SOCIAL DETERMINANTS OF THE MENTAL HEALTH OF YOUNG MIGRANTS

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Declaration of interest

None.

ABSTRACT

Background

Young migrants face particular risks to develop mental health problems. Discrimination and social support have an impact on mental health, yet little is known about the differential impact thereof on mental health in newcomers, non-newcomer migrants and non-migrants.

Aims

This study sheds light on mental health (posttraumatic stress, behavioural problems, hyperactivity, emotional distress, peer relationship problems, prosocial behaviour) and overall well-being of newcomers, non-newcomer migrants and non-migrants. Furthermore, the impact of social support and discrimination on mental health is investigated.

Method

Descriptive analysis and Structural Equation Modelling (SEM) were applied to analyse responses of 2,320 adolescents through self-report questionnaires in Finland, Sweden, and UK.

Results

Newcomers, non-newcomer migrants and non-migrants have different psychological profiles. While newcomers suffer more from PTSD and peer problems, non-newcomers and non-migrants report more hyperactivity. Discrimination strongly threatens all mental health dimensions, while support from family serves as a protective factor. Support from friends has a positive impact on PTSD among newcomers.

Limitations

As this study has a cross-sectional design, conclusions about causality cannot be drawn. In addition, history of traumatic life events or migration trajectory were lacking, while they may impact mental health.

Conclusion

Different mental health profiles of newcomers, non-newcomer migrants and non-migrants point to the need of a tailored and diversified approach. Discrimination remains a risk factor for mental

health, while family support serves as a protective factor for adolescents. Interventions that foster social support from friends would be especially beneficial for newcomers.

Key words

Migration, mental health, newcomer, discrimination, social support

INTRODUCTION

One in every 30 people in the world is an international migrant. In 2019, 272 million people did not live in the country they were born in. Of these international migrants, 23% are younger than 25 (Migration Portal, 2021).

Compared to their non-migrant peers, young migrants are at an elevated risk for developing mental health problems, including posttraumatic stress disorder (PTSD), depression, anxiety, and suicidal behaviour (Blackmore et al., 2019; Close et al., 2016). These mental health problems can substantially hinder adolescents' further development and pose risk to develop other mental health problems later on (Russel et al., 2011). Risk factors for the development of psychological problems in migrant youth are associated with three phases in the migration trajectory, premigration, peri-migration and postmigration settlement experiences (Scharpf et al., 2020). Migrants report significantly higher numbers of potentially traumatic events compared with peers (Gatt et al., 2020) resulting in a strong risk of developing mental health problems (Close et al., 2016). That is even more so for those migrants who are refugees (Sangalang et al., 2019). A large body of research further suggests that traumatic events experienced in childhood can have long-lasting detrimental effects on the physical, mental, and emotional development and can persist into adulthood (Dye, 2018).

Newcomer adolescent migrants, who have resettled five years or less in their new home country (Shakya, Khanlou, & Gonsalves, 2010), find themselves on a crossroad of acculturation challenges and developmental changes. The myriad of acculturation challenges faced in a complex new environment include, amongst others, loss of homeland and culture, uncertainty about the future, challenging educational trajectories; socio-economic difficulties and stressors in their daily life (Laban et al., 2005; Suárez-Orozco, et al., 2010). These acculturation challenges, daily stressors (such as social marginalisation or poor housing), and critical life events are risk factors for developing mental health problems (Miller & Rasmussen, 2017) and can have a detrimental effect on adolescent's normative social, emotional and cognitive development. In addition to acculturation challenges, several social determinants (i.e., discrimination) after settlement in the new home

country might constitute a risk factor for adolescents' mental health, whilst others can function as protective factors (i.e., social support) (Fazel et al., 2012). These postmigration social factors have been estimated as having an equal or even greater effect than premigration factors on mental health (Watters, 2001). Social support is an important protective factor against experiencing trauma and developing mental health problems in a post-migration phase (Lustig et al., 2004). Having social support is also associated with feeling less isolated and a higher sense of belonging (Kelaher et al., 2001), which might be especially important at a time when migrant youths find like they neither belong to their community of origin, nor the community they resettled in (De Berry & Boyden, 2000). Moreover, the strength of social networks might impact newcomers' access to resources and services in the host society (McMichael & Manderson, 2004). Yet, for newcomers, social support often dwindles after arrival (Stewart et al., 2008), since existing social networks might be disrupted or weakened (McMichael & Manderson, 2004). Additionally, newcomers report that, after settlement, difficulties arise in their existing family support dynamics, where changes in roles, expectations and values may give rise to conflicts (Stewart et al., 2008). This might be particularly the case for young refugees who are separated from their families (Derluyn & Ang, 2020).

Whilst social support carries the potential of improving mental health, perceived discrimination has an opposite effect, both for migrants and non-migrants (Flores et al., 2010; Williams, 2012). Ethnic discrimination, described as *'unfair treatment that a person attributes to his or her ethnicity*' (Contrada et al., 2000, p.136), constitutes a distinctive chronic stressor (Lewis, Cogburn & Williams, 2015). Discrimination can refer to social distancing, isolation, stigmatisation, exclusion, violence or harassment (Contrada et al., 2000). Studies have shown that exposure to discrimination is significantly associated with externalizing behaviour, such as aggressive behaviour or substance abuse (Bogart et al., 2013; Okamoto et al., 2009). For migrants, both newcomers as non-newcomers, higher levels of perceived discrimination are associated with lower levels of adaptation (Buchanan et al., 2018), less prosocial behaviour (Davis et al., 2016) and mental health

problems, especially in refugees where discrimination can compound previous trauma (Walker & Zuberi, 2020).

Social determinants, in this case social support and discrimination, thus constitute protective or risk factors to developing mental health problems for both migrants as non-migrants. However, the possible differences between young newcomers, non-newcomer adolescent migrants (migrants who are for longer time staying in the host country) and peers without any migration background remain unclear. While the evidence base is rather scarce, it does seem apparent that they function neither separately nor parallel to one another. Family context and other social support networks might function as a moderating factor between discrimination and mental health (Borders & Liang, 2011; Vines et al., 2017). High levels of social support from family and friends have been associated with a reduction of the effect of discrimination on psychological distress or suicidal ideation (Rollock & Lui, 2016). The interplay between social support and discrimination has however, to the authors' knowledge, not yet been investigated whilst making the comparison between young newcomers, non-newcomer adolescent migrants and non-migrants peers.

This aim of this study is to explore the role of social determinants (i.e., discrimination and different forms of social support and their interplay) on the mental health of adolescent newcomers, non-newcomer migrants and non-migrants across three European countries (i.e., Sweden, Finland, and United Kingdom (UK)).

METHODOLOGY

Recruitment and procedure

The RefugeesWellSchool-project (www.refugeewellschool.org) is a large-scale EU-funded Horizon2020 project evaluating the effectiveness of preventive psychosocial interventions for adolescent newcomer migrants in schools. This study focuses on the data collected in the framework of this study's pre-intervention baseline measurement. In Finland, Sweden and the UK, between January 2018 and October 2019, large schools with newcomers that were geographically reachable were contacted. All schools received information about the project and were invited to participate in

a full randomised-control study; 27 schools agreed to participate (Finland: *n*=16; Sweden: *n*=9; UK: *n=2*). In these schools, classes with newcomer migrants, in combination with additional selection criteria of class size, literacy and host country language proficiency, were selected, resulting in the inclusion of 171 classes.

