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Review and Empirical Study of Mental Health in Forced
Migrants in the Context of Trauma and Resettlement Stress

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Abstract

The effect of traumatic events on mental health, especially posttraumatic stress disorder (PTSD) have been well investigated with regard to the population of forced migrants (asylum seekers and refugees). Recently, the impact of factors pertaining to the post-migration period, especially resettlement stress, have found increasing attention in research. This thesis investigates the impact of resettlement stress and traumatic experiences on mental health problems in forced migrants. The investigation of this topic was approached in two parts:

1) A systematic review of 30 articles was conducted to investigate current findings on the effect of resettlement stress in the field of adult forced migrant mental health. All studies were conducted in western high-income countries. It was found that traumatic events and resettlement stress are both independent risk factors for mental health disorders. A tendency for a stronger impact of trauma on PTSD and of resettlement stress on depression was recognized. Specific factors that show significance in the prediction of mental health disorder were insecure financial situation, unemployment and temporary residency status. Potential risk factors that need further investigation are fear for family members left behind, fear of being sent back to the country of origin and acceptance by the host community as well as discrimination. Language proficiency and lack of social support did not show predictive value in the population of forced migrants.

2) An exploratory study on mental health in African forced migrants that resettled in South Africa was conducted to investigate the psychosocial situation of those migrants in comparison to the results from predominantly western high-income resettlement countries. Symptoms of PTSD, severe emotional distress and depression as well as post-migration living difficulties and discrimination have been assessed. A total of 13 male African forced migrants have been interviewed. Prevalence rates of 38% for PTSD and 62% for major depression have been found. Concerning mental health, symptoms of emotional distress and depression were associated with traumatic experiences ($r = .568$ and $r = .564$, respectively) and with post-migration living difficulties ($r = .556$ and $r = .646$, respectively), but not with PTSD. No associations were found for discrimination and symptoms of mental disorders.

Conclusively, resettlement stress is important in research and the treatment of mental health disorders in forced migrants. Further research is needed on the interaction of trauma and resettlement stress as well as on populations resettled in non-western countries.

Table of Contents

1. Introduction	4
2. Theoretical Background	8
2.1 Asylum Seekers and Refugees – a Definition.....	8
2.2 Mental Health among Asylum Seekers and Refugees	10
2.2.1 Trauma and PTSD	10
2.2.2 Depression	13
2.2.3 Comorbidity of depression and PTSD	15
2.3 Post-Migration Factors and Resettlement Stress	17
2.3.1 A resource-based model of forced migrant adaption and well-being	18
2.3.2 Concept of resettlement stress and it's relation to legal status.....	20
2.3.3 Resettlement stress and mental health.....	24
3. Review: Resettlement Stress, Traumatic Events and Mental Health	26
3.1 Methods of Review	27
3.1.1 Inclusion and exclusion criteria.....	27
3.1.2 Data search	27
3.1.3 Study screening and selection	27
3.2 Results of Literature Search	28
3.2.1 Study selection	28
3.2.2 Overview of selected studies.....	29
3.3 Methodological Diversity	32
3.3.1 Study samples.....	32
3.3.2 Measurements of mental health.....	33
3.3.3 Measurement of traumatic experiences	34
3.3.4 Measurements of resettlement stress.....	34
3.3.4.1 The Post-Migration Living Difficulties Questionnaire (PMLD).....	35
3.3.4.2 Other post-migration stress measurement instruments	37
3.4 The Relationship of Trauma and Resettlement Stress to Psychiatric Disorders..	38

3.4.1 Trauma and resettlement stress in the context of traumatic stress	38
3.4.2 Trauma and resettlement stress in the context of depression	42
3.5 Specific Resettlement Stressors	45
3.5.1 Language proficiency and communication.....	45
3.5.2 Financial situation and employment.....	46
3.5.3 Social support	49
3.5.4 Sense of belonging and acceptance	51
3.5.5 Family-related issues	53
3.5.6 Beyond pre-migration trauma and post-migration stress	54
3.6 Beyond Simple Direct Effects: Trauma and Resettlement Stress	58
3.7 Overarching Special Issues	61
3.7.1 Legal status	61
3.7.2 Development over time	65
3.7.3 Impact of the country of resettlement.....	69
3.7.4 Shades of grey: migration motivation and preparedness.....	71
4. A Study on Mental Health of African Forced Migrants Resettled in South Africa...	73
4.1 Mental Health of Forced Migrants in South Africa	75
4.2 Methodology	76
4.2.1 Participant characteristics	76
4.2.2 Sampling Procedures	76
4.2.3 Measures.....	77
4.2.4 Ethical considerations.....	79
4.2.4 Statistical Analysis	80
4.3 Results	82
4.3.1 Recruitment and participant characteristics.....	82
4.3.2 Descriptive analysis of the South African Sample	82
4.3.3 Statistical Analysis	89
4.4 Discussion	93

5. Conclusio	96
Literature	101
Tables and Figures	108
List of tables	109
List of figures	110
Appendix	111
Abstract in German / Zusammenfassung auf Deutsch	111
Informed consent used in the study	112

1. Introduction

The social world is constantly facing new challenges. One of these challenges at the beginning of the 21st century is migration. Formal distinctions between forced and voluntary migration become blurry and new forms of migration emerge (UNHCR, 2011). While the number of people seeking asylum in foreign countries rises, proportionally less asylum seekers are granted refugee status, human trafficking is expanding and asylum seekers are put under general suspicion of having an unfounded refugee claim (UNHCR, 2008). Forced migrants are in a difficult and vulnerable position: they are forced to leave their home, leave possessions and loved ones behind and have nowhere to go. The climate in the so-called host-countries is getting harsher and harsher. Those people fleeing from war-torn countries have to fight the ghosts of the past and find no rest in the future as they struggle to find a new home.

Asylum seekers and refugees have been in the focus of psychological research and treatment for quite some time now, and valuable information on the effect of traumatic experiences on mental health has been gained. While most research focused primarily on the effect of traumatic experiences such as torture on mental health, few took factors of the post-migration life of forced migrants into account.

The initial aim of this thesis was to investigate African asylum seekers and refugees that resettled in South Africa. African forced migrants in South Africa are from a similar cultural circle as the host nationals and live in the uprising economical and multicultural resettlement country. This poses a contrast to studies done on forced migrants resettling in western monocultural high-income countries that is yet more comparable than studies on migrant mental health in refugee camps. Migrants from other sub-Saharan African countries have no easy stand in South Africa as they are often the target of violent xenophobia (Vromans, Schweitzer, Knoetze, & Kagee, 2011).

With the support of Scalabrini, a NGO working with refugees in Cape Town, South Africa, the author planned to interview forced migrants, using previously validated and culturally adapted psychological questionnaires. But during the year 2013, the legal situation of forced migrants in Cape Town became heated. Scalabrini filed a complaint against the Ministry of Home Affairs at the Supreme Court as a result of the closing of the reception

centers for asylum seekers in Cape Town, Port Elisabeth and Johannesburg (South Africa: Supreme Court of Appeal, 2013). It was intended that Scalabrini would function as a gateway for potential participants of this study, but no resources were found to support the intended research. Also the collaborating Trauma Centre for Survivors of Violence and Torture could not support a student's study due to lack of resources. Additionally, this research being the first psychological research done at Scalabrini, the NGO was concerned about retraumatization, especially since they could not provide psychological care. Despite this, Scalabrini kindly offered a room to facilitate the interviews for this study.

To find potential participants for this study, the author then went to other NGOs that worked with refugees and asylum seekers in Cape Town. Two main problems were encountered with this approach: NGOs were generally understaffed and could not free any capacity to help establish contact with their clients. Secondly, NGO's feared that participants would secretly hope that the interview would help them to gain residency in Europe. This is because shortly before the interviews for this study were to be conducted, UNHCR interviewed refugees who misunderstood the purpose of the interview and when their hopes were unfulfilled, they felt betrayed by the NGO, which had convinced them to participate. The NGOs felt that the trust their clients had towards them was too fragile at the moment to advertise a research project, especially as it was not in their area of expertise. Nevertheless, the author was given permission to ask people who were around the NGO grounds for interviews.

Another challenge was to then motivate participants to take part in the research. Most people the author encountered at the NGO grounds were women, who often did not speak much English. Additionally, the author had previously decided not to offer any payment, since the author did not want to offer incentives to potential participants that they could not afford to refuse. Forced migrants often experience financial hardship and the prospect of money could influence their ability to give voluntary consent (Higson-Smith & Bro, 2010).

With the help of a member of the Burundi refugee community, the author finally got into contact with some participants and was able to conduct interviews. Still, a sufficient sample size could not be reached to perform complex statistical analysis or to be able to come to generalizable conclusions. Before and during the course of the author's residency in Cape Town, she contacted various professionals in the asylum and mental health field. After two thirds of the research period, one of these professionals made the author aware that the research lacked the permission of a South African Ethics committee. The "guidelines for

approval of health research in the western cape” (Western Cape Health Research Committee, 2011) states in section 4.2

It is expected that research undertaken by undergraduates will take place within the context of on-going agreements between their supervisors and the facilities for which formal approval has previously been obtained. Undergraduate students will therefore not be required to follow the formal approval procedure outlined in this document for each individual project (p. 8).

When the author was made aware that the University of Vienna is not one of the accredited research ethics committees, listed in Appendix 3 of the document, the author had to terminate the data collection. Because of these challenges, this thesis was supplemented with a literature review on mental health in forced migrants in the context of resettlement stress and trauma.

This thesis will give a theoretical overview of the psychiatric disorders relevant to forced migrants mental health. The currently published resource-based model of migrant adaption and well-being by Ryan, Dooley, and Benson (2008) will be introduced as a theoretical framework. In the review section, publications on the impact of resettlement stress will be discussed. The relative impact of traumatic experiences and resettlement related factors on mental health problems will be reviewed, followed by an in-depth discussion of specific resettlement stressors and their association with mental health issues. Light will be shed on the complex interaction of past traumatic experiences and current stressors, followed by an outline of the impact of superordinate factors relevant to resettlement stress.

Finally findings of the South African sample will be displayed and discussed in the light of previously explained models and empirical findings.

The aim of this thesis is to provide a summary of the literature on mental health on forced migrants with focus on resettlement stress to get a better understanding of the psychosocial situation of forced migrants apart from, but not neglecting, the impact of and disorders caused by trauma. Additionally, the psychosocial situation of African forced migrants in South Africa will be explored and discussed within the conclusions of the review. This will enable researchers, practitioners and immigration specialists of all fields to gain knowledge on risk factors and the complexity of impact factors on mental health in the population of forced migrants.

Terms and concepts used

The definition of terms and concepts used frequently in this review can be found below to avoid confusion and have a clear definition of the terminology.

Forced migrants will be used to describe the population of refugees and asylum seekers.

The term *resettlement country* describes the country in which a forced migrant arrives during the final phase after the migration. The term *host country* is a synonym but will not be used frequently by the author, since often the country of resettlement does not act like a host and refugees and asylum seekers are not treated as guests. Also most of the refugees and asylum seekers cannot go back for a long time and end up staying in the country of resettlement, thus they become part of the country and should no longer be considered to be hosted but rather to be resettled.

Traumatic events or *traumatic experiences* will be the terms used to describe events that are severely distressing and can potentially lead to trauma/emotional scarring.

Resettlement stress (RS) will be used to describe a set of stressors and the subjective perception of these that result from post-migration living circumstances. *Post-migration stress* is a commonly used synonym, but to avoid confusion with post-migration trauma and post-migration living difficulties or posttraumatic stress symptoms, the term resettlement stress will be used.

Language proficiency means the ability to use the official language of the country of resettlement.

Legal status in this context refers to the status a migrant is given by the immigration laws and politics of the country of resettlement. The legal status of an immigrant also includes or is defined by a range of permits (e.g. work or residence).

Xenophobia is closely associated with racism and means prejudices, attitudes and behaviors directed against a member of a different group (e.g. a foreign national) that can lead to discrimination, rejection or other forms of bad treatment of that individual.

2. Theoretical Background

This chapter on the theoretical background will provide information on core concepts relevant to the mental health of forced migrants. Primarily the terms asylum seeker and refugee will be defined with a brief introduction of the new categories of the ‘environmental’ and ‘survival refugees’. The succeeding subchapter on mental health in forced migrants, will introduce the two disorders posttraumatic stress disorder (PTSD) and major depression (MD) predominant in refugee mental health and briefly touch the topic of comorbidity. The final subchapter will introduce the resource-based model of migrant adaption and well-being that provides a comprehensive theoretical framework for the complex interaction of traumatic experiences and resettlement stress in the post-migration phase.

2.1 Asylum Seekers and Refugees – a Definition

According to article 1.A.2 of the United Nations Convention (1951) relating to the Status of Refugees, a refugee is any person who:

owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable, or owing to such fear, is unwilling to return to it. (United Nations, 1951, p. 2)

Asylum seekers on the other hand are individuals who have applied for asylum (in case of South Africa at the “Department of Home Affairs”, DHA) and are awaiting a decision pertaining to their claim.

While the terms asylum seeker and refugee seem to be clearly defined, in recent years an increasing numbers of migrants are forced to leave their country of origin not for reasons of personal persecution but to flee starvation or other harsh conditions resulting from natural disasters or climatic changes. Yet, these individuals do not have any status in the legal

frameworks of migration policies. Even so, several different terms have been presented: economic refugee/migrant, climate refugee, environmental refugee and survival migrant.

The UNHCR (2011) stated that refugees and economic migrants are hardly distinguishable if the economic reasons for a person to flee their country are a result of personal persecution:

63. (...) Behind economic measures affecting a person's livelihood there may be racial, religious or political aims or intentions directed against a particular group. Where economic measures destroy the economic existence of a particular section of the population (e.g. withdrawal of trading rights from, or discriminatory or excessive taxation of, a specific ethnic or religious group), the victims may according to the circumstances become refugees on leaving the country. (UNHCR, 2011, p. 15)

Recently, the term 'survival migrants' has been introduced and defined as "persons outside their country of origin because of an existential threat to which they have no access to a domestic remedy or resolution" (Betts, 2010, p. 362). Many forced migrants in South Africa originate from Zimbabwe, the Democratic Republic of Congo or Somalia and often do not fall under the definition of the United Nations Convention of 1951, but can be considered survival migrants as they fear starvation if sent back to their countries of origin (Betts, 2010). Though survival migrants are not considered refugees, Betts (2010) argues that they still should receive substitute protection as human right.

The division of migrants into the two groups of forced migrants and voluntary migrants is not easily defended when such terms are included or the migration type of a person is not yet determined. Thus the type of migration has implications for the conduction and the implementation of mental health research. Per definition, traditional refugees are more likely to have experienced man-made trauma, while survival migrants are more likely to have suffered from natural disasters and voluntary migrants might not have had any greater exposure to trauma than the normal population. When reading about or treating mental health problems in forced migrants, it is thus important to be aware of the distinct characteristics of the sample to enable more accurate prediction, especially in case of PTSD (see chapter 2.2.1 on the dose-response relationship of trauma and PTSD).

2.2 Mental Health among Asylum Seekers and Refugees

Refugees and asylum seekers belong to a very vulnerable group of migrants. Lindert, Ehrenstein, Priebe, Mielck, and Brahler (2009) found higher prevalence rates for mental health problems in refugees compared to prevalence rates in voluntary migrants (40 % vs. 20% for depression and 40% vs. 21% for anxiety, respectively). These findings suggest that different groups of migrants might have different health outcomes and associated risk factors and thus should be separately observed.

From the definition of refugees by the UN (1951), it can be concluded that refugees and asylum seekers are likely to have experienced fear and potentially traumatic events, hence are in a high-risk group concerning mental health problems. Various studies have been conducted to examine the prevalence of mental disorders within the refugee and asylum seeker population. The most common, serious mental disorders, found in such studies, were posttraumatic stress disorder and major depression: In refugee populations resettled in western countries Fazel, Wheeler, and Danesh (2005) found prevalence rates of 9% for PTSD and 5% major depression, reviewing 20 studies. Even higher rates were found in an extensive systematic review and meta-analysis (Steel et al., 2009): 161 articles were analyzed on the prevalence of PTSD and depression in the field post-conflict health in 40 countries, and factors such as torture and other potentially traumatic events were taken into account. Prevalence rates of 30.6% for PTSD and 30.8 % for depression were found over all studies.

Therefore posttraumatic stress disorder (PTSD), depressive disorders, the comorbidity of both disorders and their specific characteristics in the refugee and asylum seeker population will be discussed in more detail in the following chapter.

2.2.1 Trauma and PTSD

One of the most frequent negative mental health outcomes following traumatic experiences is called posttraumatic stress disorder (PTSD, see figure 1).

In the Diagnostic and Statistical Manual of Mental Disorders IV-TR (American Psychiatric Association, 2000), PTSD is part of the group of anxiety disorders. The first criterion in the DSM IV-TR is the exposure to a traumatic event which a person may directly experience, witnessed or otherwise be confronted with it. In DSM IV-TR, the exposure must

then be followed by a sensation of great fear, horror or helplessness. Symptoms of re-experiencing, avoidance of trauma-associated stimuli and increased arousal start after the traumatic event and persist for more than a month. A clinically significant amount of distress or impairment in functioning have to be experienced in order to be diagnosed with PTSD according to the DSM IV-TR.

There are different theories that explain PTSD: conditioning theories, schema theories,

Posttraumatic Stress Disorder (PTSD)

In ICD-10: Reaction to severe stress, and adjustment disorders F43.1

In DSM VI-TR: Anxiety Disorder 309.81

Diagnostic criteria according to DSM IV-TR:

- A. Exposure to traumatic event involving
 - Actual / threatened injury or death, or loss of psychological integrity
 - Intense fear, helplessness or horror
- B. Persistent re-experiencing (e.g. intrusions, nightmares, flashbacks)
- C. Persistent avoidance of stimuli associated with the trauma
- D. Persistent symptoms of increased arousal (e.g. difficulties sleeping or concentrating, hypervigilance)
- E. Duration of symptoms for more than one month
- F. Causing clinically significant distress or impairment

emotional processing theories and cognitive theories (for more see e.g. Comer, 2008; Friedman, Keane, & Resick, 2007; Maercker, 2009).

Whether someone who has experienced a potentially traumatic event is either not clinically affected, gains personal growth (see the new research field on posttraumatic growth) or develops a PTSD depends on factors inherent to the traumatic event, to the individual experiencing it and to the reaction following the traumatic event (Friedman et al., 2007).

Figure 1. Info-Box on the posttraumatic stress disorder.

Factors that put individuals at risk for the development of PTSD can be categorized as pre-trauma, peri-trauma and post-trauma factors. In a meta-analysis, Brewin, Andrews, and Valentine (2000) found following risk factors, ordered by the size of the effect: lack of social support ($r = .40$), life stress ($r = .32$), trauma severity ($r = .23$), other adverse childhood experiences ($r = .19$), low intelligence ($r = .18$), childhood abuse ($r = .14$), low socioeconomic status ($r = .14$), family psychiatric history ($r = .13$), female gender ($r = .13$), other previous trauma ($r = .12$), personal psychiatric history ($r = .11$), lack of education ($r = .10$), younger age ($r = .06$) and minority status ($r = .05$).

With respect to the traumatic event as a risk factor, two dimensions have to be taken into consideration: the dose-response relationship and the different types or forms of traumatic events. The dose-response relationship theory of trauma and PTSD states that: “the magnitude of a stressor is directly proportional to the subsequent risk of developing PTSD” (Steel, Silove, Bird, McGorry, & Mohan, 1999, p. 40). Several studies found conclusive evidence that the accumulative number of traumatic events experienced is positively associated with the amount of PTSD symptoms (Johnson & Thompson, 2008; Steel et al., 2009).

The second dimension is the type of trauma. Maercker (2009) categorized trauma in four categories (table 1) along two dimensions: Frequency or duration and human intention. A traumatic event can either be non-recurring (e.g. rape) or reoccurring (e.g. repeated sexual abuse by a family member), or a traumatic event can be rapid (e.g. car crash), incidental traumas or long-term (e.g. tsunami). Also, traumatic events can be caused or intended by human beings or just be of an incidental nature. Though there is as yet no full comprehension of the specific effects of each trauma type, studies suggest that man-made recurring or long term traumatic experiences pose the greatest risk factors within the traumatic experiences (Charuvastra & Cloitre, 2008). Torture in particular was found to be a consistently significant predictor of PTSD: in a meta-analysis on traumatic experiences in post-conflict populations, the factor that was most strongly associated with PTSD was reported torture ($\Delta R^2 = 23,6\%$), even before cumulative exposure to potential traumatic events ($\Delta R^2 = 10.8\%$, Steel et al., 2009).

Table 1

Adopted schematic classification of traumatic experiences according to Maercker (2009)

	Type I Traumata (non-reoccurring / rapid)	Type II Traumata (reoccurring / long-term)
Accidental trauma	Severe car accidents, work related trauma, natural disasters	Long-term natural disasters, industrial disasters
Man-made trauma	Sexual assault, physical assault, violent crime/public offense	Sexual and physical abuse during childhood/adulthood, war experiences, torture, political imprisonment

Factors that increase the risk of a person suffering from PTSD for an extended period of time are called risk factors for maintenance of PTSD. In a review, Johnson and Thompson (2008) found that factors such as trauma severity, the impact of captivity on family, post-migration stressful events and fewer social contacts might function as predictors for maintenance of PTSD.

Factors protecting against the development of PTSD seem to be of a more personal nature: various firm belief systems, preparedness for traumatic events and self-confidence were found to decrease the likelihood of the development of PTSD following traumatic experiences (Johnson & Thompson, 2008). Social support is also likely to be a protective factor against the development of PTSD (Johnson & Thompson, 2008) and will be discussed in more detail in chapter 2.3.3.

New conception in DSM 5:

The new DSM 5 (American Psychiatric Association, 2013) included a new chapter for trauma- and stress-related disorders in which PTSD is now listed in. As opposed to the criteria in DSM IV, intense fear, helplessness or horror are no longer diagnostic criteria. Four symptom clusters, instead of three, are defined: re-experiencing, avoidance, negative cognitions and mood, and arousal. Also there are two subtypes: with dissociative symptoms and with delayed expression (more than 6 months after the event). All studies that are reviewed in chapter 4 were conducted before the publication of those new diagnostic criteria.

2.2.2 Depression

As mentioned before, next to PTSD, depression is one of the most common mental disorders in the population of forced migrants (e.g. Lindert et al., 2009). Risk factors for depression and development paths as well as theories on depression are manifold and exceed the purpose of this thesis. While general information can be found elsewhere, this chapter will concentrate on specific findings on depression in forced migrants.

Depression is a mood or affective disorder that has a wide spectrum. In the DSM IV-TR (American Psychiatric Association, 2000), the depressive disorders are listed under mood disorders and include major depressive disorder, dysthymic disorder and depressive disorders not otherwise specified (see figure 2). The main symptom of the major depression episode is a feeling of sadness, hopelessness or discouragement (American Psychiatric Association, 2000). Additionally, depression presents with a loss of interest or pleasure one

Depressive Disorders

In ICD-10: depressive episode F 32 and recurrent depressive disorder F 33

In DSM VI-TR: Mood disorders, major depressive disorder 296.xx, dysthymic disorder 300.4 and depressive disorders not otherwise specified 311

Diagnostic criteria for major depressive episode, according to DSM IV-TR:

- A. presence of 5+ of the following symptoms in the last two weeks:
 - depressive mood
 - diminished interest or pleasure in almost all activities
 - significant change in weight
 - insomnia or hyposomnia
 - psychomotor agitation or retardation
 - fatigue or energy loss
 - decreased ability to concentrate
 - recurrent thoughts of death
- B. not a mixed episode
- C. significant distress or impairment
- D. symptoms not due to substances or medical condition
- E. Exclusion of bereavement as a diagnosis, or persistence of symptoms for more than 2 months or other special characteristics (suicidal ideation, psychotic symptoms etc.)

was formerly interested in. Appetite is often lost and can lead to changes in weight. Sleeping patterns are affected and insomnia is a common symptom of major depression disorder. Psychomotor activity is changed (even speech can be affected) and a general lack of energy is felt. The ability to think, concentrate or make decisions is decreased and a sense of worthlessness or guilt is present. Thoughts can be focused on death, ideation of suicide or suicide attempts

(American Psychiatric Association, 2000).

Figure 2. Info-Box on depressive episodes.

In their meta-analysis on mental health in post-conflict populations, Steel et al. (2009) found a prevalence rate of 30.8% for depression and the most significant predictors were number of potential traumatic events ($R^2 = 22,0\%$), time since conflict ($R^2 = 21,9\%$),

reported torture ($R^2 = 11,4\%$) and residency status ($R^2 = 5,0\%$). Lindert et al. (2009) found an even higher prevalence of 44% among refugees, as opposed to only 20% in labor migrants.

