz, 1995; Fichter, Xepapadakos, Quadflieg, Georgopoulou, & Fthenakis, 2004; Oppdal, Reysamb, & Heyerdahl, 2005; Sam, 2000).

### Description of included studies

In Table 1, the studies included in this review are described. Twelve European (seven Dutch, three Scandinavian, one Greek, and one UK study), four US, one Canadian, two Australian, and one Israeli study were selected. The studies revealed a large variety in research designs, for instance in the composition of the migrant and native populations. Three studies compared first-generation with second-generation migrants and compared these with native children (i.e., children and parents who were born in the host country) (studies 15, 17, 19). Twelve studies combined the data on first- and second-generation migrants and compared this population with the ethnic majority population (studies 1–10, 14, 16). One study combined first-, second- and third-generation migrants and compared this population with the ethnic majority population (study 13); one study compared first-generation migrant youths with the ethnic majority population (study 11); one study compared second-generation migrant youths with the ethnic majority population (study 12); one study compared second-generation migrant youths with youths whose parents as well as themselves were born in the host country (study 18); and one study compared first-generation migrants with adolescents born in the host country (study 20). Eight studies did not make a distinction between ethnic groups within the migrant population (studies 3, 4, 7, 8, 15, 17, 18, 19); the other studies assessed problem behaviour in a variety of migrant populations (e.g., Turks, Moroccans, Surinamese, Vietnamese, Pakistani, former Soviets, Gujarati, Latino and Chinese). The sample characteristics of the included studies show that some studies used convenience samples (studies 7–10, 12, 14, 16, 19) whereas others made use of a random sampling research design (studies 1, 4–6, 13, 15, 17, 20) or used a full population sample (i.e., all children belonging to a certain group were included) (studies 2, 3, 11, 18). Nine studies investigated adolescents (aged 12 through 21) (studies 2, 7–10, 13, 15, 16, 2007 The Authors. Journal compilation © 2007 Association for Child and Adolescent Mental Health.
Table 1 Characteristics of studies included in review