Information on the study was provided to teachers, parents and adolescent students through a written information sheet in their language and audio-visual information sessions with interpreters. Researchers were present at all times alongside teachers to obtain verbal and written informed consent of all students after providing tailored, translated and comprehensive explanation on the project and their rights as well as an explanation of how data would be used. For those adolescents younger than the legally determined age of consent, parental informed consent was also sought. The large majority of students present in the class at time of the assessment participated in the study, with very few that dropped out, mainly due to lack of parental consent.

Assessment was carried out through administration of standardized questionnaires between January 2019 and March 2020. Assessments were carried out between January 2019 and March 2020. The questionnaires were translated and back-translated in 22 languages and administered in schools. Adolescents filled in the questionnaires independently on paper (UK) or online using LimeSurvey (Finland, Sweden) (LimeSurvey Project Team / Carsten Schmitz, 2021). Adolescents were assisted by the research teams or teachers and qualified interpreters were present to support when needed.

Table 1

Across the three countries, *N* = 2,320 adolescents (*M*=13.92 years, *SD*=1.20) participated, *n* = 276 newcomers, *n* = 200 non-newcomer migrants and *n* = 1,844 non-migrants (table 1). Migrants originated from 64 different countries of origin. The most frequently mentioned were Somalia (N = 83, 18.95%), Syria (N = 52, 11.87%), Iraq (N = 41, 9.61%), Eritrea (N = 16, 3.65%), Afghanistan (N = 12, 2.74%).

Measures

Adolescent mental health

Mental health was assessed through three measures, the Children's Revised Impact of Events Scale-8 (CRIES-8; Perrin et al., 2005), the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001) and a question on overall well-being. The CRIES-8 is self-report measure of PTSD for children and adolescents from 8 to 18. The 8 items are scored on a 4-point Likert scale (0=not at all, 1=rarely, 3=sometimes, 5=often). The sum score has shown good internal consistency and validity as was the case in this study ($\alpha = 0.95$). The widely used and validated SDQ is a 25-item measure of emotional and behavioural difficulties in children and adolescents translated in over 40 languages (Goodman et al., 2001). Each item is scored on a 3-point Likert scale (0=not true, 1=somewhat true, 2=certainly true). There are five subscales: emotional distress, hyperactivity, behavioural problems, peer relationship problems and prosocial behaviour (Goodman et al., 2001). In this sample the SDQ subscales showed good or acceptable internal consistency (emotional distress: $\alpha = 84$; hyperactivity: $\alpha = 0.77$; behavioural problems: $\alpha = 0.74$; peer relationship problems: $\alpha = 0.69$; prosocial behaviour: $\alpha = 0.76$). Third, overall well-being was measured through one item: 'How would you rate your overall well-being', with answers on a 5-point Likert scale (1=very bad, 2=bad, 3=normal, 4=good, 5=very good).

Daily stressors

The Daily Stressors Scale for Young Refugees (DSSYR; Vervliet et al., unpublished) questions to what extent during the last month adolescents had sufficient access to food, adequate clothing, money, healthcare and a general feeling of security. All items are scored on a 4-point Likert scale (1=never, 2=sometimes, 3=often, 4=always, or I don't know/I don't want to answer). The instrument has not been validated yet, but has been used with refugee adolescents up to 18 years old (Vervliet et al., 2014). The measure showed high internal consistency ($\alpha = 0.92$).

Social Support

The Multidimensional Scale of Perceived Social Support (MSPSS - Zimet et al., 1988) assesses perceived social support. In this study, two subscales were used, namely family and friends support.

Adolescents respond to a 5-point Likert-type scale, ranging from very strongly disagree to very strongly agree. Although not specifically developed for adolescents, studies have shown strong validity and reliability of the measure for adolescents in diverse settings (Canty-Mitchell & Zimet, 2000). The subscales used present high internal consistency (Family: $\alpha = 0.94$; Friends: $\alpha = 0.94$).

Perceived discrimination

First, adolescents were asked to answer whether they felt discriminated against based on their 'skin colour', 'nationality', 'religion', 'for being a refugee or migrant', 'sexual orientation' (yes/no questions). Multiple or no answers could be selected. The exclusion and discrimination subscales of the Brief Perceived Ethnic Discrimination Questionnaire (PEDQ) measure experiences of ethnic discrimination within a social or interpersonal context. The total scale has been validated in a range of culturally diverse and adolescent study populations (Brondolo et al., 2005). Nine items had to be answered on a 4-point Likert scale (1=never, 2=sometimes, 3=often, 4=always). High internal consistency was found for the PEDQ ($\alpha = 0.89$).

Ethics statement

The study has received ethics approval from the Institutional Review Boards of all participating academic institutions (Ghent University, University of Copenhagen, KULeuven, NKVTS, University of Sussex, University of Tampere and Uppsala University). Registration of the study as clinical trial was done in the ISCRTN registry (n° 10386208).

Statistical analysis

Figure 1

A simplified version of the variables used in the analysis can be found in figure 1. Using the lavaan package version 0.6-8 (Rosseel, 2012) a multigroup confirmatory factor analysis (CFA) was carried out with weighted least squares mean- and variance-adjusted (WLSMV) estimator for each latent construct to determine if the theorized measurement model showed an acceptable fit to the

data. To calculate Ddmodel parameters and full weight matrix for mean-and variance-adjected test statistic and robust standard errors diagonally weighted least squares (DWLS) were applied. The Several fit indices were used to determine i.e., the chi-square test statistic and p-value, Root Means Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Tucker-Lewis Index (TLI) and Comparative Fit Index (CFI). An RMSEA value lower than .06 is considered a good fit (Hu & Bentler, 1999) while below .08 an acceptable fit (Schreiber et al., 2006). CFI and TLI values above .95 were considered a good fit, and above .90 acceptable fit (Brown, 2015). Based on standardised factor loadings or medication indices (if fit indices were not adequate) measurement models were adjusted through removal of indicators or adding correlations.. Measurement invariance is tested in a series of tests. In the first test, a model where all parameters were free is compared to a model where the factor loadings of the items are restricted to be equal for the two timepoints. A significant p-value indicated weak measurement invariance or metric invariance In a second test, the model with restricted factor loadings is compared to a model with restricted factor loadings and equal intercepts for the items. A non-significant test implies there is strong measurement invariance or scalar invariance. A series of tests was carried out to analyse measurement invariance. In the first test a model with free parameters was compared with a model with restricted factor loadings of items to determine whether there is weak measurement invariance. A second test compared the restricted model with a model with equal intercepts and restricted factor loadings for the items to determine scalar invariance.

Second, a full multigroup structural equation model was fitted to the data using 'WLSMV'-estimators. To deal with missing data, multiple imputation was performed, using the R-package mice, version 3.12 (van Buuren & Groothuis-Oudshoorn, 2011). Rubin's (1987) rules were used to pool point estimates and standard error estimates across five imputed data sets. The fit of the model to the data was evaluated, using the same fit indices as above. Reference Groups for dummy variables were Nationals (Group), Female (Gender), Finland (Country).

Last, we used a structural equation model (SEM) to examine predictors of mental health, including the relation between daily material stress, social support and discrimination and mental health outcomes. Differences between groups on social determinants were calculated by independent sample t-tests. Statistical analyses were carried out using R 4.0.3 and SPSS 18.

Confirmatory Factor Analysis

CRIES: The scale model showed metric invariance X^2 (8) = 21.82, p = 0.01. Further analysis of the modification indices suggested allowing a correlation between items 5 and 8 ('Do you try not talk about it?' and 'Do you try not to think about it?'), and items 6 and 7 ('Do pictures about it pop into your mind?' and 'Do other things keep making you think about it?'). The modified model showed a good fit (CFI = 0.99; RMSEA = 0.09).