It was found that “most episodes of major depression are preceded by stressful life events” (Hammen, 2005, p. 295). She further concludes that there is not yet sufficient evidence on the different effects of specific contents of a stressor and its relation to depression, but interpersonal loss and non-fateful events seem to have a better predictive value than other stressors. For more chronic stress, research has do far not been conclusive (Hammen, 2005). In the context of the mental health of forced migrants, refugees and asylum seekers are also frequently exposed to stressful life events (such as loss of a family member or generally to traumatic experiences), and to chronic stressors (such as resettlement stress in general). Details will be displayed in chapter 3. Review. The presence of these stressful events might explain the high prevalence of depression in forced migrants, which will also be discussed in detail in the review chapter.

Changes in the DSM V:

The spectrum of depressive disorders was rearranged and disruptive mood dysregulation disorder and premenstrual dysphoric disorder were included (American Psychiatric Association, 2013). For major depression, the bereavement is no longer an exclusion factor. Also the strict distinction between depressive and bipolar disorder was lifted and a diagnosis of depressive disorder “with mixed features” (with at least three manic or hypomanic symptoms) included, though bipolar disorder was given a new separate chapter. Studies reviewed in chapter 4 did not use the new DSM V criteria as they were conducted before the publication.

2.2.3 Comorbidity of depression and PTSD

The high prevalence rates of depression and PTSD in populations of forced migrants raise the question of comorbidity. Do both disorders follow traumatic experiences separately? Do they follow each other or are they interdependent? Do they interact?

So far most studies on the comorbidity of PTSD and depression have been undertaken on samples in emergency rooms or with war veterans. For patients with PTSD, comorbidity

rates with depression have shown to rank between 44.5% (Shalev et al., 1998), 40.5% (Tural, Onder, & Aker, 2012) and 37% (Momartin, Silove, Manicavasagar, & Steel, 2004).

In a longitudinal study of comorbidity in Israeli war veterans Ginzburg, Ein-Dor, and Solomon (2010) found quite low comorbidity rates of depression and PTSD (1.20% - 4.52%), but high rates of triple comorbidity of depression, anxiety and PTSD (26.7% - 30.1%). PTSD was found to be the predominant mental disorder following traumatic events, since PTSD predicted depressive disorders and other anxiety disorders (but not the other way around) and PTSD showed higher stability over time compared to low stability of anxiety or depression (Ginzburg et al., 2010). O'Donnell, Creamer, and Pattison (2004) found a similar pattern: while 60 – 63% of patients with PTSD or comorbid PTSD/depression were still diagnosed with a mental disorder after 9 months, 92% of the patients diagnosed with purely depression no longer suffered from a mental disorder after 9 months. Authors suggest that PTSD and comorbid PTSD/depression might be at least overlapping and/or highly similar, if not the same construct.

Contrary to that, a sample of patients visiting the emergency room showed that both PTSD and depression followed traumatic events (mainly traffic accidents), but PTSD did not predict major depression (Shalev et al., 1998).

If one suffers from PTSD and Major Depression Disorder (MDD) the person is less likely to recover from PTSD in comparison to individuals diagnosed with only PTSD, and a personal history of psychiatric disorders seems to be a good predictor of comorbidity of PTSD and MDD (Tural et al., 2012). Furthermore comorbid patients showed a greater severity of PTSD and less social support (Momartin et al., 2004; Tural et al., 2012).

In a group of authorized refugees affected by purely PTSD or comorbid PTSD and depressive disorder, Momartin et al. (2004) found differences in the type of traumatic experiences reported by the participants. While threat-to-life experiences (such as exposure to killing, near-death experiences or continuous threat; OR = 2.0) was the only trauma type associated with pure PTSD, comorbid PTSD and depression participants generally reported more traumatic events and threat-to-life (OR = 2.3) and traumatic loss of family (including separation and being a witness to the killing of a family member; OR = 4.7) predicted comorbidity. Note that sampling was non-random and the sample size with 79 participants in the regression analysis was modest. Breslau, Davis, Peterson, and Schultz (2000) analyzed a national comorbidity survey and in 3 out of 7 trauma types they found a difference between purely PTSD and comorbid PTSD/depression: the risk to develop comorbid

PTSD/depression was $HR = 5.79$ for life-threatening accidents, $HR = 2.42$ for witnesses of violence and at $HR = 3.18$ for sexual molestation. Compared to individuals with comorbid PTSD/depression, individuals who only suffered from depression showed significantly decreased hazard ratios ($HR = 1.39$, $HR = 1.44$ and $HR = 1.65$, respectively). Note that no war events have been evaluated. In a meta-analysis of Rytwinski, Scur, Feeny, and Youngstrom (2013), the trauma type showed to be associated with the diagnosis of comorbid PTSD/depression and a tendency for combat and war trauma to be risk factors and accidents and natural disasters to be protective factors, though the only significant predictor was natural disasters ($\beta = -.44$).

High rates of comorbidity and the predictive value of PTSD lead to the conclusion that PTSD and depression should both be observed in the aftermath of a traumatic event. While patients with purely depression seem not be at high risk for PTSD, patients presenting with PTSD seem to be at risk of developing a depressive disorder (Ginzburg et al., 2010). Though PTSD and comorbid PTSD/depression are not always easily differentiable and might form a similar construct of mental disorder following a traumatic event (O'Donnell et al., 2004), comorbid PTSD/depression patients show more severe symptoms and less chances to recover (Tural et al., 2012). As such, this reduced chance of recovery should be paid attention to. The ways in which different types of trauma affect the development of PTSD or comorbid PTSD/depression has not yet been, especially as most studies have focused on accidental trauma.

2.3 Post-Migration Factors and Resettlement Stress

If a person migrates to another country, voluntarily or forced, they are faced with various challenges and tasks of different stressful quantities and qualities. In literature on migration the term post-migration stress or resettlement stress has been used to describe a complex of stressful events or conditions in the country of resettlement unique to the population of migrants. In this study, resettlement stress (RS, also called post-migration stress) is defined as subjective stress or a set of stressors that occurs after migration during the resettlement phase in the new country. Those stressors can be factors of daily life or ongoing living difficulties.

The subsequent chapter will introduce a theoretical framework by Ryan et al. (2008) that explains psychological well-being and adaption of forced migrants and incorporates resource loss during the pre- and post-migration phases and the rise of demands as well as barriers in the re-acquisition of lost resources.

For a better understanding, findings on the concept of resettlement stress and the interaction between resettlement stress and mental health will be discussed in the following subchapters. By explaining the different legal types of migration, it will be demonstrated that resettlement stress is not a fixed set of factors and changes according to time, legal status and migration policies.

2.3.1 A resource-based model of forced migrant adaption and well-being

So far most studies on refugee mental health focused on the prevalence, development and treatment of different psychiatric disorders. Lately, a greater proportion of studies published have paid attention to the difficult and demanding situation that refugees encounter in the country of resettlement and its effect on mental health.

Recently a new theoretical framework has been developed on the adaption and psychological well-being of forced migrants by Ryan et al. (2008). The model is based on Berry's acculturation framework (1997), Lazarus and Folkman's psychosocial stress model (1984) and Hobfoll's Conservation of Resources Theory (2001). Elements of these three models have been modified, altered and adapted to fit the background of forced migrants. Key-elements of this model are resources that can be gained or lost and are considered to be in a state of fluctuating demands and relative value. Psychological well-being is considered to be the result of needs met, goals achieved and demands at manageable level. Demands are defined as "events or situations which require the mobilization of human resources" (Ryan et al., 2008, p. 10) and result from the unsatisfied needs, unachieved personal goals or are a consequence of the environment.

There are four categories of resources: material, personal, social and cultural. Resources are defined "as the means by which individuals satisfy needs, pursue goals and manage demands" (Ryan et al., 2008, p. 7). Resources fluctuate: they can be lost, gained, increased or decreased. Ryan et al. (2008) further propose that there are two dimensions of change in resources. While on one hand the extend of a resource can change (gaining a new one or increasing one as well as losing a resource or decreasing one), on the other hand resources

can change in relation to their “relevance to the satisfaction of needs, pursuit of goals or management of demands” (Ryan et al., 2008, p. 10). This implies a possible change in the value of a resource dependent on the current environment, e.g. a person might have skills in agriculture which helped him to provide daily nutrition and income, but in the country of resettlement he lives in a city and cannot work in agriculture.

Similar to research focusing on traumatic stress symptoms, Ryan et al. (2008) also believe that to understand refugee adaption and well-being three phases have to be considered: pre-migration, peri-migration and post-migration. They point out that in the first two phases the loss of resources is predominant. In the pre-migration phase they consider the strength and duration of impact of the loss of resources on psychological well-being to be of special importance (similar to the impact of specific traumatic events). The peri-migration or flight phase is more variable, but can also be the source of resource loss and traumatic experiences and special attention should be given to refugee camp experiences.

The post-migration phase is where adaption is considered in detail. Due to the rise of new demands (on a personal, material, social and cultural level) new resources need to be gained or regained. But the process of regaining resources and ultimately adaption to the new environment can be hindered by personal constraints (e.g. cultural values) or environmental constraints (“blocking of access to resources by institutions” (Ryan et al., 2008, p. 13). The lack of resources and the struggle to (re-)gain resources that are needed to adapt to the new environment can be considered as resettlement stress.

Ryan et al. (2008) argue that the group of refugees that is most likely to have the biggest difficulties in adapting to a new environment and (re-)gaining resources are refugees from war zones, who experienced huge loss of resources mainly on the personal, material and social level. They also imply that there is the possibility of mental disorders following traumatic experience that act as a barrier in the gain of resources (e.g. difficulties to concentrate as a symptom of PTSD can decrease the ability to learn a new language). The fewer resources a person has, the more difficult it will be for that person to gain new resources, a spiral of resource loss (Ryan et al., 2008).

Ryan et al. (2008) also argue that stress models like Lazarus’ do not consider sufficiently the extent to which a person can change their social environment to decrease stressful demands. In the case of refugees and asylum seekers, one could argue that there is sometimes

very little that a person can do to reduce stress produced by basic concerns like lack of financial resources and fear for the future (e.g. being send back home).

Ryan's theoretical framework of migrant adaption and well-being provides a good overview of the complexity of mental health in migrants. The introduction of the resources as a main theme is an approach fit to the complexity of mechanisms and experiences working together and impacting mental health. Adapted to the research on PTSD in refugees, traumatic experiences during pre-migration and flight phase do result in different sets of resource loss: traumatic experiences can lead to a loss of personal resources, can be the cause of the forced migration and subsequently the cause of the loss of other material, social and personal resources. In the country of resettlement forced migrants have to face a huge amount of new demands but often have few resources left to meet them, resulting in mental health problems caused by the inability to handle resettlement stress.

In this thesis, findings of studies considering the loss of resources (operationalized by the impact of traumatic experiences), the ability to meet demands and the barriers to regaining resources (resettlement stressors) will be analyzed in the context of this framework.

2.3.2 Concept of resettlement stress and it's relation to legal status

Early psychological research on voluntary migration focused mainly on the concept of acculturation stress (e.g. Berry, 1997). Associations between acculturation and mental health are very complex, but evidence for the impact of acculturation stress on mental health has been found. For example, integration as a acculturation strategy was associated with fewer mental health problems than the other acculturation strategies (Koneru, de Mamani, Flynn, & Betancourt, 2007).

While acculturation might be one of the most pressing factors in post-migration adaption of authorized voluntary migrants, the composition of resettlement stress in post-migration life of forced migrants is different. While refugees and asylum seekers also face acculturative stress, they also have to deal with several legal restrictions (e.g. lack of a work permit, not being able to return to their country of origin), face a loss of resources through trauma and

flight and not being able to prepare for the demands of adaption to a new environment. Though there are some anticipatory refugees who make a conscious and planned decision to leave their home country in the face of increasing danger, often refugees from war torn areas did not decide to migrate, but had to flee rapidly with no time to prepare for the culture, climate, language and other changes that they have to face in the country of resettlement. Thus, they also face acculturative stress, but additionally have to deal with another set of stressful difficulties that results from insufficiently met basic needs and demands that are not based on cultural differences (Ryan et al., 2008).

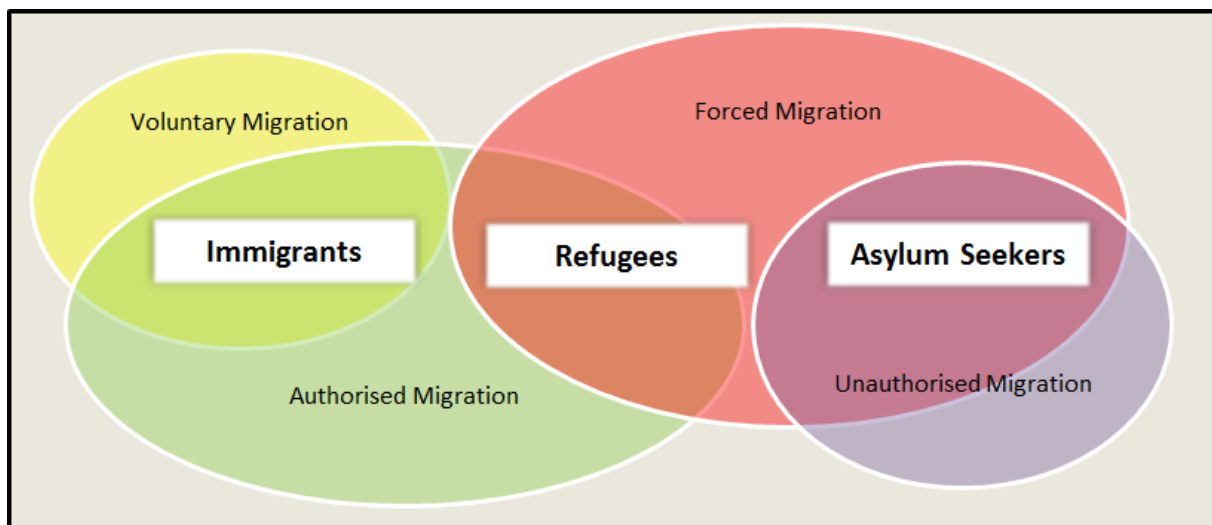


Figure 3. Different types of legal status.

Post-migration difficulties and stressors vary depending on the legal situation of the migrant and can be considered environmental constraints in the resource-based adaption and well-being model. There are two dimensions relevant to the legal situation (see figure 3). First there is voluntary and forced migration. Refugees and asylum seekers are forced migrants because push factors (such as war or natural disasters) in their country of origin made them leave. Voluntary immigrants decided to leave their country drawn by pull-factors and in the hope of a better life in the country of resettlement. So called economic migrants are in a gray area as they were influenced by push factors (e.g. lack of food), but also had a direction of migration and therefore were influenced by pull factors.

Second is the dimension of authorization before entering a country. Most asylum seekers enter the country of resettlement without the permission of that country. Therefore they have to go through the asylum process which evaluates the legitimacy of their claim. Immigrants

and refugees do have the legal right to stay in the country of resettlement and thus are authorized. There is one exception: Illegal immigrants do not have permission to stay in the country and are therefore not protected by law.

Concerning resettlement stress due to legal status, the status of a refugee can result from prior asylum seeker status in the country of resettlement, leading to the exposure of that person to both experience resettlement stress as an asylum seeker and as a refugee. Alternatively refugees can be authorized migrants that entered the country on a visa they gained before arrival, e.g. in a refugee camp, and consequently never had to endure asylum seeker status and the connected resettlement stress in that country of resettlement, but rather face similar resettlement stress to migrants. The terminology for legal status varies in different countries and the dichotomy of asylum seeker and refugee does not cover all types of legal status in forced migration. In this article asylum seekers and people with temporary residency permit will be considered as one group, and refugees and people with a permanent residency permit will be combined in another group, as resettlement stressors like access to the work market, uncertain future and restricted rights are similar (Mansouri, Leach, & Nethery, 2010).

Both dimensions of (un)authorized entry and (in)voluntary migration imply different stressors. Unauthorized migrants are often confronted with a strict immigration policy. Some countries place unauthorized newcomers in detention, they are often not allowed to work or travel during the processing of their asylum application and constantly have to fear being sent back home. These are structural barriers that can hinder a person in regaining resources. Authorized migrants on the other hand normally have rights similar to those of national residents (UNHCR, 2013). Forced migrants have the disadvantage of a great loss of resources and a lack of preparation. The push factors that forced refugees to migrate might be traumatic experiences (such as personal persecution or war) and the migration itself can be a traumatic experience. While they have experienced a huge amount of resource loss (personal, social, material and cultural resources), they have also had no time or motivation to prepare for the demands of adaption that they have to face in the country of resettlement.

For recognized refugees that have been unauthorized migrants, resettlement stressors change over time or rather with their legal status. It can be assumed that while these refugees shortly after gaining refugee status might still feel affected by resettlement stress similar to

that in asylum seekers, the longer a refugee is resettled, the more closely their resettlement stress resembles that of immigrants (due to the same structural barriers). Details on the interaction of legal status and time passed on resettlement stress and the impact on psychological well-being will be discussed in detail in the review section (chapter 3.8.1).

Survival migrants probably face different resettlement stressors as well. While they share the structural barriers to resource gain that come with the status of unauthorized migrants, their migration was most likely not as rapid and did allow some preparation time, therefore they may be called anticipatory refugees (George, 2010). It might be hypothesized that there will be differences between economic, climate or survival/migrants/refugees and war refugees, insofar that the first group is motivated by economic advantages in the country of resettlement and has most likely not experienced as many human made traumatic events as war refugees. Consequently they latter might suffer from a greater loss of resources and might also have a different ability to regain resources. The question of how the experience of trauma, migration motivation/cause of forced migration will be discussed briefly in the review section (chapter 3.8.4).

With these issues in mind it is now clear that resettlement stress is hardly a fixed set of variables. Resettlement stress is dependent on legal status, immigration policies and the existence of coping strategies or the resilience of a person. Studies measuring resettlement stress should consequently take the fluctuating nature of resettlement stressors as well as their context dependency into account.

The extent to which basic underlying factors have been found in research and the question of a generalization to the concept of resettlement stress will be discussed in detail in the review section.

2.3.3 Resettlement stress and mental health

As we can draw from previously displayed theory and research, resettlement stress is likely to impact mental health of forced migrants. Some risk factors for development and maintenance of PTSD are related to conditions of post-migration living, e.g. work issues, social support or economic situation. A detailed discussion on the impact of resettlement stress in general and specific resettlement factors in particular will be found in the review section of chapter 3.5.

The extent to which resettlement stressors have an impact on mental health might also be influenced by the traumatic events experienced (see chapter 3.7). Traumatic events can either be the source of loss of personal psychological resources such as coping strategies and hope and as such form additional demands and result in stress. Additionally, experiences of trauma can influence the perception of stress. There are two opposing views on the impact of traumatic experiences on a person's ability to manage stress that have been discussed in a review by Hammen (2005): 1) The "exacerbation effect" argues that the experience of traumatic events increases the vulnerability of a person to chronic stress and leads to a higher risk of mental health problems. 2) The "saturation effect" means that a person who experiences chronic stress is less vulnerable to life events. Both can be considered as a part of vulnerability or resilience paths that can follow traumatic experiences: does one get stronger or sick? Does a traumatic experience make a person more vulnerable to stress or does the survival of a traumatic experience make a person more resistant to new obstacles?

Fernando, Miller, and Berger (2010) and Miller and Rasmussen (2010) investigated the impact of daily stressors and traumatic experiences resulting from natural disasters on youth mental health and analyzed interactions in-depth. They mainly focused on populations that still resided in post-conflict or post-disaster areas. It appears that there are parallels between the daily stressors in those settings and the daily stressors in post-migration-/ resettlement settings. These were described as the "constellations of stressors that are generated or exacerbated by highly distressing and potentially traumatic situations" (Miller & Rasmussen, 2010, p. 11). They argue that the impact of daily stressors and traumatic experiences on mental health are as follows: 1) Both have a direct effect on mental health. 2) Daily stressors can either be related to trauma experience (for example lack of housing due to flooding) or unrelated to them. 3) Daily stressors related to traumatic experiences or resulting from traumatic experiences mediate the relationship between trauma and mental

health problems. 4) Daily stressors unrelated to the trauma also have a direct effect on mental health.

As Hammen (2005) points out: there is not sufficient literature yet to answer the question regarding the interaction between trauma and daily stressors. Since forced migrants are exposed to a specific set of daily stressors in their post-migration life and have suffered from a substantial amount of trauma, current findings on the interaction between traumatic experiences and resettlement stress in forced migrants will be discussed in chapter 3.7.

3. Review: Resettlement Stress, Traumatic Events and Mental Health

In this chapter studies on the effect of traumatic experiences and resettlement stress on mental health in adult forced migrants will be systematically reviewed.

This review will specifically examine results to answer the following:

- 1) What are common resettlement stressors in refugees and asylum seekers? (chapter 3.4)
- 2) Does resettlement stress have an impact on mental health? (chapter 3.5)
 - a. How is PTSD associated with resettlement stress and traumatic experiences?
 - b. How is depression associated with resettlement stress and traumatic experiences?
 - c. Which specific factors of resettlement stress are associated with mental health problems? And which are not?
- 3) Regarding the interaction between traumatic events and resettlement stress: do both factors together yield a better understanding of mental health in refugees? How do they interact? (chapter 3.7)
- 4) Which factors have an impact on the association of resettlement stress and mental health? (chapter 3.7)
 - a. Does the legal status of a person predict a specific association of resettlement stress and mental health?
 - b. How does resettlement stress affect a person over time?
 - c. Does the country of resettlement have an impact on the association of resettlement stress and mental health?
 - d. Do different types of forced migrants deal differently with the same resettlement stress?

The aim of this review is to examine the impact of both traumatic experiences and resettlement stress on mental health (specifically on PTSD and depression) in forced migrants. Findings on studies that assessed mental health of forced migrants (refugees and asylum seekers) in the context of traumatic experiences and resettlement stress are discussed and incorporated in the resource based model of migrant adaption and well-being.

3.1 Methods of Review

3.1.1 Inclusion and exclusion criteria

For the purpose of this review articles on mental health and well-being in forced migrants, refugees and asylum seekers have been included. The focus was on articles that carried out multivariate analysis models on that topic to inquire on the relative prediction value of traumatic experiences and resettlement stress for mental health problems.

Exclusion criteria were: 1) The age of the participants being below 18 because adults and children or adolescents differ in psychiatric symptoms and resettlement stress. 2) Internally displaced persons, as they face different resettlement conditions. 3) Studies that did not specifically assess stressors relevant to post-migration resettlement of forced migrants 4) Studies that did not assess both the impact of traumatic experience and resettlement stress on mental health outcomes, preferably via multivariate regression models.

3.1.2 Data search

Literature search was conducted using the following search databases: SCOPUS, Web of Science and PsycInfo, PsycArticles, Medliner, and Psynindexplus. The following search operators and terms in various combinations have been used to search for English and German publications in title, keywords and abstract: [(refugee* OR asylum seeker* OR displac*) AND (post-migra* OR postmigrat* OR post-displacement*OR postdisplac* OR living difficult* OR pmlt OR resett* OR migrationstress OR migration-stress) AND (psycholo* OR well-being OR mental health OR mental disorder OR psychiatric disorder OR anxiety OR ptsd OR depression OR depressive OR traumatic stress)].

3.1.3 Study screening and selection

Studies were selected and screened in 4 stages. In stage 1 literature was searched for in the above mentioned databases with the mentioned search terms, duplicates were removed. In stage 2 the title and abstract were reviewed and studies eliminated according to the exclusion criteria. Most articles were considered unsuitable due to unfit populations (only women or children/adolescents, no distinction of voluntary and forced migrants) or unfit assessed factors (only general migration stressors such as social support and acculturation) or unfit measures of mental health. At stage 3 full text versions of the remaining articles were reviewed. Articles that did not measure trauma or resettlement stress or did not analyze

the effect of both on mental health were excluded. Exceptions were made if they contained other especially valuable information. At stage 4 the articles have been reviewed in depth. Figure 4 in chapter 3.2.1 shows the results of the literature selection process.