<table>
<thead>
<tr>
<th>Authors</th>
<th>Population</th>
<th>Sampling characteristics</th>
<th>Age</th>
<th>Migrant generation*</th>
<th>Measure</th>
<th>Problem behaviour report</th>
<th>Prevalence problem behaviour**</th>
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</thead>
<tbody>
<tr>
<td>Zwirs, Burger, Schulpen, &amp; Buitelaar, 2006</td>
<td>792 Moroccan (m); 497 Turkish (t); 409 Surinamese (s); 768 Dutch (n).</td>
<td>ADEON study. Cluster sample of primary schools in low SES areas with a large migrant population in two of the largest cities in the Netherlands.</td>
<td>5–11</td>
<td>First and second generation</td>
<td>SDQ (hyperactivity and conduct problems) and five ADHD/ODD DSM-IV items</td>
<td>Teacher-report</td>
<td>m &gt; n (b) s = n (b) t &lt; n (b) m,s,t = n (g)</td>
</tr>
<tr>
<td>Wissink, Deković, &amp; Meijer, 2006</td>
<td>106 Turkish (t); 84 Moroccan (m); 33 Surinamese (s); 319 Dutch (n).</td>
<td>All secondary schools in lowest level of secondary education with a migrant population between 10% and 45% in midsize to large cities in the Netherlands.</td>
<td>12–16</td>
<td>First and second generation</td>
<td>YSR Aggressive Behaviour (ab) and Delinquent Behaviour (db)</td>
<td>Self-report</td>
<td>m = n (ab) s, t &gt; n (ab) m,s,t = n (db)</td>
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<tr>
<td>Vollebergh et al., 2005</td>
<td>230 migrants from various backgrounds (mi); 2,000 Dutch (n).</td>
<td>TRAILS study. All 11-year-old children born in five municipalities in the north of the Netherlands.</td>
<td>11</td>
<td>First and second generation</td>
<td>CBCL, YSR, short TRF</td>
<td>Parent-report</td>
<td>pr: mi &gt; n (int) (g) pr: mi = n (int) (b) pr: mi = n (ext) tr: mi = n (int) cm, em &gt; n, im (int) cm, em = n, im (ext)</td>
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<tr>
<td>Reijneveld, Harland, Brugman, Verhulst, &amp; Verloove-Vanhorick, 2005</td>
<td>101 former colony migrants (Surinamese/Antilleans) (cm); 91 economic migrants (Turks/Moroccans) (em); 136 industrialised migrants (im); 3,570 native Dutch (n).</td>
<td>Multistage stratified cluster sample of Dutch Child Healthcare Services (which reaches over 90% of all children in the Netherlands) and random sample of children within these services.</td>
<td>5–15</td>
<td>First and second generation</td>
<td>CBCL</td>
<td>Parent-report</td>
<td>cm, em &gt; n, im (int) cm, em = n, im (ext)</td>
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<tr>
<td>Janssen et al., 2004</td>
<td>379 Turkish migrants (t); 2,151 Turks in Turkey (tt); 1,039 native Dutch (n).</td>
<td>Turkish migrants: random sample of Turkish children in two of the largest cities in the Netherlands. Dutch: national representative sample using a multistage cluster and random sampling design. Turks in Turkey: national representative random sample.</td>
<td>11–18</td>
<td>First and second generation</td>
<td>YSR</td>
<td>Self-report</td>
<td>t &gt; n (int) t = n (ext) t &gt; tt (ext) t = tt (int)</td>
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<tr>
<td>Authors</td>
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<td>Measure</td>
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<td>Prevalence problem behaviour**</td>
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<tr>
<td>5 Murad, Joung, Van Lenthe, Bengi-Arslan, &amp; Crijnen, 2003</td>
<td>363 Turkish migrants (t); 1,098 Dutch native (n).</td>
<td>See previous.</td>
<td>11–18</td>
<td>First and second generation</td>
<td>YSR</td>
<td>Self-report</td>
<td>t &gt; n (int) t = n (ext)</td>
</tr>
<tr>
<td>5 Crijnen, Bengi-Arslan, &amp; Verhulst, 2000</td>
<td>524 Turkish migrants (Dutch teacher) (td); 221 Turkish migrants (Turkish teacher) (ttt); 1,625 native Dutch (Dutch teacher) (n).</td>
<td>Same sample as previous, but different informants were used.</td>
<td>4–18</td>
<td>First and second generation</td>
<td>TRF</td>
<td>Teacher-report</td>
<td>td = n (int/ext) td &lt; ttt (int) td = ttt (ext)</td>
</tr>
<tr>
<td>5 Bengi-Arslan, Verhulst, Van der Ende, &amp; Erol, 1997</td>
<td>833 Turkish migrants (t); 3,127 Turkish in Ankara (tt); 2,081 native Dutch (n).</td>
<td>Turkish migrants and Dutch: same samples as previous, but different informants were used.</td>
<td>4–18</td>
<td>First and second generation</td>
<td>CBCL</td>
<td>Parent-report</td>
<td>t &gt; n (int/ext) t &gt; tt (int/ext)</td>
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<tr>
<td>6 Stevens et al., 2003</td>
<td>819 Moroccan (m); 833 Turkish (t); 2,227 Dutch native (n).</td>
<td>Turkish and Dutch: see previous. Moroccan: random sample of children in two of the largest cities in the Netherlands.</td>
<td>4–18</td>
<td>First and second generation</td>
<td>CBCL, YSR, TRF</td>
<td>Parent-, teacher-, and self-report</td>
<td>sr: m &lt; n (ext) sr: m = n (int) pr: m = n (int/ext) tr: m = n (int) tr: m &gt; n (ext)</td>
</tr>
<tr>
<td>7 Vollebergh &amp; Huberts, 1997</td>
<td>185 migrants from various backgrounds (mi); 405 native Dutch (n).</td>
<td>Conveniencesample of adolescents from eight secondary schools in the Netherlands. Mean age 16</td>
<td>First and second generation</td>
<td>Short GHQ</td>
<td>Self-report</td>
<td>mi &gt; n</td>
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<td><strong>European studies: Scandinavian studies</strong></td>
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<tr>
<td>8 Oppedal &amp; Reysamb, 2004</td>
<td>225 migrants from various backgrounds (mi); 408 native Norwegians (n).</td>
<td>Conveniencesample of adolescents from seven secondary schools in Oslo.</td>
<td>13</td>
<td>First and second generation</td>
<td>HSCL-25 (depression and anxiety)</td>
<td>Self-report</td>
<td>mi &gt; n (b) mi = n (g)</td>
</tr>
<tr>
<td>9 Virta, Sam, &amp; Westin, 2004</td>
<td>111 Turks in Norway (tn); 296 Turks in Sweden (ts); 207 native Norwegians (nn); 226 native Swedish (ns).</td>
<td>ICSEY study. Conveniencesample of adolescents from secondary schools in the greater Stockholm area in Sweden and in the five largest Norwegian cities.</td>
<td>12–19</td>
<td>First and second generation</td>
<td>Depression, anxiety and psychosomatic symptoms***</td>
<td>Self-report</td>
<td>tn = nn ts = ns tn &gt; ts</td>
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<tr>
<td>Authors</td>
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<td>Prevalence problem behaviour**</td>
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<tr>
<td>10 Sam &amp; Virta, 2003</td>
<td>137 Turks in Sweden (t); 84 Vietnamese in Sweden (vs); 46 Pakistani in Norway (p); 39 Vietnamese in Norway (vn); 125 native Norwegians (nn); 141 native Swedish (ns).</td>