PEDQ: The scale model showed metric invariance (X^2 (16)= 30.79, p = 0.01). Further analysis suggested allowing a correlation between items 1 and 6 ('Have you been treated unfairly by principals or other staff at school?' and 'Has your teacher been unfair to you?'). The modified model showed a good fit (CFI = 0.99; RMSEA = 0.06).

SDQ (+ subscales): All subscales Emotional problems (metric invariance: X^2 (8)= 21.82, p = 0.01; CFI = 0.99; RMSEA = 0.04), Behavioural problems (scalar invariance: X^2 (8)= 6.22, p = 0.62; CFI = 0.99; RMSEA = 0.03), Hyperactivity (metric invariance: X^2 (4)= 5.50, p = 0.24; CFI = 0.99, RMSEA = 0.04), Peer problems (metric invariance: X^2 (8)= 18.51, p = 0.02; CFI = 0.99,RMSEA = 0.03), Prosocial behaviour (metric invariance: X^2 (8)= 25.73, p = 0.00; CFI = 0.99, RMSEA = 0.04) showed a good fit.

Daily stressors had scalar invariance (X^2 = 22.28, p = 0.44) and good fit (CFI = 0.99, RMSEA = 0.03, scalar invariance). *MSPSS* (family: scalar invariance: X^2 (6)= 11.66, p = 0.07; CFI = 0.99, RMSEA = 0.05; friends: scalar invariance: X^2 (6)= 11.66, p = 0.07; CFI = 0.99, RMSEA = 0.05) and *full SEM model* (CFI = 0.95, RMSEA = 0.05): all models showed a good model fit.

RESULTS

Group differences in mental health

Tables 2 and 3

Newcomers reported higher levels of PTSD and more peer problems than non-migrants and non-newcomers, while they score lower on hyperactivity compared to non-migrants and non-newcomers (means and SD: table 2; significance levels: table 3). When it comes to emotional distress, behavioural problems, prosocial behaviour and well-being, there were no significant differences between groups.

Respondents reported on average more PTSD in Sweden and in the UK compared to Finland. Yet, all effects of country need to be interpreted with caution, since they might be impacted by the larger percentage of Finnish non-migrants in the sample. In the UK, adolescents displayed on average more emotional distress than in Sweden or Finland. Respondents in the UK and Sweden score significantly higher on the hyperactivity scale then their Finnish peers. Swedish adolescents have better prosocial behaviour than adolescents in Finland and the UK. Finnish and Swedish adolescents reported higher overall well-being than those in the UK.

Male respondents scored lower on PTSD, emotional distress and hyperactivity than peers who labelled themselves as female or differently. Girls reported higher prosocial behaviour than boys who in turn reported more than adolescents who identify as other. Boys reported significantly higher well-being than girls or those who identified differently.

Older adolescents had significantly lower levels of overall well-being than younger ones.

Last, daily material stressors had a significant negative effect on all mental health outcomes.

Social support

Table 4

Non-migrants reported the highest levels of social support from both family as friends compared to both newcomers (family: $t(1995)=50.87$, $p=001$; friends: $t(1984)=1.70$, $p=000$) and non-newcomer migrants (family: $t(1928)=26.64$, $p=001$; friends: $t(1923)=1.06$, $p=001$) (table 4).

Newcomers indicate they have more support from family members than non-newcomers ($t(435)=.73$, $p<.001$), while they have the same levels of social support from friends ($t(421)=.01$, $p=.016$).

Figure 2

There was no main effect of social support from friends on PTSD. However, an interaction effect showed that the protective effect of social support from friends on PTSD was stronger for newcomers than for non-migrants and non-newcomers (Figure 2). No interaction effects were found between discrimination and social support neither from peers nor family members on PTSD. Respondents who reported more social support from family had less emotional distress in all three groups. There was no effect of social support from friends on the level of emotional distress.

Lower level of family support was associated with higher levels of behavioural problems and hyperactivity in all groups. Social support from friends also had a significant effect on hyperactivity, namely more support from friends leads to higher scores on the SDQ's hyperactivity scale both for newcomers, non-newcomers and non-migrants.

Support of family members did not have a main effect on peer relationship problems. There was however an interaction effect between social support from friends as well as from family and whether or not adolescents were newcomers, non-newcomers or non-migrants. The effect of social support from friends and family on peer relationship problems was stronger for newcomers than for their peers.

Higher levels of social support from family were associated with higher levels of prosocial behaviour. The interaction effect showed how for newcomers the effect of family support on prosocial behaviour was stronger than for non-migrants and non-newcomers.
Respondents that received more support from family members or more support from friends also had higher scores of overall well-being.

Discrimination

All three groups report similar levels of discrimination (Table 4). Newcomers (22.8%) and non-newcomers (21.3%) feel discriminated based on their skin colour more often than non-migrants (5.8%). About 15% of newcomers and 16% of non-newcomers feel discriminated against based on their nationality. Only 3.4% of non-migrants says the same. 14% of non-newcomers feel discriminated based on their religion, versus 22% of newcomers and 4% of non-migrants. Mainly newcomers (21%) and non-newcomers (15%) feel discriminated against for being a refugee or migrant. 5.6% of newcomers, 5.4% of non-newcomers and 3.9% of non-migrants feel discriminated against because of their sexual orientation.

Higher levels of discrimination were associated with higher levels of PTSD, emotional distress, behavioural problems, and well-being for all groups. There was a significant effect of discrimination on peer problems, hyperactivity and prosocial behaviour however this effect was significantly weaker for newcomers than for their peers (Figure 3).

Social support and discrimination

No interaction effects were found between discrimination and family support or discrimination and social support from friends on PTSD, prosocial behaviour, behavioural and emotional problems. Some interaction effects were found between social support and discrimination. An interaction effect of discrimination and social support from friends existed for hyperactivity and peer relationship problems. For adolescents who reported more social support from friends the effect of discrimination on hyperactivity, and problems with peers was stronger. More family support weakens the negative effect of discrimination on well-being.

DISCUSSION

The primary objective of this study was to assess mental health of young newcomers, non-newcomer migrants and non-migrant adolescents and the role of social determinants, i.e., discrimination and social support, herein. Surprisingly, no significant differences were found in the

level of perceived discrimination between the three groups, although newcomers and non-newcomers feel more discrimination because of their skin colour, nationality, religion of being a refugee or migrant than non-migrant peers. The negative impact of discrimination on mental health was consistently evident for all groups. Concerning social support, migrants, and especially newcomers, have significantly lower levels of social support than non-migrants, and support from family members consistently served as a protective factor for a range of mental health problems.

Differences in mental health profiles were found between the three groups, calling for a nuanced understanding of the mental health profiles and needs of newcomers, non-newcomer migrants and non-migrants. First, newcomers reported more trauma-related problems than their peers. The lower levels in non-newcomer migrants could potentially be explained by decreases in psychological distress with time after resettlement (Montgomery, 2010), more stable residence status after periods of pending procedures or reduction in acculturation difficulties (Porter & Haslam, 2005). Whilst newcomers have the highest levels of PTSD, they are more susceptible to the protective effect of social support of friends than their non-newcomer migrant and non-migrant peers. A potential explanation could be linked to the positive impact social support has on trauma (Guay et al., 2006). So for newcomers, more (and better) social support at the time of resettlement could potentially reduce the development (and maintenance) of maladaptive responses to trauma, while an increase in social support for non-newcomers might be less impactful on already developed maladaptive responses to traumatic events (Gatt et al., 2020).

When it comes to emotional distress and behavioural problems, non-newcomers report similar levels compared to newcomers and non-migrants (Derluyn et al., 2008). The protective nature of support from family exists for all groups while support from friends does not protect from developing emotional stress or behavioural problems which could be due to the emotional salience of family support relationships (Serovich et al., 2001). The impact of discrimination on emotional distress and behavioural problems is strong for all groups.