3.2 Results of Literature Search

3.2.1 Study selection

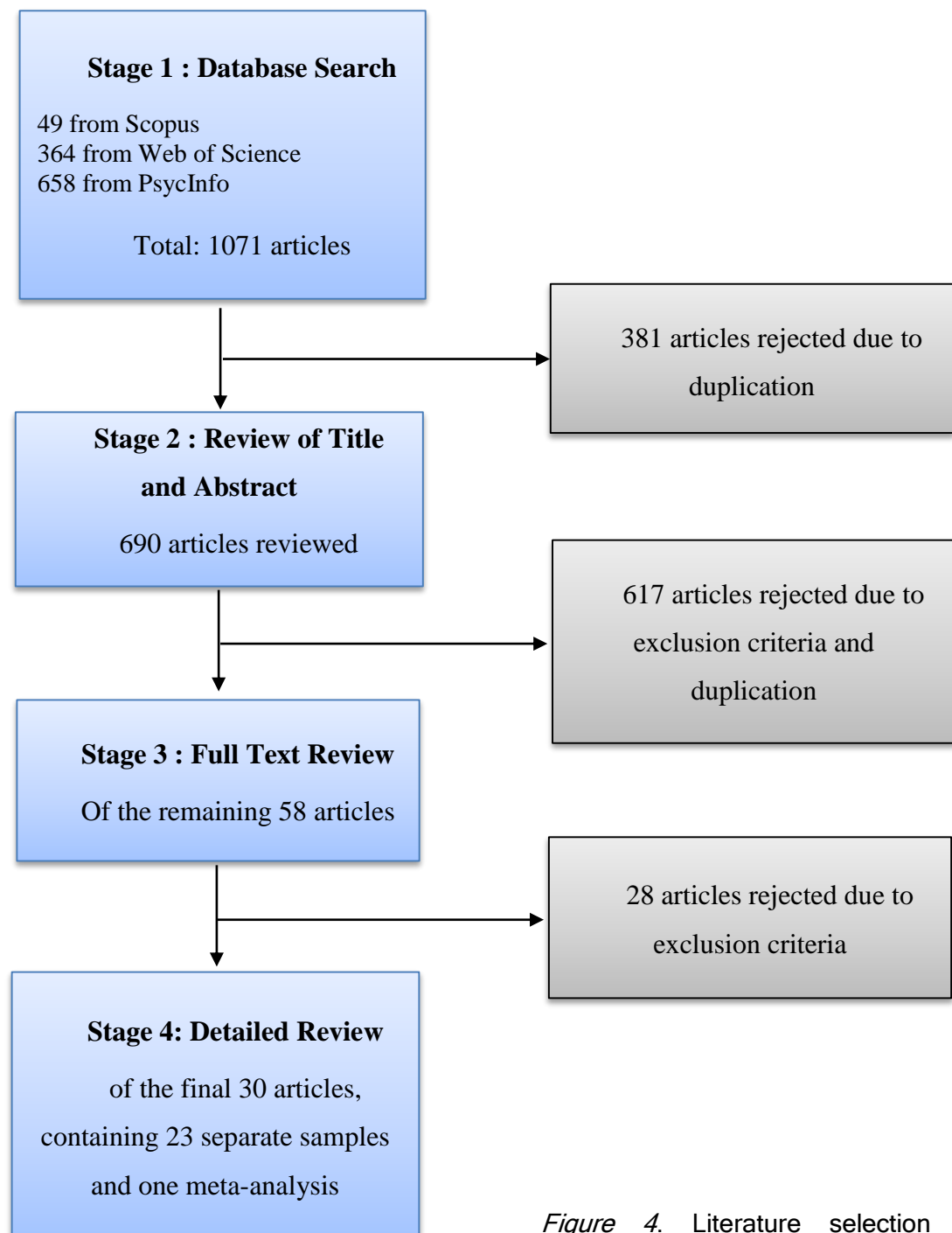


Figure 4. Literature selection

3.2.2 Overview of selected studies

Table 2

Characteristics of the articles and studies selected for review

Study	Sample size and legal status	Country of origin	Country of resettlement	Measurement of traumatic experiences	Measurements of mental health problems	Measurements of resettlement stressors
Beiser, Simich, Pandalangat, Nowakowski, and Tian (2011) ^{1, 3, 4}	1603 refugees	Sri Lanka	Canada	Single dichotomous question	CIDI for PTSD	peri-migration (10 items), post-migration (9 items), loss of sense of moral order (8 items)
Bentley, Thoburn, Stewart, and Boynton (2012) ^{1, 9}	74 refugees	Somalia	US	HTQ_R (40 events)	HTQ-R, HSCL-25, SCL-90 (somatization subscale)	PMLD (24 items)
Blair (2000) ^{3, 4}	124 refugees	Cambodia	US	War Trauma Scale (WTS, 42 events)	DIS, DICA-R	Resettlement stressor scale (RSS)
Bogic et al. (2012) ^{2, 3, 4}	854 war refugees	Former Yugoslavia	Germany, Italy and UK	24 item life stressor checklist revised	MINI	7 resettlement related factors
Carswell, Blackburn, and Barker (2011) ^{2, 6}	47 forced migrants (mostly clinical sample)	24 countries across 5 continents	UK	HTQ (38 events)	HTQ, HSCL-25	adapted Demographic and Post-Migration Living Difficulty Questionnaire (13 items), SSQ6, Duke-UNC FSSQ
Fenta, Hyman, and Noh (2004) ^{3, 4}	342 migrants	Ethiopia	Canada	Simple questions	CIDI	adapted recent life event scale, adapted measures on discrimination, identity and social support
Finklestein and Solomon (2009) ^{1, 8, 9}	576 Refugees (cohorts of 1980, 1991 and 1995)	Ethiopia	Israel	HTQ (18 events)	HTQ, DES	PMLD (14 item version)

3. Review: Resettlement Stress, Traumatic Events and Mental Health

Study	Sample size and legal status	Country of origin	country of resettlement	measurement of traumatic experiences	Measurements of mental health problems	Measurements of resettlement stressors
Gerritsen et al. (2006) ^{1, 3, 4} also in Gerritsen et al. (2004)	410 forced migrants	Afghanistan, Iran and Somalia	Netherlands	HTQ (culturally adapted, 17 events)	HTQ, HSCL-25 (culturally adapted), SF-36	Checklist of possible stressful events in the Netherlands (18 items)
George (2010) ^{1, 4, 9}	100 forced migrants	Sri Lankan Tamils	Canada and India	HTQ (Tamil version, 17 events)	HTQ (Tamil version) and SCL 90-R	PMLD (Tamil version, 24 items)
Heeren et al. (2012) ^{1, 3, 6}	86 asylum seekers	Asia, Africa, former Yugoslavia	Switzerland	combination of HTQ and PDS (total of 13 events)	PDS, MINI, HSCL-25	8 resettlement related factors
Hondius, van Willigen, Kleijn, and van der Ploeg (2000) ¹⁰	635 forced migrants	Turkey, Middle-east, Latin America	Netherlands	Violent events recorded	ICPC supplemented for PTSD	5 resettlement related factors
Kivling-Boden and Sundbom (2002) ^{1, 7}	26 refugees (clinical sample)	Former Yugoslavia	Sweden	HTQ (17 events)	HTQ	Constructed questionnaire "Life in Exile" (7 items)
Laban, Gernaat, Komproe, van der Tweel, and De Jong (2005) ^{3, 4, 9} also in Laban, Gernaat, Komproe, Schreuders, and De Jong (2004)	294 asylum seekers	Iraq	Netherlands	Adverse lifetime events (177 events plus items of HTQ)	CIDI	Adapted PMLD (24 item version)
Lie (2002) ^{1, 5} also in Lie, Lavik, and Laake (2001)	240 refugees (not to clearly defined)	74 % from Bosnia, else intercontinental	Norway	HTQ (15 events)	HTQ, HSCL-25 , GAF, PTSS-16	5 resettlement related factors
Lindencrona, Ekblad, and Hauff (2008) ¹	124 refugees	Middle east	Sweden	3-question inventory	GHQ-12, CPTS	Resettlement stressors questionnaire, plus exposure to asylum seeking
Marshall, Schell, Elliott, Berthold, and Chun (2005) ^{1, 3, 4}	480 refugees	Cambodia	US	HTQ (35 events)	CIDI, Alcohol Use Disorder Identification Test	3 resettlement related factors

3. Review: Resettlement Stress, Traumatic Events and Mental Health

Study	Sample size and legal status	Country of origin	of country resettlement	of measurement of traumatic experiences	of Measurements of health problems	of mental	Measurements of resettlement stressors
Nickerson, Bryant, Steel, Silove, and Brooks (2010) ^{1, 3, 4} also in Nickerson, Steel, Bryant, Brooks, and Shove (2011)	315 forced migrants	Mandaeans from Iraq	Australia	culturally adapted HTQ (23 events)	HTQ, HSCL-25, SF-12		PMLD (19 item version), IFFI, 3 questions to genocide and cultural extinction
Schweitzer, Melville, Steel, and Lacherez (2006) ⁶	63 authorized refugees	Sudan	Australia	HTQ (16 events)	HTQ, HSCL-37		PMLD (7 item version), 4 other resettlement related stressors
Schweitzer, Brough, Vromans, and Asic-Kobe (2011) ⁵	70 authorized refugees	Burma	Australia	HTQ (17 events)	HTQ, HSCL-37		PMLD
Silove, Steel, McGorry, and Mohan (1998) ¹ also in Steel et al. (1999)	196 migrants	Sri Lankan Tamils	Australia	HTQ (23 events)	HTQ, HSCL-25		PMLD developed!
Steel, Silove, Phan, and Bauman (2002) ^{1, 4}	1161 refugees	Vietnam	Australia	HTQ (24 events)	CIDI (Vietnamese version), PVPS, SF-12		5 resettlement related factors
Steel et al. (2011) ^{1, 4} also in Momartin et al. (2004)	104 forced migrants	Afghanistan and Iran	Australia	HTQ (number of events not specified)	HTQ, HSCL-25, GHQ-30, PSWQ		PMLD, plus coping
Teodorescu, Heir, Hauff, Wentzel-Larsen, and Lien (2012) ³	61 refugees (clinical sample)	21 different countries	Norway	Life Events Checklist (LEC, 17 events)	SCID PTSD module, MINI, SIDES, HSCL-25, IES-R		4 resettlement related stressors

Note. ¹ forward and back translation into mother tongue, ² (forward and back) translation into English, ³ trained interviewers, ⁴ bilingual interviewers, ⁵ (professional) interpreters, ⁶ in vivo translation, ⁷ conduction by letter or phone, ⁸ 19% self-administered, ⁹ culturally adapted, ¹⁰ Quantified semi-structured, self-developed interviews

Abbreviations of mental health measures: CIDI = Composite International Diagnostic Interview; CPTS = Core Symptoms of Post-Traumatic Stress; DES = Dissociative Experiences Scale; DIS = Diagnostic interview schedule; DICA-R = Diagnostic Interview for Children and Adolescents; GAF = Global Assessment Functioning Scale; GHQ = General Health Questionnaire, HTQ = Harvard Trauma Questionnaire, HSCL = Hopkins Symptom Checklist; ICPC = International Classification of primary care; IES-R = Impact of Event Scale Revised; IFFI = Intrusive Fear for Family Index; MINI = Mini International Neuropsychiatric Interview; PDS = Posttraumatic diagnostic Scale; PSQW = the Penn State Worry Questionnaire; PTSS-16 = Post-traumatic Symptom Scale; PVPS = Phan Vietnamese psychiatric scale; SCID = Structured Clinical Interview for DSM-IV; SCL = Symptom Checklist; SF-12 = medical outcomes study short form; (SIDES = Structured Interview for Disorders of Extreme Stress;

Abbreviations of resettlement related factors: Duke-UNC FSSQ = Duke-UNC Functional Social Support Questionnaire; PMLD = Post-Migration Living Difficulties questionnaire; SSQ6 = Short Form Social Support Questionnaire

3.3 Methodological Diversity

In this subchapter, the differences in assessment and methods of the 23 studies is briefly described with regard to study sample, measurement instruments used for the assessment of resettlement stress and mental health, cultural adaption of the measurement instruments, statistical analysis and study design. For detailed information of each study please see table 2. The meta-analysis by Porter and Haslam (2005) will not be included in the methodological overview.

The articles reviewed in depth have been published in a time span from 1998 to 2012. During the in-depth review, two articles were found to violate the exclusion criteria, but were kept in the review because they displayed other important information.

3.3.1 Study samples

In all studies adults have been assessed, only few included individuals younger than 18 years (Beiser, 2011; Lie, 2001). Data for all studies but one were collected from refugees resettled in high income countries as defined by The World Bank (2013): six have been conducted in Australia, three in Canada, ten in Europe, one in Israel and three in the US. One study (George, 2009) compared mental health of forced migrants in India and Canada. Most

study samples contained only refugees (twelve studies), two only asylum seekers, some studies contained refugees and asylum seekers or people with temporary or permanent visa (six studies) and three refugees and migrants (figure 6). With the exception of three studies (Carswell et al., 2011; Kivling-Boden & Sundbom, 2002; Teodorescu et al., 2012), most samples were not specifically clinical samples. Sample size varied between 26 and 1161 individuals. Participants originated from all over the world, with the majority being from the Asian continent (see figure 5). All studies included men and women. Over all, roughly 8000 migrants are represented in the studies.

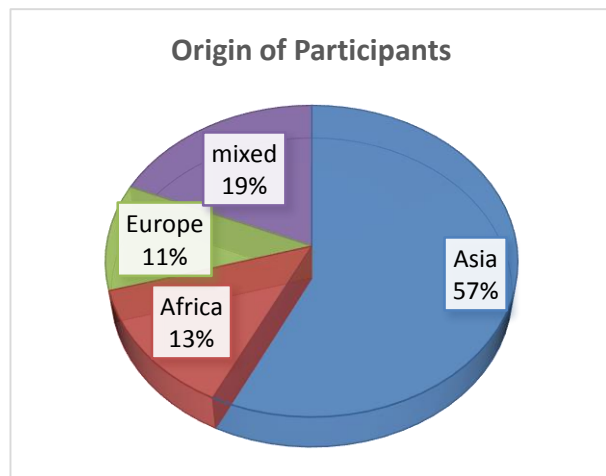


Figure 5. Continental origin of the participants in the reviewed studies.

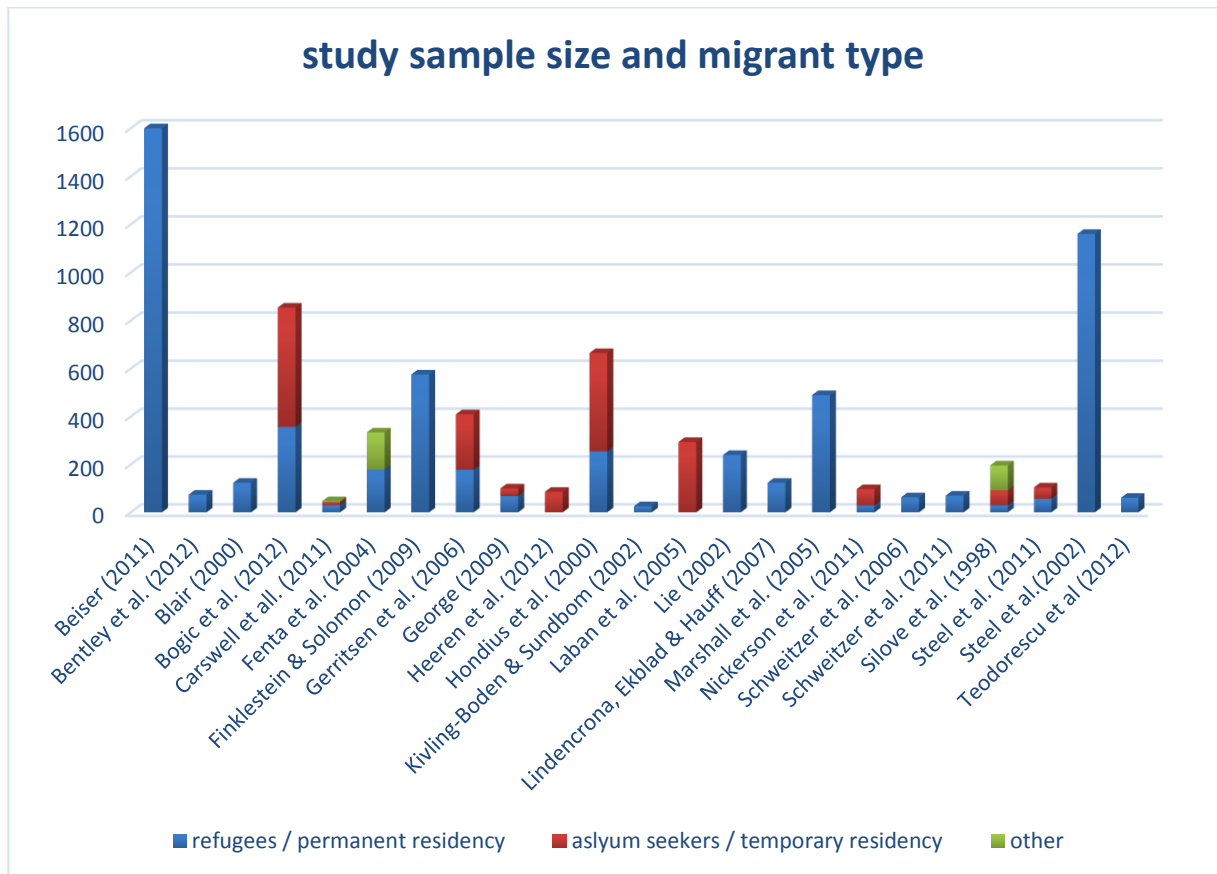


Figure 6. Overview of sample size and type of migrant per reviewed study.

3.3.2 Measurements of mental health

Two main approaches to the measurement of mental health have been found in the studies reviewed. Thirteen studies used self-rating questionnaires (mainly the Harvard Trauma Questionnaire, HTQ, and Hopkins Symptom Checklist, HSCL) to measure symptoms of mental health disorders, especially of PTSD and depression. Seven studies used structured clinical interviews to determine the diagnosis of a psychiatric disorder (mainly the Composite International Diagnostic Interview, CIDI, or the Mini-International Neuropsychiatric Interview, MINI). A few exceptions combined self-rating scales and clinical interviews (Heeren et al., 2012; Steel et al., 2002; Teodorescu et al., 2012).

This thesis will not comment on the quality of the assessment methods, reviews can be found elsewhere (e.g. Hollifield et al., 2002). It has to be noted though that the cut-off scores of the HTQ and HSCL have a rather big impact on the correct identification of mental disorders and though a standard cut off is often provided, it might not be equally suitable for members of different cultures (Jakobsen, Thoresen, & Johansen, 2011).

3.3.3 Measurement of traumatic experiences

To assess if a participant experienced traumatic events 16 out of 23 studies used different versions of the traumatic event section of the Harvard Trauma Questionnaire, which was adapted by insertion of study sample specific events at times. Out of these 16, 2 used the HTQ in combination with other questionnaires. Three studies used only other questionnaires (Blair, 2000; Bogic et al., 2012; Teodorescu et al., 2012), another three studies used an informal series of questions (Fenta et al., 2004; Hondius et al., 2000; Lindencrona et al., 2008). In one study, only a single question has been used to assess traumatic experiences (Beiser et al., 2011).

The majority of studies only assessed personally experienced or witnessed traumatic events (as in the HTQ), while one also assessed traumatic events that happened within the family (Nickerson et al., 2010). Most studies focused on traumatic experiences in the country of origin, while only a few also considered potentially traumatic experiences in the country of resettlement (Bogic et al., 2012; Marshall et al., 2005).

3.3.4 Measurements of resettlement stress

There are different approaches to the assessment of post-migration stress and stressors:

- Examination of sociodemographic factors as post-migration stressors (e.g. family separation, income, employment, living situation, legal status or others).
- Assessment of the individually perceived stress component of resettlement factors (asking about the personal perception of different stressors as problematic or stressful, e.g. “Is unemployment a problem for you?”).

A vast range of measurement instruments for potential resettlement stressors have been used in the reviewed studies. Most studies measured resettlement stress by asking about the subjective level of stress caused by a specific potential stressor, and additionally assessed general information on factors relating to resettlement, e.g. employment and legal status. Few solely measured objective factors as potential stressors, e.g. employment or length of residency (Porter & Haslam, 2005). Many studies created their own measurements of resettlement stressors, for details see table 2.

The next section will describe in detail the most commonly used measurement instruments of resettlement stress in the analyzed studies.

3.3.4.1 The Post-Migration Living Difficulties Questionnaire (PMLD)

Since the PMLD has been used in 10 out of the 23 studies and other studies developed questionnaires based on the PMLD, this questionnaire will be described in detail in reference to development, structure, factor analysis and content.

In the 1990s a research group of the Psychiatry Research and Teaching Unit of the University of New South Wales, Sydney, Australia, started working with clients from a newly formed asylum seeker center and began to develop a questionnaire focusing on typical post-migration stressors that could be found within that population (Sinnerbrink, Silove, Field, Steel, & Manicavasagar, 1997). The questionnaire was developed according to experts' knowledge (legal workers, cultural advisors and community leaders) and initially consisted of 23 items (Silove et al., 1998). The results of a factor analysis, accounting for 69.8% of the variance, yielded the following 5 factors (table 3):

Table 3

Factor analysis of the PMLD by Silove et al. (1998) and Steel et al. (1999)

Factor	Items	Amount by group
"refugee determination process"	Interviews by Immigration officials, conflict with immigration officials, fears about being sent home (3 Items)	A > M
"Health care, welfare and asylum problems"	Poor access to health care and counseling, welfare from government and charities, delays in application processing (8 Items)	A > R > M
"family concerns"	Separation from family, worries about family back home, unable to return home in emergency (3 items)	A > R > M
"adaption difficulties"	Communication difficulties, discrimination, not being able to find work, no permission to work, bad job conditions, poverty (6 items)	A > M
"Loss of culture and support"	Loneliness and boredom, isolation, poor access to traditional foods (3 items)	A > M

Note. A = Asylum seekers, M = immigrants, R = refugees

Different migrant groups (asylum seekers, refugees, immigrants) showed a different extent and type of resettlement stress (table 3), with asylum seekers having the greatest amount of stress, followed by refugees (Silove et al., 1998).

Laban et al. (2005) also conducted a factor analysis and subsequent cluster analysis with a 24-item version of the PMLD, based on a sample of asylum seekers in the Netherlands, and found following clusters (table 4):

Table 4
Factor analysis of the PMLD by Laban et al. (2005)

Clusters	Items	Standardized Cronbach α
"Family issues"	Missing the family, Worries about family in country of origin, Unable to go home in case of emergency, Loneliness	0.83
"discrimination"	Discrimination in general, in words and in deeds	0.88
"asylum procedure"	Uncertainty about residence permit, Fear of being sent away, Uncertainty about the future	0.76
"socioeconomic living conditions"	Financial problems—self, Financial obligations toward family, Housing problems, Lack of safe environment for children, Lack of privacy	0.71
"socio-religious aspects"	Lack of social contacts, of contacts with people of the same religion and of religious meetings	0.69
Separate items	Language problems, No permission to work, Work below level	
Excluded because of low score in sample	Delay of marriage, missing political friends	

In asylum seekers with different duration of habitation in the resettlement country, individuals that had been in the country of resettlement for over 2 years reported more problems in all clusters except in 'socio-religious living conditions' and 'language problems' compared to newly arrived asylum seekers (Laban et al., 2005).

As one can see by these analyses, both questionnaires contain quite different items and result in different factors. The only constant factor is stress related to family members left behind, cluster "items related to family issues" in Laban et al. (2005) and "family concerns" in Silove et al. (1998). Not only does the item content vary across studies, but also the amount of items in the PMLD varies, e.g. a short version with only seven items was used in two studies (Schweitzer et al., 2006; Schweitzer et al., 2011).

Though description of the construct measures, the design and the development have been only briefly given and the questionnaire has not been tested for reliability (Hollifield et al., 2002), it is currently the only questionnaire specifically developed for the purpose of measuring stressors of resettlement in forced migrants. It certainly seems useful to fit a resettlement stress questionnaire to the specific challenges in the resettlement country and to the specific migration group of the sample. But due to the resulting variation in items, no generalizable conclusions can be drawn on the impact of specific resettlement stressors

assessed with the PMLD. A more evolved core concept of post-migration living difficulties would be desirable.

As shown in this chapter, the PMLD, the most widely used measure for resettlement stress in the reviewed studies, was not sufficiently analyzed to date and requires further evaluation. However, it assesses various stressors of resettlement life of forced migrants and thus measures the general concept of resettlement stress.

3.3.4.2 Other post-migration stress measurement instruments

Only two other studies of those who did not use the PMLD, reported the usage of other structured interviews for the assessment of resettlement stress. The interviews were:

Resettlement stressor scale (RSS)

Which was first published by Sack et al. in 1993 to assess migration stressors for migrants into the US and is based on the authors' expert opinions. It has only been used in Blair (2000).

Immigration relevant supplemented 14-item scale

retrieved from a scale that measures stressful life events by Paykel et al. (1969, as cited in Fenta et al., 2004), used in an adapted form by Fenta et al. (2004)

As shown in this chapter 3.3.4, measurement instruments of stressors relating specifically to the post-migration situation of forced migrants are still in the process of development. So far, the PMLD dominates the field and though it lacks to fulfill quality criteria, general assumptions on the impact of perceived resettlement stress in the specific populations can be generated with it.