<td>See previous.</td>
<td>12–19</td>
<td>First and second generation</td>
<td>Depression, anxiety and psychosomatic symptoms***</td>
<td>Self-report</td>
<td>t &lt; ns vn, vs, p = nn, ns</td>
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<td>European studies: Greek study</td>
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<tr>
<td>11 Kolaitis, Tsiantis, Madianos, &amp; Kotsovolos, 2003</td>
<td>276 former Soviet Union migrants with Greek origin (s); 251 native Greeks (n).</td>
<td>Migrants: former Soviet Union migrant children attending all twenty-two public schools in the municipality of Athens. Representative in terms of socio-demographic variables for this total migrant population in Greece. Greeks: children selected from same school classes as the migrant children and matched regarding age and gender.</td>
<td>8–12</td>
<td>First generation</td>
<td>Rutter Questionnaire of Children's Behaviour, K-SADS-P and CBCL</td>
<td>Parent- and teacher-report</td>
<td>pr: s = n (total problems) tr: s = n (total problems)</td>
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<td>European studies: UK study</td>
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<td>12 Hackett, Hackett, &amp; Taylor, 1991</td>
<td>100 Gujarati (Asian) migrants (g); 100 native English (n).</td>
<td>Convenience sample of Gujarati and native English parents recruited by primary schools in East Manchester with a large Gujarati intake.</td>
<td>4–7</td>
<td>Second generation</td>
<td>Rutter Questionnaire of Children's Behaviour (emotional (ed) and conduct disorder (cd))</td>
<td>Parent-report</td>
<td>g &lt; n (ed/cd)</td>
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<td>US studies</td>
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<tr>
<td>13 Willgerodt &amp; Thompson, 2006</td>
<td>216 Chinese (c); 387 Filipino (f); 400 Euro American (n).</td>
<td>National Longitudinal Study on Adolescent Health. Nationally representative study based on a multistage stratified cluster sample of all high schools in the US. Within these schools, a random sample of adolescents was taken.</td>
<td>12–21</td>
<td>First, second and third generation</td>
<td>CES-D (depression (d) and somatic complaints (sc))</td>
<td>Self-report</td>
<td>f &gt; n (d) c = n (d) f, c = n (sc)</td>
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<tr>
<td>Authors</td>
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<td>Gross et al., 2006</td>
<td>319 Latino (L); 167 White (W).</td>
<td>Convenience sample of Latino and white parents recruited from numerous sources.</td>
<td>2-4</td>
<td>First and second generation</td>
<td>CBCL</td>
<td>Parent-report</td>
<td>l &gt; n (int) l = n (ext)</td>
</tr>
<tr>
<td>Harker, 2001</td>
<td>1,000 first generation (f); 1,964 second generation (s); 10,390 third or more generation (n).</td>
<td>National Longitudinal Study on Adolescent Health. Nationally representative study based on a multistage stratified cluster sample of all high schools in the US. Within these schools, a random sample of adolescents was taken.</td>
<td>12-21</td>
<td>First and second generation</td>
<td>CES-D, Beck Inventory</td>
<td>Self-report</td>
<td>f,s = n</td>
</tr>
<tr>
<td>Lorenzo, Frost, &amp; Reinherz, 2000</td>
<td>102 Asian American (a); 386 Caucasian American (n).</td>
<td>Convenience sample of adolescents in secondary schools in a small lower-middle class city in the northeastern United States.</td>
<td>Mean age 14.5</td>
<td>First and second generation</td>
<td>YSR</td>
<td>Self-report</td>
<td>a &gt; n (int) a &lt; n (ext)</td>
</tr>
<tr>
<td>Lorenzo, Pakiz, Reinherz, &amp; Frost, 1995</td>
<td>99 Asians (a); 375 Caucasians (n).</td>
<td>See previous.</td>
<td>16-20</td>
<td>First and second generation</td>
<td>YSR, CDI</td>
<td>Self-report</td>
<td>a &gt; n (int) a &lt; n (ext)</td>
</tr>
<tr>
<td>Canadian study</td>
<td>684 first generation (f); 2,573 second generation (s); 10,092 non-immigrant (n) (third or more generation).</td>
<td>National Longitudinal Survey of Children and Youth. Countrywide multistage stratified cluster sampling of households, with oversampling in rural areas.</td>
<td>0-11</td>
<td>First and second generation</td>
<td>Emotional and behavioural problems***</td>
<td>Parent-report</td>
<td>f &lt; s &lt; n (int/ext)</td>
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<tr>
<td>Australian study</td>
<td>1,202 UK/Ireland/New Zealand born mothers (e); 446 other Europe born mothers (oe); 238 South East Asia born mothers (a); 6,176 Australia born mothers (n).</td>
<td>Mater-University Study of Pregnancy. Prospective, longitudinal study of all women (and their children) who gave birth to their child in a large hospital in Brisbane.</td>
<td>5 and 14</td>
<td>Second generation</td>
<td>Two modified subsamples of the CBCL and YSR (Internalising and Externalising)</td>
<td>Parent-report (age 5 and 14) and self-report (age 14)</td>
<td>sr: e, oe, a = n (int/ext) pr: e, oe, a = n (int/ext)</td>
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<tr>
<td>Authors</td>
<td>Population</td>
<td>Sampling characteristics</td>
<td>Age</td>
<td>Migrant generation*</td>
<td>Measure</td>
<td>Problem behaviour report</td>
<td>Prevalence problem behaviour**</td>
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<td>Klimidis, Stuart, Minas, &amp; Ata, 1994</td>
<td>101 first generation (f); 171 second generation (s) (both from non-English-speaking countries); 253 Australians (n) (third or more generation).</td>
<td>Convenience sample of adolescents from 20 different educational institutions in Melbourne and Albury/Wodonga (a provincial town).</td>
<td>Mean age 17.7</td>
<td>First and second generation</td>
<td>Clinically derived psychopathology instrument (anxiety and depression)****</td>
<td>Self-report</td>
<td>f, s = n</td>
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<tr>
<td>Ponizovsky, Ritsner, &amp; Modai, 1999</td>
<td>406 Jewish migrants from Russia (r); 203 Jews in Russia (rn); 104 Israeli born adolescents (n).</td>
<td>Jewish migrants: random sample of Jewish migrants who arrived in Israel between 1989 and 1993 and were living in Jerusalem, Ashdod or Ashkelon. Jews in Russia and Israelis: convenience samples of high school and University students in Moscow and Jerusalem matched with the migrant population regarding gender, age and education level.</td>
<td>11–18</td>
<td>First generation</td>
<td>YSR</td>
<td>Self-report</td>
<td>r = n (int/ext) r &gt; m (int/ext)</td>
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</table>

