

# **Interpersonal risks, resources and depression symptoms among resettled unaccompanied minor refugees**

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## **ABSTRACT**

The present study is an exploratory study based on quantitative data from 62 unaccompanied minor refugees. The purpose of this study was to examine risks and resources in their social networks after resettlement, in addition to the level of depression symptoms, and how these factors were associated. It was also explored whether social support had a moderating effect in the link between interpersonal stressors and depression symptoms. The focus of this study is on ongoing interpersonal stressors, reflected by worries about family members abroad and problems in relation to friends in Norway, in addition to perceived social support from these two sources. Results indicated that unaccompanied minor refugees had high levels of depression symptoms, and that aspects of their social support network have a significant impact on their well-being. Moderator effects of social support were not found. This study is unique in that it explores aspects of the social network that may promote or prevent positive adaptation among unaccompanied minor refugees after resettlement. As this study is based on a relatively small sample, more work is needed to understand this process and to validate findings.

## **Interpersonal risks, resources and depression symptoms among resettled unaccompanied minor refugees**

By the end of 2005, the global number of refugees were estimated to be 8.4 million persons. Approximately one-half of these are children under the age of 18 (United Nations High Commissioner for Refugees [UNHCR], 2005). Child refugees may face very different circumstances depending on whether they are alone as unaccompanied minors, accompanied by unrelated individuals, or by some or all of their family members (Sourander, 1998). An unaccompanied minor refugee is defined as any person under the age of 18 who is separated from both parents or a legal/customary primary caregiver and is outside his/her country of origin (Ayotte, 2000). There are no accurate figures of the numbers of unaccompanied minor refugees in Europe. The number of unaccompanied children seeking asylum has continued to decline after the peak year in 2003, when approximately 12,800 unaccompanied and separated children applied for asylum in 28 industrialized countries from where there are available data (UNHCR, 2005). Norway has been identified as one of the major receiving countries of unaccompanied minor asylum-seekers in Europe (UNHCR, 2005). Between 2000 and 2006 approximately 4000 unaccompanied minors sought asylum in Norway (Norwegian Directorate of Immigration [UDI], 2006). Boys, between the ages of 16 and 18 years old, constitute the majority of separated children seeking asylum in all countries, with most fleeing from countries of war and internal conflicts (Ayotte, 2000).

Unaccompanied minor refugees are not a homogeneous population and have been shown to vary along a number of dimensions. For instance, previous experiences and reasons for flight may range from situations of poverty and lack of opportunity to more horrific experiences, including genocide, massive destruction, and the dissolution of communities and family groups (Ayotte, 2000; Sourander, 1998; Thomas et al., 2003). In addition, they face different circumstances on arrival to a new country, as some may have extended family members already settled there, some may have migrated with a family member or other from same ethnic group, while some are completely alone with no support system at all. Even though some circumstances differ, what the children have in common is a sense of getting away from harm, and resettling in a country that is often far away from their roots, geographically and culturally (Kohli & Mather, 2003).

Migration, and especially involuntary migration, such as the experience of refugees is assumed to cause psychological distress in individuals (Bhugra, 2004). However, research has not consistently confirmed that all child and adolescent refugees are at greater risk of

psychological distress. Additional factors such as negative/positive life events or bereavement issues related to loss of relationships, assets and support are also relevant to the migration experience (Bhugra, 2004). In addition, attributes of the child, such as sociability, intelligence, communication skills and internal locus of control are also important (Loughry & Nghia, 2000). Such personality characteristics may influence the successfulness of reconstructing a new social network and building close relationships, which is considered to be important factors for psychological well-being and important protective factors upon resettling in a new environment.

Among refugee children, unaccompanied minors are considered to be at highest risk for mental health problems (Rousseau, 1998). In a recent study of unaccompanied refugee children and adolescents, between 37 and 47 % of the minors had severe or very severe symptoms of anxiety, depression and post-traumatic stress (PTSD) (Derluyn & Broekaert, 2007). These scores were much higher than ones found in a study on newly arrived migrant and refugee children and adolescents living with their parents (Derluyn, 2005). These findings may be explained by the stressful nature of contextual factors that the children often are subjected to (Rousseau, 1998), as a consequence of their being without their primary caregivers to help them. Also, many have experienced continuous separations from family members and friends, including loss of important attachment figures at a young age. These factors places unaccompanied minors at an extra high risk for unhealthy development and mental health problems.

Although there is a substantial number of child and adolescent refugees settling outside their homeland without supervision of a parent, research on the development and well-being of this vulnerable refugee group has been sparse. Only in the last few years has this group received increasing attention in research, but still there are few publicized studies on unaccompanied minor refugees. Some studies have focused on the level of psychiatric problems, with results showing that unaccompanied minors often suffer from high levels of mental distress (Bean et al., 2006; Felsman et al., 1990; Geltman et al., 2005; Sourander, 1998). Also, girls, in addition to those who had experienced many traumatic events were at even greater risk for psychological distress (Derluyn & Broekaert, 2007). Studies on unaccompanied minors pre-migratory traumatic experiences show that they have experienced many traumatic events (Derluyn & Broekaert, 2007; Thomas et al., 2004), and more than accompanied refugee children (Derluyn, 2005). The experience of traumatic events is assumed to be a predominant factor for the development of mental illness (Derluyn & Broekaert, 2007). The findings from a study of unaccompanied Sudanese refugee minors

showed that despite experiences of deprivation and trauma during childhood, the majority exhibited generally high functional outcomes one year after resettlement. However, 20% of the children in this study was diagnosed with PTSD and had worse overall mental health, which could to some extent be explained by the more traumatic events experienced by this group compared to the rest of the sample (Geltman et al., 2005). In Norway, the few studies that have focused on unaccompanied minor refugees have mainly used a qualitative approach with small samples (Egge, 2001; Eide, 2000; Engebriksen, 2002; Lauritsen & Berg, 2002; Schancke, 1995; Wold, 2002). Thus, other approaches, including larger samples are needed to increase the knowledge and understanding of how the development and adaptation of this group is after resettlement in a new country.

The present study is based on preliminary data from 62 informants of a population based study of unaccompanied minor refugees, and will explore specific aspects of the social network of resettled unaccompanied minor refugees. In order to explore how the social network affects the well-being of unaccompanied minor refugees after having gained permanent residency, this study will focus on the association between specific risks and resources in relation to family and friends and depression symptoms. In addition, the study also examines whether social support from different sources may have a moderating function in the link between interpersonal stress and depressive symptoms. Such information may increase the knowledge and understanding of underlying mechanisms that may be helpful in explaining adaptation processes among unaccompanied minor refugees after resettlement.

### **Close relationships and social support**

Being part of a social network and having close relationships is considered essential for people of all ages to feel good about themselves and their lives (Rutter & Rutter, 1993). This is because social networks provide persons with regular positive experiences, positive affect, and a sense of predictability and stability in one's life situation (Cohen & Wills, 1985). Social network refers to the structural aspects of a person's social relations. It may be described as the number of people involved, how well they know each other, as well as their relational content, for example friends versus family members (Lazarus & Folkman, 1984). Studies have also showed that being part of a social network is not necessarily linked to positive mental health, but depends on the quality of the social relationships, such as the perception and reception of social support (for a review, see Cohen & Wills, 1985). Social support is found to involve various supportive functions, such as providing emotional,



informational, practical and appraisal helping behaviour (Nestmann & Hurrelmann, 1994; Thoits, 1995). Perceived emotional support refers to beliefs that one is loved and cared about, and that sympathy and understanding, and/or esteem and value are available from significant others (Thoits, 1995). Studies have also found that the perception that emotional support is available has a much stronger influence on mental health than the actual receipt of support (Cohen & Wills, 1985; Thoits, 1995). Social support is considered vital to good mental health as significant others may develop and enhance an individual's feelings of competence, self-worth, self-esteem, and/or self-efficacy. These factors combine to enable the individual, no matter life stage, to be able to approach and successfully meet the challenges of life (Antonucci et al., 2004).

Previous results have been mixed concerning the role of social support in the link between stress and mental health, as social support has been shown to have both direct and indirect effects on mental health (Cohen & Wills, 1985). One explanation for these divergent results may be related to the way in which social support has been conceptualized and measured. Social support is a multidimensional construct that incorporates many different types and sources of support (Licitra-Kleckler & Waas, 1993). Researchers who measure social support as a single unit, without distinguishing between different types and sources, fail to address important differences in the adaptive nature of these social support sources (Licitra-Kleckler & Waas, 1993). This may be the reason why different results and conclusions have been drawn as to the role of social support in relation to well-being. In addition, the many different ways in which social support has been measured and conceptualized makes comparisons between studies difficult.