3.4 The Relationship of Trauma and Resettlement Stress to Psychiatric Disorders

After the discussion of measurement instruments of mental health and resettlement stress used in the reviewed studies, the following chapter will review evidence on the impact of traumatic experience and resettlement stress on PTSD and depressive disorder, the most common mental disorders in forced migrants. Furthermore, the relevance of resettlement stress in mental health problems in forced migrants will be discussed.

In both chapters, the results of statistical analyses of the association of resettlement stress as a sum category with symptoms of PTSD and with symptoms of depression will be separately reviewed. Also the association of traumatic experiences to mental disorders and their relation to resettlement stress will be discussed.

It will be shown that traumatic experiences and resettlement stress both independently predict PTSD and depression. Because resettlement stress has not been conceptualized with a fixed combination of factors, the impact of specific resettlement factors assessed frequently on mental health problems will then be discussed in chapter 3.6.

3.4.1 Trauma and resettlement stress in the context of traumatic stress

To review the independent effects of trauma and resettlement stress on symptoms of PTSD, 15 studies that used bi- or multivariate regression models and included a sum score for resettlement stress (or a specific resettlement stress factor) have been reviewed. For an overview and conclusion per study see table 5.

Resettlement stress was found to be an independent predictor for symptoms of PTSD in 13 out of the 15 reviewed studies. Two studies constitute the exception: the studies Lindencrona et al. (2008) and Schweitzer et al. (2006). Lindencrona et al. (2008) argue that the lack of influence of resettlement stress on PTSD core symptoms might be due to this limitation to only the core symptoms of PTSD (re-experiencing, avoidance and intrusion). Since most studies have not only concentrated on PTSD core symptoms but on the full spectrum, and high comorbidity with other mental disorders has been found, there might be the possibility that the core symptoms of PTSD are mainly influenced by traumatic experiences, while other symptoms that are connected to the core symptoms can also be influenced by other factors such as resettlement stress.

Also, in Schweitzer et al. (2006) resettlement stress had no influence on mental health of newly resettled authorized refugees which might be due to improved living circumstances (participants of the sample recently gained refugee status) and the lack of uncertainty about future and access to the work market that they did not have as asylum seekers. The main concerns of post-migration living reported by the sample were: worries about families left behind, difficulties with employment and difficulties adjusting to cultural life. This study could have been compared with the study by Schweitzer et al. (2011), as both use the same assessment methods and a comparable sample group, but no information on the average trauma exposure was given in Schweitzer et al. (2011).

Likewise, trauma was found to be a significant independent risk factor for PTSD in all studies but one. Carswell et al. (2011) suggest that the effect of cumulative trauma on PTSD might not have been seen in this study as the clinical sample was very heterogeneous especially considering nationality and age (range 18 – 63 years). It is also possible that the effect of therapy received by 85% of the sample decreased the effect of the traumatic events and the time spent as an asylum seeker ($M = 35.3$ months, $SD = 25.9$, with some participants still being in the process of residency status determination) increased the impact of resettlement stress.

The results of the majority of the reviewed studies, with the exception of the above mentioned articles, show that trauma events and resettlement stress are both independently associated with symptoms of PTSD. In 8 out of 11 studies, a stronger predictive value of trauma events than resettlement stress was found (see table 5). It can be concluded that studies show a tendency for trauma events to be a bigger risk factor for the development of PTSD than resettlement stress, but both are risk factors for PTSD.

3. Review: Resettlement Stress, Traumatic Events and Mental Health

Table 5

Association of traumatic experiences and resettlement stress with symptoms of PTSD

	trauma	relation	resettlement stress (RS)	other RS factors	significant	conclusion
Beiser et al. (2011)	OR ^s 1.51		no sum	poverty OR ^s 1.28 prejudice OR ^s 1.12		Both trauma and RS are important risk factors in Sri Lankan refugees.
Bentley et al. (2012)	<i>B</i> .92 R ² .42	>	<i>B</i> .02 R ² Δ .00			RS showed not to be a moderator between trauma and PTSD symptoms in a sample of Somalian refugees.
Bogic et al. (2012)	OR ^a 1.21 (1.14-28) R ² Δ 14.2%	= >	OR ^a 1.21 (1.07-1.37) R ² Δ 12.8%	temporary resident OR ^a 1.87 (1.21-2.87)		Both RS and trauma independently predict PTSD in refugees resettled in 3 European countries, but combined war factors explained more variance than post-migration factors.
Carswell et al. (2011)	ns	<	no sum	adaption difficulties β 0.31		RS predicted PTSD symptoms of forced migrants in the UK better than trauma in multivariate analysis.
Finklestein and Solomon (2009)	β 0.32	≈	β 0.35			Both RS and trauma were substantial predictors for PTSD symptoms in a sample of Ethiopian refugees in Israel.
Gerritsen et al. (2006)	medium OR ^a 4.82 (1.44-16.11) high trauma OR ^a 12.18 (3.59-41.34)	>	OR ^a 4.31 (1.63-7.35)			Both RS and trauma were significant risk factor in bivariate analyses for symptoms of PTSD in a sample of forced migrants in the Netherlands.
Lie (2002)	β 0.203	<	β 0.356			Both RS and trauma were risk factors for symptoms of PTSD in refugees resettled in Norway.

3. Review: Resettlement Stress, Traumatic Events and Mental Health

Lindencrona et al. (2008)	unique direct effect .42	>	ns		Torture was the strongest predictor, resettlement showed no influence on PTSD core symptoms in refugees from the Middle East in Sweden.
Marshall et al. (2005)	OR ^b 2.47 (1.75-3.47)		no sum	retired/disabled OR ^b 5.75 (3.45-9.46)	In long resettled Cambodian refugees living in the U.S., pre-migration trauma still had a strong impact, but post-migration stressors were also associated with PTSD.
Nickerson et al. (2010)	R ² Δ 31.4% <i>B</i> .59 (.50-67)	>	R ² Δ 5.7 % <i>B</i> .22 (.14-.30)		Both RS and trauma were predictors of symptoms of PTSD in Iraqi forced migrants resettled in Australia, though trauma had a bigger predictive value.
Schweitzer et al. (2006)	β 0.34	>	ns		In Sudanese refugees in Australia, trauma was a significant risk factor for symptoms of PTSD, while RS was not, but support by the ethnic community had a protective influence.
Schweitzer et al. (2011)	R ² Δ 17% β .31	>	R ² Δ 7% β 0.3		Both trauma and RS uniquely contributed to the explanation of variance of PTSD symptoms, trauma showed more explanation value in Burmese authorized refugees resettled in Australia.
Steel et al. (1999)	R ² Δ 20.3 %	>	R ² Δ 14.4		Both trauma and RS have an influence on PTSD symptoms Sri Lankan forced migrants resettled in Australia.
Momartin et al. (2006)	β 0.19	<	β 0.47	temporary resident β 0.84 detention β 0.47	Both trauma and RS contributed to the explanation of PTSD symptoms in forced migrants in Australia, though resettlement factors like temporary residency were better predictors than trauma.
Steel et al. (2002)	OR ^b 8.5 (4.6-15.8)		no sum		Both trauma and RS individual predictors for PTSD in long-term resettled Vietnamese refugees in Australia.

Note. OR^a = (adjusted) odds ratio of multivariate regression (CI); OR^b = Odds ratio of bivariate regression (CI); OR^s = Odds ratio of stepwise regression analysis (CI); β = beta value of regression analysis; *B* = unstandardized regression coefficient estimate (CI); R²Δ = difference/change in R² in regression;

ns = not significant; no sum = no sum score for resettlement stress

3.4.2 Trauma and resettlement stress in the context of depression

To review the independent effects of trauma and resettlement stress on symptoms of depression, 11 studies that used bi- or multivariate regression models and included a sum score for resettlement stress (or a specific resettlement stress factor) have been reviewed. For an overview and conclusion per study see table 6.

Out of the 11 reviewed studies, 9 studies showed that traumatic events and resettlement stress are independent risk factors for depression, see table 6. Interestingly, the two studies that showed earlier that trauma events and resettlement stress were no risk factors for PTSD, showed the same results for symptoms of depression (Carswell et al., 2011; Schweitzer et al., 2006). Possible explanations for this are mentioned in the above chapter.

Contrary to the results for PTSD, studies show a tendency of a stronger impact of resettlement stress on depression compared to the impact of trauma events. A stronger predictive value of resettlement stress compared to trauma events was found in 6 out of 8 studies (see table 6). Also the fact that resettlement stress did not have an impact on the core symptoms of PTSD (Lindencrona et al., 2008) might show that resettlement stress could be especially important when PTSD and current depression are co-occurring. As discussed in chapter 2.2.3, it is argued that PTSD can hardly be differentiated from comorbid PTSD/depression, thus the impact of resettlement stress on symptoms of PTSD might be especially valid for those cases with comorbid PTSD/depression. Further research is needed to investigate that phenomenon.

In table 6, it can be seen that even if the studies used sum scores for resettlement stress, there are other factors relevant to the resettlement context that show to be risk factors for depression. It is likely that due to the missing concept of an exhaustive resettlement stress score, the impact of resettlement stress might even be underestimated in these studies.

Note that in the table 6, associations with sum scores of the HSCL, which have not been divided into the subscales symptoms of depression and symptoms of anxiety, have been included.

3. Review: Resettlement Stress, Traumatic Events and Mental Health

Table 6

Association of traumatic experiences and resettlement stress with symptoms of depression or mood disorder

	trauma	relation	resettlement stress (RS)	other factors with bigger impact	conclusion
Bentley et al. (2012)	$B .92$ $R^2 .13$	>	$B .08$ $R^2 \Delta .04$		If low levels of pre-migration trauma are experienced, high levels of RS increased depressive symptoms in Somali refugees in the U.S.
Bogic et al. (2012)	$OR^a 1.16$ (1.10-1.22) $R^2 \Delta 12.2\%$	<	$OR^a 1.37$ (1.21-1.54) $R^2 \Delta 16.1\%$	temporary resident $OR^a 2.04$ (1.34-3.10) unemployment $OR^a 1.99$ (1.35-2.93) female gender $OR^a 1.85$ (1.30-2.64)	RS was a better predictor for symptoms of depression (and anxiety and substance abuse disorder) than trauma in forced migrants resettled in 3 European countries.
Carswell et al. (2011)	ns	<	no sum	loss of culture & support $\beta 0.5$	Loss of culture and support as factors of RS were better predictors for symptoms of anxiety and depression than trauma forced migrants in the U.K.
Fenta et al. (2004)	$OR^a = 2.529$ βns	<	$OR^a = 1.465$ $\beta 0.382$	refugee camp $OR^a 5.314$ $\beta 1.670$	Refugee camp internment and RS were better predictors for lifetime prevalence of depression in Ethiopian migrants in Canada.
Gerritsen et al. (2006)	medium $OR^a 4.05$ (1.94-8.45) high	\approx	$OR^a 4.48$ (1.60-12.56)		Both trauma and RS were risk factors for symptoms of anxiety and depression in forced migrants in the Netherlands.

3. Review: Resettlement Stress, Traumatic Events and Mental Health

	OR ^a 6.83 (2.97-13.74)				
Lie (2002)	β 0.223	<	β 0.356		RS predicted symptoms of depression and anxiety better than pre-migration trauma in refugees in Norway.
Marshall et al. (2005)	OR ^b 1.82 (1.47-2.25)		no sum	retired/disabled OR ^b 8.29 (4.72-14.5) unemployed OR ^b 4.44 (2.51-7.87)	In long-resettled Cambodian refugees in the U.S., trauma still has a strong impact, but RS factors were also associated with symptoms of depression. Risk factors were very similar to PTSD risk factors.
Nickerson et al. (2010)	R ² Δ 30.0% <i>B</i> .52 (.43-.62)	>	R ² Δ 6.2% <i>B</i> .29 (.20-.38)		Both RS and traumatic experience are predictors for symptoms of depression in Iraqi forced migrants in Australia, though the latter has a bigger predictive value.
Schweitzer et al. (2006)	individual ns family β 0.25		ns	family separation β 0.33 employment β -0.31	RS factors like family separation and unemployment and trauma experience of family members both predicted depressive symptoms in Sudanese authorized refugees resettled in Australia.
Schweitzer et al. (2011)	R ² Δ 6% β .13	<	R ² Δ 9% β .32		RS explained the variation of symptoms of depression better than trauma in recently arrived Burmese refugees in Australia.
Momartin et al. (2006)	β 0.27	<	β 0.37	temporary residency β 0.32	Both trauma and RS contributed to the explanation of depression symptoms, though resettlement stress was the best predictor in a sample of forced migrants in Australia.

Note. OR^a = (adjusted) odds ratio of multivariate regression (CI); OR^b = Odds ratio of bivariate logistic regression (CI); OR^c = Odds ratio of stepwise regression analysis (CI); β = beta value of regression analysis; *B* = unstandardized regression coefficient estimate (CI); R² Δ = difference/change in R² in regression;

ns = not significant; no sum = no sum score for resettlement stress

3.5 Specific Resettlement Stressors

In this chapter, the impact of specific factors relevant to resettlement and their association with mental health problems will be reviewed. The following factors have been the focus of several studies that have been reviewed, and thus their relevance for mental health issues in forced migrants will be systematically evaluated: language proficiency and communication, the financial situation and employment, social support, the sense of belonging and acceptance, family-related issues and post-migration trauma and peri-migration stressors.

3.5.1 Language proficiency and communication

The ability to speak the official language of the resettlement country can be a gateway to the community, to the job market, to the culture and to integration. If a person can't communicate with his/her social environment, it is likely that this person has restricted access to different resources. In this review, seven of the included studies also looked at the ability of forced migrants to speak the language of the resettlement country (Bogic et al., 2012; Heeren et al., 2012; Kivling-Boden & Sundbom, 2002; Marshall et al., 2005; Momartin et al., 2006; Steel et al., 2011; Teodorescu et al., 2012). The host languages in question (several European languages and English) as well as assessment methods and further statistical analysis varied greatly.

It was found in a sample of Iraqi and Afghan forced migrants, who were newly arrived in Australia, that 100% of asylum seekers reported communication to be a serious problem, while only 54% of refugees (off-shore visa) reported serious communication problems (Momartin et al., 2006). The longer forced migrants stayed in the country of resettlement, the better their language skills were (Heeren et al., 2012), but substantial improvement was only seen in forced migrants with permanent residency permit compared to persons with a temporary permit (Steel et al., 2011).

The association of mental health and language proficiency shows mixed results in the reviewed studies. In a very small clinical sample (Kivling-Boden & Sundbom, 2002) and in a sample of purely asylum seekers (Laban et al., 2005), no associations of mental health and language proficiency were found. Congruently, in the large sample with three official languages in three resettlement countries by Bogic et al. (2012), self-assessed poor language

skills (via single item) were not risk factors for the diagnosis of PTSD, depression, anxiety or substance abuse.

Contrary to Bogic et al. (2012), Marshall et al. (2005) found that self-assessed poor language proficiency (via single item question) in long-term resettled refugees was associated with higher risk for PTSD (OR 0.42) and major depression (OR 0.33), diagnosed via CIDI. Though assessment methods were similar, both samples differed in legal status and time spent in the country of resettlement, which might explain these opposing findings. In Marshall et al. (2005), participants were resettled for roughly 20 years and had gained permanent residency, while in Bogic et al. (2012) legal status was heterogeneous and participants have been resettled for roughly 10 years. So far, evidence from reviewed studies are not strong enough to come to a conclusion on the effect of language proficiency as a resettlement stressor on mental health, though a tendency that language proficiency does not influence mental health in the post-migration phase can be assumed.

A promising approach might be to incorporate language skills into bigger concepts of adaption. One study included language proficiency as part of a measurement for integration in the culture of the resettlement country and found no correlation with the diagnosis of PTSD or major depression according to the MINI. However significant ($p < .05$) correlations of medium strength with number of diagnoses ($\tau = 0.268$), symptom severity of depression ($r_s = .529$), of post traumatic symptoms ($r_s = 0.375$) and symptoms of extreme stress ($r_s = .469$) and weak social networks (Teodorescu et al., 2012). The post-migration living difficulties questionnaire (PMLD) includes one item on communication and language difficulties.

3.5.2 Financial situation and employment

In the meta-analysis it was found that “Economic opportunity (right to work, access to employment, maintenance of socioeconomic status) had a liner relationship with better mental health” (Porter & Haslam, 2005, p. 608), with a large effect for highly restricted economic opportunity of $d = 1.06$ (0.97 - 1.14).

Poverty has been shown to be a risk factor for PTSD, with odds ratios of 1.12 (Beiser et al., 2011), and 2.33 (Marshall et al., 2005), and for depression (OR 1.98 in Marshall et al., 2005). Financial stress (less employment, lower income, more welfare) was not significantly associated with PTSD diagnosis, but with the diagnosis of major depression (Blair, 2000).

In a clinical sample, open unemployment and welfare as main income were associated with more PTSD symptoms (Kivling-Boden & Sundbom, 2002).

A special financial factor is work. Access to the work market for forced migrants is an ongoing hot topic in migration policies, especially when work permits for asylum seekers are discussed. The economic implications of an open work market for forced migrants shall not be discussed here, but findings on the effect that (un-)employment has on mental health will be reviewed.

All eight of the reviewed studies that included employment as a factor for the prediction of mental health outcomes found a significant impact of unemployment status or work issues and mental health problems (see table 7). Some studies found that unemployment was a significant risk factor only for depression, but not for PTSD (Bogic et al., 2012; Schweitzer et al., 2006), while others found unemployment to a bigger risk for depression compared to the risk for PTSD (Marshall et al., 2005; Steel et al., 2002).

Note that in the reviewed studies, only Laban et al. (2005) explored the effect of unemployment on mental health issues in a sample of only asylum seekers. As a component of the PMLD, cases diagnosed with at least one mental disorder (including PTSD) and cases diagnosed with depression were more likely to have problems with work and/or unemployment (OR 1.32 for depression and OR 1.44 for one or more psychiatric disorders including PTSD).

In conclusion, the precarious financial situation and specifically the unemployment status are risk factors for mental health problems in forced migrants. It seems that symptoms of depression are more closely associated with unemployment than symptoms for PTSD.

Table 7

The effect of work issues on mental health

	PTSD	depression / mood disorder	others
Bogic et al. (2012) unemployment	ns	OR ^a 1.99 (1.35-2.93)	Anxiety and substance abuse ns
Fenta et al. (2004) unemployment		OR ^b 1.96 (0.902-4.256)	
Kivling-Boden and Sundbom (2002) unemployment	VIP value for high symptom level 1.90		
Laban et al. (2005) Unemployment/ work issues		OR ^a 1.32 (1.08-1.61)	any disorders OR ^a 1.44 (1.08-1.81)
Marshall et al. (2005) Retired/disabled	OR ^b 5.75 (3.49-9.46)	OR ^b 8.29 (4.72-14.50)	
Unemployment	OR ^b 1.67 (0.99-2.81)	OR ^b 4.44 (2.51-7.78)	
Schweitzer et al. (2006) employment	ns	β -0.31	Anxiety: β -0.37
Steel et al. (2002) not in workforce unemployment	psychiatric disorders incl. PTSD OR ^b 1.9 (1.2-3.2) OR ^b 2.4 (1.1-5.1)	Distress and depression OR ^b 4.7 (2.2-9.7) OR ^b 4.0(1.5-10.7)	
Teodorescu et al. (2012) unemployment	Diagnosis: τ = 0.316 symptom severity: ns	Diagnosis: ns Symptom severity: τ = 0.289	Total diagnosis: τ = 0.290

Note. OR^a = Odds ratio in multivariate regression (CI); OR^b = Odds ratio in bivariate regression (CI); β = beta value of hierarchical univariate regression; τ = Kendall's tau-b correlation

ns = not significant

3.5.3 Social support

In chapter 2.2.1 of the theoretical background section, it was discussed that social support showed to be a protective factor for the development of PTSD (Johnson & Thompson, 2008) and the lack of social support a risk factor for PTSD (Brewin et al., 2000). Consequently, studies on mental health of forced migrants investigated social support as well.

Seven studies in this review assessed various forms of social support (see table 8). These studies show an insignificant or rather small effect of social support on PTSD or depression. In Gerritsen et al. (2006), the highest OR was found with a triple risk of PTSD or depression for individuals with less social support, though confidence intervals show a wide range. It was found that social support is more important in military samples than in civilian samples (Brewin et al., 2000) and though some evidence of an impact of social support has been found, it can be concluded that for mental health problems of forced migrants social support is not a strong predictive factor.

Note that there might be an impact of the assessment method as a complex assessment of social network with subcategories of different kinds of social support more often showed non-significant results while the strongest impact was found by a 6-item measurement of one-dimensional social support in Gerritsen et al. (2006).

Table 8

The impact of social support on mental health

			PTSD	depression / anxiety	
Beiser et al. (2011)					
nonfamily support	social		OR ^s ns for DMS-IV OR ^s 0.96 for ICD-10	-	
family social support			OR ^s ns for both		
Carswell et al. (2011)					
affective support			β ns	correlations ns	
confidant support			β ns	correlations ns	
Fenta et al. (2004)					
instrumental support		-		diagnosis of depression: ns	
emotional support		-		OR ^b 0.886 (0.799-0.982)	
information support		-		ns	
Gerritsen et al. (2006)					
less social support			OR ^a 3.51 (1.63-7.53)	OR ^a 2.78 (1.36-5.56)	
Lie (2002)					
social network			PTSS-16: β -0.16 HTQ: β -0.15	β -0.17	
Schweitzer et al. (2006)					
ethnic support	community		β -0.23	depression ns	anxiety β -0.27
host support	community		ns	ns	ns
Teodorescu et al. (2012)					
weak social network			Diagnosis: τ = .410 symptom severity: r_s = .295	Diagnosis of depression: τ = .298 symptom severity: r_s = .505	

Note. OR^a = adjusted odds ratio of multivariate regression (CI); OR^b = Odds ratio of bivariate logistic regression; OR^s = Odds ratio of stepwise regression analysis; β = beta value of multivariate regression analysis; τ = Kendall's tau-b correlation; r_s = Spearman's rho correlation

ns = not significant

3.5.4 Sense of belonging and acceptance

Integration into the culture of the new country of resettlement is one of the key challenges to migrants. Various aspects of the social environment can influence the way a migrant interacts with the new cultural group. In this review, eight studies investigated the impact of integration-related factors on mental health (see table 9).

Five studies reviewed in this thesis focused on aspects of discrimination, prejudice and feeling of acceptance by the country of resettlement (Beiser et al., 2011; Bogic et al., 2012; Fenta et al., 2004; Laban et al., 2005; Lindencrona et al., 2008). Perceived discrimination showed correlations with mental health problems (Laban et al., 2005; Lindencrona et al., 2008), however though the predictive value of discrimination disappeared during the regression analysis in the asylum seeker sample of Laban et al. (2005), Beiser et al. (2011) found prejudice to be a small risk factor for PTSD in their large Sri Lankan community sample and Fenta et al. (2004) found an increased risk for depression in their Ethiopian sample.

Also, not feeling accepted by the country of resettlement (Bogic et al., 2012) and not feeling at home in the country of resettlement (Gerritsen et al., 2006) were associated with higher risk for mental disorders. In Lindencrona et al. (2008) alienation (sum category of 5 items relating to the perceived gap between the own views and the views of the host population and the gap between the wish of how to live one's life and the reality) was found to have the strongest unique effect on symptoms of common mental health disorders.

Identification and interaction with a social group can be distinguished in the social group of other migrants or the social group of members of the host country. Such comparisons have shown mixed results for associations with mental disorders (Fenta et al., 2004; Kivling-Boden & Sundbom, 2002; Teodorescu et al., 2012), although two studies found a protective effect of interaction and identification with other migrants. Further research is needed to draw more clear conclusions.

Conclusively, factors related to the sense of belonging for the forced migrants to and acceptance by the host country need further research. A tendency for a harmful effect of discrimination on mental health in forced migrants has been reported and alienation towards the host culture shown to be a uniquely important risk factor for common mental health problems.