*First generation: child born abroad; Second generation: parent born abroad and child born in host country; Third-generation: grandparent born abroad, parent and child born in host country **For studies which assessed all YSR, CBCL and TRF problem scales, we only reported the Internalising and Externalising scales. ***The articles share a number, whenever the same (migrant) sample is used ****(Partly) self-constructed instrument b = boys; g = girls; int = internalising problems; ext = externalising problems.
and Dutch native youth revealed no differences in (Bengi-Arslan et al., 1997). In contrast, Dutch problems in their children than Dutch native parents (ising problems and perceived more externalising parents also reported an increased level of internalising problems than, their Dutch native peers (Darwish Murad, Joung, Van Lenthe, Bengi-Arslan, & Crijnen, 2003; Janssen et al., 2004). Their of internalising problems than, their Dutch native Turkish immigrant adolescents reported similar count different informants. One of them found that externalising problems as Australian-born mothers and their children. Although these results are rather diverse, they might indicate that there is more agreement regarding the child’s level of problem behaviour between migrant parents and their children than between the parents or children and the teachers. These discrepancies in self-, parent-, and teacher-reported problem behaviour may reflect (1) actual differences in child behaviour, (2) differences in thresholds to report problem behaviour and (3) biases in problem behaviour reports.

Actual differences in child behaviour. The absence of consistency in the level of reported problem behaviour between informants may be explained by the fact that the informants are not exposed to identical samples of a child’s behaviour, because the child is seen in different contexts and because teachers have a different interaction with the child than parents do (Achenbach et al., 1987). This implies that the differences in reported problem behaviour represent actual differences in the behaviour of the child. (Moroccan) immigrant children may for instance show more externalising problems in school than at home (Stevens et al., 2003) and teachers may be unable to gain insight into the emotional development of (Turkish) immigrant children, for instance due to a lack of trust between (Turkish) immigrant children and Dutch native teachers. The latter might explain why Turkish immigrant teachers in the Netherlands reported higher levels of anxious/depressed behaviour and internalising problems in Turkish immigrant youths than Dutch native teachers (Crijnen et al., 2000).
Differences in thresholds to report problem behaviour. Differences in cultural standards of what constitutes appropriate child behaviour could also explain the discrepancies in reported problem behaviour between the informants. To test this mechanism, some studies investigated whether parents from different cultural backgrounds had different ideas of what constitutes normal behaviour. Two studies found no indications for such cultural differences. Weiss and McCarty (1999) conducted a study in bicultural US families each with an ethnic Thai parent reared in Thailand and a Caucasian parent reared in the US, and asked these parents to independently complete the CBCL on the same child. No differences in reported problem behaviour between these parents were found. Likewise, Aaroe and Nelson (2000) asked Hispanic and Caucasian parents to respond to several vignettes regarding classroom behaviour (e.g., breaking school rules and ignoring the teacher’s instruction), and revealed no differences between these parents regarding the extent to which it was problematic for a student to exhibit certain classroom behaviour. Hackett and Hackett (1993) asked parents of Gujarati (i.e., Asian) and English children to indicate how often their child showed a particular behaviour and whether they were concerned about that, allowing differences in tolerance to be inferred. In addition, parents’ responses to vignettes of child behaviour were assessed. In contrast to the previous studies, the authors found ethnic differences in parental ideas of normal and deviant behaviour (e.g., regarding tolerance of physical aggression, temper tantrums, dishonesty and expectations of concentration). Moreover, Weisz, Chaiyasit, Weiss, Eastman, and Jackson (1995) hypothesised that teacher-reports are coloured by culture-linked values and expectations about child behaviour. They found that Thai teachers reported more (externalising and internalising) problem behaviour for their Thai pupils than US teachers for their US pupils, whereas more objective observational data showed opposite results (i.e., US pupils were scored higher than Thai pupils).

Biases in problem behaviour reports. Finally, biases in self-, parent-, and teacher-reported problem behaviour may be responsible for the discrepancies in levels of reported problem behaviour too. Sonuga-Barke, Minocha, Taylor, and Sandberg (1993) found that teachers’ perceptions of especially externalising problems in Asian immigrant boys are biased, by comparing teacher-reports with observational measures. Asian boys rated as hyperactive by their teachers were scored as being only a little more, or no more, hyperactive on observations and mechanical measurements (e.g., actometres for arm and leg activity) than English boys who were not rated as hyperactive by their teachers. Likewise, Jackson (2002) found that Euro-American teachers showed a surprisingly clear distinction between their explanations of Euro-American and non-Euro-American (i.e., African-American and Hispanic-American) youth school problems in terms of personal and situational categories: they tended to use situational (i.e., external) explanations for the first group of youths (e.g., family influences such as divorce and economic influences such as poverty), whereas they tended to use personal (i.e., internal) explanations for the second group of youths (e.g., aggression, hostility or defiance), thus holding African- and Mexican-Americans more personally responsible for their actions.

However, parent- and self-reports may also show bias. Migrant parents and adolescents may under-report behavioural problems because they are aware of their low status in their society, and therefore do not want to add fuel to the negative perception held by the native population about their children or themselves (Stevens et al., 2003). Junger (1989) seems to have found bias in self-reported delinquency for Moroccan and Turkish but not for Surinamese immigrant boys in the Netherlands, as she revealed that significantly more Moroccan and Turkish than Surinamese and Dutch native boys who had experienced an official police contact denied this police contact and did not admit to having committed an offence.

Thus, different informants provide us with very different results on problem behaviour in migrant youth, which may have different causes. One study that tried to overcome this problem introduced a professional diagnosis as the ‘gold standard’ regarding children’s problem behaviour. In this study, a best-estimate procedure for diagnosis was used, based on Semistructured Clinical Interview for Children and Adolescents (SCICA) and Diagnostic Interview Schedule for Children-Parents (DISC-P) results in combination with school information, which was consensually formulated by a committee consisting of a certificated psychiatrist, two child psychiatrists who conducted the SCICA interviews, and a psychologist/cultural anthropologist (Zwirs, Burger, Buitelaar, & Schulpen, 2006a). The prevalence of externalising disorders based on the best-estimate diagnosis was no higher for Moroccan, Turkish and Surinamese immigrant than for Dutch native children and the same accounted for mood and anxiety disorders. Including level of impairment and socioeconomic status (SES) did not change the results (Zwirs, 2006). This study also assessed parent- and teacher-reports, and comparing these to the ‘gold standard’ revealed remarkable deviations. The teacher-reports indicated that Moroccan immigrant boys were about 70% more likely to display externalising problem behaviour than Dutch native boys but reported no differences in impairment between these boys. Turkish boys were about 60% less likely to show externalising problem behaviour than Dutch native boys, whereas no significant differences were...
found between Dutch native boys and Surinamese immigrant boys (Zwirs, Burger, Schulpen, & Buitelaar, 2006b). Compared to Dutch native parents, Moroccan and Surinamese immigrant parents were far less likely to detect externalising disorders in their children (only 16% of the Moroccan and 36% of the Surinamese immigrant children who received a best-estimate externalising disorder diagnosis were similarly diagnosed by their parents, whereas this percentage was 70% for Dutch native and 47% for Turkish immigrant children) (Zwirs et al., 2006a).