Non-newcomer migrants and non-migrants report more hyperactivity symptoms than newcomers. The differentiation between newcomers and non-newcomer migrants can provide insight into why these findings do not align with earlier findings stating that migrants have less hyperactivity symptoms than non-migrants (Derluyn et al., 2008). Social support from friends seems to result in increased hyperactivity. A potential explanation could be that more support from friends pushes adolescents to practice engagement instead of avoidant coping, while avoidant coping is said to be more adaptive in situation with high levels of stigmatisation and discrimination after traumatic events (Harnisch & Montgomery, 2017; Verelst et al., 2020). Higher levels of friend support combined with higher levels of discrimination are associated with more hyperactivity. Although few studies provide potential insight in this rather counterintuitive finding, You and Lee (2005) point to the possibility of the strength of adherence to an ethnic identity, which might explain that, in times of high levels of discrimination, approaching friends or loved ones might make people worse, because it increases the experience of an attack on the in-group and subsequently the core self of the person belonging to that group.

Migrants have more peer relationship problems than non-migrants (Derluyn et al., 2008), yet there is a stronger protective effect of friend and family support on these problems for newcomers. The consistent strong negative impact of discrimination also exists for peer relationship problems while being weaker for newcomers.

For all groups, prosocial behaviour is at similar levels, and positively affected by social support, whilst negatively affected by discrimination. For newcomers however, discrimination impacts prosocial behaviour less than for their peers. Research found that when people feel discriminated against because of their background (e.g. ethnicity, race) they are more likely to engage in prosocial behaviour that favours how their group is seen (O'Leary and Romero 2011). With higher levels of perceived discrimination because of their migration status than their peers, newcomers might be more likely to portray prosocial behaviour when confronted with more discrimination. More social support from friends does lead to higher levels of overall well-being, also

for non-newcomer migrants and non-migrants. The negative effect of discrimination on well-being is apparent but family support does offer some protection which aligns with the previous studies (Chung & Epstein, 2014).

For most mental health outcomes few interaction effects between social support and discrimination were found. Our data thus do not unambiguously support the hypothesis that social support can buffer the effect of discrimination on mental health, which point to the importance of both factors as separately impacting mental health problems of adolescents, in particular adolescents with a migration background.

Last, echoing a wide array of other studies (see e.g., Vervliet et al., 2014), daily material stressors significantly impact adolescents' mental health, both for adolescents with and without a migration background.

Limitations

Several limitations that could hamper generalizability of the results need to be addressed. Firstly, the non-migrant sample was larger compared to the newcomer and migrant samples and study participants were not equally distributed across the study countries (Finland: N = 1811, UK: N = 229, Sweden: N = 280). Moreover, due to the sample size and not equally distributed data in grouping variables, we were unable to control for effects within groups, for example social support for unaccompanied newcomers. In addition, the intragroup profile of non-migrants might be very heterogenous. Since we did not ask questions about the country of origin of participants' parents or their ethnic background, we could not differentiate the so-called 'second' or 'third generation'-migrants for nationals. The inclusion of migrant-dense schools in this study might potentially bias the results, as psychological well-being, peer relations and perceived discrimination in migrant adolescents vary greatly by migrant density of the schools with better well-being and peer relations in migrant dense schools (Hjern et al., 2013).

Second, the cross-sectional study design of this analysis doesn't allow to draw any conclusions regarding causality, and rather stimulates future research on evaluating the effect of discrimination and social support on mental health in longitudinal study designs.

Third, a major potential limitation to this study is the lack of differentiation between refugees and non-refugees (e.g. immigrants) in the sample. This study was conducted in a con-clinical school environment therefore sensitive questions related to migration motives, legal status, or other potentially relevant concepts (e.g. history of traumatic life events) in the assessment were not included. However, for refugee adolescents, pre-migration stressors may remain to have an distinctive impact on mental health (Dye, 2018; Scharpf, Kaltenback, Nickerson, & Hecker, 2020; Miller & Rasmussen, 2017) which could have led to higher levels of PTSD and mental health problems. Some of the central variables measured in this study (i.e. social support or daily stressors) could be very different among refugee and migrant youth. In further research, it is important to further explore the differentiation between refugees and non-refugees, in particular in relation to earlier traumatic experiences and migration motives.

Fourth, although translated into many languages, the cross-cultural validity of the measures and their meaning and interpretation across cultures and groups might be limited. Results need therefore be interpreted with caution, and future in-depth qualitative studies inquiring these cultural specificities in particular subgroups might help to better interpret quantitative data.

Implications

This study sheds light on diverse symptom profiles in three distinct groups of youth: newcomers, non-newcomer migrants and non-migrants. Reported rates of mental health issues call for action regarding the implementation of stepped and collaborative care models with (psychosocial) mental health interventions, ranging from (trauma-focused) therapy by professional therapists to low-level interventions (e.g. at schools). The importance of the social determinants on mental health of young migrants and non-migrants support psychosocial interventions that go

beyond individual therapies that are focusing solely on individual symptomatology towards interventions that also foster social support and reduce discrimination. This study demonstrated the strong impact that social support from family can have on youth mental health which highlights the need of including family-level interventions in the mental health care of youth with and without a migration background. Contrary to social support, discrimination was found to negatively influence the development of mental health issues which makes the discussion of experienced discrimination a relevant corner stone in treatment and the process of a successful integration in the (new) society.

REFERENCES

Blackmore, R., Gray, K.M., Boyle, J.A., Fazel, M., Ranasinha, S., Fitzgerald, G., ... & Gibson-Helm, M. (2019). Systematic review and meta-analysis: the prevalence of mental illness in child and adolescent refugees and asylum seekers. *Journal of the American Academy of Child & Adolescent Psychiatry*, *59*(6), 705-714. DOI: 10.1016/j.jaac.2019.11.011

Bogart, L.M., Elliott, M.N., Kanouse, D.E., Klein, D.J., Davies, S.L., Cuccaro. P.M., et al. (2013). Association between perceived discrimination and racial/ethnic disparities in problem behaviors among preadolescent youths. *American Journal of Public Health, 103*, 1074–81. doi: 10.2105/AJPH.2012.301073

Brondolo, E., Kelly, K. P., Coakley, V., Gordon, T., Thompson, S., Levy, E., Cassells, A., Tobin, J. N., Sweeney, M., & Contrada, R. J. (2005). The Perceived Ethnic Discrimination Questionnaire: Development and preliminary validation of a community version. *Journal of Applied Social Psychology, 35*, 335-365. https://doi.org/10.1111/j.1559-1816.2005.tb02124.x

Borders A. & Liang C.T.H. (2011). Rumination partially mediates the associations between perceived ethnic discrimination, emotional distress, and aggression. *Cultural Diversity and Ethnic Minority Psychology, 217*, 125-133. https://doi.org/10.1037/a0023357

Brown, T.A. (2015). *Confirmatory factor analysis for applied research*. New York: Guilford Press.