In childhood and adolescence social support is considered of huge importance in fostering a feeling of security and control over one's life, and in this way will help to maintain, protect, promote, and restore health (Nestmann & Hurrelmann, 1994). In general, adolescence is a period when other social networks than the family become more central. For instance, relationships with peers become increasingly important as sources of support, in addition to feedback about social behaviour, social influence and information, and attachment relationships (Allen & Land, 1999; Hetherington & Parke, 1999). Family and friend relations are assumed to serve different functions as sources of social support, and have both been shown to be important in the positive development and adaptation of adolescents of different ethnic backgrounds (Helsen et al., 2000; Oppedal & Røysamb, 2004; Printz et al., 1999). The relative importance of family and peer support during adolescence has often been emphasized in the literature, with family support often being found to have the strongest effect on mental

health (Helsen et al., 2000; Printz et al., 1999; Rutter & Rutter, 1993). In a study of adolescents with different ethnic backgrounds, results indicated the overall importance of family support on mental health, while the importance of support from friends varied with ethnicity and gender (Klineberg et al., 2006).

Close relationships to family and friends are also assumed to be important protective factors among child and adolescent refugees (Lustig et al., 2004). Studies of child and adolescent refugees have shown that being part of a family appears to be important in providing an emotional buffer, both during migration and in the postmigration period (Sourander, 1998; Kohli & Mather, 2003). In a longitudinal study of young immigrants social support from different sources were examined as potential moderators of the association between acculturative stress, such as identity crisis and school discrimination, and mental health. Results indicated that class and family support buffered the effects of these risk factors. In addition there was a complex interplay between culture competence and support from ethnic versus host networks, showing that especially ethnic culture competence was positively associated with support from family (Oppedal, Røysamb & Sam, 2004). Thus, findings indicate that the potential stressful experience of adapting to a new culture and society may interact in complex ways with different network sources. Support from family and peers appear to be particularly helpful in dealing with stressors especially relevant to acculturating adolescents.

### **Close relationships and interpersonal risk**

In classical attachment theory it is emphasized that all human beings have an instinctive response to the need of close relationships to feel secure (Bowlby, 1969; Fraley & Shaver, 1999). The disruption of ongoing social relationships, and especially to those whom attachments have been formed, is assumed to impair much of the meaningfulness of human existence (Folkman & Lazarus, 1984), and has been emphasized as a major cause of distress and a risk for psychopathology (Fraley & Shaver, 1999).

Common to all refugees is the disruption of their support system, i.e. separation from and loss of family, friends and community. Studies have demonstrated that bereavement is associated with a variety of emotional and physical problems (Raphael, 1983). The separation from family members has especially been identified as a major risk to the health and well-being of refugee youth (Berman, 2001). In a study of Sudanese refugees one of the most common post-migration difficulties referred to concerns about family members not living in the new country

of resettlement, and this was found to be associated with increased depression, anxiety and somatic complaints (Schweitzer et al., 2006). The relationship to family members in the home country has also been found to concern unaccompanied minor refugees to a large degree (Egge, 2001; Lauritsen & Berg, 2002). For those unaccompanied minors whom the family has chosen to send away to safety, being told that they must move away from a situation of danger, whilst the family remains exposed to it, can leave them preoccupied with worry for the family's well-being (Kohli & Mather, 2003).

The continuation of social ties is assumed to be an important factor in the lives of refugees settling in a new country, and family living far away may still be an important source of social support. Many refugees re-establish contact with their friends and family in the homeland. One study of unaccompanied minor refugees found that after several years in the country of resettlement their network consisted mainly of friends from own ethnic group and family in homeland (Wallin & Ahlström, 2005). Research has also shown that, even for refugees who have lost several family members, those who are able to re-establish family contact with at least one family member, report fewer adjustment problems than those without family contact (Berman, 2001; Schweitzer et al., 2006). In a longitudinal study of refugees in Canada it was found that those refugees who came without family and who did not have access to a co-ethnic community of significant size scored higher on depression than refugees who came with family and were part of a large co-ethnic community network. In other words, the high-risk groups of this study had little access to social support and therefore experienced more depression. The co-ethnic community, in addition to giving direct help, seemed to provide emotional support by reinforcing one's sense of identity and self-worth, by providing opportunities for friendship, and by mitigating feelings of isolation (Beiser, 1988). Thus, social support from family and others within ones ethnic group seems to be of particular importance for the psychological well-being of refugees when settling in a new country.

Social ties are not always or necessarily positive influences in our lives and thus on our well-being. Previous research suggests that risks within the social support network is mostly related to internalizing problems, such as depression (Garber & Flynn, 2001). Interpersonal stressors appear to play an important role in the psychological distress in early and middle adolescence (Printz et al., 1999; Wagner & Compas, 1990). For instance, peer relationships have often been shown to be problematic during adolescence. In a study of acculturating youth problems in relation to friends or peers were some of the most common stressors reported by adolescents (Oppedal et al., 2004). Among unaccompanied minor

refugees, the quality of relationships with peers and friends may be extra important, as many of these youth have no or only a few family members in the country of resettlement.

In adolescence, it appears to be significant differences in the types of stress experienced by boys and girls. Coinciding biological, such as the onset of puberty, and social events, such as negative family and school events, has been found to result in heightened risk for mental health problems in girls (for a review, see Compas et al., 1993). Girls have been shown to be more vulnerable to stressors of an interpersonal nature, such as on-going problems in their relationships with parents and friends (Wagner & Compas, 1990; Ystgaard et al., 1999). This is supported by studies with adult samples, showing that women report more stressors related to the social network, as well as more social support, compared to men (Dalgard et al., 2006). One explanation of this may be that women tend to invest more and be more intimate in their relationships (Thoits, 1995). Gender differences have also been found in the perception of social support from different providers. In a prospective study of adolescents, findings indicated that girls perceived significantly more support from friends than boys, whereas boys perceived significantly more support from fathers. Although significant gender differences in the importance of support on depression was not found, trends in the data indicated that whereas friend support had similar effects on depression for both genders, support from mothers and teachers had stronger effects on girls' than on boys' depression, and father support had stronger effects on boys' than on girls' depression (Colarossi & Eccles, 2003). These results imply that gender differences in both exposure to stress and in coping with stress may be important for understanding differences between boys and girls in depression symptoms and other forms of psychopathology during adolescence.

### **Stress, coping and mental health**

In addition to generally causing well-being and mental health, social support is widely assumed to be a protective factor in times of stress (Cohen & Wills, 1985; Thoits, 1995). The buffering hypothesis suggests that support is related to well-being primarily for persons under stress. This perspective claims that support buffers, i.e. protects, persons from the potential pathological influence of stressful events (Cohen & Wills, 1985). For the purpose of the present study, stress is referred to as a situation that is "appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p.19). Conceptualizations of stress often differ in their emphasis on the occurrence of major changes in the individual's life situation that involve significant levels of social

readjustment as opposed to ongoing daily transactions with the environment, as reflected in daily hassles, chronic strains or small events (Compas et al., 1993). Daily stressful problems or chronic stressors have been found to be a stronger influence on adolescent adjustment and mental distress than major discrete events (Kanner et al., 1987; Printz et al., 1999; Rowlison & Felner, 1988).

Not all individuals develop mental health problems in the face of the same type of stress. Researchers have investigated processes which intervene between stressful demands and mental health outcomes. Lazarus and Folkman (1984) point to two critical processes that may affect the appraisal of potentially stressful events, namely cognitive appraisal and coping. Cognitive appraisal is referred to as a process of evaluation where it is determined why and to what extent a particular situation or situations are stressful. Whereas, coping is referred to as the process through which the individual manages the demands of the situation that are appraised as stressful, and the emotions they generate (Lazarus & Folkman, 1984). In the literature, social support is referred to as both a coping resource and a coping strategy. Coping resources are referred to as social and personal characteristics upon which people may draw when dealing with stressors (Thoits, 1995). Whereas, coping strategies are referred to as behavioural and/or cognitive attempts to manage stressful events (Lazarus & Folkman, 1984). Coping resources are presumed to influence the choice and/or the efficacy of the coping strategies that people use in response to stressors (Thoits, 1995).

A conceptual model drawn from stress-coping research, shown in Figure 1, illustrates how social support may affect the relationship between a potential stressful event and mental health problems.