Using different informants leads to different estimates. In order to take these differences into account, future studies should not only be aware of this, but also take up assessments of different informants in their designs. Vignettes geared to migrant and native parents and adolescents, observations in classes and police records might additionally shed light on cultural thresholds for problem behaviour and on biases in teacher- and self-reports. Finally, it would be very informative to assess a ‘gold standard’ for children’s psychopathology.

The importance of characteristics of the migrant groups in determining the prevalence of problem behaviour in migrant children

The second reason why we were unable to draw general conclusions regarding the level of mental health problems in migrant children using our selected studies is that the effect of migration varies with the particular characteristics of the migrant group. Thus, comparing native with a mixture of migrant youths (which was the approach in several studies) based on the assumption that it is the general migration process that counts, and not so much the specific characteristics of the migrant group, is problematic because it might conceal large differential effects between particular migrant groups. For instance, several studies pointed out that compared to Dutch native children, Moroccan immigrants show relatively high levels of (teacher-reported) externalising problem behaviour, whereas Turkish immigrants show high levels of (parent- and self-reported) internalising problem behaviour (Bengi-Arslan et al., 1997; Crijnen et al., 2000; Darwish Murad et al., 2003; Janssen et al., 2004; Stevens et al., 2003; Zwirs et al., 2006b). In addition, Willgerodt and Thompson (2006) found that, compared to Euro-American adolescents, being Filipino was significantly associated with higher depression, whereas no differences in depression were found between Euro-American and Chinese-American adolescents. Therefore, characteristics of the migrant groups (such as their cultural background and their position in the host country) appear to be of importance and ideally should be taken into account in research comparing different migrant groups and in research comparing migrants and hosts. Although this conclusion seems hardly surprising, only a limited number of selected studies did try to find out whether differences in problem behaviour between migrant and native youth could be explained by their social and cultural background by analysing the mediating effect of SES, family stress, and original cultural background.

**SES.** Socioeconomic status may be an explanatory factor for differences in problem behaviour between several groups of migrants and native youth. Indeed, Darwish Murad et al. (2003) revealed that socioeconomic measures such as employment status and educational level of the parents appeared to contribute to the explanation of differences in problem behaviour between Turkish immigrant and Dutch native adolescents. However, it was clear that SES was far from explaining all the differences. In addition, a consistent negative impact of high SES of the parents was found for delinquent behaviour, therefore correcting for SES increased the differences between Turkish immigrants and Dutch natives (Darwish Murad et al., 2003). Although most studies included in our review accounted for effects of SES, controlling for this factor did not seem to considerably change the relationship of migration to problem behaviour (Alati et al., 2003; Harker, 2001; Oppedal & Reysamb, 2004; Virta, Sam, & Westin, 2004; Willgerodt & Thompson, 2006), or SES was not related to problem behaviour in the study at all (Hackett et al., 1991; Kolaitis, Tsiantis, Madianos, & Kotsopoulos, 2003; Sam & Virta, 2003; Stevens et al., 2003). All in all, although of importance, SES differences between migrants and natives do not fully explain the differences in problem behaviour between their children.

**Family stress.** In addition, it has often been assumed that differences in problem behaviour between migrant and native children can be explained by characteristics of the family situation. Migrant families may suffer from intergenerational conflicts, since migrant adolescents generally acculturate to the values of the new society faster than their parents (e.g., Szapocznik & Kurtines, 1993). However, when Sam and Virta (2003) studied discrepancies in intergenerational family values (i.e., obligations and rights) in migrant and native families in Norway and Sweden, the value discrepancies were generally equally large among the migrants as among the natives and a relationship between intergenerational value discrepancies and mental health problems was only found in native Swedish. Harker (2001) even revealed that first-generation immigrant adolescents had a more positive relationship with their parents than second- and third-plus-generation adolescents: these adolescents were more often supervised by their parents and less often had conflicts with their parents. The relatively low level of depression in first-generation
immigrant adolescents was explained by this positive relationship between these adolescents and their parents. The foregoing indicates that migrant adolescents do not experience more problems with their parents than other adolescents and this factor therefore does not explain why migrant youths might be at increased risk of problem behaviour. On the contrary, as Harker (2001) pointed out, this factor might explain why migrant adolescents are at decreased risk of developing problem behaviour.

Culture of origin. By conducting research in the culture of origin of the immigrants, some authors tried to find out whether the original culture of the migrant groups could serve as an explanation for increased levels of problem behaviour in migrant youth in the host country. The assumption was that absence of an increased level of problem behaviour in the country of origin compared to scores of natives in the host culture would rule out this cultural explanation (see Mahy, Mallett, Leff, and Bhugra, 1999) and Selten et al. (2005) for parallel studies on cultural explanations for schizophrenia in adult immigrants from Barbados and Surinam. Alternatively, an increased level of problem behaviour in the country of origin might give room for a cultural explanation (the recognition of the dynamic nature of culture evidently points out that increased levels of problem behaviour in the culture of origin do not necessarily explain increased levels of problem behaviour in the immigrant population). In accordance with the latter, a study on Turkish youth (in Turkey and in the Netherlands) revealed that Turkish immigrant children showed higher levels of parent-reported internalising and externalising problems than Turkish native children, but these differences were fewer and much smaller than those found between Turkish immigrant and Dutch native children (Bengi-Arslan et al., 1997). In other words, the Turks in Turkey took an intermediate position between the Turkish immigrants and the Dutch natives. In addition, hardly any differences on self-reported internalising problems were found between Turkish immigrant and Turkish native adolescents, whereas Dutch native adolescents reported fewer internalising problems (Janssen et al., 2004). The authors of both studies hypothesised that this increased level of especially internalising problems in Turkish adolescents in both Turkey and the Netherlands might be explained by the Turkish culture in which dependency, obedience, conformity and respect for adults are expected from children. Turkish parents may evoke anxiety in their children by threats of religious punishments and of being abandoned by their family. In contrast, Ponizovsky, Ritsner, and Modai (1999) reported lower levels of internalising and externalising problems in Russian native compared to Israeli native and immigrant Russian adolescents in Israel, whereas the immigrant Russians and Israelis showed similar problem scores. These authors explained the findings by pointing out that the immigrant adolescents apparently adopted the Israeli cultural attitudes of how people should feel and act in different situations.