Canty-Mitchell, J., & Zimet, G. D. (2000). Psychometric properties of the Multidimensional Scale of Perceived Social Support in urban adolescents. *American Journal of Community Psychology*, *28*(3), 391-400. https://doi.org/10.1023/a:1005109522457

Chung, H., & Epstein, N. B. (2014). Perceived racial discrimination, acculturative stress, and psychological distress among Asian immigrants: The moderating effects of support and interpersonal strain from a partner. *International Journal of Intercultural Relations*, *42*, 129-139. https://doi.org/10.1016/j.ijintrel.2014.04.003

Close, C., Kouvonen, A., Bosqui, T., Patel, K., O'Reilly, D., & Donnelly, M. (2016). The mental health and wellbeing of first generation migrants: a systematic-narrative review of reviews. *Globalization & Health*, *12*, 1-13. https://doi.org/10.1186/s12992-016-0187-3

Contrada, R. J., Ashmore, R. D., Gary, M. L., Coups, E., Egeth, J. D., Sewell, A., Goyal, T. M., & Chasse, V. (2000). Ethnicity-related sources of stress and their effects on well-being. *Current Directions in Psychological Science*, *9*(4), 136-139. https://doi.org/10.1111/1467-8721.00078

Davis, A. N., Carlo, G., Schwartz, S. J., Unger, J. B., Zamboanga, B. L., Lorenzo-Blanco, E. I., & Soto, D. (2016). The longitudinal associations between discrimination, depressive symptoms, and prosocial behaviors in US Latino/a recent immigrant adolescents. *Journal of Youth and Adolescence*, *45*(3), 457-470.

De Berry, J., & Boyden, J. (2000). Children in adversity. *Forced Migration Review*, *9*(4), 33-36.

Derluyn, I. & Ang, W. (2020). Family Relationships and Intra-family Expectations in Unaccompanied Young. In: L. De Haene & C. Rousseau (eds.), *Working with Refugee Families. Trauma and Exile in Family Relationships.* Cambridge: Cambridge University Press.

Derluyn, I., Broekaert, E., & Schuyten, G. (2008). Emotional and behavioural problems in migrant adolescents in Belgium. *European Child & Adolescent Psychiatry*, *17*, 54-62. https://doi.org/10.1007/s00787-007-0636-x

Fazel, M., Reed, R.V., Panter-Brick, C., & Stein, A. (2012). Mental health of displaced and refugee children resettled in high-income countries: risk and protective factors. *Lancet*, *379*, 266–82. https://doi.org/10.1016/s0140-6736(11)60051-2

Flores, E., Tschann, J. M., Dimas, J. M., Pasch, L. A., & de Groat, C. L. (2010). Perceived racial/ethnic discrimination, posttraumatic stress symptoms, and health risk behaviors among Mexican American adolescents. *Journal of Counseling Psychology*, *57*(3), 264-273. https://doi.org/10.1037/a0020026

Gatt, J. M., Alexander, R., Emond, A., Foster, K., Hadfield, K., Mason-Jones, A., Reid, S., Theron, T., Ungar, M., Wouldes, T. A., & Wu, Q. (2020). Trauma, resilience, and mental health in migrant

and non-migrant youth: an international cross-sectional study across six countries. *Frontiers in Psychiatry*, *10*, 997. https://doi.org/10.3389/fpsyt.2019.00997

Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire (SDQ). *Journal of the American Academy of Child & Adolescent Psychiatry, 40*, 1337–1345. https://doi.org/10.1097/00004583-200111000-00015

Guay, S., Billette, V., & Marchand, A. (2006). Exploring the links between posttraumatic stress disorder and social support: Processes and potential research avenues. *Journal of Traumatic Stress, 19*, 327-338. https://doi.org/10.1002/jts.20124

Harnisch, H., & Montgomery, E. (2017). "What kept me going": A qualitative study of avoidant responses to war-related adversity and perpetration of violence by former forcibly recruited children and youth in the Acholi region of northern Uganda. *Social Science & Medicine*, *188*, 100-108. https://doi.org/10.1016/j.socscimed.2017.07.007

Hu, L.T., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*, 1-55. https://doi.org/10.1080/10705519909540118

Kelaher, M., Potts, H., & Manderson, L. (2001). Health issues among Filipino women in remote Queensland. *Australian Journal of Rural Health*, *9*, 150-157. https://doi.org/10.1046/j.1038-5282.2001.00342.x

Laban, C.J., Gernaat, H.B., Komproe, I.H., Van Der Tweel, I., & De Jong, J.T. (2005). Postmigration living problems and common psychiatric disorders in Iraqi asylum seekers in the Netherlands. *Journal of Nervous & Mental Disease*, *193*, 825-832. https://doi.org/10.1097/01.nmd.0000188977.44657.1d

Lewis, T.T., Cogburn, C.D., & Williams, D.R. (2015). Self-reported experiences of discrimination and health: scientific advances, ongoing controversies, and emerging issues. *Annual Review of Clinical Psychology, 11*, 407–440. https://doi.org/10.1146/annurev-clinpsy-032814-112728

LimeSurvey Project Team / Carsten Schmitz (2012). *LimeSurvey: An Open Source survey tool.* Hamburg, Germany. Retrieved from http://limesurvey.org

Lustig, S.L., Kia-Keating, M., Knight, W.G., Geltman, P., Ellis, H., Kinzie, J. D., Keane, T., & Saxe, G. N. (2004). Review of Child and Adolescent Refugee Mental Health. *Journal of the American Academy of Child & Adolescent Psychiatry, 43,* 24–36. https://doi.org/10.1097/00004583-200401000-00012

McMichael, C., & Manderson, L. (2004). Somali women and well-being: Social networks and social capital among immigrant women in Australia. *Human Organization*, *63*, 88-99. https://doi.org/10.17730/humo.63.1.nwlpjdj4d4l9756l

Migration Portal (n.d.). *Child and young migrants*. https://migrationdataportal.org/themes/child-and-young-migrants.

Miller, K.E., & Rasmussen, A. (2017). The mental health of civilians displaced by armed conflict: An ecological model of refugee distress. *Epidemiology & Psychiatric Sciences*, *26*, 129–138. https://doi.org/10.1017/s2045796016000172

Montgomery, E. (2010). Trauma and resilience in young refugees: a 9-year follow-up study. *Development & Psychopathology*, 22, 477–489. https://doi.org/10.1017/s0954579410000180

Okamoto, J., Ritt-Olson, A., Soto, D., Baezconde-Garbanati, L., & Unger, J.B. (2009). Perceived discrimination and substance use among Latino adolescents. *American Journal of Health Behavior*, *33*, 718-727. DOI: 10.5993/ajhb.33.6.9

O'Leary, A., & Romero, A. (2011). Chicana/o students respond to Arizona's anti-ethnic studies bill, SB 1108: Civic engagement, ethnic identity, and well-being. *Aztlan: A Journal of Chicano Studies*, *36*(1), 9-36.

Perrin, S., Meiser-Stedman, R., & Smith, P. (2005). The Children's Revised Impact of Event Scale (CRIES): Validity as a screening instrument for PTSD. *Behavioural & Cognitive Psychotherapy*, *33*, 487–498. https://doi.org/10.1017/s1352465805002419

Porter, M., & Haslam, N. (2005). Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: a meta-analysis. *JAMA-Journal of the American Medical Association, 294*(5), 602-612. https://doi.org/10.1001/jama.294.5.602

Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*, 1–36. https://doi.org/10.18637/jss.v048.i02

Rollock, D., & Lui, P.P. (2016). Do spouses matter? Discrimination, social support, and psychological distress among asian Americans. *Cultural Diversity & Ethnic Minority Psychology, 22*, 47–57. https://doi.org/10.1037/cdp0000045

Rubin, D.E. (1987). *Multiple imputation for nonresponse in surveys.* New York: Wiley.