Table 9

Association of integration-related factors to mental health

	PTSD	depression / mood disorders
Beiser et al. (2011)		
prejudice	OR ^s 1.12	
Bogic et al. (2012)		mood disorder
feeling accepted by the host country	ns	OR ^a 0.62 (0.51-0.74)
Fenta et al. (2004)		
discrimination		OR ^b 1.15 (1.01-1.32)
Identification with...		
own ethnic group		OR ^a 0.78; β -0.239
host country		ns
Gerritsen et al. (2006)		depression/anxiety: ns
little/not at all feeling at home	OR ^a 2.04 (0.98-4.29) ($p = 0.058$)	poor general health: OR ^a 2.31
Kivling-Boden and Sundbom (2002)	VIP for low symptom level	
much social intercourse with		
immigrants	1.37	
host nationals	0.91	
Laban et al. (2005)		
discrimination	ns	ns
Lindencrona et al. (2008)		common mental health disorder
discrimination and status loss	r_p .21	r_p .29
alienation	r_p ns	r_p .63; unique direct effect in path analysis .44
Teodorescu et al. (2012)		
weak social integration in		
immigrant culture	Diagnosis: $\tau = .293$ symptom severity: ns	Diagnosis: ns symptom severity: ns
host culture	Diagnosis: ns symptom severity: $r_s = .375$	Diagnosis: ns symptom severity: $r_s = .529$

Note. OR^a = (adjusted) Odds ratio of multivariate logistic regression (CI); OR^b = Odds ratio in bivariate regression (CI); OR^s = Odds ratio of stepwise logistic regression; β = beta value of hierarchical multiple univariate regression; τ = Kendall's tau-b correlation; r_s = Spearman's rho correlation; r_p = Pearson product-moment correlation;

ns = non-significant

3.5.5 Family-related issues

Often forced migrants lose family members during their rapid flight from their home countries. When a family becomes separated, the migrant might not know the whereabouts of his/her family members or he/she might have left them behind in the country of origin. Six studies in this review assessed family-related stressors separately (see table 10).

Nickerson et al. (2010) focused on the effect of family-related stressors on mental health in Iraqi refugees. They assessed intrusive fear for family members left behind, traumatic events experienced by family members and concern about family's safety. It was found that refugees who had family in dangerous situations in the country of origin showed higher levels of PTSD, ($t(298) = -3.39$; $\Delta M = -.34$; CI $-.53$ to $-.14$) and higher levels of depression ($t(299) = -3.35$; $\Delta M = -.30$; CI $-.13$ to $-.48$). Intrusive fear for family was a solid predictor for mental health outcomes in the sample of refugees with family members left behind (Nickerson et al., 2010).

Concerning simple family separation, studies show mixed results (see table 10) and further research is needed. The PMLD includes several items related to family as part of the resettlement stress and in Laban et al. (2005) they have been combined into the cluster family issues, composed of the following problems: missing the family, worries about family back home, unable to go back home in case of emergency and loneliness.

Conclusively, family related concerns were found to pose a risk for both PTSD and depression. But while the objective fact of a separation from family might not have a strong impact on mental health in forced migrants, the subjective worries and fears about family members, especially if they are still at risk of being endangered, might be a risk factor for mental health problems.

Table 10

Association of family-related stressors with mental disorders

	PTSD	depression
Carswell et al. (2011)		depression / anxiety:
separation from and worries about family	correlation ns	correlation ns
Laban et al. (2005)	disorders incl. PTSD	
family issues	OR ^a 1.12 (1.02-1.24)	OR ^a 1.12 (1.01-3.15)
Nickerson et al. (2010)		
family trauma	R ² Δ 5.1%; B .66 (.46-.86)	ns
fear for family	R ² Δ 15.9%; B .45 (.37-.53)	R ² Δ 10.0%; B .39 (.29-48)
Schweitzer et al. (2006)		
family separation	ns	β 0.33
family trauma	β 0.37	β 0.25
Steel et al. (2002)	psychiatric disorders including PTSD	psychological distress including depression
family separation	OR ^b 1.7 (1.02-2.7)	OR ^b 2.3 (1.4-3.8)

Note. OR^a = adjusted Odds ratio of multivariate logistic regression (CI); OR^b = Odds ratio in bivariate regression (CI); β = beta value of hierarchical multiple univariate regression; B = unstandardized regression coefficient estimate of mixed-models regression; R²Δ= difference in R² in mixed-models regression;

ns = non-significant

3.5.6 Beyond pre-migration trauma and post-migration stress

The previous chapters have displayed findings on the impact of traumatic events experienced before resettlement and stressors that occurred during the resettlement phase. Both concepts contribute to a better understanding of migrant psychological well-being.

To take a peek beyond this dichotomous conceptualization of pre-migration trauma and post-migration stress, the following chapter will briefly introduce 1) the topic of post-migration trauma in comparison to pre-migration trauma and 2) findings on peri-migration stressors reported in the reviewed articles.

Post-migration trauma

Forced migrants are compelled to leave their country due to events like war, persecution and natural disasters. Thus forced migrants are predestined to have experienced traumatic events before or during migration. But when traumatic events are assessed, it is important to notice that not all traumatic events in a person's life happened in the country of origin, migrants might also experience such events in the country of resettlement.

Bogic et al. (2012) and Marshall et al. (2005) both gathered information on pre- and post-migration trauma experiences and found, that post-migration trauma also puts individuals at increased risk for mental disorders. Though in the study of Bogic et al. (2012), pre-migration traumatic events have been split into pre-war and war-related traumatic events, both studies show a tendency for a slightly stronger impact of pre-migration trauma on mental health compared to post-migration trauma, as shown in table 11.

Table 11

Comparison of the impact of pre- and post-migration traumatic events

	OR (95% CI)			
	depression / mood disorder		PTSD	
	pre	post	pre	post
Bogic et al. (2012)	^a 1.08 *		^a 1.02*	
	(0.95-1.23)	1.17	(0.90-1.17)	1.17
	^b 1.16	(1.02-1.33)	^b 1.21	(1.02-1.33)
	(1.10 - 1.22)		(1.14-1.28)	
Marshall et al. (2005)	1.56	1.45	2.08	1.65
	(1.24-1.97)	(1.12-1.86)	(1.37-3-16)	(1.21-2.26)

Note. OR = Odds ratios of multivariate logistic regression analyses

^a OR for pre-war traumatic events; ^b OR for war-related traumatic events; * = NOT significant on $\alpha < .05$

As shown in the results of Bogic et al. (2012), there is presumably no utility in the distinction of pre-war and war-related traumatic or stressful events as both phases are likely to overlap and hold the danger of similar traumatic or stressful experiences. Most studies combine both into one complex of pre-migration trauma, e.g. by assessing with the HTQ-trauma events subscale. This operationalization has to be regarded with caution, because trauma questionnaires like the HTQ include items that are not uniquely specific to the pre-

resettlement period, e.g. sexual abuse, and the instructions of the HTQ might prevent participants from reporting traumatic events that happened after migration. This might result in either an underrepresentation of experienced trauma or a wrongful categorization of the trauma being pre-migration. Finklestein and Solomon (2009) split the HTQ-trauma scale into pre- and peri-migration trauma, but though the results reflected the circumstances of the flight in the different refugee groups, no further insight has been gained by that distinction and its possible effect on mental health.

While the general distinction of traumatic events and stressors is of scientific value, the distinction of the different traumatic events according to their appearance in a specific migration phase seems to be negligible for the prediction of mental health disorders. Since only two studies made that distinction, further research is needed to draw valid conclusions.

Peri-migration factors

As theorized by Ryan et al. (2008), the phase after fleeing one's home upon arriving in the country of assumed final resettlement, called the peri-migration phase, may be the most diverse phase in the migration process. Though not a focus of the review, two of the studies reviewed have taken peri-migration factors (such as residency in a refugee camp) into account and results will be displayed briefly in this chapter (table 12).

Measured with an aggregate score from a list of 10 items on stresses of passage, including peri-migration factors like internal displacement, refugee camp experience, physically dangerous situations, family separation and financial burden, Beiser et al. (2011) found that individuals who suffered from stresses during their peri-migration phase were more likely to develop PTSD.

For a sample of Sudanese refugees who spent 7 years ($SD = 4.46$) in transit, number of years in transit was a significant risk factor for depression, but not for PTSD, anxiety or somatization (Schweitzer et al., 2006). Individuals who have been living in a refugee camp (a common experience especially by authorized forced migrants) are five times more likely to suffer from depression (Fenta et al., 2004).

Table 12

The effect of peri-migration stressors on mental health

	PTSD	depression / mood disorders
Beiser et al. (2011)		
stresses of passage	OR ^s = 1.48	
Fenta et al. (2004)		OR ^a = 5.314
refugee camp		B = .1.67
Schweitzer et al. (2006)		
Years spent in transit	not significant	B = .25

Note. OR^s = Odds ratio of stepwise logistic regression; OR^a = Odds ratio of multivariate logistic regression

Further research on the specific effect of peri-migration factors such as refugee camp residency is needed.

3.6 Beyond Simple Direct Effects: Trauma and Resettlement Stress

The results of chapters 3.5 and 3.6 show that both resettlement stress and traumatic experiences are individually important risk factors for mental health disorders in forced migrants. The question of indirect or exacerbating effects that arose in chapter 2.3.3 will be discussed in this section. Fernando et al. (2010) found that daily stressors mediate the relationship of traumatic experiences and mental health issues while direct effects of trauma and daily stressors also remain present. Three of the reviewed articles discuss the interaction of traumatic events and resettlement stress in the population of forced migrants and will be discussed below.

Bentley et al. (2012) included the interaction of traumatic experiences (measured with the HTQ-R) and resettlement stress (measured with the PMLD) in a stepwise regression analysis, but the interaction was not significant for symptoms of PTSD, anxiety or somatic disorders. Nevertheless they found that the interaction had an additional explanatory value of 7% for depressive symptoms. A deeper analysis showed that for participants with low exposure to traumatic events resettlement stress did moderate the relationship of trauma and symptoms of depression. They found that a high amount of resettlement stress intensified depressive symptoms in participants that had experienced few traumatic events.). It has to be noted, that resettlement stress did not have a significant, direct impact on the symptoms of depression and PTSD in the study sample of Somali refugees (Bentley et al., 2012).

A pathway analysis of posttraumatic stress symptoms in a mixed group of migrants by Steel et al. (1999) showed interesting results. PTSD symptoms were explained by pre-migration traumatic events (20.3% of the variance) and post-migration living difficulties (14.4% of the variance), highlighting the important effect of traumatic events especially in PTSD symptoms. The decomposition of variance showed the strongest unique direct effect for the category of extreme traumatic events (sexual abuse, near-death experiences, torture, forced separation and others). It also showed that the effect of the trauma category titled 'flight from conflict' (lack of food, water or shelter, serious injury and combat situation) was mainly indirect and mediated by post-migration living difficulties: the total correlation of .33 was decomposed into a small unique effect of 0.1, and the highest shared effect of all variables with 0.21 and an indirect effect via post-migration stress with 0.11. Steel et al. (1999) reason that

One possibility is that exposure to war impairs the capacity of traumatized individuals to manage later life difficulties effectively, thus increasing the risk to persistent PTS symptoms. A second interpretation may be that individuals with high levels of prior exposure to general war trauma are also at greater risk of encountering postmigration living difficulties (p.431-432).

In-depth analysis of post-migration stress components showed large spurious effects of .27 in total, which authors of the study interpret as a result of the preceding influence of age and 'flight from conflict' (Steel et al., 1999).

These two studies generally agree that there are direct effects of both pre- and post-migration stressors on mental health issues and that an interaction between them is likely. But while Bentley et al. (2012) found resettlement stress to only mediate the relationship of trauma and symptoms of depression but not for symptoms of PTSD, Steel et al. (1999) found a mediating effect of resettlement stress on the relationship of trauma and PTSD. Concordantly, both studies found distinct differences in the interaction when participants were divided by characteristics of trauma experiences: The mediating effect of resettlement stress was stronger in participants who had either experienced fewer traumatic events or traumatic events common in rapid flight.

Lindencrona et al. (2008) did a similar study on newly recognized refugees (who gained residency permit/refugee status up to 3 months prior to interview). Since the assessment of relevant variables was different from other studies in this review, details will be mentioned. They used a short self-developed 3-item scale to assess traumatic experiences, the GHQ-12 (for common mental health disorders) and a self-developed 6-items scale CPTS (for the three core symptoms of posttraumatic: stress re-experiencing, avoidance and intrusion). A questionnaire for personal capacity to handle stress has been used. The 3-item questionnaire categorized three dimensions of the capacity to handle stress: sense of control, comprehensibility, manageability and meaningfulness. For resettlement stress, a 15-items scale was developed and evaluated. A component analysis yielded four types of resettlement stressors: social and economic strain, discrimination and status loss, violence and threats in the country of resettlement, and alienation. Items of the scale mainly focus on migration stress in the sense of acculturation to a new society and do not or only indirectly include structural barriers resulting from legal status. To take into account the potential stress of prior asylum seeker status, a single item for exposure to asylum seeking has been added, but did not yield any significant results in the analyses.

While resettlement stress only correlated mildly with PTSD core symptoms ($r = .27$), it showed a correlation of $r = .68$ with common mental health disorders (Lindencrona et al., 2008). The RS-subscale alienation correlated strongly with GHQ-symptoms ($r = .63$), meanwhile alienation was also the only RS-subscale that showed no significant correlation with PTSD core symptoms. Lindencrona et al. (2008) then performed two path models for GHQ and PTSD core symptoms that showed two quite distinct and interesting pictures: the models explained 55% and 40% of the total variance for GHQ and PTSD core symptoms. The models showed the following similarities: trauma, especially torture had a significant effect on both mental health outcomes (5.5% of the total variance of GHQ, 22% of the variance of PTSD core symptoms). Meaningfulness (a dimension of the capacity to handle stress) had a protective effect ($\beta -0.20$ for GHQ and $\beta -0.35$ for PTSD core symptoms).

But there were quite a lot of differences too: while 24% of the total variance of GHQ-symptoms were explained by resettlement stress, resettlement stress had no direct effect on PTSD core symptoms. The only factor that negatively influenced PTSD core symptoms in this study was trauma. Female gender was a protective factor and explained 8% of the variance of PTSD, not so for symptoms of common mental health disorders. While a sense of control (a dimension of the capacity to handle stress) had a protective effect on GHQ-symptoms, it did not have an effect on the PTSD core symptoms intrusion, re-experiencing and avoidance. On the other hand, manageability (another dimension of the capacity to handle stress) had a protective value only for PTSD core symptoms. Though they did not share all dimensions, overall the capacity to handle stress had a protective effect against both mental health issues.

In the model for GHQ-symptoms, the effects of meaningfulness and control were mediated by resettlement stress: these dimensions of stress coping protected against resettlement stress. Torture had a negative effect on coping in the model of PTSD core symptoms and a small but positive effect on resettlement stress in GHQ symptoms.

Lindencrona et al. (2008) showed that trauma reduces the ability to cope with PTSD symptoms. This might not be a contradiction to the findings of Bentley et al. (2012) and Steel et al. (1999), as this mediating effect might be even stronger if participants would have also been grouped by different trauma experiences. Evidently, there are no robust results on the interaction of daily stressors and traumatic experiences in forced migrants. It seems that the quality or quantity of trauma exposure and the type of mental disorder might be of special importance for interactional models.

3.7 Overarching Special Issues

The following chapter reviews special topics within the context of resettlement stress, factors that could determine the kind of resettlement stress a person is exposed to. Resettlement stress will be discussed with particular regard to the influence of the legal status, the impact of time and the impact of the resettlement country on mental health.

3.7.1 Legal status

The legal status of forced migrants is an important factor not only in determining what kind of population is examined, but in how the legal status of forced migrants determines the set of resources and structural barriers that take affect when entering a country. As discussed earlier, most countries have different immigration and asylum policies, leading to different sets of laws, rights and processes of resettlement. In most cases, the most highly restrictive laws and rights are inherent of the status of refugee applicant or asylum seeker while recognized refugees gain similar rights to residents, with the exception of the right to vote (UNHCR, 2013).

Depending on the actual structural barriers in resource gain and the provision of resources associated with the legal status of a person, legal status could be an indicator variable for the impact of resettlement stress on mental health. Thus the following subchapter will review studies that have examined mental health and resettlement stress with special focus on legal status issues.

For this topic, some methodological issues should be kept in mind: 1) the reality of implications of the legal status of a person varies according to the migration policies in the country of resettlement. 2) Legal status in forced migrants is not dichotomous: for comparability most studies focus on asylum seekers or refugees, but there are several more distinctions (e.g. temporary protection visa). 3) Asylum seekers seek refugee status, thus there is a substantial group of people that possess refugee status but have experienced the implication of asylum seeker status, thus can still be affected by their time as an asylum seeker (more on the impact of time in chapter 3.7.2).

The following three studies give a good insight on the different dimensions of legal status: Gerritsen et al. (2004) identified risk factors for mental health problems in forced migrants resettling in the Netherlands and compared the legal status of refugees and asylum

seekers. Steel et al. (2011) examined the development of mental health comparing holders of a temporary protection visa (similar to asylum seeker status) and permanent protection visa holders (similar to refugees) and found directions of changes in mental health associated with legal status of forced migrants resettled in Australia. Finally, Nickerson et al. (2010) examined the impact of in change of legal status of refugees and asylum seekers resettled in Australia. Both Steel et al. (2011) and Nickerson et al. (2011) belong to the same research group and both study samples result from the same cross-sectional baseline assessment of Mandaeans, but the first study interviewed people from Iran and Afghanistan, while the second studied forced migrants from Iraq.

A first impression of the differences between refugees and asylum seekers is given by the study of Gerritsen et al. (2004). They interviewed 178 refugees, which had lived an average of 8.8 years in the Netherlands and out of which 94% had already received a residency permit or obtained Dutch nationality. The 232 asylum seekers had lived in the Netherlands for an average of 3.4 years and due to their legal status lived in reception centers and had no work permit. The two groups further differed in age (refugees were older), education (refugees were more highly educated), marital status (refugees were more often divorced), sense of feeling at home (refugees felt more at home compared to asylum seekers) and social support (refugees experienced more social support). Additionally refugees reported fewer traumatic experiences ($M = 5.3$ vs. $M = 6.8$) and fewer post-migration stressors ($M = 1.6$ vs. $M = 2.3$) compared to asylum seekers. It has to be noted, that Gerritsen et al. (2004) did not specify how they developed the checklist of 18 items with a 4 point-Likert scale (mean score range of 1 to 4) to assess post-migration stressful events in the Netherlands. Most commonly reported post-migration stressors by the asylum seekers were 'dissatisfaction with the delays in the application for a residence permit' and 'uncertainty about obtaining residence permit'. Refugees reported most commonly 'homesickness' and 'worry about family members left behind' (Gerritsen et al., 2006).

Prevalence rates for mental health problems were generally higher for asylum seekers than for refugees: poor general health status (unadjusted OR 2.00), more symptoms of PTSD (unadjusted OR: 3.30) and of depression and anxiety (unadjusted OR 3.28) were reported by asylum seekers. After adjusting for all other variables assessed (e.g. age, traumatic events, social support etc.), regression analysis still yielded significant associations of the following factors with increased mental health problems (OR for symptoms of PTSD and depression/anxiety): low social support (3.51 and 2.78), more post-migration stressors (4.31

and 4.48), 4-7 traumatic experiences (4.82 and 4.05) more than 8 traumatic experiences (12.18 and 6.38) and asylum seeker status (2.49 and 2.63).

In summary, Gerritsen et al. (2004) found higher prevalence of mental health problems in asylum seekers, different post-migration stressors for the two groups and generally more resettlement stress in asylum seekers. While a high number of traumatic experiences was most strongly independently associated with mental health symptoms, the risks of high post-migration stress and 4 to 7 traumatic experiences were very similar for symptoms of mental health problems.

How do symptoms of mental health problems develop during a prolonged possession of a specific residency permit? Steel et al. (2011) carried out a longitudinal study with forced migrants from Iran and Afghanistan that had been residing in Australia for 3 to 4 months at baseline. They interviewed 47 unauthorized migrants that were holding a temporary protection visa (TPV). These individuals arrived in the country of resettlement without travel documents or visa, mainly on boat, and were detained for 8 months before gaining their TPV. In the other group were 57 participants holding permanent residency (PR), consisting of refugees that had received off-shore visas while residing in a refugee camp outside of Australia. At baseline assessment, the two groups did not differ in the amount of traumatic experiences reported, but holders of the TPV showed more symptoms of PTSD, depression, anxiety and general mental health issues (average scores of 2.97 vs. 1.73, 2.71 vs. 2.02, 2.55 vs. 1.99 and 2.69 vs. 2.13 for TPV and PR, respectively).

At the second point of assessment, 2 years later, PR holders showed an improvement of almost all psychological symptoms: reduced symptoms of depression, anxiety and general health problems, but a slight increase in symptoms of PTSD. TPV holders on the other hand worsened in all psychological symptoms, with the smallest difference in PTSD symptoms. Authors of the study suspect a possible ceiling effect for the PTSD symptoms especially for the TPV group, as the scores were very high at both times of assessment. Statistical evaluation of the changes in symptoms of depression, anxiety and general health over the 2 years showed significantly different development between the two groups: TPV holders worsened, while PR holders improved. TPV holders also reported significantly more post-migration stressors than PR, but reports did not change over time. PR dramatically improved proficiency of the language of the country of resettlement, while TPV did not, though 54% of the PR and 68% of the TPV had access to language classes. While both groups showed

similar levels of social coping at baseline, over a 2 year period TPV scores decreased ($M = 2.89$ vs. $M = 2.48$) while PR increased ($M = 3.09$ vs. $M = 3.26$).

Overall, this study shows that a prolonged temporary resident permit is associated with an increase in mental health problems and suggests that resources like the capacity for social coping might decrease while others such as language skills are not gained. In Ryan's model of psychological well-being this could be explained by structural barriers inherent to the migration phase or legal status.

Further evidence for this can be found in a study of Nickerson et al. (2011). Similar to Steel et al. (2011), authors interviewed 72 temporary protection visa holders and 29 permanent residency visa holders from Iraq that resettled in Australia. Approximately 3 years later, 68 out of the 72 TPV holders had gained permanent residency and have been interviewed by the research team for a second time along with the persons that have held permanent residency at baseline assessment.

Using a 19-item version of the PMLD, they found a change in post-migration stressors for the group of former TPV holders (Nickerson et al., 2011): at baseline, the three most common mentioned living difficulties were 'fear of being send back home' (97.1%), 'not being able to return home in case of emergency' (94%) and worries about family back home (82.4 %). Three years later most common mentioned difficulties had decreased and changed: 'worry about family back home' (70.1 %), 'being unable to return home in case of emergency' (69.8%) and 'fear of being send back home' (28.8%). This is interpreted by the author of this thesis as a reflection of the implications of the migrant's legal status: TPV holders experience uncertainty about the future as the TPV has to be reevaluated every 3 to 5 years, reflected in the fear to be send back home. They are also obliged to stay in the country of resettlement as they would otherwise lose their grounds to claim refugee status. Most common living difficulties reported by permanent residency holders were 'worry about family back home' (reported by 44.8 % at baseline and 55.2% at second assessment), 'loneliness and boredom' (by 25% at baseline and 20.7% at second assessment) and 'unable to return home in an emergency' (by 7% at baseline and 26.9% at second assessment) (Nickerson et al., 2011).

Change in visa status significantly predicted decrease in post-migration living difficulties and symptoms of PTSD and depression. Mediator analysis revealed that living difficulties remained a significant predictor for symptom change, while change in visa status did not

(for both PTSD and depression), suggesting that post-migration living difficulties are not only associated with legal status, but also mediate the relationship between legal status and psychological symptoms. Change in visa status from temporary to permanent was associated with a decrease in symptoms of depression and PTSD. No information was given on the change in symptoms over time for the group with consistent visa status. Although, symptoms of depression and PTSD both changed to a greater extent in the group of former TPV as compared to consistent PR holders, with large effect sizes of $d = 0.72$ for PTSD and $d = 0.63$ for depression (Nickerson et al., 2011).

These studies show three aspects of the association between legal status and mental health in forced migrants: 1) Asylum seekers are more likely to experience a higher level of resettlement stress than refugees and suffer more from mental health problems, even when the amount of traumatic experiences is comparable. 2) Prolonged asylum processing is associated with worsened mental health, while refugees showed a decrease in mental health problems after having gained refugee status, with the exception of PTSD. 3) Legal status does not directly impact mental health but affects resettlement stress. Legal status is closely associated with post-migration living difficulties and resettlement stress, though resettlement stress was shown to be a better predictor of mental health problems. Resettlement stress is possibly a more accurate predictor because it also accounts for the personal burden of resettlement stressors.

3.7.2 Development over time

When resettlement stress is discussed in the field of mental health of forced migrants, one has to pay attention to the fluctuating nature of the impact of resettlement stress. Predictors like traumatic experiences, gender or education, can be considered somehow stable factors. If we understand resettlement stress as a source and as a result of unmet demands, inadequate and insufficient resources and barriers of resource gain, we can see that resettlement stress is not a fixed one-incident factor but rather a stressor that occurs daily and can change over time and according to context or a person's situation.

In the last chapter studies on the impact of legal status on mental health have been reviewed and legal status shown to be associated with resettlement stress and mental health problems. How mental health is changing due to prolonged exposure to factors of residency permit period will be reviewed in the following chapter.