Validity. Differences in level of problem behaviour between migrant and native youth may also be explained methodologically. The lack of inter-ethnic/cross-cultural equivalence of the instruments used may, to some extent, be responsible for the revealed differences in problem behaviour. Although several studies indicated that their instruments showed sufficient validity in their populations, since comparable factor structures and high reliabilities for both the migrant and the native population were revealed (e.g.: Wissink, Deković, & Meijer, 2006), research on this subject is still highly necessary. Because we cannot rule out the possibility that the instruments used are less valid in the migrant samples, we do not know the extent to which this may be an explanation for the revealed differences in problem behaviour between migrant and native youths.

The importance of characteristics of the host countries in determining the prevalence of problem behaviour in migrant children

In addition to the characteristics of the migrant groups, particular characteristics of the host countries, such as their selection criteria for potential migrants, their attitudes towards migrants, and the wellbeing of their native children, may likewise contribute to the manifestation of differences in problem behaviour between migrant and native children in the particular countries.

Selection of migrants by the host country. The level of problem behaviour in a migrant youth population may depend upon the specific selection of particular types of migrants by the receiving countries. Whereas European countries such as France, Germany, Sweden and the Netherlands are considered as typical countries attracting and selecting mainly unskilled labour migrants, in Australia, Canada and New Zealand migrants are mainly selected to satisfy current needs for highly skilled workers. The situation in the US is different because of its high share of labour migrants coming across the Mexican border, and because a substantial part of US official immigration is driven by family reunions (Entorf & Minoiu, 2005). Accordingly, key differences between the traditional immigration countries (Australia, Canada and New Zealand, but also the UK), on the one hand, and (other) western European countries (like France, Germany, Sweden and the Netherlands) on the other, exist in the
The potential of the migrant groups to achieve socioeconomic success after migration (Entorf & Minoiu, 2005). Thus, whereas the average income of immigrants in Canada surpasses that of the national population after 10 to 12 years (Beiser, Hou, Hyman, & Tousignant, 2002), 30 years after their migration to the Netherlands the socioeconomic position of Moroccan and Turkish immigrants is still very low (Dagevos, Gijsberts, & Van Praag, 2003). These different patterns of socioeconomic integration might explain the fact that Australian and Canadian studies did not find increased levels of self- and parent-reported problem behaviour in (first- and second-generation) migrant youth (Alati et al., 2003; Beiser et al., 2002; Klimidis, Stuart, Minas, & Ata, 1994), or even found that first-generation immigrant children show fewer parent-reported emotional and behavioural problems than second-generation and native children (Beiser et al., 2002).

Pluralism and multiculturalism in the host country. In addition, migration policies, the degree of pluralism and attitudes towards integration in the receiving country might influence the average level of problem behaviour in immigrant youth. Virta et al. (2004) assessed self-reported internalising problems in Turkish immigrant adolescents in Norway and Sweden and compared their scores with native Norwegian and Swedish adolescents. The Turks in both countries shared a common migration history, as they were recruited primarily as labour migrants. Although Turkish adolescents in Norway and Sweden did not differ from their native (Norwegian or Swedish) peers, Turks in Norway reported more internalising problems than Turks in Sweden when differences in SES and country of birth were controlled for. Virta et al. (2004) revealed that this higher frequency of internalising problems in the Turks in Norway could be accounted for by their weaker Turkish identity and higher frequency of perceived discrimination, which seemed to result from differences in immigrant policies and attitudes among host nationals towards immigrants in the two countries.

International differences in child wellbeing in host countries. Finally, as all included studies used native children from the receiving country as their benchmark, cross-cultural or international differences in child mental health problems of native populations considerably complicate the comparisons of studies conducted in different countries. Indeed, large differences between countries have been found. For instance, previous studies revealed lower levels of internalising problems in Dutch than in US and Australian children (Verhulst et al., 2003), thus creating far less favourable comparisons for migrant populations in the Netherlands. The explanations for these international differences so far are far from complete.

The moderating effect of gender and age

Different socialisation demands on daughters compared to sons in migrant families, in particular in those originating from more traditional cultures (Dion & Dion, 2001), might lead to differential effects of migration on problem behaviour in boys and girls. Indeed, several of our included studies confirmed this, although the direction of this effect was not consistent over the studies. Vollebergh et al. (2005) showed that immigrant parents in the Netherlands perceived more internalising problems, social problems and attention problems for their daughters than Dutch native parents, but not for their sons. In line with this, Bengi-Arslan et al. (1997) found larger differences in anxious/depressed behaviour between Turkish immigrant and native Dutch girls than between Turkish immigrant and Dutch native boys. The deleterious migration effect of parent-reported (internalising) problems was greater for the girls than for the boys. In contrast, Oppedal and Raysamb (2004) revealed that migrant boys reported more depression and anxiety symptoms than Norwegian native boys whereas in girls this effect was absent. In fact, the migrant boys were the group with the highest distress score, which is in contrast to most previous studies on gender differences in internalising problems (e.g., Zahn-Waxler, Klimes-Dougan, & Slattery, 2000). Beiser et al. (2002) also found that migrant boys showed higher levels of (parent-reported) emotional problems than migrant girls. Other studies found greater differences in teacher-reported externalising problems between (Moroccan) immigrant and Dutch native boys than between (Moroccan) immigrant and Dutch native girls (Zwirs et al., 2006b; Stevens et al., 2003; Vollebergh et al., 2005).