Sangalang, C. C., Becerra, D., Mitchell, F. M., Lechuga-Peña, S., Lopez, K., & Kim, I. (2019). Trauma, post-migration stress, and mental health: a comparative analysis of refugees and immigrants in the United States. *Journal of Immigrant and Minority Health*, *21*(5), 909-919. https://doi.org/10.1007/s10903-018-0826-2

Scharpf, F., Kaltenbach, E., Nickerson, A., & Hecker, T. (2020). A systematic review of socio-ecological factors contributing to risk and protection of the mental health of refugee children and adolescents. *Clinical Psychology Review*, 83, 101930. Doi: 10.1016/j.cpr.2020.101930

Serovich, J.M., Kimberly, J.A., Mosack, K.E., & Lewis, T.L. (2001). The role of family and friend social support in reducing emotional distress among HIV-positive women. *AIDS Care*, *13*, 335-341. https://doi.org/10.1080/09540120120043982

Shakya, Y.B., Khanlou, N., & Gonsalves, T. (2010, Summer). Determinants of mental health for newcomer youth: Policy and service implications. *Canadian Issues,* 98-102.

Stewart, M., Anderson, J., Beiser, M., Mwakarimba, E., Neufeld, A., Simich, L., & Spitzer, D. (2008). Multicultural meanings of social support among immigrants and refugees. *International Migration*, *46*, 123-159. https://doi.org/10.1111/j.1468-2435.2008.00464.x

Suárez-Orozco, C., Gaytán, F. X., Bang, H. J., Pakes, J., O'Connor, E., & Rhodes, J. (2010). Academic trajectories of newcomer immigrant youth. *Developmental Psychology*, *46*, 602-618. https://doi.org/10.1037/a0018201

Verelst, A., Bal, S., De Schryver, M., Say Kana, N., Broekaert, E., & Derluyn, I. (2020). The Impact of Avoidant/Disengagement Coping and Social Support on the Mental Health of Adolescent Victims of Sexual Violence in Eastern Congo. *Frontiers in Psychiatry, 11*, 382. https://doi.org/10.3389/fpsyt.2020.00382

van Buuren, S., & Groothuis-Oudshoorn, K. (2011). Mice: Multivariate Imputation by Chained Equations in R. *Journal of Statistical Software, 45*, 1-67. https://doi.org/10.18637/jss.v045.i03

Vervliet, M., Lammertyn, J., Broekaert, E., & Derluyn, I. (2014). Longitudinal follow-up of the mental health of unaccompanied refugee minors. *European Child & Adolescent Psychiatry*, *23*, 337–346. https://doi.org/10.1007/s00787-013-0463-1

Walker, J., & Zuberi, D. (2020). School-aged Syrian refugees resettling in Canada: mitigating the effect of pre-migration trauma and post-migration discrimination on academic achievement and psychological well-being. *Journal of International Migration & Integration*, *21*, 397-411. https://doi.org/10.1007/s12134-019-00665-0

Watters, C. (2001). Emerging paradigms in the mental health care of refugees. *Social Science & Medicine*, *52*, 1709-1718. https://doi.org/10.1016/s0277-9536(00)00284-7

Williams, D.R., Haile, R., Mohammed, S.A., Herman, A., Sonnega, J., Jackson, J. S., & Stein, D.J. (2012). Perceived discrimination and psychological well-being in the USA and South Africa. *Ethnicity & Health*, *17*, 111-133. https://doi.org/10.1080/13557858.2012.654770

Zimet, G.D., Dahlem, N.W., Zimet, S.G., & Farley, G.K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*, 30-41. https://doi.org/10.1207/s15327752jpa5201_2

Figure 1*: Interaction effect of social support from friends on posttraumatic symptoms per group*

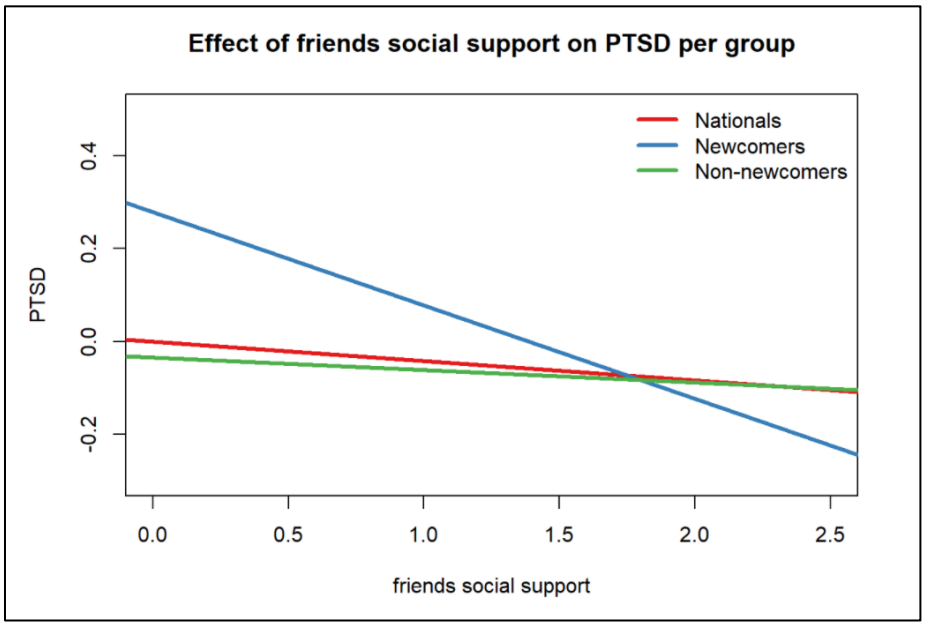

Figure 2: *Interaction effect of social support from friends on emotional distress per group*

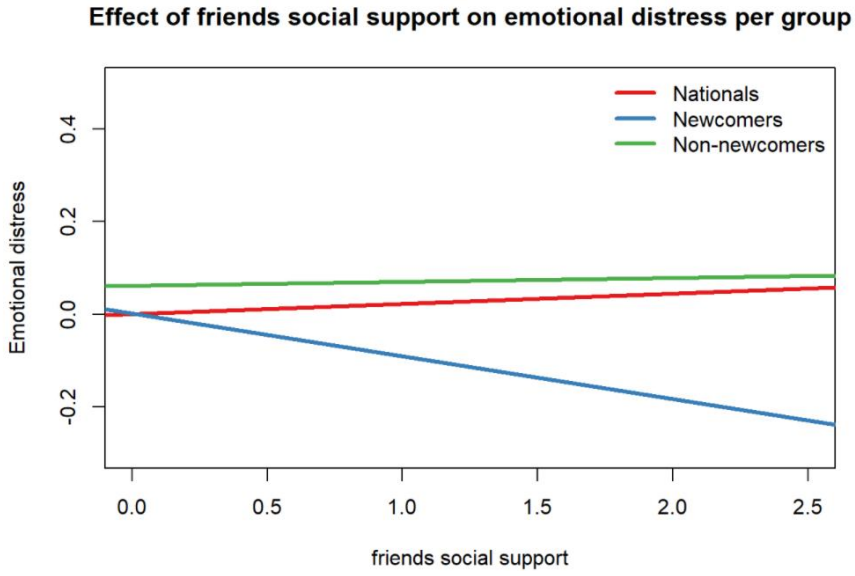

Figure 3: *Interaction effect of family support on prosocial behaviour per group*