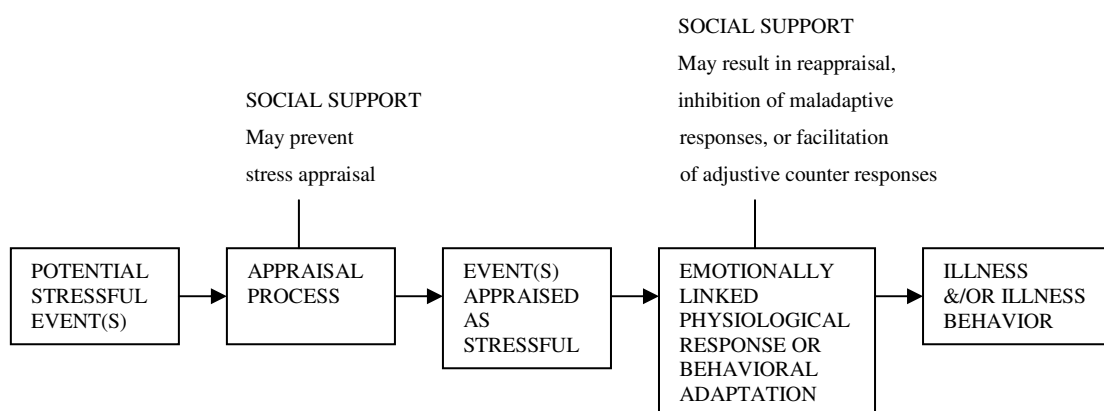


Figure 1. Two points at which social support may interfere with the hypothesized causal link between stressful events and illness. (Cohen & Wills, 1985)

As indicated by Figure 1, social support may play a role at two different points in the link between stress and illness (Cohen & Wills, 1985). First, social support may affect the appraisal of a potential stressful event (or expectation of that event) by diminishing or preventing a stress appraisal response. Cohen and Wills (1985) state that the perception of social support, i.e. that others can and will provide necessary resources, may redefine the potential harm posed by a situation and/or uphold one's perceived ability to cope with imposed demands, and therefore prevent a particular situation from being appraised as highly stressful. Second, social support may affect the experience of stress and the onset of a pathological outcome by reducing or eliminating the perceived importance of the stressful event, provide a solution to the problem, facilitate healthful behaviours or by directly influencing physiological processes (Cohen & Wills, 1985).

Following Cohen and Wills (1985) depiction of the roles of social support and Lazarus and Folkman's (1984) definition of stress is the assumption that what causes psychological stress in one person does not necessarily cause stress in another person. The two points where social support may play a role in Cohen and Wills' (1985) model (Figure 1) is consistent with Lazarus and Folkman's (1984) two critical processes which may affect the stress-mental health link, in that cognitive appraisal of the potential stressful situation may be affected by social support and successful coping with a stressful event may also be affected by social support. First, individuals who believe that they have available resources, for example social support, to cope successfully with a stressful event will be less likely to cognitively appraise the event as stressful, and thus develop stress-related symptoms. Second, the nature of the psychological outcome following the appraisal of stress is assumed to be influenced by the coping resources that the individual has at hand. Coping resources are defined as social and personal characteristics upon which people may draw when dealing with stressors (Thoits, 1995). As emphasized above, see Figure 1, social support may prevent the appraisal of an event as stressful, perhaps by making the situation seem less consequential, or provide valuable resources for coping when stress does occur (Cohen & Wills, 1985; Lazarus & Folkman, 1984). Coping processes that are used in response to stress may be important in understanding psychopathology during certain developmental periods, such as adolescence (Compas et al., 1993), and in the adaptation of unaccompanied minor refugees.

Previous studies examining indirect effects have reported that social support acts as a moderator (Dalgard et al., 1995; Dalgard et al., 2006; Galaif et al., 2003; Helsen et al., 2000; Olstad et al., 2001; Takizawa et al., 2006; Wight et al., 2006), and that social support is a mediator (Choenarom et al., 2005; Oppedal et al., 2004; Printz et al., 1999; Yarcheski &

Mahon, 1999) in the stress-mental health link. The conceptualization of social support as a mediator and a moderator has also been shown to be subject to some confusion among many researchers. As defined by Baron and Kenny (1986) a moderator variable is a third variable that “affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable” (p. 1174). From this perspective, high levels of stress are expected to produce poor outcomes only when the level of the moderator (i.e. protective factor) is low (Holmbeck, 1997). A mediator variable, on the other hand, is described as “the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest” (Baron & Kenny, 1986, p. 1173). In simpler terms, the independent variable influences the mediator which then influences the dependent or outcome variable (Holmbeck, 1997). Both Baron and Kenny (1986) and Holmbeck (1997) have criticized the lack of clarity in the use of the terms moderation and mediation. They point to the inconsistency in many studies that seem to use the terms interchangeably, without carefully considering the underlying conceptualization of the variables used.

In the present study, we explore the potential moderator effect in the relationship between ongoing interpersonal stressors and depression symptoms, rather than as a mediator variable explaining the causal pathway between stress and outcome. This is supported by Holmbeck (1997) who argues that coping strategies is best seen as moderators, as they do not always change in relation to an independent variable, such as stress. In addition, the specific nature of stressors measured in the present study, which are ongoing interpersonal stressors as opposed to a discrete stressful event, makes a causal pathway, such as a mediation model, almost impossible to test. Although a moderation model is also a temporal model, it does not contend that the independent variable is a causal factor of the moderator variable, but rather that they interact to produce the outcome. That is, social support specifies “when”, or under what conditions, a relationship between interpersonal stress and depression symptoms exist.

The theoretical rationale for testing the specific moderation models in the present study is in part drawn from a theory of optimal matching. This theory is based on the assumption that a specific stressor necessitates social support that matches the specific needs elicited by the stressor, in order to predict mental health outcome (Cutrona, 1990). According to Cutrona and Russell (1990), perhaps the most influential dimension with regard to needed social support is controllability. They hypothesize that uncontrollable events, such as harm or loss, will require social support components that foster emotion-focused coping, whereas controllable events, such as threats or challenges, requires social support components that foster problem-focused coping. In the present study the focus is on stressors of an

interpersonal nature, namely worries about family abroad and problematic relations to friends. Interpersonal stressors are considered to be uncontrollable, which should then require emotional support to be dealt with effectively (Cutrona & Russell, 1990; Compas et al., 1993). The uncontrollability of stressors in relation to friends, however, is somewhat ambiguous, as the problems may be caused by the individual. In spite of this, it is hypothesized that stressors in one interpersonal domain, such as friends, may be healed by emotional support from another domain, such as family. This is supported by referring to emotional support as enhancing opportunities to ventilate emotions, to reevaluate the severity of the stressor, or to experience positive emotions that derive from sources not related to the stress, such as reminders that one is loved (Cutrona & Russell, 1990). Exploring specific types of stressors in relation to specific types of social support may give a better understanding of the underlying mechanisms through which mental health is affected (Ystgaard et al., 1999). Moreover, testing potential moderator effects of social support may lead to the identification of subgroups that are more resilient or vulnerable under certain conditions. Knowledge about potential moderating effects on specific stressors that may have great effects on unaccompanied minors adaptation and development is particularly important as this group is assumed to be at extra high-risk for mental health problems. Identifying the existence of interpersonal stressors and the predictive ability in relation to mental health problems is important in the identification of vulnerable subgroups of unaccompanied minors. Testing whether different sources of social support may be a protective factor, i.e. moderate or weaken the effect of interpersonal stress on mental health, is especially important in understanding adaptation processes of this high-risk group, and this may have important implications for preventive work.

### **The present study**

The present study is an exploratory study based on preliminary data from 62 unaccompanied minor refugees. The focus of the study is on the networks of family abroad and friends in Norway. The focus will be on stress as ongoing interpersonal stressors, reflected by worries about family members and problems in relation to friends, in addition to perceived social support from these two sources. The first aim of this study is to examine the level of interpersonal stress, social support, and depression symptoms. The second aim is to examine the associations between interpersonal stress, social support and depression symptoms. Finally, the third aim is to explore the potential of social support as a moderator of



the relationship between interpersonal stress and depression symptoms. Two moderation models will be tested. First, social support from friends in Norway will be explored as a moderator in the link between worries about family in homeland and depression symptoms. Secondly, social support from family in homeland will be explored as a moderator in the link between problematic relations to friends in Norway and depression symptoms. In addition, as previously shown, studies have established important gender effects on rates of depression and qualities of interpersonal relationships. Therefore, males and females will be considered in separate analyses, in addition to analyses of the total sample.