Although most selected studies did not examine age effects, probably because the age range in most studies was limited, two of our included studies point out that it might be important to do so. For parent-reported anxious/depressed and aggressive behaviour and for externalising problems, the differences between Turkish immigrant and Dutch native children aged 4 through 11 were greater than the differences at age 12 through 18 (Bengi-Arslan et al., 1997). Still, both Turkish immigrant age groups showed higher parent-reported scores than their Dutch native peers. In contrast, the results of the same study revealed that for ages 4–11 years, Turkish immigrant children were scored higher on parent-reported delinquent behaviour than Dutch native children, whereas for ages over 12, Dutch native children were scored higher than Turkish immigrant children. The opposite was found for Moroccan immigrant youth in the Netherlands, who were scored lower than Dutch native children on delinquent behaviour when they were small (4–11 years), but were scored higher when growing up (12–18 years) (Stevens et al., 2003). In contrast,
Alati et al. (2003) revealed no differences between natives and migrants in parent-reported internalising and externalising problems for both their 5- and 14-year-old children. Clearly, the previous studies teach us that it might be important to consider both gender and age differences when comparing problem behaviour in immigrant and native youths.

The moderating effect of migrant status in the predictors of problem behaviour

Previously, we described the attempts that have been made to explain the differences in problem behaviour between immigrant and native youth. These studies presupposed that the relationship between several risk/protective factors and problem behaviour is similar in both populations. However, this may not always be the case, as the impact of particular risk factors may depend upon cultural background. One of the core cultural dimensions that has been distinguished in cross-cultural research is the dimension underlying individualistic versus collectivistic cultures (e.g., Hofstede, 1994), a dimension that divides many traditional from more ‘developed’ countries with respect to a large number of social phenomena. Many immigrants originate from so-called collectivistic cultures in which the self is viewed as embedded within relationships, goals are phrased in terms of communal responsibilities, and relationships stress the cohesion of group members, whereas the receiving countries can be perceived of as individualistic cultures in which the self is viewed as an autonomous entity, its goals are phrased in terms of self-fulfilment and competence, and relationships are viewed as evolving between separate individuals (e.g., Hofstede, 1994; Markus & Kitayama, 1991). It has been suggested that in cultures in which family solidarity, cohesion and interdependence are essential (i.e., in collectivistic cultures), parental warmth is more closely related to children’s problem behaviour than in individualistic cultures (e.g., Smith & Krohn, 1995). More broadly, people from collectivistic cultures may be more vulnerable to relational stress (i.e., problems with parents, friends and school) and the lack of support from these important others (Tafarodi & Smith, 2001). Moreover, since collectivistic cultures are characterised by hierarchic relations between parents and children, strict parental control may be perceived as a legitimate expression of parental authority and thus may not necessarily result in high levels of problem behaviour in children, whereas in individualistic cultures, strict parental discipline seems to be perceived as a parental need for control and domination over the child and may thus be related to high levels of children’s problem behaviour (e.g., Chao, 1994; Gunnoe & Mariner, 1997; Kagitzbasi, 1990; Rudy & Grusec, 2001).

Differences in the relationship between family factors and problem behaviour in immigrant and native youth may not only result from differences in the cultural background of the two groups, but may also be caused by differences in their socioeconomic status. Some argued that the adverse circumstances in which migrant groups often have to raise their children (e.g., an insecure socioeconomic situation, a neighbourhood where problems accumulate and discrimination is structural), strict parental discipline, instead of being a risk factor, could be necessary to prevent children from developing externalising problems (Harrison et al., 1990; McLoyd, 1990).

Three of the studies included in this review investigated whether migration status moderated the relationship between family factors and problem behaviour and came up with mixed results. Oppedal and Roysamb (2004) overall found no significant differences between immigrant adolescents from collectivistic cultures and native Norwegian adolescents in the association between interpersonal life stress (i.e., support from and problems with parents, school and friends) and internalising problems. However, they did reveal the relatively strong importance of the peers in the native population, which according to the authors may mirror a more individualist-focused upbringing, where becoming emotionally independent of parents and forming mature relationships with peers are among the important developmental tasks during adolescence. Roughly, Wissink et al. (2006) reported similar results: for all adolescents (i.e., Dutch natives and Turkish, Moroccan and Surinamese immigrants) the quality of the parent–child relationship (e.g., intimacy, satisfaction, conflict) and parental warmth were equally related to both aggressive and delinquent behaviour. Differences were, however, found regarding the relationship between restrictive control and delinquency: no relationship was revealed for Dutch natives and Surinamese immigrants whereas for Moroccan and Turkish immigrant adolescents (adolescents with a collectivistic cultural background) restrictive control was related to higher levels of delinquency. These findings were in contrast to the previously formulated expectation which holds that in low SES children from collectivistic back-grounds high levels of strict parental control are not related to high levels of problem behaviour. Finally, Hackett et al. (1991) revealed differential associations between disciplinary items and problem behaviour between Gujarati (i.e., Asian) and UK native children: in the English population, parents whose children showed high levels of problem behaviour were more likely to smack their children, threaten their child with deprivation of love and induce guilt by saying that the child had made them unhappy, whereas these associations were not found for the Gujarati families. Evidently, more research on this subject is needed.
Conclusion

Although the impact of migration on mental health in children is an issue of increasing societal importance that has attracted the attention of a large variety of scientific researchers, standards in this field of research are low and consensus on its major drawbacks still seems to be absent. Only 20 out of an abundant number of studies in this field satisfied our inclusion criteria. Close examination revealed that the exclusion of studies could largely be explained by the exclusion of an extensive, mostly US, research tradition in which the impact of self-identified ethnic or racial group membership for mental health in children was assessed. These studies were not relevant to our goal, because not all (self-identified) ethnic minorities are migrants and not all migrants continue to identify with their original ethnic background. Many other studies were excluded because they were conducted among indigenous ethnic minorities, refugees, or non-migrant youth originating from different countries. Finally, a considerable number of studies investigated populations in care, were too small or did not make use of a native comparison group. Thus, a limited set of studies survived and formed the input for our analysis of the state of the art in this field.