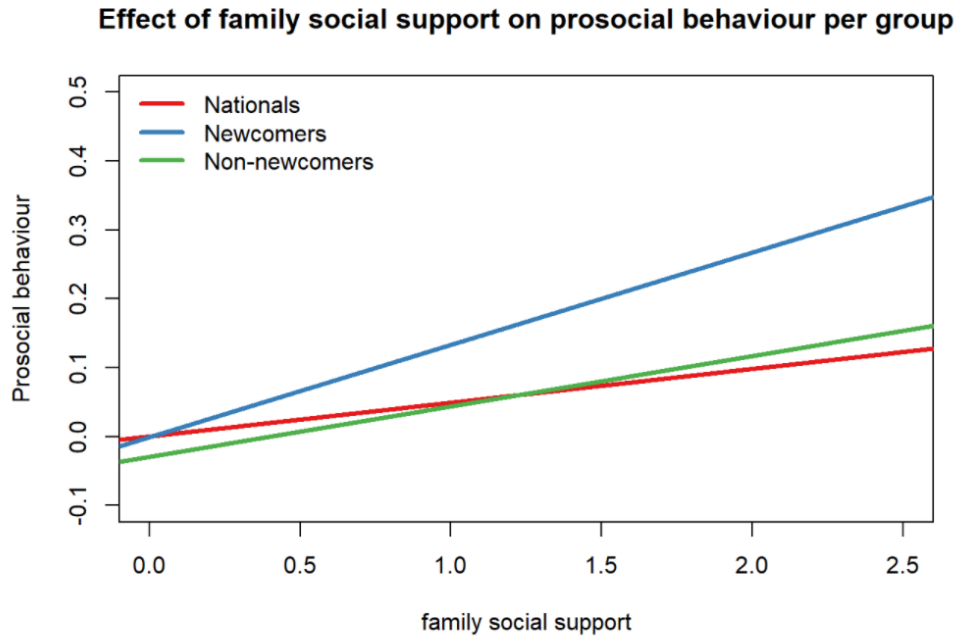

Figure 4: *Interaction effect of discrimination on posttraumatic stress per group*

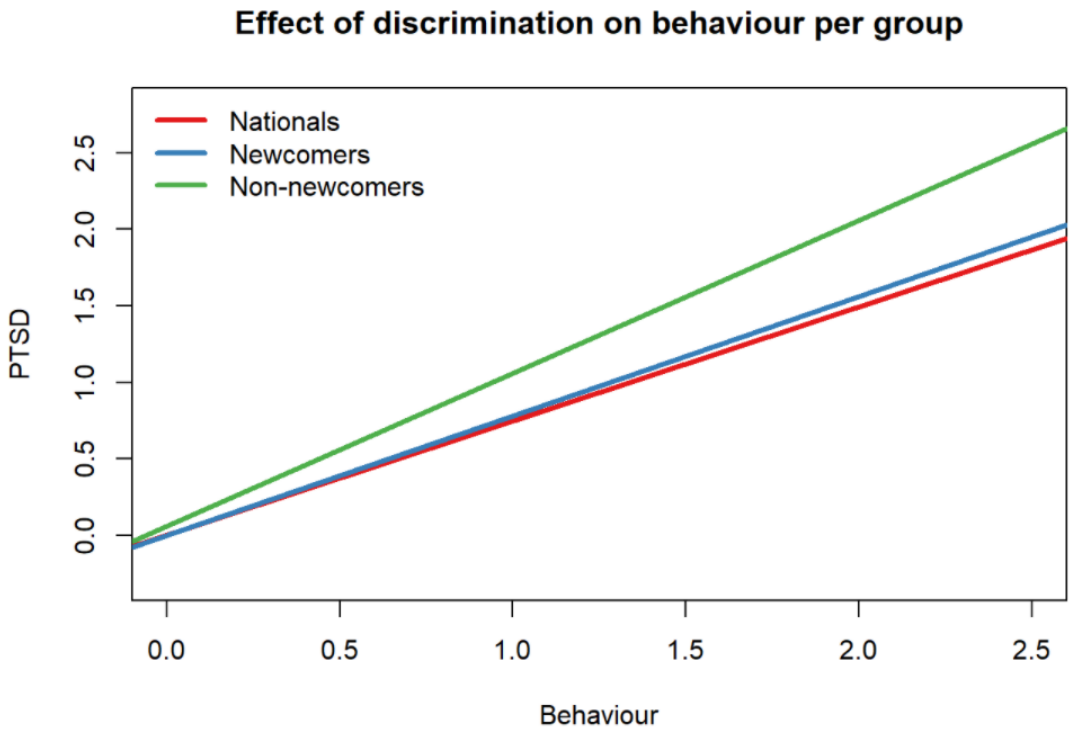

Table 1: *Demographic Characteristics of the Participants*

	Newcomers	Non-Newcomers	Non-migrants	Total
Gender	N = 324	N = 236	N = 2,008	N=2,488
Male	60.2	48.8	50.0	51.1
Female	38.8	50.2	48.5	47.5
Other	1.0	1.0	1.5	1.4
Age	N = 288	N = 201	N = 1,845	N = 2,334
11 years	0.3	0.0	0.0	0.0
12 years	5.9	3.0	3.4	3.6
13 years	17.7	28.4	38.9	35.3
14 years	21.9	31.3	35.9	33.8
15 years	20.8	20.8	23.9	21.0
16 years	16.3	10.4	0.8	3.6
17 years	8.7	2.0	0.2	1.4
18 years	4.2	0.5	0.0	0.6
19 years	1.4	0.0	0.0	0.2
20 years	0.7	0.0	0.0	0.1
21 years	0.0	0.0	0.1	0.0
22 years	0.3	0.0	0.0	0.0
23 years	0.3	0.0	0.0	0.0
24 years	1.4	0.5	0.0	0.2
Country	N = 324	N = 236	N = 2,008	N = 2,568
Finland	6.7	6.8	86.5	79.7
Sweden	45.2	24.0	30.8	11.4
United Kingdom	23.6	11.8	64.6	8.9

%

Table 2: *Fit Indices of Final Models*

	TLI	CFI	RMSEA	SRMR
CRIES-8	.99	.99	.09	.04
SDQ – emotional problems	.99	.99	.04	.03
SDQ – behavioural problems	.99	.99	.03	.03
SDQ – Hyperactivity	.98	.99	.06	.04
SDQ – Peer relationship problems	.98	.99	.03	.03
SDQ – Prosocial Behaviour	.99	.99	.04	.03
Daily stressors	.99	.99	.03	.03
PEDQ	.99	.99	.06	.06
Social support – Family	.99	.99	.06	.01
Social support - Friends	.99	.99	.06	.01
Full SEM model	.96	.94	.05	.06

Table 3: *Mental Health in Newcomer, Non-newcomer and Non-migrant Adolescents*

Scale	Newcomers	Non-Newcomer migrants	Non-migrants
CRIES-8	N = 266	N = 196	N = 1,869
	11.77 (10.39)	8.20 (9.48)	6.67 (8.20)
SDQ emotional distress	N = 280	N = 200	N = 1,948
	2.68 (2.28)	2.78 (2.18)	2.85 (2.40)
SDQ behavioural	N = 273	N = 200	N = 1,935
problems	2.23 (1.45)	2.57 (1.77)	2.23 (1.45)
SDQ hyperactivity	N = 275	N = 201	N = 1,940
	4.24 (1.73)	3.88 (1.81)	3.82 (1.85)
SDQ peer relationship	N = 281	N = 200	N= 1,945
problems	4.01 (1.29)	4.24 (1.73)	3.33 (1.30)
SDQ prosocial behaviour	N = 281	N = 199	N = 1,941
	7.52 (2.18)	7.52 (2.02)	7.32 (1.87)
Overall Well-being	N = 270	N = 197	N = 1,915
	4.01 (1.00)	4.00 (0.93)	4.11 (0.90)

Mean (SD)