## METHOD

This study was conducted in collaboration with a larger, longitudinal study at the Norwegian Institute of Public Health. It was approved by the Regional Committee for Reviewing Medical Research on Humans and the Norwegian Data Inspectorate, and was carried out in accordance with their directions. The present study used a subset of data from the larger study and consists of first-wave data from 62 participants living in 10 different municipalities in Norway. Data was collected over a period of four months, from October 2006 to January 2007. Due to time limits all participants in the sample of the larger study were not invited to participate in time to be included in the present study.

### **Sample of larger study**

The original sample frame included all unaccompanied minor refugees from the major sending countries of Somalia, Afghanistan, Iraq and Sri Lanka, who had been granted residency in Norway between 2000 and 2006, and were 16 years old or younger when they arrived (n=373). An officially registered list of the sample was provided by the Norwegian Directorate of Immigration.

After the onset of data collection the original sample was expanded to include a larger group of unaccompanied minor refugees. This was due to difficulties in getting in contact with the whole sample. The municipalities were often not familiar with the identity of many unaccompanied minor refugees officially registered in their municipality. It would therefore be nearly impossible to locate them. It was decided by the principal investigator that the sample would be expanded to also include those from the four major sending countries who arrived between the ages of 16 and 18, and unaccompanied minor refugees from other sending

countries who arrived before the age of 16, but who were all granted residency in Norway between 2000 and 2006.

The sample size in the 10 municipalities was a total of 187 unaccompanied minor refugees. Of these, 102 were contacted and invited to participate in the study. 85 target individuals were not found or reached. The response rate, based on the percentage of unaccompanied minor refugees who were invited to take part and who actually participated in the study, was 61 %. In addition, 18 individuals did not wish to participate, and 22 agreed to participate, but did not meet for appointed data collection.

## **Participants**

Unaccompanied minor refugees from 9 different municipalities in Norway were recruited to participate in this study. Demographics are shown in Table 1. Participants consisted of 49 males and 13 females. They ranged in age from 12 to 22 years ( $M= 18.3$  years,  $SD= 1.96$ ). The majority ( $n=24$ ) were from Somalia, and others were from Sri Lanka ( $n=14$ ), Afghanistan ( $n=10$ ), Burma, Burundi, Liberia, Iraq, Mongolia, Congo, Angola, Ethiopia, and China.

## **Procedures**

Since this was the first data collection of a longitudinal study, it was important to establish good contact with the target group. People working in the unit responsible for settlement and follow-up of unaccompanied minors in each municipality were requested to aid the project in establishing contact with the informants and ask them whether they would like to participate in the project. A letter was sent out to the unaccompanied minors to familiarize them with the project and to ensure that they understood the purpose and genuineness of the project, as this was thought to increase the chances of them wanting to participate. If the participants were under the age of 16, their legal guardian was always contacted first, as they would have to give their consent to let the minor participate in the study.

Data collection was administered by trained project assistants, who travelled to the cities or municipalities where the participants lived. Data collection was conducted in small groups, and in settings which were familiar to most of the participants, such as in group homes of unaccompanied minor refugees, meeting rooms in the offices of the municipalities,

libraries, etc. This was in order to make them feel as comfortable as possible. Since the questionnaire was in Norwegian, a translator was provided beforehand whenever needed. A total of 8 adolescents were provided with a translator in their mother tongue. Informed consent was obtained from all participants, and in the cases where the participant was under the age of 16, an additional informed consent was obtained from their legal guardian. An introduction, reminding about the purpose of the project, including emphasis on anonymity and confidentiality, was verbally provided to the participants before they started to fill in the questionnaire. The questionnaire took from one and one half to two hours to complete. Project assistants were all the time available to answer questions and to ensure that participants answered the questions individually rather than collectively with other participants in the room. Participants were given a gift card worth 100 NOK after completion of the questionnaire.

## **Measures**

Participants completed extensive questionnaires containing questions about demographics, education, language abilities, economy, life events, social integration, identity, acculturation hassles, social competence, everyday struggles, criminal behaviour, self-efficacy, optimism, social network, religion, etc. For the purpose of the present study measures that include questions about depression symptoms, interpersonal stressors and social support will be used, in addition to relevant demographic characteristics. All the measures are self-report.

### *Demographic Variables*

Demographics are shown in Table 1. Questions included the variables of age, gender and country of origin. Duration of stay in Norway was afterwards calculated as a separate variable by subtracting present age with age at arrival. To get a picture of their current life situation, participants were asked how they lived at the present time. In addition, a question of whether they had experienced war at first-hand was included, and also whether their mother and father were alive.

Table 2 presents relevant aspects of their social network. This information was gained through questions about contact with family abroad, contact with family in Norway, and number of friends with host or ethnic minority background. Questions about contact with family members, in Norway and abroad, were answered with yes or no. First, there was a

question of whether they had contact with any family members, and if they answered yes, they were asked to answer yes or no to questions specifying whether they had contact with mother, father, siblings, grandparents, aunts, uncles, cousins, spouse, or other family members. Frequency of contact with family members abroad was asked with a question of how often they were in contact, and with six different answer categories ranging from “every day”, “every week”, “every month”, “a few times a year”, “once a year”, or “less than once a year”. For ease of presentation these categories were collapsed into three categories, see Table 2. A question of “approximately how many friends do you have nowadays that you can stop by or call just to chat (close friends)” was asked. “Friends from Norway”, “friends from same country as you are from”, and “friends from other countries” was separated into different questions. Respondents were instructed to report how many friends from each of these categories they perceived to have. They were asked to report on a scale where 0 = none, 1 = 1 friend, 2 = 2-3 friends, 3 = 4-6 friends, and 4 = more than 6 friends.

### *Depression*

Depression symptoms were measured using the Center for Epidemiologic Studies-Depression scale (CES-D) (Radloff, 1977). The CES-D was originally developed to assess depressive symptomatology in community samples. Participants were instructed to rate each of the 20 CES-D items on a Likert-type scale for how often they had experienced a certain feeling in the past week: 1 = rarely or never, 2 = sometimes, 3 = often, and 4 = most of the time. Scores were recoded to match the standard scoring of 0 through 3. The total score thus has a possible range of 0 through 60, with higher scores indicating higher levels of depression symptoms. The CES-D has been widely used in cross-cultural mental health research (Miller et al., 2002). The CES-D has demonstrated good internal consistency in samples of diverse ages and ethnic backgrounds (Radloff, 1977; Miller et al., 2002; Wight et al., 2006). In this study the Cronbach’s alpha is .90, which shows that the scale has good reliability in this sample. A Norwegian version of the scale was used, translated by Lintvedt et al. (2005). This translation was elaborated for the present study to better fit the wording of the English version.

The use of CES-D in this substudy was well-suited, as it assesses primarily internal, subjective aspects of depression, i.e. mood states, cognitive aspects such as concentration, and psychophysiological items such as sleep and appetite, rather than interpersonal features (Radloff, 1977; Miller et al., 2002). Therefore, it does not overlap with any of the predictor variables, which would have biased the analyses.

### *Interpersonal Stress*

Interpersonal stress in relation to family in homeland was assessed by two questions. Participants were asked, how often during the last year: 1) they had been worried about family members in their homeland, and 2) they had been worried due to either siblings or parents being in serious difficulties. Questions were answered on a four-point Likert-type scale, where 1=never, 2=sometimes, 3=several times, and 4=very often. A sum score of the two items tapping family worries was created. The items were picked from an acculturation hassles scale and from a daily stressful events scale, developed for the purpose of this study.

Interpersonal stress in relation to friends was assessed by two questions where participants were asked, how often during the last year: 1) they had been worried because a friend was in serious difficulties, and 2) they had experienced quarrels or other problems in relation to friends. A sum score of the two items tapping stress in relation to friends was created. Questions were answered on a four-point Likert-type scale, where 1=never, 2=sometimes, 3=several times, and 4=very often. The two items were picked from a daily stressful events scale and show a Cronbach's alpha of .7.

### *Social support*

Social support was measured by questions about the participants' perception of their relationships with family abroad (five items) and friends in Norway (four items). The questions tap different aspects of emotional support and instrumental help (Cohen & Wills, 1985; Ystgaard et al., 1997; Oppedal & Røysamb, 2004), for example "I feel close to my family/friends" or "my family/friends value my opinions", etc. Sum scores for "family support" and "friends' support" were based on the answers on a four-point Likert-type scale, where 1=completely disagree, 2= partly disagree, 3=partly agree, and 4=completely agree. The internal consistency of the friends' support scale measured by Cronbach's alpha is .64, while for the family support scale Cronbach's alpha is .87. A previous study of adolescents with immigrant and host national background using the same items found Cronbach's alpha levels of .75 for family and .78 for friends (Oppedal & Røysamb, 2004).