Four cross sectional studies focused on differences in time and studied two quite different groups of forced migrants: Laban et al. (2005) and Heeren et al. (2012) each interviewed two groups of asylum seekers. In group one asylum seekers had only newly arrived in the country of resettlement, while in group two asylum seekers already had stayed in the country of resettlement for more than 6 months. Steel et al. (2002) and Marshall et al. (2005) interviewed long term resettled refugees and examined the outcome of an extensive duration of the refugee status. Two longitudinal studies by Lie (2002); Lie et al. (2001) and Kivling-Boden and Sundbom (2002) focused on the development of symptoms over 3 years in refugees.

The two studies of Heeren et al. (2012) and Laban et al. (2004); Laban et al. (2005), both used semi-structured clinical interviews to assess psychiatric disorders and found a high prevalence of depression (31,4% and 34,7 %) and PTSD (23,3% and 36,7%) in their sample of asylum seekers. Heeren et al. (2012) did not find any differences in the prevalence rates for the group of newly arrived and those with prolonged asylum status. Conversely, Laban et al. (2004) found significantly higher prevalence rates for psychiatric disorders in asylum seekers, who had stayed in the country of resettlement for more than 2 years, compared to those who had arrived within the last 6 months, e.g. 43,7% vs. 25.2% for depression, 30.5% vs. 14% for anxiety and 41.7% vs. 31.5% for PTSD (though the difference between groups was not significant for PTSD). While groups were similar for sociodemographic variables in Laban et al. (2004), the second group did report more adverse events than the group of newcomers. Laban et al. (2004) had assessed adverse events for different time categories: adverse events till the 13th year of age, between 13 years of age and departure, in the peri-migration phase and in the post-migration phase. Though groups differed in all categories, the biggest differences have been found for the peri- and post-migration adverse events (23.1% vs. 51%, $\chi^2 = 24.44$ for peri-migration; 14% vs. 46%, $\chi^2 = 36.23$ for post-migration). Consequently, adverse experiences post-migration and prolonged temporary residency showed the highest adjusted OR (e.g. for depression: 1.47 and 1.84), with the exception of female gender (OR = 1.99).

For post-migration living difficulties, only reported in Laban et al. (2005), big differences were found between the groups, with the group of prolonged asylum status reporting more post-migration living difficulties. PLMD were significantly associated with all forms of psychiatric diseases with work issues, family issues and worries about the asylum procedure posing the strongest ORs within the five PLMD-clusters that were calculated in the study

(for details see table 4, chapter 3.3.4.1). Again, these clusters reflect structural barriers inherent to the temporary residency status of asylum seekers in the Netherlands.

In Switzerland, no differences were found in exposure to traumatic events or prevalence of most psychiatric disorders (Heeren et al., 2012). Only for PTSD, were members of the group with prolonged asylum status twice as likely to suffer from PTSD compared to individuals in the newcomer group. Severity of PTSD was similar in both groups. Only the number of potentially traumatic events yielded a significant association with PTSD and general mental health.

Reasons for the differences in the studies' results could be of a methodological nature: Heeren et al. (2012) did not assess adverse experiences or post-migration living difficulties, but only homesickness, feeling at home in the country of resettlement, language proficiency and social contact. None of these are directly associated with structural barriers given by the legal status of a migrant. Also, the national origins of the participants were highly diverse: the sample of 86 participants originated from three continents, while in the other study all participants were from Iraq. Additionally, the difference in time assessed was only about a year in Heeren et al. (2012) as opposed to more than 2 years in Laban et al. (2005). The smaller sample size and less homogenous sample plus the small time difference might have been the reason why Heeren et al. (2012) did not observe any differences in the prevalence of most psychiatric disorders. Laban's results were similar to the results in Steel et al. (2011): both studies point in the direction of a harmful effect of prolonged asylum seeker status on mental health.

Two longitudinal studies have been conducted on the development of mental health in refugees over a period of 3 years. Kivling-Boden and Sundbom (2002) interviewed a clinical group of 26 refugees from former Yugoslavia, resettled in Sweden (5 years before, on average). He found an increase in symptoms of PTSD. Resettlement stressors were only assessed in the second interview. Unemployment, lack of social intercourse, dependence on welfare and less visits to the home country were associated with a greater amount of PTSD symptoms.

The second study was undertaken by Lie (2001; 2002) with 240 refugees mainly of Bosnian or Kosovar origin, resettled in Norway (mean of 10 months duration of resettlement in the community). Symptoms of PTSD increased over a 3 year period, though only an additional 0.2% reached a clinically significant level of distress. A multivariate regression analysis yielded resettlement stressors as the only significant predictors for the increase of

PTSD symptoms. No differences were found for anxiety or depression. Generally, symptoms at the second assessment point were associated with resettlement stressors, lack of social network, trauma experience of an intrusive nature (such as imprisonment, witnessing of killing or torture, exposure to violence) and stressful events happening in the home country (e.g. war or disappearance of a family member).

The long term effects of traumatic experiences and some resettlement stressors in long-term resettled refugees have been examined by Marshall and Steel. Marshall et al. (2005) interviewed over 400 Cambodian refugees that resettled in the U.S.A. 20 years ago, using a structured clinical interview and also assessed pre- and post-migration traumatic events as well as employment, financial situation and language proficiency. They found very prevalent rates of 62% and 51% for PTSD and depression, respectively, with high comorbidity (42%). The sample reported a high level of traumatic exposure prior to resettlement ($M = 15$ out of 35 listed events) and some post resettlement. Overall, trauma prior to resettlement was the strongest predictor for PTSD ($OR = 2.08$), followed by age ($OR = 1.76$) and post-migration traumatic experiences ($OR = 1.65$). For depression, the strongest predictors were year of immigration ($OR = 1.88$), pre-migration trauma ($OR = 1.56$), age ($OR = 1.47$) and post-migration trauma ($OR = 1.45$). Though poor language proficiency, unemployment and poverty were associated with higher rates of PTSD and depression in a bivariate analysis, these resettlement factors have not been analyzed further.

Steel et al. (2002) interviewed over 1100 Vietnamese refugees that had resettled in Australia 11 years before, on average. As opposed to Marshall (2005), they found a quite low prevalence of 8% for psychiatric disorders diagnosed with CIDI (PTSD and depression again presenting as the most common disorders). Their sample reported fewer traumatic experiences ($M = 2$ out of 24 listed events) and 40% of the sample did not experience any traumatic experiences. Again, traumatic experiences were found to be the strongest predictor for psychiatric disorders and the dose-response relationship of traumatic experiences and mental health problems was confirmed. Steel (2002) also assessed the following resettlement stressors: employment, living situation, family separation, language proficiency, acculturation and length of stay. In an univariate analysis all but the two last factors were significantly associated with psychiatric disorders. Multivariable analysis yielded only living alone and language insufficiency as well as the interaction of trauma severity and time since index trauma as strong predictors of psychiatric disorders. Since no signs for a distinct

impact of resettlement stress was found, Steel et al. (2002) conclude: “postmigration stressors might diminish after prolonged resettlement” (p.1061).

To sum up: it seems that resettlement stress does not have a large impact on mental health in long-term resettled refugees, while traumatic experiences on the other hand still remain a strong risk factor. Also, symptoms of mental health problems seem to increase over time, especially with prolonged asylum seeker status and for symptoms of PTSD.

3.7.3 Impact of the country of resettlement

Forced migrants face different settings in the country that they resettle in. The following chapter discusses how the country of resettlement and the resulting factors influence mental health in forced migrants to answer the questions: 1) is mental health of forced migrants comparable in most countries of resettlement? 2) are there specific factors inherent to the country of resettlement that influence mental health in forced migrants? and 3) are there differences between high-income countries and low- or mid-income countries concerning the mental health of forced migrants?

Bogic et al. (2012) studied a large sample of long-term settled forced migrants ($M = 9.3$ years) with a similar migration background (former Yugoslavia) in three European countries. They measured the impact of trauma and post-migration stress on mental health disorders (mood, anxiety and substance abuse disorder via MINI; including PTSD). The sample consisted of over 250 forced migrants in Italy, Germany and the U.K. and factors associated with mental health problems were assessed extensively and categorized in three groups: pre-war experiences, war-experiences and post-war factors (including PTE and post-migration stressors). Because samples per country of resettlement differed in most sociodemographic, trauma and post-migration variables and prevalence of psychiatric disorders, they could not be compared directly.

Employment rates were different in the three countries: while over 70% of the forced migrants were employed in Italy, in the U.K. and Germany less than 30% were employed. 30% of the forced migrants in Italy only had a temporary residency, while in the U.K. and Germany the majority had a temporary residency (68% and 80%, respectively). These both

might have been connected in Italy, as residency permits were granted when employment was found. In Germany, residency status was preferentially given to asylum seekers diagnosed with PTSD, a possible explanation for high unemployment rates as well as high prevalence rates.

For resettlement stress, the following stressors were reported by more than 50% of the sample: separation from family and significant financial difficulties in Italy, work difficulties and inadequate accommodation in Germany and family separation in the U.K. In Germany, the highest amount of resettlement stress over all was reported as well as the highest number of traumatic experiences.

Adjusted prevalence rates showed the highest odds of PTSD in Germany and the highest odds for mood disorders in the U.K, while prevalence of anxiety disorders did not differ significantly in the three countries.

Regression models that were performed explained between 27.5% and 35.2% of the variance in the prevalence of anxiety, mood, substance abuse and posttraumatic stress disorder.

Comparing the different European countries of resettlement, one of main findings was that even though samples had different characteristics and faced different post-migration stressors, the factors predicting mental disorders were alike in all samples and showed consistent effects of the same direction: Results indicated that pre-war factors, war factors and post-migration factors “each explained a significant amount of variance in the rates of mood disorders (6.9%, 12.2% and 16.1% of the variance respectively), anxiety disorders (5.0%, 11.0%, 11.5%) and PTSD (7.3%, 14.2%, 12.8%)” (Bogic et al., 2012, p. 218), for the whole sample. Differences of prevalence of mental disorders in the country-samples were found to be best explained by post-migration factors, though only prevalence rates for anxiety was completely mediated by post-migration factors. For PTSD, war factors accounted for most of the variance.

This research shows that mechanisms in mental health of forced migrants are similar in different high-income countries of resettlement, though prevalence rates of mental disorders varied. There is not yet enough evidence as to where these differences stem from, but legal and structural aspects of the migration policies seem to have an impact.

But are there differences between low-income and high-income countries of resettlement? The dissertation thesis of George (2010) is the first study to compare western

and non-western countries and gives preliminary results on that question, as 50 Sri Lankan Tamils resettled in India were compared to 50 Sri Lankan Tamils resettled in Canada.

India is defined as a low middle income country by the World Bank, while Canada is considered to be a high income country (Jakobsen et al., 2011). George (2010) stated that Sri Lankan refugees are more closely connected on cultural, linguistic and social dimensions to India than to Canada. In the Indian sample 50% were living in refugee camps and 20% were asylum seekers, in the Canadian sample 44% were asylum seekers.

While pre-migration traumatic events were similar in both groups, forced migrants resettled in India reported more resettlement stress than those resettled in Canada. Further analysis via profile plots showed that asylum seekers in Canada had the highest amount of pre-migration trauma and resettlement stress compared to refugees in Canada and asylum seekers and refugees in India. While both asylum seekers and refugees in India reported similar resettlement stress and a similar amount of traumatic experiences prior to migration to India, in Canada asylum seekers reported more resettlement stress and pre-migration traumatic experiences than refugees. Generally, George (2010) found a stronger impact of resettlement stress than pre-migration trauma on psychological distress.

This study did not consider the topic of acculturation nor gave any information on the prevalence of mental distress per resettlement group. But it shows that different groups of forced migrants are more similar in India than in Canada in respect to pre-migration trauma and post-migration stress. Further research is needed on possible differences in mental health of forced migrants resettled in high and middle or low income countries.

3.7.4 Shades of grey: migration motivation and preparedness

As discussed in chapter 2.3.3 on the relationship between legal status and resettlement stress, some individuals do not fit the dichotomy of forced or voluntary migration, e.g. survival migrants who flee due to existential threats but not persecution. To inquire on the mental health of these groups they would have to be identified first. Since the reason for migration is of extraordinary importance in determining the legal status, this is a sensible topic, especially in asylum seekers or holders of temporary residency.

Thus, not surprisingly only two of the reviewed articles inquired on migration motivation. Fenta et al. (2004) coded migration motivation into three categories: for a better

life, political reasons and no clear motive. They found that people with no clear motive (3% of the sample) had a higher risk of depression compared to the other two motives.

George (2010) grouped the forced migrants into anticipatory and acute refugees. Anticipatory refugees have time to prepare for the flight, while acute refugees have no time and are forcefully pushed out of the country without warning. In the sample were only three anticipatory refugees, which prevented further analysis.

Consequently, there is not enough evidence yet on the differences in forced migrants apart from the dichotomous categories. The question whether survival migrants or climate refugees are differentially prone to specific resettlement stressors or mental disorders compared to classic refugees cannot be answered yet.

4. A Study on Mental Health of African Forced Migrants Resettled in South Africa

The initial goal of this thesis was to conduct an empirical study on mental health of African forced migrants resettled in South Africa in the context of trauma and resettlement stress. Though, as the review showed, there is substantial research on forced migrant mental health, studies were primarily conducted in western high-income countries. Forced migration in South Africa is an important topic because South Africa as an economically uprising country, received most asylum seekers worldwide in the year 2011 (UNHCR, 2012).

The situation of forced migrants in South Africa is different from African forced migrants in western countries as they share a more cultural proximity, but face a more insecure financial situation. In South Africa, migrants from other African countries also have to face discrimination to the extent of violent xenophobic attacks (Vromans et al., 2011), a hostile climate that has cost several lives in the last years. The review also showed that it is likely that some common risk factors in forced migrants resettled in high-income countries might not be the same for forced migrants resettled in other countries (see chapter 3.8.3). This is why the conclusions drawn in the review on risk factors for mental health problems cannot be generalized on the population of forced migrants in South Africa, and thus needs further research.

South Africa started recognizing refugees in 1993 and like many other countries, South Africa grants refugee status under the 1951 United Nations Convention relating to the Status of Refugees (South African Department of Home Affairs, 2013). As explained by the NGO ‘lawyers for human rights’, immigration policies are structured as follows: When a refugee enters the country, he/she has to apply for asylum at the Department for Home Affairs (DHA) immediately (Lawyers for Human Rights, 2009). When he/she has successfully applied for asylum, the applicant gets an asylum seeker’ permit, called a “Section 22 permit”. This temporary permit is in need of renewal at least every 6 months at the office where the section 22 permit was originally issued. The section 22 permit allows the asylum seeker to work and study in South Africa. If granted refugee status, refugees get the “section 24 permit” which allows them to apply for a refugee ID and a travel document, which is valid for 2 years and then has to be renewed within 3 months prior to the expiry date. If a refugee travels back to

his/her home country, he/she is at risk of losing this refugee status as he/she is willing to avail himself/herself to the protection of his home country. Recognized refugees can apply for permanent residency status in South Africa 5 years after asylum has been granted. Generally, the refugee is expected to take care of his/her own needs. In case of a mental or physical work disability, he/she has the right to claim disability grants. Refugees and asylum seekers are allowed to study (The World Bank, 2013).

Those legal practices lead to the following formal situation of forced migrants: Asylum seekers and refugees both have access to the work market and public health system, are responsible for their basic needs like housing and nutrition and aids to support basic needs are given by several NGOs (The World Bank, 2013). On the social side, African foreigners have to struggle with xenophobia and rejection by the host country nationals.

This research aims to explore the influence of traumatic events experienced and post-migration factors on the mental health of African refugees and asylum seekers resettled in South Africa. In detail it will investigate the following hypotheses:

H1: A greater amount of traumatic events experienced is associated with worse mental health and leads to more symptoms of depression and PTSD.

H2: Post-migration stress has an influence on mental health in forced migrants:

H2.1 Post-migration living difficulties are associated with symptoms of depression.

H2.2 Post-migration living difficulties are associated with symptoms of PTSD.

H2.3 Post-migration living difficulties will be more prominent in asylum seekers compared to refugees.

H3: Certain variables of resettlement will be associated with symptoms of mental health disorder.

H3.1 Asylum seekers suffer from more symptoms of mental health disorders than refugees.

H3.2 Unemployment will be associated with more symptoms of mental health disorders.

H3.3 A greater amount of perceived discrimination is associated with more symptoms of mental health disorders.

4.1 Mental Health of Forced Migrants in South Africa

In a study by McColl et al. (2010) including a sample of 60 torture survivors living in South Africa, they found that of the 306 torture survivors from five countries in total, 23% were exiles from African countries. Those African exiles were shown to be significantly more at risk for a wide range of traumatic events, such as forced separation from family, ill-health without access to health care, lack of food and water, murder of family or friend, unnatural death of family or friends, lack of shelter, forced isolation from others, having been lost or kidnapped, murder of strangers and sexual abuse or rape. The most common symptom categories at the time of intake were anxiety disorders, posttraumatic stress disorder and mood disorders over all 306 survivors of torture.

Concerning mental health and resettlement stress in forced migrants in South Africa, only two studies have been found. In a sample of 77 adult African forced migrants who were residing in Johannesburg, all participants had experienced torture (Higson-Smith & Bro, 2010). 74% had already been in South Africa for more than a year, only 8% had yet been granted refugee status and 80% were still listed as asylum seekers. Severe and chronic psychological symptoms ascribed to experiencing torture were reported by 69% of the participants and 66% wished for help concerning their mental health status. Accommodation, refugee status and employment were the most frequently mentioned current needs.

Idemudia, Williams, and Wyatt (2011) did an exploratory research on migration challenges among a group of Zimbabwean refugees that had come to South Africa. Interviewing 20 homeless Zimbabwean refugees resettled in Polokwane, SA. In focus groups they found that the main reasons for leaving Zimbabwe were lack of basic resources and employment, lack of health care and medication and political and civil unrest and violence. The most frequently mentioned post-migration challenges in South Africa were minimal opportunities to obtain resources and experiences of exploitation and coercion.

To the author's knowledge, no research has been done on the impact of trauma and of resettlement stress on mental health in African forced migrants resettled in South Africa.

4.2 Methodology

4.2.1 Participant characteristics

To participate in this study, a person had to be a refugee, asylum seeker or undocumented foreigner from one of the various African countries. All participants should be at least 18 years old to prevent study limitations due to the special characteristics of child and adolescent mental health and psychological disorders. All participants should be able to speak English since the research conductor is not able to speak or translate to all the African languages present in the group of refugees. Considering information of the Scalabrini Center of Cape Town and information from previous refugee studies in SA (Bandeira, Higson-Smith, Bantjes, & Polatin, 2010; Higson-Smith & Bro, 2010), participants were expected to mostly originate from Zimbabwe, Democratic Republic of Congo (DRC), Rwanda, Somalia, Angola, Uganda and Burundi.

4.2.2 Sampling Procedures

After contacting several Capetonian NGOs who focus was on support of refugees and asylum seekers, employees of these NGOs functioned as gatekeepers and introduced the researcher to some of their clients, mainly students of English classes. The researcher gave information on the research purpose and process to the potential participants who then were asked to leave their phone numbers and names in the case that they were interested. The researcher then called the potential participants, explained the study again and if the potential participants agreed and their level of English was sufficient, an appointment for the interview was made. Participants were informed that they were going to be refunded for their travel costs to the Scalabrini Centre in the Cape Town City Bowl.

The researcher also received contacts through a gatekeeper of the Burundian refugee community. The sampling procedure was the same as with the NGOs. Interviews took place in the private atmosphere of an office room kindly provided by the Scalabrini Centre. After explaining the study design and purpose again and remaining questions were answered, clients read and signed the informed consent (see appendix). Also, snacks and drinks were offered during the interview. The interviews took 90 to 120 minutes, including welcoming, introduction, a short break and debriefing. Interview duration was longer than anticipated due to verbal presentation of the interview questions and the necessity to describe and explain the items of the interview.

4.2.3 Measures

The following four questionnaires have been used: The Harvard Trauma Questionnaire, the Hopkins Symptom Checklist-25, the Post-Migration Living Difficulties questionnaire and the Every Day Discrimination Scale.

Harvard Trauma Questionnaire (HTQ; Mollica, Caspi-Yavin, Bollini, Truong, & et al., 1992)

The HTQ is a widely used self-report checklist for the assessment of potentially traumatic events and trauma-related symptoms. It has been specifically standardized and validated for the population of refugees and has been used in many studies on refugee's mental health. It has shown good reliability (Cronbach's $\alpha = .87$ for western Africans in (Renner, Salem, & Ottomeyer, 2006)). The HTQ is divided into three parts: Part one inquires about the traumatic events experienced within 47 yes/no questions. Part 1 has been used to assess both traumatic experiences pre-migration and in the country of resettlement. Part 2 focuses on brain injuries and is not used in this study since it is not part of the research objectives. Part three contains 40 items on trauma related symptom severity that are to be rated on a 4-point scale from "not at all" to "extremely" bothered by the symptom.

In a critical review of the instruments used to measure trauma and health status in refugees, Hollifield et al. (2002) found that the HTQ was one of the few instruments that met 4 of the 5 criteria (purpose, construct definition, design, developmental process and reliability and validity) and only failed to describe development sufficiently. To identify participants with PTSD, a cut-off score of 2.5 is most commonly used and validated for Asian samples. In this study a lower cut-off value of 2.00 average score per item was chosen to gain greater sensitivity rather than specificity (Hollifield et al., 2002; Mollica, McDonald, Massagli, & Silove, 2004). In this research, it is more important to identify individuals suffering from PTSD and conclusively being able to make assumptions over risk factors rather than identifying subclinical individuals.

Hopkins Symptom Checklist-25 (HSCL-25; Mollica, Wyshak, de Marneffe, & Khuon, 1987)

The Hopkins Symptom Checklist-25 is a self-report questionnaire to assess symptoms of severe emotional distress experienced within the last 7 days. It has two subscales for anxiety (10 items) and depression (15 items). It has been used as a screening instrument for anxiety and depression symptoms in many refugee studies (Renner et al., 2006) and has shown good reliability (Cronbach's $\alpha = .91$ for western Africans).

Although the HSCL-25 had not been specifically developed for refugee research, in its adapted form it met all five criteria as mentioned above (Hollifield et al., 2002). Furthermore it was found that a cut-off value of 1.75 average score per item in the depression scale was a good diagnostic proxy for major depression (Hollifield et al., 2002; Mollica et al., 1987).

Post-Migration Living Difficulties Questionnaire (PMLD; Silove, Sinnerbrink, Field, Manicavasagar, & Steel, 1997)

The Post-Migration Living Difficulties Questionnaire is a checklist to assess problems of post-migration living in the categories of residency determination, healthcare, welfare and asylum, threat to family, adaptation difficulties and loss of culture and support. It contains 24 items representing different post-migration living difficulties that can be rated on a 5-points scale. Details on the PMLD and its measurement qualities can be found in chapter 3.3.4.1.

The PMLD was supplemented with 4 additional items to accommodate the South African context: discrimination, fear of hate crime, fear of robbery, fear of assault and fear of gang crime. This led to a total of 29 items for the PMLD.

Every Day Discrimination Scale (EDD; Williams, Yu, Jackson, & Anderson, 1997)

The Every Day Discrimination Scale is a self-report instrument to examine perceived discrimination. 9 Items can be rated on a 6-point scale for their frequency, ranging from “never” to “almost every day”. It was adapted with one additional item (“You are treated differently than other people by the police and other officials”) to fit the South African context.

Further, a questionnaire on sociodemographic information as well as variables of resettlement has been used.

4.2.4 Ethical considerations

Acknowledging the vulnerability of refugees and asylum seekers it is especially important to abide by ethical principles and standards. Therefore the author will act on the five ethical principles of beneficence and nonmaleficence, fidelity and responsibility, integrity, justice and respect of people’s rights and dignity as stated by the American Psychological Association (2002) by undertaking the following actions:

Participants received an informed consent in English or French, covering the official languages in the countries the participants originated from (see appendix). It contained information on the purpose of the research, included procedures and expected duration, information about the right to withdraw from the research at any point and the foreseeable consequences of a declination, about confidentiality and its limits, about possible risks or harm that could result from participating and contact information for requests and questions about the study.

To prevent exploitation and to not compromise of the principle of voluntary participation, Higson-Smith and Bro (2010) argue against the offering of payment for the participation in a research. Instead the author provided snacks and drinks for the participants to express the value of the participation and increase personal comfort. If participants had to pay for transport to the location of the interview, they were refunded in order to prevent disadvantages resulting from study participation and enable participants to join the study.