Table 4: *Structural Equation Model - Regressions*

	β	SE	Z-value	P-value
SDQ – emotional distress				
Newcomer	-0.017	0.049	-0.337	.736
Non-newcomer migrant	-0.062	0.047	-1.308	.191
Age	0.038	0.012	3.056	.002**
Male	-0.590	0.034	-17.525	.000**
Other gender identity	-0.162	0.121	-1.344	.179
Sweden	-0.096	0.054	-1.770	.077
UK	0.218	0.050	4.359	.000**
Daily Stressors	-0.108	0.023	-4.757	.000**
Discrimination	0.482	0.035	13.834	.000**
Family support	-0.184	0.027	-6.717	.000**
Friend support	-0.027	0.024	-1.122	.262
Discrimination x Newcomer	0.118	0.070	1.681	.093
Discrimnation x Non-newcomer	0.235	0.079	2.970	.003*
Family Support x Newcomer	0.028	0.053	0.531	.596
Family Support x Non-newcomer	-0.086	0.068	-1.266	.205
Friend Support x Newcomer	-0.055	0.050	-1.101	.271
	0.074	0.071	0.044	.296
Friend Support x Non-newcomer	-0.037	0.039	-0.942	.346
Family Support x Discrimination	0.074	0.038	1.979	.048
Friend Support x Discrimination				.
SDQ – behavioural problems	0.001	0.057	0.014	989
Newcomer	0.062	0.058	1.064	.1288

Non-newcomer migrant	0.017	0.014	1.213	.225
Age	0.026	0.032	0.819	.413
Male	0.294	0.130	2.260	.024
Other gender identity	-0.007	0.061	-0.116	.908
Sweden	0.099	0.057	1.714	.086
UK	-0.123	0.025	-4.981	.000**
Daily Stressors	0.747	0.044	16.870	.000**
Discrimination	-0.145	0.030	-4.912	.000**
Family support	0.022	0.026	0.870	.384
Friend support	0.033	0.076	0.430	.668
Discrimination x Newcomer	0.251	0.092	2.736	.006
Discrimnation x Non-newcomer	0.099	0.060	1.645	.100
Family Support x Newcomer	0.036	0.084	0.429	.668
Family Support x Non-newcomer	-0.114	0.060	-1.902	.057
	-0.014	0.082	-0.172	.863
Friend Support x Newcomer	-0.065	0.041	-1.605	.108
Friend Support x Non-newcomer	0.061	0.040	1.514	.130
Family Support x Discrimination				
Friend Support x Discrimination				
SDQ – Hyperactivity				
Newcomer	-0.135	0.058	-2.336	.020*
Non-newcomer migrant	0.057	0.056	1.017	.309
Age	0.035	0.013	2.673	.008**
Male	-0.159	0.033	-4.794	.000**
Other gender identity	0.207	0.123	1.679	.093
Sweden	0.285	0.056	5.041	.000**

UK	0.296	0.059	4.987	.000**
Daily Stressors	-0.100	0.025	-3.952	.000**
Discrimination	0.741	0.042	17.675	.000**
Family support	-0.250	0.035	-7.208	.000**
Friend support	0.096	0.031	3.133	.002*
Discrimination x Newcomer	-0.106	0.076	-1.397	.162
Discrimnation x Non-newcomer	-0.004	0.088	-0.050	.960
Family Support x Newcomer	-0.026	0.062	-0.421	.674
	-0.110	0.075	-1.468	.142
Family Support x Non-newcomer	-0.046	0.060	-0.767	.443
Friend Support x Newcomer	-0.021	0.081	-0.256	.798
Friend Support x Non-newcomer	-0.064	0.043	-1.479	.139
Family Support x Discrimination	0.117	0.044	2.665	.008
Friend Support x Discrimination				
SDQ – peer relationship problems	0.248	0.051	4.841	.000**
Newcomer	0.137	0.053	2.585	.010*
Non-newcomer migrant	-0.004	0.013	-0.302	.763
Age	-0.052	0.031	-1.687	.092
Male	0.081	0.112	0.722	.470
Other gender identity	-0.178	0.058	-3.069	.002*
Sweden	-0.027	0.052	-0.526	.599
UK	-0.155	0.023	-6.815	.000**
Daily Stressors	0.540	0.040	13.528	.000**
Discrimination	-0.020	0.028	-0.717	.473
Family support	-0.305	0.027	-11.287	.000**
Friend support	-0.157	0.067	-2.337	.019

Discrimination x Newcomer	-0.083	0.083	-1.001	.317
Discrimnation x Non-newcomer	-0.158	0.050	-3.168	.002*
	-0.090	0.078	-1.150	.250
Family Support x Newcomer	-0.120	0.046	-2.609	.009*
Family Support x Non-newcomer	-0.148	0.074	-2.005	.045*
Friend Support x Newcomer	0.071	0.038	1.872	.061
Friend Support x Non-newcomer	-0.093	0.038	-2.424	.015**
Family Support x Discrimination				
Friend Support x Discrimination				
SDQ – prosocial behaviour				
Newcomer	-0.001	0.023	-0.059	.953
Non-newcomer migrant	-0.029	0.025	-1.182	.237
Age	0.011	0.006	1.787	.074
Male	-0.138	0.015	-9.331	.000**
Other gender identity	-0.200	0.055	-3.647	.000**
Sweden	0.108	0.028	3.904	.002*
UK	-0.074	0.023	-3.165	.000**
Daily Stressors	0.050	0.012	4.192	.000**
Discrimination	-0.160	0.017	-9.393	.000**
Family support	0.049	0.013	3.792	.000**
Friend support	0.048	0.011	4.152	.000**
Discrimination x Newcomer	0.034	0.032	1.067	.286
	-0.051	0.036	-1.413	.158
Discrimnation x Non-newcomer	0.085	0.024	3.476	.001
Family Support x Newcomer	-0.024	0.030	0.761	.447
Family Support x Non-newcomer	-0.015	0.024	0.618	.537

Friend Support x Newcomer	0.047	0.030	1.544	.123
Friend Support x Non-newcomer	0.035	0.018	1.965	.049
Family Support x Discrimination	-0.033	0.017	-1.894	.058
Friend Support x Discrimination				
Overall Well-being	0.089	0.088	1.014	.310
Newcomer	0.043	0.085	0.511	.609
Non-newcomer migrant	-0.052	0.019	-2.692	.007**
Age	0.387	0.046	8.473	.000**
Male	-0.276	0.160	-1.722	.085
Other gender identity	0.029	0.080	0.361	.718
Sweden	-0.347	0.083	-4.184	.000**
UK	0.246	0.034	7.175	.000**
Daily Stressors	-0.714	0.050	-14.330	.000**
Discrimination	0.426	0.038	11.169	.000**
Family support	0.091	0.035	2.577	.010*
Friend support	0.120	0.116	1.036	.300
	-0.119	0.092	-0.971	.331
Discrimination x Newcomer	0.284	0.112	3.098	.002**
Discrimination x Non-newcomer	0.174	0.090	1.562	.118
Family Support x Newcomer	0.024	0.107	0.266	.790
Family Support x Non-newcomer	0.062	0.098	0.583	.560
Friend Support x Newcomer	0.148	0.058	2.540	.011*
Friend Support x Non-newcomer	-0.133	0.057	-2.331	.020
Family Support x Discrimination				
Friend Support x Discrimination				

Table 5: *Social determinants – Social Support and Discrimination*

Scale	Newcomers	Non-Newcomer migrants	Non-migrants
MSPSS – Family Support	N = 268	N = 195	N = 1,509
	11.30 (3.21)	12.56 (3.08)	13.67 (2.59)
MSPSS – Friend Support	N = 260	N = 191	N = 1,904
	11.14 (3.05)	12.56 (3.08)	13.07 (2.87)
PEDS - Discrimination	N = 196	N = 146	N = 1,509
	12.14 (3.06)	11.90 (4.43)	13.10 (3.82)

Mean (SD)