### **Data analysis**

All analyses were carried out using SPSS version 14.0 for windows. Mean scores and standard deviations of the variables were identified for the whole sample, and for boys and girls separately. A series of t-tests were performed to assess gender differences.

Pearson product-moment correlations were computed in order to examine the associations between predictors and the outcome variable. Analyses were run for the sample as a whole, and for boys and girls separately.

Standard multiple regression analysis was conducted to assess the relative contribution of interpersonal stressors and sources of perceived social support to levels of depression symptoms. Analyses were run for the total sample. Results will in addition be given separately for boys due the potential for variation in scores between the genders to bias the results. Due to the small number of girls in the study a separate regression analysis was not suitable.

To test for moderation effects, two separate hierarchical regression analyses were performed to examine potential two-way interactions among stressor variables (stress in relation to family and to friends) and moderating variables (social support from family and friends) on the level of depression symptoms. Separate regression analyses were performed for each interaction term. In each of the multiple regression analyses, a stressor variable was entered first, followed by a social support variable and then the cross-product term (stressor x social support source). Following the recommendations of Aiken and West (1991), the independent variables were centered, i.e. put in deviation score form so that their means are zero. The interaction term was formed by multiplying together the two centered predictors. A significant increase in accounted variance by the product of the two variables represents a moderation effect. Results will be given for the total sample, and for boys separately.

## RESULTS

### *Demographic characteristics*

Table 1 gives demographic characteristics of the total group of participants and of boys and girls separately. Almost three-fourths of the adolescents are male, and about half of the participants are between 18 and 19 years of age. The majority of the sample were from Somalia (N = 24). Other countries of origin were Sri Lanka (N = 14), Afghanistan (N = 10), Burma, Burundi, Liberia, Iraq, Mongolia, Congo, Angola, Ethiopia, and China. Due to the small number of participants from each of these countries, they were collapsed into one joint category, as shown in Table 1. Most of the unaccompanied minors had stayed in Norway

relatively long, with a mean duration of 4.1 years, and 55% having stayed more than three years. The largest group of adolescents lived on their own, while others mostly lived in group homes or with relatives. With regards to pre-migratory experiences, the majority (81 %) of the unaccompanied minors reported having experienced war at first hand. In addition, about half of the adolescents had either experienced the death of a parent or did not know whether they were alive.

Table 1. Demographic Characteristics (n=62). Mean (standard deviation) or N (percentage).

<i>Variable</i>	<i>Full sample (N=62)</i>	<i>Boys (n=49)</i>	<i>Girls (n=13)</i>
<i>Age (Range 12-22)</i>	M 18.3 (1.96)	M 18.1 (1.89)	M 18.8 (2.23)
≤15	7 (11 %)	6 (12 %)	1 (8 %)
16-17	12 (19 %)	10 (20 %)	2 (15 %)
18-19	27 (44 %)	23 (47 %)	4 (31 %)
≥20	14 (23 %)	10 (20 %)	4 (31 %)
Not recorded	2 (3 %)	0	2 (15 %)
<i>Country of origin</i>			
Somalia	24 (35 %)	18 (37 %)	6 (46 %)
Sri Lanka	14 (23 %)	10 (20 %)	4 (31 %)
Afghanistan	11 (18 %)	10 (20 %)	0
Other	13 (21 %)	10 (20 %)	3 (23 %)
<i>Length of stay in Norway</i>	M 4.1 (2.1)	M 3.9 (2.1)	M 4.8 (2.3)
≤ 1 year	10 (16 %)	9 (18 %)	1 (8 %)
1-2 years	7 (11 %)	5 (10 %)	2 (15 %)
2-3 years	7 (11 %)	7 (14 %)	0
≥ 3 years	34 (55 %)	26 (53 %)	8 (62 %)
Not recorded	4 (6 %)	2 (4 %)	2 (15 %)
<i>Accommodation</i>			
Independent	25 (40 %)	20 (41 %)	5 (38 %)
Relatives	15 (24 %)	9 (18 %)	6 (46 %)
Group home	20 (32 %)	18 (37 %)	2 (15 %)
Foster placement	2 (3 %)	2 (4 %)	0
<i>War-experience</i>			
Yes	50 (81 %)	41 (84 %)	9 (69 %)
Not recorded	3 (5 %)	3 (6 %)	0
<i>Death of parent</i>			
Mother	13 (21 %)	10 (20 %)	3 (23 %)
Unknown	12 (19 %)	8 (16 %)	4 (31 %)

Father	19 (31 %)	14 (29 %)	5 (39 %)
Unknown	18 (29 %)	12 (24 %)	6 (46 %)

Table 2 gives information about social network characteristics. The majority (65 %) of the unaccompanied minors have contact with family members abroad. About one-third of the sample report having contact with mother and/or siblings abroad, and only 16 % have contact with their father. About half of the informants (45%) report having contact with family members abroad on a regular basis, i.e. monthly (29 %) or daily/weekly (16 %). When it comes to the social network in the country of resettlement, about half (53 %) of the adolescents have contact with family members in Norway, but these are mostly extended family members, as shown by the few informants that reported having contact with parents (6 %) or siblings (19 %). The mean scores of number of friends show that they have most friends from the same ethnic background as themselves, and approximately the same number of friends with Norwegian ethnicity and other ethnic backgrounds. These results show that they have a relatively large network of friends in Norway. Note that the mean values represent scores on a scale, and does not directly reflect the true number of friends reported.

Table 2. Social network characteristics (n=62). Mean (standard deviation) or N (percentage).

<i>Variable</i>	<i>Full sample (N=62)</i>	<i>Boys (n=49)</i>	<i>Girls (n=13)</i>
<i>Contact with family members abroad</i>	40 (65 %)	32 (65 %)	8 (62 %)
Mother abroad	22 (35 %)	19 (39 %)	3 (23 %)
Father abroad	10 (16 %)	10 (20 %)	0
Siblings abroad	21 (34 %)	19 (39 %)	2 (15 %)
<i>Frequency of contact</i>			
Daily or weekly	10 (16 %)	9 (18 %)	1 (8 %)
Monthly	18 (29 %)	14 (29 %)	4 (31 %)
A few times a year or less	15 (24 %)	12 (24 %)	3 (23 %)
<i>Contact with family members in Norway</i>	33 (53 %)	27 (55 %)	6 (46 %)
Mother in Norway	3 (5 %)	2 (4 %)	1 (8 %)
Father in Norway	1 (2 %)	1 (2 %)	0
Siblings in Norway	12 (19 %)	10 (20 %)	2 (15%)
<i>Number of friends in Norway</i>			
Ethnic Norwegian	M 2.5 (1.4)	M 2.6 (1.4)	M 2.1 (1.3)
Same ethnicity	M 3.1 (1.2)	M 3.1 (1.8)	M 2.8 (1.5)



Other ethnicity	M 2.6 (1.3)	M 2.5 (1.4)	M 2.8 (1.1)
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### *Descriptive Information*

Descriptive statistics for the outcome variable and the predictor variables are presented in Table 3. Means and standard deviations are presented for the total sample and for boys and girls separately. In addition, significance tests of differences in means between the genders are presented. The mean score of depression symptoms for the total sample was relatively high (M=17.81, SD=11.06) compared to that found in other studies using the same scale (Meadows et al., 2006; Noh & Avison, 1996; Prescott et al., 1998; Chabrol, Rodgers & Rousseau, 2006; Wight et al., 2006). Girls had higher mean scores of depression symptoms than boys, (M = 23.23, SD=15.42 and M = 16.38, SD=9.28, respectively). Following recommendations from Radloff (1991), a standard cut-off score of 17 is used for classifying subjects in a clinical range of depressive disorder. Analyses indicated that 47 % of the total sample scored within the clinical range. Separate analyses of the genders indicated that more girls (62 %) than boys (43 %) scored above the cut-off score, although these gender differences need to be ascertained in larger sample studies.

Table 3. Mean (standard deviation) and significance test of gender differences between means

<i>Variable</i>	<i>Total sample</i> (N=62)	<i>Boys</i> (n=49)	<i>Girls</i> (n=13)	<i>t</i>
<i>Outcome variable</i> (Range 0-60)				
CES-D score	17.81 (11.06)	16.38 (9.28)	23.23 (15.42)	-1.531
<i>Predictor variables</i> (Range 1-4)				
Total Family stress	2.61 (.88)	2.51 (.87)	3.00 (.91)	-1.671
Worries fam. homeland	2.88 (.92)	2.81 (.95)	3.15 (.80)	-1.199
Worries parents/siblings	2.33 (1.21)	2.26 (1.2)	2.64 (1.29)	-.920
Total friend stress	1.81 (.84)	1.73 (.79)	2.13 (.98)	-1.462
Worries about friend(s)	2.09 (1.11)	2.00 (1.07)	2.42 (1.24)	-1.159
Quarrels or problems	1.53 (.66)	1.5 (1.07)	1.64 (.50)	-.614
Social support from family	3.36 (.82)	3.47 (.73)	2.98 (1.02)	1.933
Social support from friends	3.37 (.58)	3.34 (.62)	3.48 (.45)	-.681

Note. CES-D = Center for Epidemiologic Studies Depression Scale.