The included studies did not unequivocally confirm that migrant youth are at high risk of developing mental health problems. Both higher and lower levels of problem behaviour were found. However, numerous complexities arose that endanger the formulation of further conclusions on the risk of migration for child mental health. It appeared that the (terminological) confusion in this research field is great. There is no univocal definition of key terms like ‘migrant’ or ‘ethnic minority’. Some scholars defined migrants as persons who were born abroad, some as persons whose parents were born abroad or persons whose grandparents were born abroad. Some studies did not distinguish voluntary labour migrants from refugees, but did not describe this adequately in their sample description (e.g., Alati et al., 2003; Vollebergh et al., 2005). To further complicate things, the definition of what comprises the native comparison population is not clear-cut either: whereas the Australian, Canadian, Israeli and one US study considered third-generation migrants and ethnic minorities (such as Black Americans and third-generation Hispanics) as belonging to the non-migrant population of natives, most European studies used a nationally defined native majority population as comparison group. This is perfectly understandable; for example, the US and Canada are traditional immigration countries with an ethnically diverse population which goes back centuries, whereas the issue of migration in western European countries is almost exclusively concerned with the incorporation of large post-war immigrant populations in more homogeneous host populations (Phalet & Kosic, 2006).

Our analysis of the selected studies revealed numerous other complicating factors hampering the drawing of sound conclusions. Our review confirmed earlier notions that the assessment of problem behaviour in migrant youth depends upon the informant used in the study, which may be explained by large differences in child behaviour in the school and at home, differences in cultural standards of what constitutes tolerable behaviour and biases in teacher-, parent-, and self-reports. In addition, we showed that the development of problem behaviour varies with the migrant group studied, possibly due to differences in socioeconomic position, family stress and original culture between immigrant groups. Finally, generalised conclusions in this research field may not be warranted since particular characteristics of the host countries may also influence the level of mental health problems in immigrant children. More specifically, the ways in which receiving countries select migrants, the attitudes of these countries towards migrants, and international differences in child wellbeing in host countries may account for the differences. As these factors are not taken into account in most studies, the results of our selected studies are difficult to interpret, as all the above-mentioned factors may blur their results and confound their main findings.

Future directions

Although the foregoing emphasises the lack and limited reach of the studies conducted in this research field, these studies do provide us with ingredients for the research design needed to gain insight into the impact of migration on the development of problem behaviour in children. Our analysis underlines the conclusion that this research field is in urgent need of more standardisation of research designs, methodology and definitions. In particular, we feel that the field is in need of more (longitudinal) designs in which particular migrant groups are followed through the process of migration, hereby taking all relevant background factors into account.

In Figure 1, we describe a research design that might be used for such efforts. In this design, we have taken the difference between the country of origin and the host country as the major underlying comparison, necessary to analyse possible cultural differences between the countries, and thus between the cultural background of the pertinent migrant and native group (1). We propose that such a comparison should be focused on the characteristics of countries with a clear relevance for public mental health, for example the above-mentioned difference on core cultural dimensions like individualism versus collectivism. Next, selection effects of migrant groups have to be determined, as it is vital to know...
Figure 1 Research design for the effect of migration on mental health 1. cross-cultural effects: comparison of original country with host country 2. selection effects of migrants: comparison of random migrated sample with random population sample in original country 3. migration process effects: comparison of migrant sample in host country with matched group in original/host country 4. ethnic minority effects: comparison of migrant sample in host country with native sample in host country

MS = Migrant Sample PS = Population Sample

whether a particular selection of the original population is likely to migrate to other countries (2). This comparison is needed to determine why in particular cases a ‘healthy migrant’ effect seems to be found, while in other cases migrant groups seem to represent a disadvantaged group. Thus, comparison of the migrant group with the population in the original country is needed, preferably by comparing a random sample of the migrated group with a random population sample. This comparison needs to focus on characteristics with a clear relevance for public mental health as well, for example socioeconomic differences, educational levels, or family liability for psychopathology. In order to capture whether the process of migration itself is stressful, the migrated group in the host country has to be compared with a sample in the country of origin that matches the background characteristics of the migrated group (3). Moreover, a comparison between the migrant sample and a sample in the host country is needed, correcting for differences regarding cultural dimensions in both groups (3). Factors (possibly) related to this migration experience, such as language problems, family stress, lack of social network, low socioeconomic status and cultural incompatibilities between the home and school, should be taken into account as a means to explain possible differences in problem behaviour between the immigrant and native groups. Finally, the effect of being an ethnic minority in the host country may blur such comparisons, as the accompanying effects of this social position may add considerably to the possible effects of migration. Comparing the migrant group with the general population in the host country regarding social mechanisms of racism, prejudice, discrimination and oppression, and the extent to which these mechanisms may explain differences in problem behaviour between these groups, may gain insight into the size of the ethnic minority effect (4). However, it is crucial to understand that disentangling the possible effects of migration (be it an effect of culture, of selection, of belonging to the ethnic minority population or of the mere process of migration) will only be possible in a longitudinal design, in which the migrated groups are followed prior to and after migration.

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*Refers to the studies which were included in our review.


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