The author provided a comfortable and private setting for the interview to increase privacy. To prevent risk of retraumatization, the author read out the items of the questionnaires like an interview. This decreased triggers and enabled the author to react to any negative emotional reaction of the participant and prevent further distress (e.g. if a participant reacts strongly on questions about sexuality, the author will not continue asking them). The author was sensitive towards the participant's mood and enabled them to talk about traumatic events with emotional distance. In case of a participant's psychological discomfort, the participant was provided with psychoeducation and if further psychological support was needed, he was provided with contact details of the Trauma Centre for survivors of violence and torture.

Since asylum seekers suffer from especially fear of being sent back to their country of origin and feel the urge to secure their refugee status (Higson-Smith & Bro, 2010), the author stated very clearly her neutral position and that participation in the study would not in any way affect the legal process, that neither displaying the participants difficult situation in the study would help them in any way to get refugee status nor that personal information of any kind (e.g. illegal residency) would be given to the authorities, NGOs or other institutions or any other third parties.

4.2.4 Statistical Analysis

Since participants needed for this study are very vulnerable, only as many participants as needed to be able to draw valid conclusions should be interviewed. Initially it was planned to conduct a linear regression model to be able to evaluate the interaction of the measured variables. This statistical measures would have been subject to a total sample size of at least 74 participants, as calculated by using the G*Power software for a fixed model multiple linear regression (based on a moderate effect size of $f^2 = .15$, $\alpha = .05$ and power $(1-\beta) = .95$). Since it was only possible to interview 13 individuals, hypothesis have been adapted and drawn from the results of the review.

For hypothesis 1)

A correlation was calculated with the amount of trauma experienced (scores of the HTQ part one) and mental health outcomes (scores of HTQ and HSCL-25). It is expected that more trauma experienced will be associated with worse mental health. Participants were divided into two groups according to the item on directly experienced torture and compared in a t-Test to determine whether both groups have different PTSD symptoms. If the single item in the HTQ is able to measure torture, it is expected that torture victims have more mental health problems than the non-tortured.

For hypothesis 2)

To examine the effect of traumatic events and post-migration difficulties on mental health, Pearson correlations were calculated with the score of the PLMD for post-migration stress and the score of part two of the HTQ (for PTSD symptoms), the scores of the full HSCL (for symptoms of severe emotional distress) and scores of the HSCL depression subscale. To examine differences in the group of asylum seekers and refugees, a t-Test was calculated for the score of the PMLD.

For hypothesis 3)

Participants were grouped by socioeconomic variables like country of origin, legal status, employment, diagnosis of psychiatric disorders. A series of *t*-Tests were conducted to examine differences between the groups concerning mental health problems and risk factors. A Pearson correlation was calculated with the score of the EDD and mental health measures.

4.3 Results

4.3.1 Recruitment and participant characteristics

A total of 13 male participants have been interviewed in Cape Town, South Africa, at the beginning of 2013. Initially it was aimed to recruit 74 participants to be able to create a valid fixed model multiple linear regression, but due to time delays and problems in recruiting participants, it was only possible to interview 13 refugees and asylum seekers.

The researcher experienced the following difficulties in recruiting participants:

- As English is a foreign language for most refugees and asylum seekers in South Africa, their ability to speak English was often not sufficient to understand or answer the questions.
- NGOs who did not have a mental health unit in their organization were concerned about emotional destabilization of their clients to which the NGO would not be able to respond to.
- NGOs were concerned about possible misinterpretations of the purpose of the research by the participants. In the recent past, NGOs had been asking their clients to participate in research interviews which lead to the false impression by the participants that taking part in an interview would help the participant with resettlement in a western country. At the time of data collection, NGOs did not want to risk the trust of their clients by sending them to another research interview.

4.3.2 Descriptive analysis of the South African Sample

In the following subchapter, descriptive characteristics of the all-male sample will be displayed. First participant characteristics (sociodemographic as well as regarding resettlement) will be shown, followed by a description of the traumatic events experienced and resettlement stressors perceived (discrimination and PMLD). Finally results of the HTQ and HSCL will be displayed.

For an overview of mean scores and standard deviations as well as range, please see table 17 at the end of this chapter.

Sample characteristics

The age of the 13 male participants varied between 26.42 and 46.58 years ($M = 35.19$, $SD = 6.30$). One participant was born in Zimbabwe, eight participants in Burundi and four participants originated from the Democratic Republic of Congo (DRC), see figure 7. Nine of the men were married, four were single. Except for two participants, all had at least one child. A majority of the participants had family living in South Africa, mostly children or other relatives (siblings and more distant family).

Three participants had no family at all in South Africa. Concerning education, three participants had a university or college degree, two finished secondary school, five completed primary school and one had received no formal education, while two received other forms of education.

They had resided in South Africa for between 11 months and 18.08 years ($M = 8.11$ years, $SD = 5.17$). At the time of data collection, five participants were unemployed, five were full-time employed and another three worked part-time. Employment also includes work in the informal sector. About half of the participants (six individuals) lived in a private accommodation in Cape Town, while the other half (seven individuals) lived in townships, informal urban living areas on the outskirts of the city that often lack basic infrastructure and due to their informal nature are in many ways not subject to governmental influence.

For more detailed information on sociodemographic variables, please see figures 19 and 20 in the appendix.

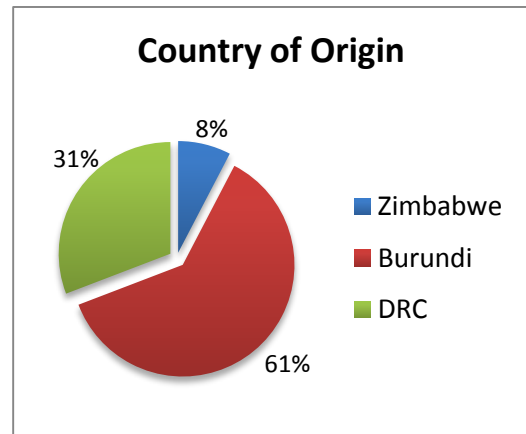


Figure 7. Country of origin.

A majority (nine individuals) had not tried to resettle in another country prior to coming to South Africa. Four individuals had at least spent a substantial amount of time in another country after leaving their home country and before coming to South Africa. Most participants had left their home country due to war, civil violence or personal persecution (11 individuals), while only three participants also claimed economic reasons (better education and job opportunities). One individual

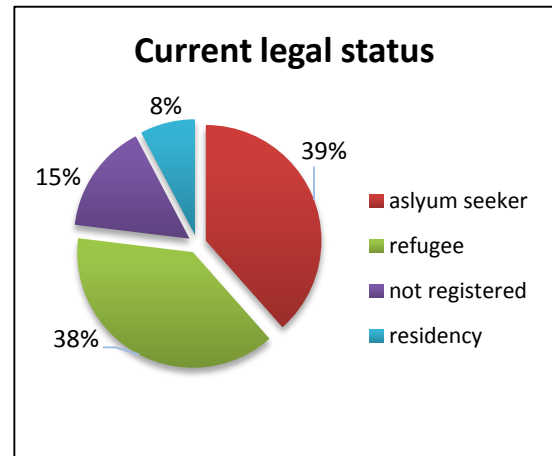


Figure 8. Current legal status.

claimed both economic reasons and personal persecution. At the time of data collection, six individuals had permanent residency: One individual had gained residency status and five were acknowledged refugees. Another five individuals were still asylum seekers and two individuals were currently not registered and therefore illegal as their asylum seeker permit has not been renewed. Concerning the motivation to stay in South Africa for the foreseeable future, participants had a hard time answering. It was expressed frequently that the motivation to stay is not very strong given the living situation, but mostly participants did not see where else they could go because they were not able to go back home. Only three people reported no motivation to stay in South Africa permanently: two asylum seekers who came to South Africa for economic reasons and one refugee who fled his country due to war. For more details on variables of resettlement, please see table 20 in the appendix.

Experienced trauma

Participants in this study experienced a mean of 15.69 traumatic events ($SD = 5.08$) during pre-, peri- and post-migration phases. Seven people experienced 17 or more traumatic events. Table 13 displays frequent traumatic events experienced by the participants in the country of origin and in the country of resettlement. Traumatic events that have not been reported by anyone in the sample were rape, disappearance or murder of spouse or child, being forced to harm a family member, and prevented from burying a deceased. Torture has been experienced by one individual and been witnessed by two.

The open question for other traumatic events not listed in the questionnaire was answered with: events related to political persecution, threats to life during xenophobic attacks in South Africa, car accident, near death experiences (drowning), being hunted by

child soldier armies and blackmail, threatened with knife and gun and threatened by the police. The events that were not listed in the HTQ were mainly events that happened during

flight or in the country of

resettlement.

In South Africa alone, participants reported a mean of 3.23 traumatic events ($SD = 2.49$). The three most common traumatic events experienced in South Africa were: Extortion and robbery ($n = 8$, 62%), imprisonment ($n = 4$, 30%) and beating to the body ($n = 4$, 30%). Prior to resettlement, in the pre- and peri-migration phase, participants reported a mean of 12.46 traumatic events ($SD = 5.47$). The most common traumatic experiences prior to resettlement were: witnessing beatings to the head or body ($n = 10$, 77%), being forced to hide ($n = 10$, 77%) and being confined at home because of the danger outside ($n = 9$, 69%).

Table 13

Traumatic event type (total) experienced by over half of the sample (n=13)

Item	n	%
Forced to hide	11	85%
Confined to home because of danger outside	11	85%
Witness of beatings to head or body	11	85%
Beating to the body	10	77%
Imprisonment	10	77%
Lack of food or water	9	69%
Confiscation or destruction of personal property	9	69%
Murder or death of other family member or friend due to violence	9	69%
Witness to a killing or murder	9	69%
Forced evacuation under dangerous conditions	8	62%
Extortion or robbery	8	62%
Other forced separation from family members	8	62%
Other traumatic experiences	8	62%

Experienced resettlement stress

Participants reported $M = 64.54$ ($SD = 10.08$) post-migration living difficulties out of a possible maximum of 120 for the sum score of the PMLD. Table 14 shows post-migration living difficulties rated as a fairly big or serious problem by over half of the total sample. The most common post-migration living difficulties can be categorized in the areas discrimination and fear of violence (items discrimination, fear of hate crimes, of being robbed, of being assaulted and of gang crime) and financial issues (being unable to find work, little financial help by government, poverty, bad working conditions and no permission to work). Note that though both asylum seekers and refugees are granted a work

and study permit, participants mentioned in the interview that often they are not employed, because they don't possess a South African identity card. It was mentioned by two participants that employers did not want to employ someone who had to renew their work permit (by renewing the asylum seeker permit) every 3 months.

Table 14

Post-migration living difficulties rated big to serious problem (n=13)

	n	%
Discrimination	13	100
Fear of hate crimes	13	100
Being unable to find work	12	92.31
Little government help with welfare (unemployment benefits, financial help)	11	84.62
Poverty (not having enough money for basic needs like food, clothing, shelter)	11	84.62
Fear of being robbed	11	84.62
Fear of being assaulted	11	84.62
Bad working conditions	10	76.92
No permission to work	10	76.92
Unable to return home to family in an emergency	10	76.92
Delays in processing refugee/ immigrant applications	9	69.23
Fear of gang crime	9	69.23
Poor access to emergency medical care	8	61.54
Worries about family back home	8	61.54
Separation from family	7	53.85
Fears of being sent home	7	53.85

The most severe post-migration difficulties reported by most asylum seekers (n = 8, including participants not registered) were: little help with welfare, discrimination, poverty, fear of being robbed and fear of gang crime (each reported by seven participants). Most severe post-migration difficulties reported by all refugees (n = 7, including the participant with residency status) were: discrimination, inability to find work, fear of being assaulted and fear of being robbed (each reported by all six participants).

Perceived discrimination

Regarding perceived discrimination, all participants reported several different forms of discriminatory experiences. Figure 9 shows that 62 % of the participants have endorsed 8 to 9 different items of the EDD. The most common forms of discrimination (table 15), reported by almost all participants, were: being insulted, being treated with less respect or courtesy or having received bad looks in public. The least common experience was that people acted as if they were afraid of foreigners (reported by only one participant). Most discrimination was traced back by the participants to their different nationality rather than skin color.

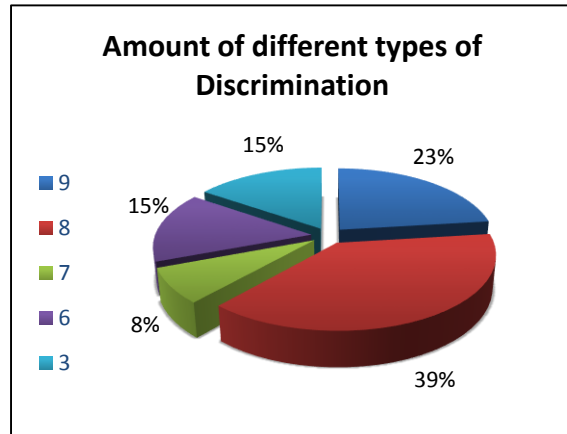


Figure 9. Amount of different types of discrimination experienced per participant.

Table 15 on discrimination displays the frequency of incidents that happened at least once in South Africa. With a frequency of at least a few times a month, participants reported $M = 6.77$ different types of discrimination ($SD = 2.05$).

Table 15

All types of discrimination reported by the sample and suspected reason

Items of the EDD	Perceived by % (n)	Reason (n)
You are called names or insulted.	100,00% (13)	National Origin (13), skin color (1), religion (1)
You are treated with less courtesy or respect than other people are.	92,31% (12)	National Origin (11), skin color (2), religion (1)
You receive bad looks from people in shops or other public places.	92,31% (12)	National Origin (10), skin color (2), religion (1)
People act as if they're better than you are.	84,62% (11)	National Origin (11), skin color (1)
You are threatened or harassed.	76,92% (10)	National Origin (10), skin color (2)
People act as if they think you are not smart.	69,23% (9)	National Origin (8)

Table 15 continued

You are treated differently than other people by the police and other officials.	69,23% (9)	National Origin (7), skin color (1)
You receive poorer service than other people at restaurants or stores.	61,54% (8)	National Origin (6)
People act as if they think you are dishonest.	53,85% (7)	National Origin (7)
People act as if they are afraid of you.	7,69% (1)	Skin color (1)

Mental health

Participants presented with a PTSD symptom score of $M = 1.94$ ($SD = .43$), assessed by the HTQ. Differentiating between general PTSD symptoms and core symptoms of PTSD (avoidance, re-experiencing and intrusion, 16 items in the HTQ symptom scale) did not yield any results diverting from the results of the full HTQ symptom scale concerning correlations or t -Tests. Core symptoms of PTSD have thus not been regarded further.

Concerning anxiety and depression, participants showed an average item score of 1.83 ($SD = 0.52$) for severe emotional distress in the full HSCL and further an average item score of 1.94 ($SD = 0.59$) for symptoms of depression, as assessed by the HSCL depression subscale.

Using a cut-off score of 2.0 for the HTQ for a diagnosis of PTSD according to DSM-IV, five people suffered from a clinically significant amount of traumatic stress symptoms. Using a cut-off score of 1.75 for the HSCL depression subscale for a diagnosis of major

Table 16

Prevalence of PTSD and depression and comorbidity in the sample (n=13)

		Diagnosis of PTSD	
		yes	no
Diagnosis of depression	Yes	4	4
	no	1	4

depression (MD) according to the DSM-IV, eight participants suffered from a clinically significant level of symptoms of depression. Four people suffered from depression and PTSD simultaneously (see table 16).

Table 17

Descriptive analysis of traumatic events, mental health symptoms and resettlement stress

	<i>M</i>	<i>SD</i>	range
Traumatic events			
Total	15.69	5.07	7 - 23
In pre- and peri-migration phase	12.46	5.47	4 - 20
In post-migration phase	3.23	2.49	0 - 8
Mental health			
Symptoms of PTSD	1.94	0.43	1.25 - 3.05
Symptoms of severe emotional distress ¹	1.83	0.52	1.08 - 2.80
Symptoms of depression ²	1.94	0.94	1.07 - 2.87
Resettlement stress			
Post-migration living difficulties	64.54	10.08	42 - 83
Discrimination	6.78	2.05	3 - 9

Note. ¹ symptoms of severe emotional distress: average item score of the full HSCL; ² symptoms of depression: average item score for the depression subscale of the HSCL

4.3.3 Statistical Analysis

Since the sample size is not sufficient to use complex multivariate statistical analysis, a sequel of Pearson correlations have been calculated (see table 18) along with a set of *t*-tests for group differences.

The following correlations showed to be of significance: The more traumatic events a individual experienced prior to coming to South Africa, the more symptoms of severe emotional distress ($r(13) = .568, p < .05$) and of depression ($r(13) = .564, p < .05$) were reported . The correlation of traumatic events in the pre- and peri-migration phase with post-migration living difficulties fell marginally short of being significant ($r(13) = .530, p = .06$). Traumatic events experienced in South Africa were positively correlated with the length of stay ($r(13) = .714, p < .01$), the housing situation ($r(13) = .606, p < .05$) and perceived discrimination ($r(13) = .616, p < .05$). This shows that participants who had lived in South Africa for a longer period of time, who reported more perceived discrimination and who lived in a township experienced more traumatic events in South Africa. Living in a township was also associated with more perceived discrimination ($r(13) = .597, p < .05$).

For mental health symptoms, none were significantly associated with traumatic events, though there might be a small tendency that trauma events prior to resettlement might be associated with symptoms of PTSD ($r(13) = .445, p = .13$) and severe emotional distress ($r(13) = .480, p = .10$) in this sample as well. Symptoms of PTSD and severe emotional distress showed a strong positive correlation with each other ($r(13) = .766, p < .01$), as did symptoms of PTSD and depression ($r(13) = .697, p < .01$). Further, symptoms of severe emotional distress were positively associated with post-migration living difficulties ($r(13) = .556, p < .05$). Even stronger was the association of symptoms of depression and post-migration living difficulties ($r(13) = .646, p < .05$).

Concerning differences between groups, *t*-test revealed no differences between employed (full-time and part-time) and unemployed participants concerning mental health factors, traumatic experiences or resettlement factors. Regarding legal status, participants with a permanent residency permit (refugees and resident, $M = 11.12$ years, $SD = 5.58$) had stayed longer in South Africa than individuals with temporary residency (asylum seekers and unregistered individuals, $M = 5.54$ years, $SD = 3.28, t(11) = -2.24$). Also Burundians ($M = 10.57, SD = 4.86$) had stayed significantly longer in SA than Congolese ($M = 3.45, SD = 2.55, t(11) = -2.24, p < .05$) and had experienced more trauma in South Africa ($M = 4.63, SD = 1.99$ vs. $M = 1.25, SD = 1.26, t(11) = 3.05, p < .05$). Confirming the results of the correlations, individuals living in private accommodation ($M = 1.67, SD = 1.97$) in town reported fewer traumatic experiences in South Africa than people living in a township ($M = 4.47, SD = 2.15, t(11) = -2.52, p < .05$).

Categorizing the participants into diagnosed with PTSD/depression and subclinical participants, *t*-tests revealed that individuals with depression ($M = 2.13, SD = 1.89$) reported fewer traumatic events in SA than subclinical individuals ($M = 5.00, SD = 2.45, t(11) = -2.39, p < .05$). This might be due to the fact that out of the five participants with a score of over 1.75 in the HSCL, three have the highest score in traumatic events in South Africa of the whole sample (Two participants reported the maximum of eight and one participant reported seven traumatic events in South Africa). Controversially participants with depression ($M = 15.13, SD = 4.67$) reported more traumatic events prior to resettlement than subclinical individuals ($M = 8.20, SD = 3.83, t(11) = -2.77, p < .05$). Significance was only approached as individuals with depression ($M = 68.38, SD = 7.46$) reported more post-migration living difficulties than subclinical individuals ($M = 58.40, SD = 11.44, t(11) =$

1.92, $p = .081$). This is reported here, because it reflects the results of the correlation analysis. For group differences between participants with PTSD and subclinical participants, no significant differences were found. Only for symptoms of emotional distress, significance was approached: individuals with PTSD ($M = 2.18$, $SD = .54$) reported more symptoms of severe emotional distress than subclinical individuals ($M = 1.62$, $SD = .41$, $t(11) = 2.13$, $p = .056$) and also more symptoms of depression ($M = 2.31$, $SD = .52$ vs. $M = 1.72$, $SD = .54$, $t(11) = 1.94$, $p = .08$).

4. A Study on Mental Health of African Forced Migrants Resettled in South Africa

Table 18

Pearson correlations between traumatic experiences, mental health and resettlement factors (for n=13) and P value

			IV	V	VI	VII	VIII	IX	X	XI
Traumatic experiences	I	Total	.445	.480	.415	-.024	.058	.132	.546	.185
			.13	.10	.16	.94	.85	.67	.05	.55
	II	In pre- or peri-migration phase	.417	.568*	.564*	-.347	-.081	-.154	.53	-.109
			.16	.04	.05	.25	.79	.62	.06	.72
	III	In country of resettlement	-.008	-.271	-.394	.714**	.298	.606*	-.052	.616*
			.98	.37	.18	.01	.32	.03	.87	.03
Mental health	IV	Symptoms of PTSD		.766**	.697**	.211	.124	.293	.349	.257
				.00	.01	.49	.69	.33	.24	.40
	V	Symptoms of severe emotional distress ¹			-	.019	-.069	-.237	.556*	-.005
					-	.95	.82	.44	.05	.99
	VI	Symptoms of depression ²				-.030	.038	-.327	.646*	-.112
						.92	.90	.28	.02	.71
Variables of resettlement	VII	Length of stay					.560*	.301	.131	.453
							.03	.32	.67	.12
	VIII	Legal status ³						.238	.188	.265
								.43	.54	.38
	IX	Housing ⁴							-.156	.597*
									.61	.03
	X	Post-migration living difficulties								-.167
										.59
	XI	Perceived discrimination								-

Note.

* correlation is significant at the 0.05 level (2-tailed), ** correlation is significant at the 0.01 level (2-tailed)

¹ symptoms of severe emotional distress: full HSCL score; ² symptoms of depression: depression subscale of the HSCL; ³ legal status: dichotomized into asylum seeker or refugee, ⁴ housing: township or private accommodation in city

P values underneath the correlations in *italian*

4.4 Discussion

Generally, the prevalence of psychiatric disorders was high in the sample of African male forced migrants resettled in South Africa: only four participants did not show clinically significant levels of symptoms for psychiatric disorders, while five people suffered from PTSD and eight people from Major Depression (MD) with a comorbidity rate of 44%. All participants reported exposure to trauma, resettlement stress and discrimination. Generally, the sample showed quite high exposure to traumatic events in the country of resettlement ($M = 3.23$, $SD = 2.49$), e.g. compared to forced migrants in the US ($M = 1.7$, $SD = 2.1$; Marshall et al., 2005) or in Germany, Italy and the U.K. ($M = 1.1$, $SD = 1.3$; Bogic et al., 2012).

Regarding hypothesis 1, no significant correlation of accumulative trauma and symptoms of PTSD have been found in the sample. But more accumulative trauma experiences in the pre- and peri-migration phase were associated with increasing symptoms of severe emotional distress and symptoms of depression. Since only one participant reported torture, the distinct effect of torture could not be investigated. Symptoms of PTSD showed only to be associated with other mental health symptoms in this sample. This is contrary to findings in literature on mental health that show traumatic events and resettlement stress are strongly related to PTSD. In the sample, only one individual with PTSD did not have comorbid major depression (MD), as opposed to four participants with comorbid PTSD/MD and four participants with only MD. The comorbidity in the sample confirms the assumption that PTSD and depression are a similar construct and often related (O'Donnell et al., 2004).

African forced migrants reported several living difficulties that they encountered in South Africa. The most prevalent problems were financial issues and fear of crime and discrimination. In this sample, daily struggles with issues relating to the post-migration phase lead to more symptoms of general severe emotional distress and symptoms of depression, but were not associated with symptoms of PTSD (hypothesis 2). This supports the results of the review that there is a tendency that resettlement stress is more strongly associated with depression than with PTSD. Asylum seekers did not report more post-migration living difficulties or different problems compared to refugees. This might be due to the fact that both refugees and asylum seekers have access to the work market and educational system in South Africa. The fact that issues around finances and employment were very dominant factors of their post-migration stress can be explained by the reality of circumstances in the country however. Many participants reported that though legally they

were allowed to work, they had been rejected by possible employers for the reason that they were lacking a South African identification card. At the same time, financial aid is rare and people had to work to survive.

Other factors of resettlement that showed to put people at risk for mental health disorders (see review chapters 3.5.2 on employment, 3.5.4 on discrimination and 3.7.1 on legal status), also did not appear to have an impact in this sample (H3): Legal status was not associated with mental health problems, nor was employment or perceived discrimination.