When it comes to predictors, the sample as a whole reported relatively high levels of interpersonal stress, both in relation to family ( $M = 2.61$ ,  $SD = .88$ ) and to friends ( $M = 1.81$ ,  $SD = .84$ ). Both boys and girls reported more worries about family ( $M = 2.51$ ,  $SD = .87$  and  $M = 3.00$ ,  $SD = .91$  respectively), than worries or problems with friends ( $M = 1.73$ ,  $SD = .79$  and  $M = 2.13$ ,  $SD = .98$  respectively). In addition, these numbers show that boys report less interpersonal stress than girls, both in relation to family and to friends. Further analyses demonstrated that results of worries about siblings or parents were independent of whether they had siblings and/or parents in Norway or not.

The total sample reported high levels of social support from both family ( $M = 3.36$ ,  $SD = .82$ ) and friends ( $M = 3.37$ ,  $SD = .58$ ). Boys reported more social support from family than did girls ( $M = 3.47$ ,  $SD = .73$  and  $M = 2.98$ ,  $SD = 1.02$  respectively), while girls reported a slightly higher level of social support from friends than did boys ( $M = 3.48$ ,  $SD = .45$  and  $M = 3.34$ ,  $SD = .62$  respectively). Significance tests of differences between the gender's mean scores of all of the variables showed no significant gender differences.

#### *Intercorrelations among Variables*

Although the differences between the genders in the descriptive data were statistically nonsignificant, it was decided to continue analyses with a split sample, in addition to the total sample. This decision was based on the relatively large differences in mean scores in many of the variables, and especially in the outcome variable. Table 4 shows the Pearson product-moment correlations for the total sample between depression symptoms and each of the predictors, in addition to intercorrelations between the predictors, while Table 4 present these correlations separately for boys and girls.

Table 4. *Intercorrelations among variables for total sample.*

<i>Variable</i>	<i>1.</i>	<i>2.</i>	<i>3.</i>	<i>4.</i>	<i>5.</i>
1. CES-D score	-				
2. Family stress	.46**	-			
3. Friends stress	.41**	.39**	-		
4. Social support from family	-.29*	.16	.14	-	
5. Social support from peers	-.12	-.01	.02	.37**	-

\*  $p < .05$ . \*\*  $p < .01$ .

Table 5. *Intercorrelations among variables: separate for females and males.*

<i>Variable</i>	<i>1.</i>	<i>2.</i>	<i>3.</i>	<i>4.</i>	<i>5.</i>
1. CES-D score	-	.44	.37	-.52	-.21
2. Family stress	.42**	-	.27	-.39	-.41
3. Friends stress	.40**	.50*	-	.26	.13
4. Social support from family	-.07	.41**	.31*	-	.55
5. Social support from peers	-.15	.09	.05	.39**	-

*Note.* Correlations for females are on the upper half of the diagonal,  $n = 13$ . Correlations for males are on the lower half of the diagonal,  $n = 49$ .

\*  $p < .05$ . \*\*  $p < .01$ .

### *Depression Symptoms and Interpersonal Stress*

Interpersonal stressors were positively related to depression symptoms in the total sample, and in boys and girls separately. As expected, both family worries and stress in relation to friends were significantly correlated with depression ( $r = .46$ ,  $p < .01$  and  $r = .41$ ,  $p < .01$  respectively). The pattern was similar for boys and girls, both showing a stronger positive association with family stress ( $r = .42$ ,  $p < .01$  and  $r = .44$ , not sig., respectively) compared to friends stress ( $r = .40$ ,  $p < .01$  and  $r = .37$ , not sig., respectively), with depression symptoms.

### *Depression symptoms and social support*

Social support was negatively related to depression symptoms in the total sample, and in boys and girls separately. Correlations were negative between perceived social support from family and depression symptoms, ( $r = -.29$ ,  $p < .05$ ) for the total sample. Separate correlation analyses for boys and girls showed that the relation between social support from family and depression symptoms is higher for girls ( $r = -.52$ ), than for boys ( $r = -.07$ ). These coefficients indicate that the significant relation found in the total sample is due to the high correlation found in the female sample. Social support from peers also showed a negative, but non-significant relation with depression symptoms, for both boys and girls ( $r = -.15$  and  $r = -.21$ , respectively).

### *Main effects*

A standard multiple regression analysis was performed to test the predictive power of each independent variable in explaining the unique variance in depression symptoms. Table 5 shows the result with all four predictors included simultaneously in the model. The model as a whole, with both stressor and social support variables, explains 37 % of the variance in depression symptoms for the total sample. Results for the total sample show statistical significant contributions of family stress ( $\beta = .34$ , ( $t = 2.88$ ),  $p < .01$ ), peer stress ( $\beta = .35$ , ( $t = 2.92$ ),  $p < .01$ ), and family support ( $\beta = -.40$ , ( $t = -3.39$ ),  $p < .01$ ), but not for social support from friends ( $\beta = -.01$ , ( $t = -.12$ ),  $p = .90$ ). Separate gender analyses indicate that family stress is the only statistically significant predictor of depression symptoms in boys ( $\beta = .40$ , ( $t = 2.53$ ),  $p < .05$ ).

Table 6. *Multiple regression analysis for total sample. Depression symptoms as dependent variable.*

	$\beta$	t
Family stress	.34**	2.88
Friends stress	.35**	2.92
Family support	-.40**	-3.39
Friends support	-.01	-0.12

Note. Centered scores have been employed.

\*  $p < .05$ . \*\*  $p < .01$ .

### *Moderator Analyses*

Moderator analyses were performed to examine the interactive effects of interpersonal stress and social support in predicting depression symptoms. Hierarchical multiple regression analyses were run both for the sample as a whole, and for boys separately. In the first moderation model, the results indicated that there was no statistically significant interaction effect of social support from peers in the relationship between family worries and depression symptoms, neither for the whole sample, nor for boys separately. In the test of the second model, the results showed no statistically significant interaction effect of social support from family in the relationship between peer stressors and depression symptoms, neither for the sample as a whole, nor for boys separately. Thus, the results do not support the two moderation models proposing that social support from another source buffers or moderates the effect of certain interpersonal stressors on depression symptoms in unaccompanied minor refugees.

Table 7. *Interaction analysis. Depression symptoms as dependent variable.*

Step	$\beta$	R <sup>2</sup>	R <sup>2</sup> Change
Total sample (n = 62)			
1. Family stress	.47**		
Support from friends	-.13	.23	
2. Family stress x support from friends	.06	.23	.00
1. Friends stress	.51**		
Support from family	-.41**	.32	
2. Friends stress x support from family	-.04	.33	.01
Boys (n = 49)			
1. Family stress	.44**		
Support from friends	-.18	.22	
2. Family stress x support from friends	.07	.22	.00
1. Friends stress	.51**		
Support from family	-.28	.20	
2. Friends stress x support from family	-.10	.20	.00

Note. Centered scores have been employed. Beta weights are from the final step of the regression equations.

p < .05. \*\* p < .01.

## DISCUSSION

The aim of this exploratory study was to examine the level of depression symptoms, and interpersonal risks and resources in relation to family members abroad and friends in Norway, and how these factors were associated. As part of this endeavour, possible moderating effects of social support were also examined. It was found that unaccompanied minor refugees reported a high prevalence of depression symptoms. A relatively high level of perceived social support from family abroad and friends in Norway was found. However, only family support was found to be significantly associated with depression symptoms for the total sample. The unaccompanied minors reported more frequent worries about family than worries or problems with friends, and both these interpersonal stressors were significantly

associated with depression symptoms. These predictor variables explained 37 % of the variance in depression symptoms for the total sample. Social support was not found to moderate the effects of interpersonal stress on depression symptoms, thus only direct effects of the variables were indicated. This study is unique in that it explores aspects of the social network that may promote or prevent positive adaptation among unaccompanied minor refugees after resettlement. As this study is based on a relatively small sample, more work is needed to understand this process and to validate findings.