Participants who had lived in a township had experienced more traumatic events and discrimination in South Africa. Also the longer an individual had resided in South Africa, the more traumatic events they had experienced, but also the more likely they had gained refugee status. This is not surprising, as if the asylum process is over a person either gains refugee status or gets sent back home.

The more traumatic experiences an individual had, the more post-migration living difficulties they reported in the sample. This might show that there is a sensitivity in traumatized individuals to daily stressors as reported by other studies.

Limitations

The results of this study are clearly limited. The sample size was with 13 participants too small to make valuable generalizations for the population of forced migrants in South Africa. The small sample size also did not allow the use of more complex statistical methods. Participants were purely male and came from Burundi, the Democratic Republic of Congo and one from Zimbabwe. Thus no conclusions can be drawn from this study for female forced migrants or forced migrants from different countries.

It was not possible to conduct the interviews in the mother tongue of the participants which might have led to misunderstandings though the interviewer took the time to explain everything as far as possible. This leads to the next limitation: interviews were conducted face-to-face to avoid uncontrolled emotional distress. This might have led to a more biased response, influenced by the presence of the interviewer and the presentation of the items. Some items were clearly difficult for some participants to answer. In the HTQ, The item “Feeling a need for revenge” was prone to social desirability as participants reported that the wish for revenge was against their religious beliefs. The item “Feeling as if you are split into two people and one of you is watching what the other is doing” was most frequently not

understood without further explanation. In the Every Day Discrimination Scale, it was difficult for participants to state with what frequency they encountered the different forms of discrimination and the scale was reduced to a dichotomous response scheme.

From this study, it can be concluded that both traumatic experiences and resettlement stress are present in forced migrants in South Africa. The high prevalence of mental disorders shows that forced migrants are a vulnerable population and in urgent need of psychological care. As the sample size was small, further research is needed. Better assessment methods, e.g. for symptoms of traumatic stress, should be used to research risk factors of traumatic stress in that population.

5. Conclusio

In this diploma thesis, a systematic review and an empirical study on mental health in forced migrants in the context of trauma and resettlement stress were conducted.

For the systematic literature review, 30 articles containing 23 separate research samples and one meta-analysis have been reviewed. The discussed issues were: methodological diversity in the studies, the impact of trauma and resettlement stress on symptoms of PTSD and depression, the impact of specific resettlement stressors on mental health, the interaction of trauma and resettlement stress and other overarching factors important to mental health in the resettlement context.

In the reviewed studies, around 8000 migrants were represented. Study populations were mainly from the Asian continent (57%), from the African continent (13%) and from Europe (11%), while another 19% of the studies contained participants with diverse nationalities. The legal status of the targeted sample in the study was mainly refugee/ permanent residency status. While nine studies included asylum seekers/temporary residents, only two studies purely focused on asylum seekers. By the selection of the study group alone, we can see that asylum seekers and forced migrants from other countries are underrepresented and should be targeted in future research. Also, with the exception of a dissertation, all studies have been undertaken in high-income western resettlement countries. Conclusions of the review can thus not be generalized for forced migrants resettled in non-western low or mid-income countries.

Concerning diversity in the measurement instruments of mental health, studies used various quantitative and clinical interviews to assess symptoms of PTSD and depression. Resettlement stress was most commonly assessed with the PMLD. If the PMLD was not used, most studies developed a resettlement stress questionnaire for their study. Most studies further assessed variables of the resettlement life, such as employment or language proficiency.

The main research question of this thesis was: “How do resettlement stress and traumatic experiences influence mental health in resettled forced migrants?” For PTSD, it was shown that the majority of studies found resettlement stress and traumatic experiences were

independently associated with symptoms of PTSD. By trend, trauma was a bigger risk factor for PTSD than resettlement stress. For depression, likewise, the majority of studies revealed an independent impact of both, trauma and resettlement stress, on symptoms of depression. Contrary to the trend in PTSD, a tendency that resettlement stress is a stronger risk factor for depressive disorders compared to trauma was found.

Reviewing specific factors related to resettlement, the following was found: Language proficiency is unlikely to be a risk factor for mental health problems. The lack of social support showed no strong association with mental health problems in forced migrants. Results of the reviewed studies have been inconclusive for factors relating to the sense of belonging and acceptance by the country of resettlement. Concerning family related issues, further research is needed to draw comprehensive conclusions, but a trend for a strong impact of fear for family members left behind was observed. A consistent and strong negative impact on mental health was observed from insecure financial situation and unemployment. No right to work, no access to employment and inability to maintain the socioeconomic status presented with a large effect of $d = 1.06$ (Porter & Haslam, 2005).

Two factors are in-between the concepts of pre-migration trauma and post-migration stress: post-migration trauma and peri-migration factors. While the distinction of traumatic events into pre- and post-migration showed no extended predictive value, peri-migration factors, such as – and especially – refugee camp experience, might be strong risk factors for mental health problems. Both have rarely been assessed and need further research.

As for the complex question on the interaction of trauma and resettlement stress, no conclusions can be reached from the results of the studies. Studies yielded hints for the different pathways of the interaction in depression disorders and in PTSD, as well as in people with few traumatic experiences and in people with high trauma exposure.

Several overarching factors, that might influence the impact of resettlement stress on mental health, have been reviewed: legal status, the time component and the impact of the country of resettlement. For legal status, studies showed that temporary residency is a risk factor for mental health problems. Asylum seekers showed more resettlement stress and more mental health symptoms than refugees. An extended asylum process led to worse mental health. The impact of legal status on mental health is closely related to the impact of general resettlement stress.

In forced migrants, symptoms of mental health problems seem to increase over time, especially with prolonged asylum seeker status and for symptoms of PTSD. The impact of

forced migration specific resettlement stress seems to lose its force over time. In long-term resettled refugees, trauma experience is a better predictor of mental health issues than resettlement stress.

The risk factors for mental health problems found in the review have been incooperated in the resource-based model of forced migrant adaption and well-being Ryan et al. (2008).

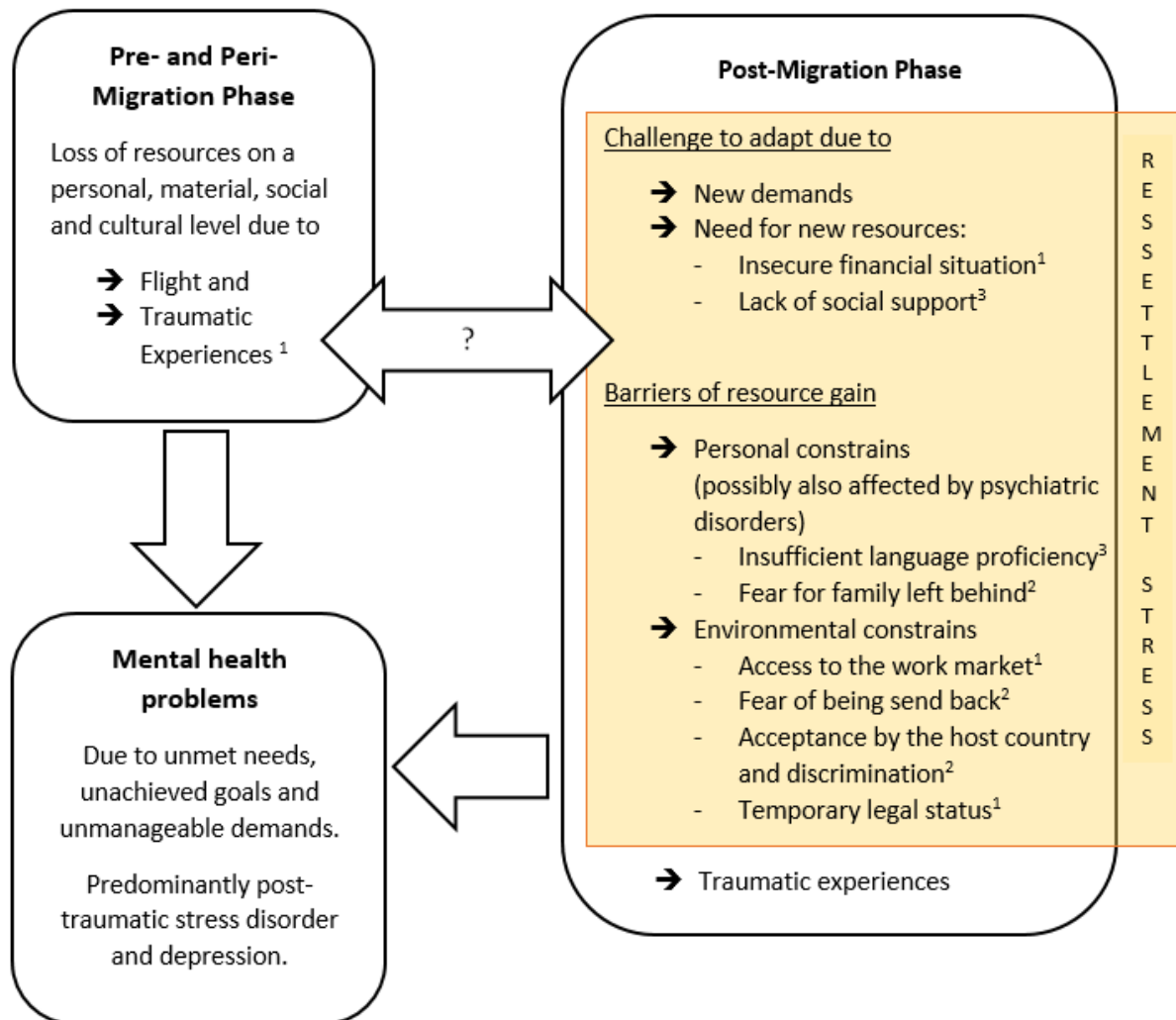


Figure 10. Adaption of Ryan's resource-based model for refugee wellbeing with incorporated conclusions from the review of risk factors in forced migrant mental health.

Note. The arrows symbolize an impact between factors.

¹ showed to be a risk factor for psychiatric disorders; ² possible risk factor for psychiatric disorders;

³no evidence for a risk by this factor in the review

Though the model of Ryan et al. (2008) was conceptualized to explain mechanisms of refugee adaption and well-being, conclusions of this review can be incorporated in it (figure 10). The loss of resources during the pre- and peri-migration phase result from the change in location (flight) as well as from traumatic experiences. Traumatic experiences have shown a strong negative impact on mental health and are associated with PTSD and major depression. In the post-migration phase, new demands, and conclusively the need for resource (re-)gain pose challenges to the adaption of forced migrants (Ryan et al., 2008). Since forced migrants often lose their social support system and former financial or material resources, they are in need for new resources. An insecure financial situation has shown to be a great risk factor for mental disorders. The lack of social support on the other hand did not appear to be a substantial risk factor in the reviewed studies.

Ryan et al. (2008) further constitute that personal and environmental barriers can hinder resource gain. Generally, personal constraints can result from psychiatric disorders, e.g. caused by traumatic events. Learning a new language can be difficult if one suffers from PTSD or depression. Though, language proficiency has shown not to be associated with mental health disorders in the reviewed studies. Preoccupation with worries about family members left behind can be considered as another personal barrier of resource gain, but further research is needed to evaluate the impact on mental health. The environment can also pose barriers to resource gain. Immigration policies in the country of resettlement can cause a barrier for access to the work market and unemployment was a risk factor for mental health disorders. A temporary residency permit showed to be strongly associated with psychiatric disorders as well and often results in the fear of being sent back home. The sense of belonging, being accepted by the host country and not being discriminated is an important environmental factor as well and can pose barriers in resource gain. So far, research was inconclusive on the effect of these factors on mental health.

The interaction between traumatic experiences and resettlement stress is still unclear, but in the model resource loss in the pre- and peri-migration phase is closely connected to the increased new demands and the amount of resources that are necessary to match them (Ryan et al., 2008).

Overall, resettlement stress can be understood as a complex of stressors that result from lack of resources, a rise of new demands and the inability to regain sufficient resources to match those demands.

The review showed that the mechanism behind mental health problems in the context of trauma and resettlement stress is similar in different western high-income countries. For other countries, no conclusions can yet be drawn. A country comparison study found that asylum seekers and refugees are more similar with regard to resettlement stress in India compared to those in Canada (George, 2010).

In the empirical study on African forced migrants in South Africa, similar results have been found: Examination of differences between asylum seekers and refugees did not yield any significant results for exposure to trauma and resettlement stress, nor for symptoms of mental health disorders. The concept of resettlement stress was dominated by problems with financials and employment and fear of violence and discrimination. Forced migrants in South Africa reported a high exposure to discrimination ($M = 6.78$, $SD = 2.05$) and traumatic experiences in South Africa ($M = 3.23$, $SD = 2.49$). Generally, a prevalence rate of 62 % for major depression and of 38 % for posttraumatic stress disorder was found, with a comorbidity rate of 44%. A greater amount of resettlement stress was associated with more symptoms of severe emotional distress and depression. Else, no other factors were significantly associated with mental health problems, including trauma experiences. Due to the small sample size, further data is needed to make valid assumptions on mental health of African forced migrants resettled in South Africa. Nevertheless, this exploratory study showed that pathways of mental health problems in forced migrants in South Africa might be different from those in western high-income countries. Also, future research should include financial problems and the effects of discrimination and xenophobia in their assessment.

Conclusively, resettlement stress is an important risk factor for psychiatric disorders in forced migrants and should find more attention in research and praxis. In psychological treatment of forced migrants, the issue of present stressors given by the resettlement situation should not be neglected. To reduce the costs of psychological treatment, immigration policies should reduce structural barriers in resource gain, e.g. through shortening of asylum procedures and opening of the job market for asylum seekers.

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Tables and Figures

Table 19

Sociodemographic Information (n=13)

	n	%
Age		
25 - 30	2	15.4
30 - 35	6	46.2
35 - 40	3	23.1
40 - 47	2	15.4
Marital Status		
Married	9	69.2
Single	4	30.8
Educational background		
Non	1	7.7
Primary school	5	38.5
Secondary school	2	15.4
University/College	3	23.1
Other	2	15.4
Employment		
Unemployed	5	38.5
Fulltime	5	38.5
Part-time	3	23.1
Housing situation		
Private	6	47.2
Township	7	21.4
Children		
Non	2	15.4
1 - 2	8	61.6
3 - 6	3	23.1
Family in SA		
(multiple answers possible)		
Non	3	23.1
Children	9	69.2
Spouse	6	47.2
Other family members	9	69.2
Parents	1	7.7

Table 20

Resettlement information

	n	%
Current legal status		
Asylum seeker	5	38.5
Refugee	5	38.5
Not registered	2	15.4
Residency	1	7.7
Reasons for leaving the country (one multiple answer)		
War	5	38.5
Civil violence	3	23.1
Economic	3	23.1
Personal persecution	3	23.1
Prior resettlement in other countries		
None	9	69.2
One other country	2	15.4
Two other countries	2	15.4
Length of stay in SA		
Up to one year	1	7.7
1 to 2 years	2	15.4
3 to 4	1	7.7
5 to 6	3	23.1
7 to 8 years	3	23.1
9 to 10	2	15.4
> 10 years	2	15.4
Motivation to resettle in SA permanently		
Yes	10	76.9
No	3	23.1

List of tables

Table 1. Adopted schematic classification of traumatic experiences according to Maercker (2009).....	12
Table 2. Characteristics of the articles and studies selected for review.....	29 – 31
Table 3. Factor analysis of the PMLD by Silove et al. (1998) and Steel et al. (1999).....	35
Table 4. Factor analysis of the PMLD by Laban et al. (2005).....	36
Table 5. Association of traumatic experiences and resettlement stress with symptoms of PTSD.....	40-41
Table 6. Association of traumatic experiences and resettlement stress with symptoms of depression or mood disorder.....	43-44
Table 7. The effect of work issues on mental health.....	48
Table 8. The impact of social support on mental health.....	50
Table 9. Association of integration-related factors to mental health.....	52
Table 10. Association of family-related stressors with mental disorders.....	54
Table 11. Comparison of the impact of pre- and post-migration traumatic events.....	55
Table 12. The effect of peri-migration stressors on mental health.....	57
Table 13. Traumatic event type (total) experienced by over half of the sample.....	85
Table 14. Post-migration living difficulties rated big to serious problem (n=13).....	86
Table 15. All types of discrimination reported by the sample and suspected reason.....	87
Table 16. Prevalence of PTSD and depression and comorbidity in the sample.....	88
Table 17. Descriptive analysis of traumatic events, mental health symptoms and resettlement stress.....	89
Table 18. Pearson correlations between traumatic experiences, mental health and resettlement factors.....	92
Table 19. Sociodemographic Information.....	108
Table 20. Resettlement information.....	108

List of figures

<i>Figure 1.</i> Info-Box on the posttraumatic stress disorder.	11
<i>Figure 2.</i> Info-Box on depressive episodes.	14
<i>Figure 3.</i> Different types of legal status.	21
<i>Figure 4.</i> Literature selection process.....	28
<i>Figure 5.</i> Continental origin of the participants in the reviewed studies.....	32
<i>Figure 6.</i> Overview of sample size and type of migrant per reviewed study.....	33
<i>Figure 7.</i> Country of origin.....	83
<i>Figure 8.</i> Current legal status.....	84
<i>Figure 9.</i> Amount of different types of discrimination experienced per participant.....	87
<i>Figure 10.</i> Adaption of Ryan's resource-based model.....	98

Appendix

Abstract in German / Zusammenfassung auf Deutsch

Neuere Forschungen im Bereich Trauma und psychische Gesundheit bei Flüchtlingen und Asylwerbern konzentriert sich zunehmend auf Einflussfaktoren der Phase nach der Migration, speziell auf *resettlement stress* (Post-Migrationsstress). In dieser Diplomarbeit wurde der Einfluss von Trauma und Stressoren des Gastlandes auf zwei Ebenen untersucht:

- 1) In einem systematischen Review wurden 30 Artikel zu psychischer Gesundheit im Kontext von Trauma und der Post-Migrationsstress analysiert. Alle Studien wurden in westlichen Industriestaaten durchgeführt. Sie zeigen übereinstimmend, dass sowohl Trauma als auch Post-Migrationsstress ein Risiko für die Entwicklung von PTBS oder depressiven Störungen darstellen. Es fanden sich Hinweise, dass Trauma stärker mit PTBS assoziiert ist, wohingegen Post-Migrationsstress stärker im Zusammenhang mit Depression steht. Als spezifische Risikofaktoren der Post-Migrationsphase wurden gefunden: Unsichere finanzielle Situation, Arbeitslosigkeit, und ein temporärer Aufenthaltsstatus. Folgende Faktoren benötigen weitere Erforschung: Angst um Familienmitglieder, Angst zurückgeschickt zu werden und Diskriminierung. Keinen Einfluss zeigten Sprachbeherrschung und soziale Unterstützung.
- 2) Es wurde eine explorative Studie zur psychischen Gesundheit bei afrikanischen Flüchtlingen, die sich in Südafrika wiederanzusiedeln suchten, durchgeführt. Symptome von PTBS und Depression sowie Post-Migrationsstress und Diskriminierung wurden erhoben. Insgesamt wurden 13 erwachsene männliche Teilnehmer interviewt. Es wurde eine Prävalenz von 38% für PTBS und 62% für Depression gefunden. Allgemeine psychische Probleme und Depression zeigten positive Korrelationen mit Traumaerfahrungen ($r = .568$ und $r = .564$) und Post-Migrationsstress ($r = .556$ und $r = .646$). Gleiches wurde nicht für Symptome von PTBS beobachtet. Diskriminierung war ebenfalls nicht mit Symptomen psychischer Störungen korreliert.

Folglich ist es wichtig, in der Behandlung von Flüchtlingen und Asylwerbern auf den Einfluss von Faktoren der Post-Migrationsphase miteinzubeziehen. Zukünftige Forschung sollte sich auf die Interaktion von Trauma und Post-Migrationsstress sowie Migrationspopulationen außerhalb westlicher Staaten konzentrieren.

Informed consent used in the study

Information on the Study “the situation of African asylum seekers and refugees in South Africa”

Why this research is done:

In order to help people in difficult situations it is important that we first have all the information about the factors that influence their situation. The aim of this study is to learn about factors that affect a refugee's or asylum seeker's life and that might put them at risk for mental health problems.

Who will be asked to participate?

Adult refugees and asylum seekers from various African countries now living in South Africa will be asked to kindly participate in the study. The research aims to conduct interviews with 80 persons.

How the research is done:

If you agree to participate in this study, I will invite you for an interview and you will be asked questions about your experiences before coming to South Africa and your experiences living here now. At any time before, during and after the interview (before the study is printed) you can refuse to answer or ask to be withdrawn from the study. All information you give is confidential and will be treated anonymously.

The study is part of the requirements for a diploma-degree in psychology at the University of Vienna, Austria, Europe and will be undertaken by me, Marilena Bertacco, and supervised by Ass.-Prof. Dr. Lueger-Schuster at the University of Vienna.

What questions will be asked?

Questions will be on 1) personal information such as gender, age, family background, country of origin, education etc., 2) history of traumatic events, 3) stress and difficulties you might have experienced being in South Africa, 4) discrimination in South Africa and 5) mental health / how you feel.

What consequences will result for you from the study?

During the interview you might feel a small emotional discomfort while you answer questions about personal feelings and experiences, especially on war or trauma related topics, on relationships or sexuality. Be aware that you can always choose not to answer.

You will not have direct positive consequences from participating in the study. Participating in the study will NOT benefit you in gaining refugee status and also NOT with resettlement in Europe as the researcher is not in any way working with or connected to any state institution of South Africa.

Participating in this study will help future generations of asylum seekers and refugees in South Africa as this study will help to understand what factors affect mental health. Only knowing about these problems can enable professionals and politicians to change the refugee / asylum seeker situation for the better.

Payment and Costs:

There will be no financial costs of any sort to you for your participation. There will also be no payment for it since the study is done by an independent student researcher.

What will be done with the information I give? Who will know that I participated?

Participating in the study all the information you give will be coded with a participant code insuring that your name will not be connected with the info. Your name will never be published anywhere and the information you give will be anonymous and evaluated together with the information of the other participants thus it will not be possible later to trace specific information back to you personally. Only the researcher will have access to your personal information records. No pictures or video or audio records will be taken.

Voluntariness of study participation:

Please know that your participation in the study is completely voluntary. If you change your mind you can withdraw your information from the study at any point without any negative consequences.

If you have questions about the study or on your rights in the study you can contact:

Marilena Bertacco
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Statement of informed consent:

I, as signed below, have received information about the study as well as its purpose. Potential risks and benefits associated with participation and my rights as a participant have been explained to me. I understand the confidential handling and use of my data and that I can choose to decline and withdraw from the study at any time before the study is printed.

Participants Signature

Place and Date

Eidesstattliche Erklärung

Ich versichere, dass ich die Diplomarbeit ohne fremde Hilfe und ohne Benutzung anderer als der angegebenen Quellen angefertigt habe und dass die Arbeit in gleicher oder ähnlicher Form noch keiner anderen Prüfungsbehörde vorgelegt wurde. Alle Ausführungen der Arbeit, die wörtlich oder sinngemäß übernommen wurden, sind als solche gekennzeichnet.

Sollte dennoch eine Urheberrechtsverletzung bekannt werden, ersuche ich um Meldung bei mir.

Wien, am _____

Curriculum Vitae

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Education

1993 - 1999	Dunant Elementary School Berlin
1999 - 2006	Paulsen-Secondary School (University Entrance Diploma)
since 10/2007	Student of Psychology (Diploma-Programme) at the University Vienna, Austria
01/2011 – 06/2011	Semester abroad at the NTNU in Trondheim, Norway, supported by the ERASMUS-Program (30 ECTS achieved)

Professional Experience

06/2005	Participation on the project: „The perfect Human“ with referral to the Bioethics of the Protestant Academy of Berlin
09/2006 - 10/2006	Mid-term-volunteer project conducted by IJGD in Mariakani, Kenia
11/2006 - 12/2006	Work camp in Kakuma Refugee camp of the UNHCR, Kenia
03/2007 - 08/2007	Work experience in psychosocial care for unaccompanied adolescent refugees at Evin e. V. , Berlin
04/2010 - 08/2010	Psychological internship at the society “Project Integration House“, Vienna, providing psychosocial care for specially vulnerable refugees
2010	Student assistance at the ethics committee of psychological faculty, Psychology Studies at the University of Vienna
2010-2012	Volunteering as refugee buddy at “Project Integration House”
02/2013 – 04/2013	Research for the Diploma thesis in Cape Town, South Africa

Publications

Kothgassner, O.D. & Bertacco, M. (2011). Ethical Principles in (clinical-) psychological Diagnostics. In A. Felnhofer, O. D. Kothgassner & I. Kryspin-Exner (Hrsg.), *Ethik in der Psychologie*. Wien: Facultas WUV UTB. [german]

Language skills

English (fluent in reading and writing),
Spanish (intermediate)
French and Bokmål (basic)