### *Depression symptoms*

First of all, findings from this study indicate that unaccompanied minor refugees have high levels of depression symptoms after resettlement. Comparisons with other studies using the same measurement, but with other population groups, suggest that unaccompanied minors have an especially high rate of depression symptoms, with a mean score of 17.8 (Chabrol et al., 2006; Meadows et al., 2006; Noh & Avison, 1996; Prescott et al., 1998; Wight et al., 2006). In a study of adult immigrants the mean score of depression symptoms was 10.6 (Noh & Avison, 1996), thus supporting the assumption that unaccompanied minors are an especially vulnerable group among the migrant population. Yet another study of 556 ethnically diverse high school students reported a mean score of 14.1 (Prescott et al., 1998). In the present study approximately half (47 %) of the participants scored above the recommended cut-off of 17 (Radloff, 1991). The high depression scores are also supported by a recent study on depression symptoms in a sample of unaccompanied minor refugees in Belgium (Derluyn & Broekaert, 2007). While the scores are not directly comparable, as it used a different measurement scale, it showed that 32.8 % of the adolescents scored within the clinical range of depression, and 14.2 % within the borderline range. In comparison, an earlier study found that between 8.1 and 11.5% of refugee minors accompanied by their parents, scored within the clinical range (Derluyn, 2005), thus supporting the assumption that being separated from ones parents places an extra burden on unaccompanied minor refugees. It must be kept in mind that these numbers only represents those above a cut-off on a symptom scale, and is not a diagnostic criterion. However, high scores may indicate a risk for developing more serious depressive disorders, and must therefore be taken seriously. In addition to the risk of being separated from ones primary caregivers, another explanation of this high level of depression symptoms is the number of traumatic experiences. Findings indicate that most of the adolescents in the sample had experienced war at first hand, and many had experienced the death of a parent. This explanation is supported by previous studies, showing that

experiences of traumatic events are linked to mental health problems in young refugees (Allwood et al., 2002; Derluyn & Broekaert, 2007; Thomas et al., 2003).

Although the results were non-significant, probably due to there being very few girls in the sample, the large differences in mean scores between the genders cannot be overlooked. The large difference may indicate that girls who are unaccompanied minor refugees are at a higher risk for depression than boys. A general explanation of this is the well-established phenomenon that during adolescence girls experience higher rates of depression than boys. In a normal population study of 1057 French adolescents the mean CES-D score for girls was 20.1, while among boys, the mean score was 16.2 (Chabrol et al., 2006). These scores are slightly lower than among unaccompanied minors in the present study, but support the findings that girls are more at risk for experiencing symptoms of depression than boys during the adolescent years. In addition, as pointed out by Derluyn & Broekaert (2007), female unaccompanied minors may have experienced even more difficult migration trajectories compared to boys, and perhaps also more traumatizing events such as rape or forced marriage. The high rates of depression could also be an interaction of being an unaccompanied minor refugee and being in a developmental stage where many changes and transitions take place.. In addition, part of the migration process involves leaving ones social network and sources of support. As earlier research shows, females are often more affected by interpersonal factors than males are ( Oppedal & Røysamb, in press). Being separated from ones social network may therefore be extra difficult for adolescent girls. Despite the small sample size of this study, it is justifiable to assume that the gender difference found in this study is not random error, but represents real differences in male and female unaccompanied minor refugees. The genders should therefore be examined separately in larger samples of this group. Knowledge of gender differences on certain characteristics could also be of value when planning interventions for this group of refugees, since boys and girls may have different needs.

### *Interpersonal stress and depression*

Interpersonal stressors accounted for a significant amount of the variance in depression symptoms among unaccompanied minor refugees. The more perceived stress in relation to both family and friends experienced by these unaccompanied minors, the more likely they were to report symptoms of depression. This result is consistent with previous research showing that relational stressors are associated with depression and other mental health problems (Garber & Flynn, 2001; Oppedal & Røysamb, 2004; Printz et al., 1999; Schweitzer et al., 2006; Wagner & Compas, 1990; Ystgaard et al., 1999). The finding that

unaccompanied minors worry about family members to a large extent and that this is relatively strongly associated with depression symptoms indicates that this is a significant stressor affecting the well-being of these adolescents. It supports previous findings that separation from family members is a large burden for refugees, and that they may be preoccupied with the safety and well-being of family members left behind in countries of war and internal conflict (Kohli & Mather, 2003; Schweitzer et al., 2006). Separation from loved ones and from significant attachment figures at a young age may be an even greater stressor for children and adolescents, than for adult refugees, as one is more dependent on having close and supportive family members in earlier stages of life. The unaccompanied minors in this study also come from collectivistic cultures where family bonds are assumed to be particularly important, compared to more individualistic cultures (Kagitcibasi, 1996), and may therefore be extra vulnerable to stress related to the family network.

As part of the migration process involves separation from and loss of close relationships including sources of social support, the reconstruction of a social network in the country of resettlement becomes important for positive adaptation and well-being. Since the network of resettled unaccompanied minors to a large extent mainly consists of friends, and only about half of the sample had contact with family members in Norway, problems in the network of friends may be extra harmful to mental health. As the results show, stress in relation to friends was a significant predictor of depression symptoms, and was highly associated with depression symptoms in both boys and girls. This is consistent with the literature, showing that during adolescence peer relationships becomes increasingly important, and that especially conflict and problems with peers are risk factors for the development of depression, especially among girls (Compas et al., 1993; Wagner & Compas, 1990; Ystgaard et al., 1999). However, the higher vulnerability of girls to interpersonal stress compared to boys was not indicated in the bivariate analyses of this preliminary study.

In the present study, the 13 girls reported on average more interpersonal stressors than boys, both in relation to family members abroad and to friends. However, our findings did not indicate a stronger effect of interpersonal relations among girls that previous researchers have found. However, due to the small sample size, and especially the small number of girls in the study, these findings need to be explored further in studies of larger samples.

The small difference in unique effects of stressors in relation to family and friends for the whole sample, indicate that negative relations to friends are just as important predictors of depression symptoms as worries about family abroad, which signifies the importance of having good social network relations in the country of resettlement.



A problem in interpreting these results is to which extent the items measuring interpersonal stress are the real stressors, or if the relatively strong association with depression symptoms is rather caused by some other problems related to these items, like more serious interpersonal stress or conflict. For instance, it may be that the effect of worries about family in homeland on depression symptoms is actually an effect of grief over the loss of family or longing for them. However, the measures of stress used in this study encompass serious aspects related to the experience of unaccompanied minor refugees, as shown by the strong associations with depression symptoms.

### *Social support and depression*

In the migration process one endures many losses and separations from family and friends. Being part of a social network is necessary in order to receive social support. One might assume that social support may be lower for unaccompanied minor refugees during the first years of resettlement, as they have moved far away from the sources of support they have known all their lives, and have to reconstruct a new network and close relationships in a new country. Results suggest that the perception of social support, from both family abroad and friends in Norway, is relatively high. The majority of the unaccompanied minors in the sample had stayed in Norway more than three years. Apparently, they have used the time well with respect to being integrated in a social network and re-establishing contact with family members. The unaccompanied minors reported a relatively large network of friends, and the majority being from the same ethnic background as themselves. Other studies have also shown that adolescents with minority backgrounds prefer friends of the same ethnicity (Øia, 2003). It may be that it is more difficult to get in contact with ethnic Norwegian, due to exclusion and cultural differences. Although the measure of social support from friends does not differentiate between ethnicity, the finding that most of their network of friends consist of co-ethnics may say something about culture competence, i.e. that for example ways of communicating and gender roles, makes it easier and therefore preferable to make friends from the same cultural background. In addition, both boys and girls in the sample had many friends with both ethnic Norwegian and other ethnic backgrounds. This may be explained by characteristics of the adolescents, such as good social skills, which is necessary in order to reconstruct ones social network and develop supportive relations to others. Such skills are useful and important for positive adaptation upon resettling in a new environment. Thus, the large network of friends and high perceived support may indicate that unaccompanied minor refugees are particularly good at forming new networks and close relationships. This may be a

reflection of having developed skills due to having travelled far and surviving on their own, and having to meet and relate to many new people at a young age.

In the present study, only social support from family made a significant contribution to explaining a unique variance in depression symptoms for the total sample. Family has been shown to play an important role during adolescence and during stressful life events such as the migration process. One explanation to the larger effect of family support than support from friends in explaining depression symptoms among unaccompanied minors may be the extra value and importance of family bonds in the collectivistic cultures of the countries from which they are from (Kagitcibasi, 1996). In addition, the perception that they are being loved and cared for by far away networks, may help them in resettling on their own, and contribute positively to their adaptation and well-being.

An interesting finding, was that when examining the genders separately, family support is hardly associated to depression symptoms in boys. Thus, it may be that the degree of family support is more strongly associated with depression symptoms among girls. This indicates differences between the genders, which might be due to gender differences in interpersonal relationships. This supports previous findings in which the association between parental support and emotional problems is stronger for girls than for boys (Helsen et al., 2000). However, due to the few girls in the sample, this result needs to be validated in further study. The argument that females should feel more comfortable disclosing social support than males (Klineberg et al., 2006) does not hold here, as males reported slightly more social support from family than females. Thus, in this study there does not seem to be a gender bias in the reporting of social support. The stronger negative association between family support and depression symptoms in girls compared to boys may rather be due to other gender role differences.

Social support from friends did not yield a significant impact on depression symptoms. This is consistent with some findings (Helsen et al., 2000; Oppedal & Røysamb, 2004; Printz et al., 1999), but not with others (Colarossi & Eccles, 2003). However, the greater impact of family support as opposed to support from friends on depression symptoms, may indicate that the support received from family members is more vital for healthy functioning than is the quality of affective bonds with friends. Another explanation is that friends serve as a secondary coping resource, i.e. their support is solicited when the family proves nonsupportive (Printz et al., 1999).

*Potential moderator effects*

The role of social support as a moderator of the relationship between perceived interpersonal stress and symptoms of depression in unaccompanied minor refugees was not supported in the present findings. According to the theory of optimal matching, social support must match the needs elicited by the stressor in order to buffer the negative effect on mental health (Cutrona, 1990). The uncontrollable nature of the interpersonal stressors measured in the present study, should according to theory, require emotional support to be dealt with effectively (Cutrona & Russell, 1990; Compas et al., 1993). The lack of interactions between the specific family and friend problems and social support may have several explanations. It may indicate that friends in Norway and family in homeland are two totally separate domains of these unaccompanied minors life, and that problems in one of these domains are not relieved by high support in the other. The lack of interaction could be due to a mismatch between the types of stressors and types or sources of social support examined. For example, it could be that the unaccompanied minors keep worries about family members to themselves and therefore do not engage their network of friends and supportive relationships around these issues. It could be that they express these worries to other parts of their network, such as for example social workers or teachers, thus these sources of support should be included in future studies examining the protective factors in the lives of unaccompanied minors. Furthermore, even if the unaccompanied minors do perceive their friends as being supportive, this support may not effectively relieve the burden of being worried about family members. Another possibility is that the specificity of the measures used in this study may have missed components in either stress or support that could be essential to interaction. For example, we do not know in what ways or why family and friends are perceived as supportive. In addition, the small sample size may have represented a problem in terms of low statistical power. This could thus yield a false negative result.

### *Limitations*

This study is based on preliminary data with a relatively small sample size of unaccompanied minor refugees. This limits the interpretation of results and generalizability of findings. This sample of unaccompanied minor refugees may not be representative for this group, as the adolescents invited to this study were mostly under the supervision of child care services in the municipality in which they lived. It could be that those who are not under the supervision of child care services, or those that were not found, have greater problems than those who have someone who looks after them. In addition, the small number of girls may hide significant differences between the genders.

Cross sectional data raise questions about the direction of the relationships between interpersonal risks, social support and symptoms of depression. Due to this, this study cannot draw any conclusions as to the direction of the stress-mental health association, i.e. whether stress predicts increases in symptoms of depression or if symptoms predict increases in stress. For example, it could be that those with higher levels of depression symptoms are more likely to worry about people close to them. In a longitudinal study of high risk youth it was found that not only did stress negatively affect troubled adolescents' psychological well-being, but it was also exacerbated by depressed mood (Galaif et al., 2003), implying that perceived stress may be both a consequence and a predictor of depression.

Using generalized measures of family abroad and friend support, which combines perceptions of support from a variety of providers, may prove problematic for the results of this study. It is possible that a very supportive family member or friend could have larger effects on the outcome than when perceptions of family and/or friends in general are combined (Colarossi & Eccles, 2003).

Another limitation may be the language barrier, as several of the informants had not stayed long enough in Norway to be fluent in the language. The questionnaires were in Norwegian, and could thus represent a problem of the informants' interpretation of the wording. However, project assistant were available for answering any questions that the adolescents may have had. In addition, translators were present for those informants who felt that this was necessary. The use of translators may also cause problems of misinterpretation and changes of meaning in the sentences. However, only eight informants reported to need a translator, and this should therefore not be a large bias to the results.

Cultural differences in the conceptualization and problems in its assessment in different cultures have been pointed out (Felsman et al., 1990). Although the measures in this study have been previously used among immigrant populations, the unaccompanied minor refugees represent many different ethnic and cultural backgrounds, which may represent large within-group variation based on racial or ethnic group. Studying within-group differences in larger samples of unaccompanied minors may give information about important variations within and across cultures.

### *Practical implications*

The finding that a large part of the target group has high scores of depression symptoms, does not necessarily signify that unaccompanied minor refugees are in need of large-scale psychological or therapeutic interventions. Before starting an intervention, the

high symptom scores need to be validated further as actual clinical cases of depressive disorder and perhaps even more important explore the needs and wants of the adolescents themselves. In addition, the finding that the relationship to family members abroad influences the well-being of unaccompanied minor refugees in this sample to a large degree, may serve as a direction to those planning interventions for this group. In addition to the importance of constructing a social support network in the country of resettlement, reconstructing the ties to the home country and to separated loved ones may be just as important. Considering risks and resources within the social network in Norway may be extra important for the identification of extra vulnerable groups of unaccompanied minor refugees. Even though this sample seem to be relatively successful in reconstructing a supportive social network after resettlement, it is important to identify those who are not embedded in a supportive network, and to help them in coming in contact with potential friends.

#### *Further research*

The present study is based on data from the first 62 informants of a larger longitudinal study of unaccompanied minor refugees in Norway, and thus represents a basis for further research within this larger project.

The prevalence of high depression symptoms found in this study needs to be validated in larger samples of this group, in addition to other mental health outcomes, as one single indicator is not necessarily a proxy for a range of other disorders. In addition, the large gender differences in mean scores of depression symptoms, indicates the importance of studying the genders separately in relation to mental health in this group.

The findings of this study verify the need to further investigate the relationship between depression and its causal risk factors to develop effective means of helping unaccompanied minor refugees to cope with resettling in a new country. Especially more representative and longitudinal studies are needed on the development of a new supportive social network, in addition to how these adolescents utilize and perceive their “old” network as supportive or straining in starting a new life. In addition, gender differences among unaccompanied minor refugees need to be explored further, both in relation to interpersonal risks and resources and in how these factors work to produce differential effects on mental health.

Moreover, research should focus more on which stressors that are most salient in the development of mental health problems in this group. Other factors such as socioeconomic status, gender roles, attachment relationships, personality resources, and acculturation hassles

such as discrimination, could also be predictive of mental health problems among unaccompanied minors. These factors are also important in order to get knowledge about adaptation processes among this group.

In addition, other sources of social support, such as classmates, colleagues, social service workers, and family members in Norway should be measured in further studies in explaining the adaptation and development of unaccompanied minor refugees.

Due to the relatively large effect of interpersonal stressors on depression symptoms in the present study, other moderator variables, and also potential mediator variables, need to be indicated and explored to understand more about the underlying mechanisms of how stress affects this group, and why some adolescents are less affected by the same stressors. Although previous findings have been inconsistent and inconclusive, they all show that it is important to assess multiple aspects of the social environment simultaneously in order to adequately explain and understand adolescent mental health problems (Colarossi & Eccles, 2003; Garnefski & Diekstra, 1996). Even though social support did not act as a buffer in the present study, other factors may play a role. For instance, in a study of high school students, social support and problem-solving abilities did not reduce the effects of negative stress when examined separately (Printz et al., 1999). This suggests that social support may be more effective in buffering stress when also other resources are perceived as available. Such interaction effects should be explored, as it has both theoretical and practical implications.

Furthermore, this study dealt with a high-risk population, rather than a “normal” sample. A comparison with a normal sample would enable one to draw further distinctions between healthy and pathological adaptation and relational development of unaccompanied minor refugees.

### *Conclusion*

The results indicate that unaccompanied minor refugees suffer from elevated levels of depression symptoms. Findings suggest that interpersonal relationships, and especially problems in social relations, have a significant impact on the mental health of unaccompanied minor refugees after resettlement. Finally, high social support from either family or friends was not found to relieve the negative effects of interpersonal stress on depression symptoms. Thus, direct effects of interpersonal factors were supported, while interaction effects of social support and interpersonal stressors was not.

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